

When recorded mail to:
Clerk of Board
PO Box 827
Florence, AZ 85132

EASEMENT AGREEMENT FOR DRAINAGE IMPROVEMENTS

This Easement Agreement for Drainage Improvements (“**Agreement**”) is made this 10 day of June, 2024, by and between BHP COPPER INC., a Delaware corporation (“**Grantor**”) and Pinal COUNTY, a political subdivision of the State of Arizona (“**Grantee**”), each a “**Party**” and together the “**Parties**.”

RECITALS

A. Grantor is the owner of five (5) parcels of real property located in and around Russel Gulch, an ephemeral drainage channel in San Manuel, Arizona, more particularly described as APNs30720002B as depicted on the attached **Exhibit 1** (“**Grantor’s Property**”).

B. Grantee is planning a construction project (“**Project**”) to improve certain areas of drainage, which will involve sediment removal and grading, and the installation of certain drainage improvements, including constructed channels and certain bank stabilization features (“**Drainage Improvements**”), as described in the San Manuel Bridge No. ADOT 07711, Bridge Scout Mitigation, Pinal County Project No. 60640686

C. Grantee desires to utilize certain areas of Grantor’s Property temporarily for purposes of storing construction equipment and vehicles to be used in the Project, and to utilize certain other areas of Grantor’s Property for the construction and maintenance of the Drainage Improvements, as depicted on **Exhibit 1**.

D. Grantor has agreed to grant Grantee certain easement rights for the Project, subject to the terms and conditions more particularly set forth in this Agreement.

AGREEMENT

NOW, THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor and Grantee agree as follows:

1. Incorporation of Recitals. The above recitals are incorporated herein as part of this Agreement.
2. Grant of Easement. Grantor hereby grants to Grantee, including its employees, agents and contractors (collectively, “**Grantee Parties**”): a) a temporary, non-exclusive easement in gross (“**Temporary Easement**”) across the surface of the area depicted on Exhibit 1 through 5; “**Temporary Easement Area**” or “**TEA**” for purposes of storing vehicles and equipment used in the Project during construction of the Project; and b) a perpetual, non-exclusive, easement in gross (“**Easement**”) across the surface and to a depth of twenty (20) feet below the surface, of the shaded areas of Grantor’s Property (*see* Exhibit 1 ; “**Easement Area**”) for purposes of constructing, maintaining and repairing the Drainage Improvements, which includes a right of access over

Grantor's Property outside the Easement Area to the extent reasonably required to install, maintain, repair and replace the Drainage Improvements located within the Easement Area.

3. Term. The Temporary Easement shall terminate when the construction of the Drainage Improvements is completed. The Easement shall terminate if (a) the Project is not commenced within two (2) years of the date of this Agreement; (b) the Easement Area is no longer used for the Drainage Improvements; (c) Grantee is in default under this Agreement; or (d) the Parties mutually agree in writing.

4. Maintenance and Repair. Grantee shall:

a. ensure that Grantee Parties exercise reasonable care in the use of the Easement Area and TEA to avoid damage to the Easement Area and TEA and do not interfere with any activities of Grantor on the Easement Area or TEA; during the activities by the Grantee they shall keep the Easement Area and TEA in a good, safe, clean, sanitary and workmanlike condition; and ensure that Grantee Parties comply with all applicable laws, rules and regulations, now in force and hereafter enacted, applicable to the Project or Drainage Improvements, including, without limitation, all applicable environmental, safety and health related laws and regulations;

b. complete the construction of the Drainage Improvements in a workmanlike and lien-free manner, and keep, maintain, repair and replace, as necessary, the Drainage Improvements so as to maintain the fully functional condition of the Drainage Improvements in perpetuity, including clearing any obstructions, at Grantee's sole expense;

c. Grantee shall protect the Easement Area and TEA from damage caused by Grantee Parties (or immediately repair the same if damaged) in connection with any activities on the Easement Area or TEA, and shall keep the Easement Area and TEA, and all pedestrian and road rights-of-way and drives adjacent thereto reasonably clean and clear of the equipment, building materials, dirt, debris and similar materials of Grantee Parties. Grantee shall ensure that Grantee Parties comply with all laws, rules, regulations and ordinances, including, but not limited to, those administered by the Town of San Manuel, Pinal County, the Federal Emergency Management Agency or other jurisdictions, in connection with any activities on the Easement Area or TEA by Grantee Parties.

5. Default. The failure by Grantee to comply with the conditions of this Agreement, including the maintenance and repair requirements of Section 4, above, where such failure shall continue for a period of thirty (30) days after written notice thereof from the Grantor (or if such default cannot be cured within thirty (30) days, such longer period as may be reasonably necessary so long as Grantee commences such cure within thirty (30) days and diligently pursues completion of the same), shall be deemed an Event of Default under this Agreement. If an Event of Default shall continue following the expiration of any applicable notice and cure period, the Grantor may, at its option, and without limiting any other remedies available at law or in equity, cure the Event of Default. If Grantor cures the Event of Default, Grantee shall be fully liable for all of the costs incurred by Grantor, including attorney's fees. If the Grantor makes any expenditure in connection

with such cure, all such costs shall be due and payable by the Grantee upon demand, together with interest in the amount of ten percent (10%) from the date paid by Grantor until repaid.

6. No Implied Rights; No Representations or Warranties. GRANTEE IS FAMILIAR WITH THE EASEMENT AREA AND TEA AND EXPRESSLY AGREES THAT GRANTOR IS TRANSFERRING AND CONVEYING THE EASEMENT AREA AND TEA AND GRANTEE IS USING THE EASEMENT AREA AND TEA IN ITS STRICT "AS IS, WHERE IS" CONDITION, "WITH ALL FAULTS AND DEFECTS." GRANTOR HAS MADE NO REPRESENTATIONS, WARRANTIES OR GUARANTEES, WHETHER ORAL, WRITTEN OR IMPLIED TO GRANTEE AS TO THE QUALITY, CONDITION (WHETHER ENVIRONMENTAL OR OTHERWISE), MERCHANTABILITY, SUITABILITY OR FITNESS OF THE EASEMENT AREA OR TEA, INCLUDING, BUT NOT LIMITED TO, ANY IMPROVEMENTS THEREON, FOR ANY OF GRANTEE'S PURPOSES OR INTENDED USES WHATSOEVER. GRANTEE HEREBY EXPRESSLY WAIVES ANY AND ALL REPRESENTATIONS, WARRANTIES OR GUARANTEES OF ANY TYPE, WHETHER ORAL, WRITTEN OR IMPLIED, AS TO THE QUALITY, CONDITION (WHETHER ENVIRONMENTAL OR OTHERWISE), MERCHANTABILITY, SUITABILITY OR FITNESS OF THE EASEMENT AREA AND TEA, INCLUDING, BUT NOT LIMITED TO, ANY IMPROVEMENTS THEREON, FOR ANY OF GRANTEE'S PURPOSES OR INTENDED USES WHATSOEVER. GRANTEE ACKNOWLEDGES THAT BY THE TIME OF ITS OCCUPANCY, GRANTEE WILL HAVE HAD THE OPPORTUNITY TO INSPECT AND REVIEW THE EASEMENT AREA AND TEA, WILL HAVE INDEPENDENTLY INSPECTED THE EASEMENT AREA AND TEA AND WILL USE THE EASEMENT AREA AND TEA SUBJECT TO ANY AND ALL CONDITIONS INHERENT THEREIN, WHETHER APPARENT OR LATENT IN NATURE, INCLUDING, BUT NOT LIMITED TO, THE ENVIRONMENTAL CONDITION OF THE EASEMENT AREA AND TEA. THE PROVISIONS OF THIS SECTION 5 SHALL SURVIVE THE TERMINATION OF THIS AGREEMENT. Grantor makes no other guaranties, warranties or representations, express or implied, with respect to the Easement Area or TEA, the condition of title to the Easement Area and TEA, compliance of the Easement Area and TEA with any law, including Environmental Laws, as defined below, suitability of the Easement Area and TEA for any intended purpose, habitability of the Easement Area and TEA, the accuracy of any information or report provided to Grantee regarding the Easement Area and TEA, the size, location or physical condition of the Easement Area and TEA, the existence of encroachments or legal access, availability of utilities, zoning, value, future value, income potential, productivity, rights to or adequacy or quality, validity, or priority of the water supply or water rights, presence or absence of archeological sites or artifacts, soil content or quality, geological condition or any other matter relating to the Easement Area and TEA. Grantee hereby expressly agrees that Grantor, its parents, subsidiaries and affiliates shall not be liable for any claims or causes of action Grantee has or may have in the future with respect to the Easement Area and TEA, including, without limitation, statutory remedies, except for claims or causes of action created by Environmental Laws, and any remedies, claims or causes of action pursuant to common law. It is the express intent of Grantor that the provisions above are material inducements to this transaction and Grantor would not enter into this transaction but for the agreement of Grantee to those terms of conveyance.

7. No Liens. Grantee shall at all times keep and maintain the Easement Area and

TEA free and clear of any and all liens, claims, demands, obligations, liabilities and causes of action (each a "Claim") arising out of the use of the Easement Area or TEA by Grantee Parties. If any Claim is filed, asserted or made on, against or with respect to the Easement Area or TEA as a result of any of such use, Grantee shall cause such lien, demand, claim or cause of action to be dismissed, released, and discharged therefrom no later than ten (10) days thereafter or commence proceedings to dismiss, release and discharge within ten (10) days and diligently pursue such proceedings until completed. If Grantee does not dismiss, release or discharge (by bonding or otherwise) the Claim within thirty (30) days thereafter, Grantor may pay, discharge or compromise the Claim in its sole and absolute discretion and regardless of Grantee Parties' defenses or counterclaims provided that no admissions, representations or promises that Grantee shall pay money are made on behalf of Grantee Parties in settlement of such lien actions or Claims without Grantee's express prior written consent. Grantee will indemnify Grantor for its costs and expenses incurred related to the Claim including reasonable attorneys' fees.

8. Grantor's Use of Easement Area and TEA. Grantor shall have the right to use the Easement Area and TEA in any manner so long as such use is not inconsistent with, and does not interfere with, Grantee's enjoyment of the easement granted by this Agreement. In addition, Grantor reserves the right to grant additional public or private easements upon, across and/or under the Easement Area or TEA, so long as such additional easements are not inconsistent with, and does not interfere with, Grantee's enjoyment of the easement granted by this Agreement.

9. Successors. All of the provisions of this Agreement, including the benefits and burdens, shall be binding upon the parties hereto and their respective successors-in-title.

10. Insurance. Grantee shall obtain and maintain during the Term of this Agreement the insurance coverage described on **Exhibit 2** attached hereto (the "Insurance Requirements"), which shall name Grantor as an additional insured by endorsement, which Grantee shall pay for at its sole cost and expense. Grantor reserves the right to evaluate and reasonably adjust the Insurance Requirements with at least thirty (30) days prior written notice to Grantee upon receipt of which Grantee shall obtain within thirty (30) days of receipt of the written notice the newly specified amounts of the Insurance Requirements without further demand.

11. Site Restoration. Upon termination of this Agreement, Grantee shall leave the Temporary Easement Area in substantially the same condition as existed prior to Grantee Parties' access to the Temporary Easement Area.

12. Assignment. This Agreement and the rights of Grantee hereunder shall not be transferred or assigned in any manner without the prior written consent of Grantor, which may be withheld by Grantor in its sole and absolute discretion. Any assignment without advance written notice and Grantor's written approval shall be null and void and shall result in the immediate termination of this Agreement unless such assignment is previously approved in writing by Grantor. Any such assignment may require the assignee to be obligated by the terms and conditions of this Agreement and shall not release Grantee from its liabilities and obligations under this Agreement except as expressly agreed to by Grantor.

13. Fees and Costs. If any Party to this Agreement shall institute suit against another to enforce its rights under this Agreement or to seek damages by reason of a breach of this Agreement and obtain a valid judgment against the other, the prevailing Party shall be entitled to receive all reasonable attorneys' fees, witness fees (including expert witness fees) and other litigation-related expenses incurred, with the attorneys' fees to be fixed by the judge of the court of the applicable jurisdiction, sitting without a jury.

14. Entire Agreement; Amendment; Construction. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof. This Agreement may not be altered or amended except pursuant to an instrument in writing signed by all of the parties hereto. This Agreement is the result of negotiations between the parties. Accordingly, the terms and provisions of this Agreement shall be construed in accordance with their usual and customary meanings, and the parties hereby waive the application of any rule or law that otherwise might require the construction of this Agreement against the party who prepared (or whose attorney prepared) the executed Agreement.

15. No Third Party Beneficiaries; Not a Public Dedication. No term or provision of this Agreement is intended to be, nor shall any such term or provision be construed to be, for the benefit of any person or other entity not named herein. No other such person or entity shall have any right or cause of action hereunder. Nothing contained in this Agreement shall be deemed to be a gift or dedication of any portion of the Easement Area to or for the general public or for any public purpose whatsoever, and this Agreement shall be strictly limited to and for the purposes expressed herein.

16. Notices. Any notice, demand, request, consent, approval or other communication, which any Party is required to or desires to give or make to the other Party shall be in writing and shall be given by delivery in person, or by postage prepaid, registered or certified mail, return receipt requested, or by electronic mail, addressed as follows:

If to Grantor:

BHP Copper, Inc.
Attn: Principal Land Legacy Assets
6840 North Oracle Road, Suite 100
Tucson, AZ 85704

If to Grantee:

Pinal County
c/o Christopher Wanamaker, County Engineer
PO Box 749
Florence, AZ 85132
christopher.wanamaker@pinal.gov

17. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Arizona, without regard to the conflict of laws rules applicable in the State of Arizona.

18. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument, which instrument shall be deemed fully executed when one or more counterparts have been executed by each of the parties.

19. Authority. Each of the signatories to this agreement represent, acknowledge and confirm that they have obtained all necessary corporate approvals and have full authority to execute the Agreement and bind the signatory party thereto.

20. Indemnity. Grantee shall indemnify and hold harmless Grantor for any and all claims brought by any person related to any and all activities by Grantee and its agents within the Easement Area and Temporary Easement Area and related to any and all Drainage Improvements within the Easement Area and Temporary Easement Area. A claim including for all costs, expenses and liabilities incurred in connection with such claim or any action or proceeding brought on such claim, including, but not limited to, attorneys' fees, witness fees and court costs in defending against such claim.

[Signature Page Follows]

IN WITNESS WHEREOF, the undersigned parties have executed this Agreement as of the date and year first above written.

GRANTOR:

BHP COPPER INC, a Delaware Corporation

By: K Ramsay

Name: Kevin Ramsay

Its: vice president

STATE OF ARIZONA)

) ss.

County of Maricopa)

The foregoing Easement Agreement for Drainage Improvements was acknowledged before me this 10 day of June, 2024, by Kevin Ramsay as Vice President of BHP Copper Inc., a Delaware Corporation, for an on behalf of such entity.

Aimee L. Mundy-Elison

Notary Public



My Commission Expires:

05/11/2026

EXHIBIT 01

Central Arizona 911 or local law enforcement
 911
 Call 911 or visit [az911.com](http://www.az911.com)



20 E THOMAS ROAD, SUITE 2500
 PHOENIX, AZ 85012-3118
 (602) 522-7700

YEAR	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS	DATE
09	AZ	60640686	1	10	01/22
DESIGNED	DRAWN	CHECKED			
DATE: 01/22	DATE: 01/22	DATE: 01/22			



PINAL COUNTY

SAN MANUEL BRIDGE NO. ADOT 07711 SAINT ANTHONY FALLS SECTION 33, TOWNSHIP 9 SOUTH, RANGE 17 EAST BRIDGE SCOUR MITIGATION

PINAL COUNTY PROJECT NO. 60640686



PINAL COUNTY
 WIDE OPEN OPPORTUNITY

PINAL COUNTY BOARD OF SUPERVISORS

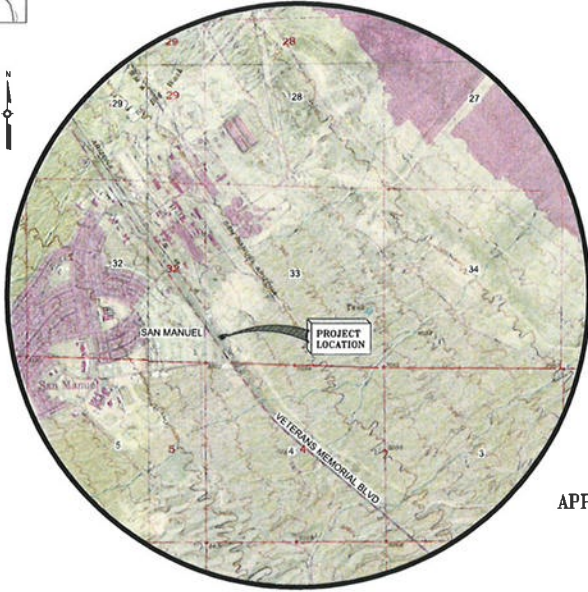
- DISTRICT ONE – KEVIN CAVANAUGH
- DISTRICT TWO – MIKE GOODMAN
- DISTRICT THREE – STEPHEN MILLER
- DISTRICT FOUR – JEFFREY McCLURE
- DISTRICT FIVE – JEFF SERDY

MANAGEMENT

- COUNTY MANAGER – LEO LEW
- PUBLIC WORKS DIRECTOR – ANDREW SMITH
- COUNTY ENGINEER – CHRISTOPHER WANAMAKER, P.E., C.F.M., C.P.M.

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PROJECT ENGINEER

ALEX CORONEL, PE, CFM
 20 E. THOMAS ROAD, SUITE 2500
 PHOENIX, AZ, 85012
 TEL: 602-385-1611
 FAX: 602-522-7707

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER / LAND SURVEYOR DATE

REGISTRATION NUMBER

APPROVED BY: _____ DATE _____

PINAL COUNTY ENGINEER
 DEPARTMENT OF PUBLIC WORKS

APPROVAL EXPIRES: _____ DATE _____

PROJECT: SANM_1006_10_05

YEAR	STATE	FUND	PROJECT NO.	REV.	DATE	CLASS
9	AZ	628	4006	2	10	

GENERAL NOTES

- PINAL COUNTY GENERAL NOTES**
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REVISIONS OF THE MARICOPA ASSOCIATION OF GOVERNMENTS STANDARD SPECIFICATIONS AND DETAILS (MAG STANDARDS) UNLESS SPECIFICALLY MODIFIED ON THE PLANS.
 - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF APPLICABLE STANDARDS AND SPECIFICATIONS AS WELL AS OTHER STANDARDS AND SPECIFICATIONS NECESSARY TO COMPLETELY AND ACCURATELY INTERPRET THE PLANS.
 - A PINAL COUNTY RIGHT OF WAY USE PERMIT WILL BE REQUIRED FOR ALL OFF-SITE CONSTRUCTION AND CONSTRUCTION WITHIN THE PUBLIC RIGHT OF WAY, AT NO FEE OR CHARGE.
 - IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN, AT HIS OWN EXPENSE, SUCH PERMITS AS ARE REQUIRED FROM THE APPROPRIATE AGENCIES.
 - THE PUBLIC WORKS DEPARTMENT SHALL BE NOTIFIED A MINIMUM OF 3 DAYS PRIOR TO BEGINNING ANY CONSTRUCTION IN THE PUBLIC RIGHT OF WAY.
 - INSPECTION IS TO BE DONE BY THE PINAL COUNTY PUBLIC WORKS DEPARTMENT AND/OR FLOOD CONTROL DISTRICT.
 - ANY WORK PERFORMED WITHOUT THE KNOWLEDGE OF THE COUNTY INSPECTOR OR HIS/HER REPRESENTATIVE IS SUBJECT TO REMOVAL AND REPLACEMENT OF SAME, TO BE DONE AT CONTRACTOR'S EXPENSE.
 - ALL WORK AND MATERIALS WHICH DO NOT CONFORM TO THE SPECIFICATIONS OR PLANS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
 - APPROVAL OF A PORTION OF THE WORK IN PROGRESS DOES NOT GUARANTEE ITS FINAL ACCEPTANCE. TESTING AND EVALUATION MAY CONTINUE UNTIL THE WRITTEN FINAL ACCEPTANCE OF A COMPLETE AND WORKABLE UNIT.
 - PINAL COUNTY MAY SUSPEND THE WORK BY WRITTEN NOTICE WHEN, IN ITS JUDGMENT, PROGRESS IS UNSATISFACTORY, WORK BEING DONE IS UNAUTHORIZED OR DEFECTIVE, WEATHER CONDITIONS ARE UNSUITABLE, OR THERE IS A DANGER TO PUBLIC HEALTH AND SAFETY.
 - THE CONTRACTOR SHALL PROVIDE SUFFICIENT PERSONNEL AND EQUIPMENT ON THE JOB AT ALL TIMES DURING CONSTRUCTION TO COMPLY WITH SPECIFICATIONS AND TO COMPLETE THE WORK.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SURVEYING AND LAYOUT.
 - THE CONTRACTOR SHALL NOTIFY BLUE STAKE AT 811 OR 1-800-782-5348 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
 - ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) REQUIREMENTS SHALL BE COMPLIED WITH.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UNDERGROUND PIPELINES, TELEPHONE AND ELECTRIC CONDUITS AND STRUCTURES IN ADVANCE OF ANY CONSTRUCTION AND WILL OBSERVE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO SUCH. THE ENGINEER AND/OR COUNTY WILL NOT GUARANTEE ANY LOCATIONS SHOWN ON THESE PLANS OR THOSE OBTAINED FROM IT.
 - CONTRACTOR SHALL WARRANT ALL WORK FOR A MINIMUM OF TWO YEARS AFTER FORMAL ACCEPTANCE OF THE WORK.
 - FAILURE TO MEET REQUIRED DATES: FAILURE BY THE CONTRACTOR TO TIMELY AND ADEQUATELY RESPOND TO THE COUNTY ENGINEER OR DESIGNATED REPRESENTATIVE'S WEEKLY NOTICE OF PRODUCT REQUIREMENTS SHALL CONSTITUTE A MATERIAL BREACH OF THE CONTRACT. WHEREUPON PINAL COUNTY MAY CANCEL THE CONTRACT AND PURSUE ANY AVAILABLE LEGAL REMEDY TO RECOVER FOR DAMAGES.
 - CONSTRUCTION WATER SHALL BE OBTAINED, PROVIDED AND APPLIED WITH SUFFICIENT QUANTITY TO KEEP DUST DOWN AND BRING MATERIAL MOISTURE CONVENT TO OPTIMUM DURING CONSTRUCTION ACTIVITIES.
 - THE CONTRACTOR SHALL FURNISH DRAWINGS/SPECIFICATION SHEETS FOR ALL PRODUCTS PROPOSED FOR THIS PROJECT. NO MATERIAL SHALL BE PURCHASED BY THE CONTRACTOR UNTIL PINAL COUNTY REVEWS AND APPROVES THE PROPOSED MATERIALS SUBMITTED FOR USE.
 - THE CONTRACTOR SHALL PERFORM WITH ITS OWN WORK FORCES AT LEAST 51% OF THE WORK, UNLESS WRITTEN CONSENT TO SUBCONTRACT A PORTION OF THE WORK IS OBTAINED FROM THE COUNTY ENGINEER.
 - CONTRACTOR SHALL PROVIDE MATERIAL TESTING FOR MARICOPA ASSOCIATION OF GOVERNMENT (MAG) SPECIFICATIONS.
 - CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT UNTIL WORK IS ACCEPTED BY THE COUNTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE NEGLIGENCE OF THE OWNER OR ENGINEER.
 - THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS.
 - THE CONTRACTOR SHALL TAKE WHATEVER STEPS NECESSARY TO PREVENT AND CONTROL DUST DUE TO CONSTRUCTION OPERATIONS AND SHALL CONTROL DUST AS ENDED BY THE OWNER OR INSPECTOR. DUST CONTROL IS CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE PERMITTED.
 - SITE CLEANUP IS CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE PERMITTED. THE OWNER WILL NOT ISSUE A CERTIFICATE OF SUBSTANTIAL COMPLETION UNTIL THE WORKSITE HAS BEEN CLEANED TO THE SATISFACTION OF THE OWNER. ALL CURBS, PAVEMENTS AND SIDEWALKS SHALL BE SHEPT CLEAN OF ALL DIRT AND CONSTRUCTION CURBS.
 - ALL CONSTRUCTION SIGNING, BARRICADES AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES." THE PROVISION OF SUCH DEVICES IS CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE PERMITTED.
 - VEHICLE ACCESS SHALL BE MAINTAINED TO DEVELOPED PROPERTIES AT ALL POSSIBLE TIMES. WHEN ACCESS MUST BE RESTRICTED FOR CONSTRUCTION, THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO EACH AFFECTED PROPERTY NOT LESS THAN 24 HOURS IN ADVANCE.

GENERAL PROJECT NOTES

- ALL QUANTITIES SHOWN ON THE PLANS ARE TO BE CONSIDERED ESTIMATES.
- DO NOT IMPED THE FLOW OF FLOOD WATERS AT ANY TIME. FLOOD WATERS INCLUDE NORMAL FLOWS IN THE WASH THAT MAY OCCUR AT ANY TIME.
- ALL EXCESS SOIL REMOVED FROM THE PROJECT AREA SHALL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. IF EXCESS MATERIAL IS TO BE HAILED ON PUBLIC ROADS THEN A HAIL ROUTE PLAN MUST BE SUBMITTED AND APPROVED BY PINAL COUNTY AND/OR THE ENGINEER BEFORE REMOVAL OF MATERIAL IS AUTHORIZED. A LIST OF DUMPING/DISPOSAL SITES SHALL BE PROVIDED TO PINAL COUNTY AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS NECESSARY (FLOODPLAIN, SOIL, STORMWATER, ETC) TO USE DISPOSAL SITE.
- ALL RIP-RAP AGGREGATE AND Boulders SHALL HAVE A MINIMUM SPECIFIC GRAVITY OF 2.65
- ANY FENCING REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

SUMMARY OF QUANTITIES

BID ITEM NO.	DESCRIPTION	UNIT	QUANTITY
6010007	STRUCTURAL CONCRETE (CLASS 5) (F'c = 5,000)	CY	250
6040001	STRUCTURAL STEEL	LB	44,000
4010001	LEAD TRANSFER GOWELS	EA	120
8130005	REPRAP (250-15')	CY	414
6110002	METAL HANDRAIL (MAG DET. 145)	LF	222
8101016	EROSION CONTROL (ROCK MULCH)	CY	124
303002	AGGREGATE BASE, CLASS 2	CY	108
2030001	ROADWAY EXCAVATION	CY	2,475
2030001	STRUCTURAL EXCAVATION	CY	1,265
-	SUMPP	L SUM	1



DATE	NAME	SCALE	<p>20 E THOMAS ROAD, SUITE 2500 PHOENIX, AZ 85016-3119 (602) 922-7700</p>
DESIGN	JL	0.75	
CHECKED	AC	0.75	
<p>GENERAL NOTES AND SUMMARY OF QUANTITIES</p>			
<p>SAN MANUEL BRIDGE SCOUR MITIGATION SAINT ANTHONY FALLS</p>			

DRAWING NO. 0-000

DATE	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	DATE
9	AZ	6064066	3	10	01/2017

GENERAL SURVEY NOTES

DATUM PARAMETERS:
 SYSTEM: UNITED STATES STATE PLANE 1983
 ZONE: ARIZONA CENTRAL 0202
 DATUM: NORTH AMERICAN 1983 (NAD83)
 GEOID MODEL: GCOID10 (CONTINENTAL US)
 UNITS = INTERNATIONAL FEET (1 FOOT = 0.3048 METERS EXACTLY)

THE BASIS OF ELEVATION FOR THIS PROJECT IS PINAL COUNTY CONTROL NETWORK POINT # 917228 WITH AN ORTHOMETRIC ELEVATION = 3234.87 BASED UPON NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

CONSTRUCTION BENCHMARKS (GRID COORDINATES):
 BM #1 N 56516.5641 E 109845.2248 EL 3233.80
 BM #2 N 58537.07500 E 109889.49741 EL 3283.99

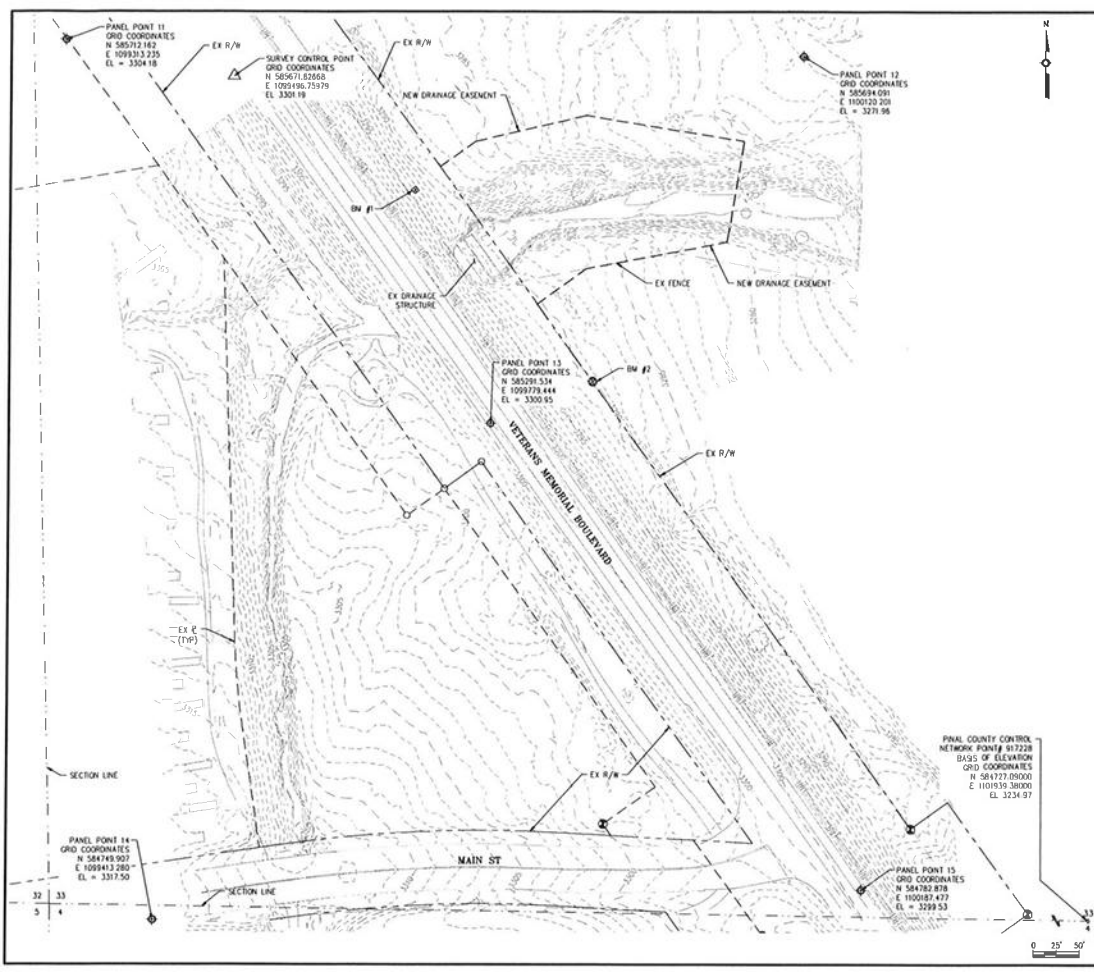
* SEE RECORD OF SURVEY PINAL COUNTY PROJECT NO. 6064066 (UNDER SEPARATE COVER) FOR ADDITIONAL INFORMATION.

SYMBOL LEGEND:

○	SINGLE TREE	↔	STRAIGHT ARROWS	31 32	FOUND OR SET SECTION CORNER
□	FLAG	↔↔	DIRECTIONAL ARROWS	6 5	FOUND OR SET SECTION CORNER
⊙	GATE	→	MINE	31 32	UNFOUND SECTION CORNER
⊙	SIGNS	↔	BIKE LANE	6 5	UNFOUND SECTION CORNER
—	BILLBOARD	↔	HANDICAP	4 - 3	FOUND OR SET QUARTER CORNER
—	OVERHEAD SIGNS	↔	TRAFFIC PAINT		
—	STREET SIGN	—	TRAFFIC PAINT		
—	POST / BOLLARD	—	BUILDING		
—	FIRE HYDRANT	—	SWIMMING POOL		
—	METER / UTILITY	—	AERIAL PANELS		
—	MANHOLE	—	EXISTING ADOT R/W MONUMENT		
—	VALVE	—	CONSTRUCTION BENCHMARK		
—	CATCH BASIN	—	SURVEY CONTROL POINT		
—	CULVERT	—	EXISTING SURVEY MONUMENT OR CONTROL POINT		
—	UTILITY POLE	—	BREAK LINE		
—	LIGHT POLE				
—	TRAFFIC SIGNAL				
—	PEDESTRIAN SIGNAL				
—	STREET LIGHT				

LINE STYLE LEGEND:

—	TRAFFIC LANE PAINT	—	TOWNSHIP-RANGE/SECTION LINE
—	PARKING STRIPES	—	RIGHT OF WAY
—	ROAD / PAVEMENT	—	PROPERTY LINE
—	DIRT ROAD / TRAIL	—	DRAINAGE EASEMENT LINE
—	CLBB / GRITER	—	OVERHEAD ELECTRIC
—	CONCRETE	—	CENTURY LINK BURED ASSET
—	RAILROAD		
—	FENCE		
—	RETAINING WALL		
—	QUARD RAIL		
—	VEGETATION LINE		
—	MAJOR CONTOUR		
—	MINOR CONTOUR		
—	RIGHT OF WAY (R/W)		
—	#ASH / WATER		



DESIGN	DATE		20 E THOMAS ROAD, SUITE 2500 PHOENIX, AZ 85024-7119 (602) 942-7700
DRAWN	25		
CHECKED	AC		
OVERALL PROJECT SURVEY CONTROL PLAN, NOTES, AND LEGEND			
SAN MANUEL BRIDGE SCOUR MITIGATION SAINT ANTHONY FALLS			
DRAWING NO. S-101			

DATE	BY	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9/23/20	AZ	604006	4	10

GENERAL NOTES

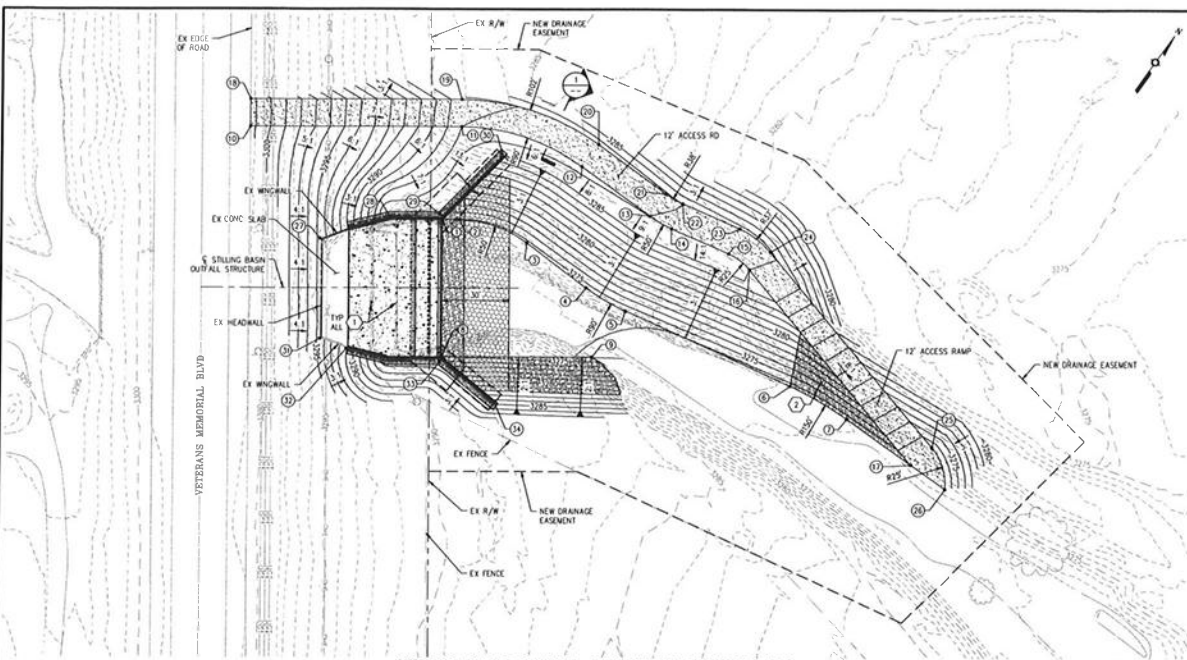
- SEE DWG NO. C-501 FOR STILLING BASIN OUTFALL STRUCTURE DETAILS.
- CONSTRUCTION ACTIVITIES SHALL REMAIN WITHIN VETERANS MEMORIAL BLVD EXISTING R/W AND PROPOSED DRAINAGE EASEMENT.

KEYED NOTES

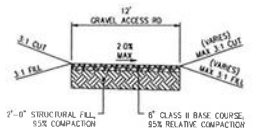
- REMOVE AND DISPOSE EXISTING CURB BASKETS.
- CONTRACTOR MAY REPURPOSE EXISTING CURB ROOFS AS STABILIZATION TO THE SOLE SLOPE UPSTREAM SIDE OF ACCESS ROAD FOR THE FULL SOLE SLOPE LENGTH AND/OR ALONG THE SOLE SLOPES ABOVE THE RRAP CALLED FOR ON PLANS AS APPROVED BY THE ENGINEER.

LEGEND

- EROSION PROTECTION ROCK MULCH
- RRAP CLASS IV
- RRAP CLASS IV FLANKED EDGE. SEE DWG C-501
- CLASS II 8" BASE COURSE



STILLING BASIN OUTFALL STRUCTURE GRADING PLAN
SCALE: 1" = 20'



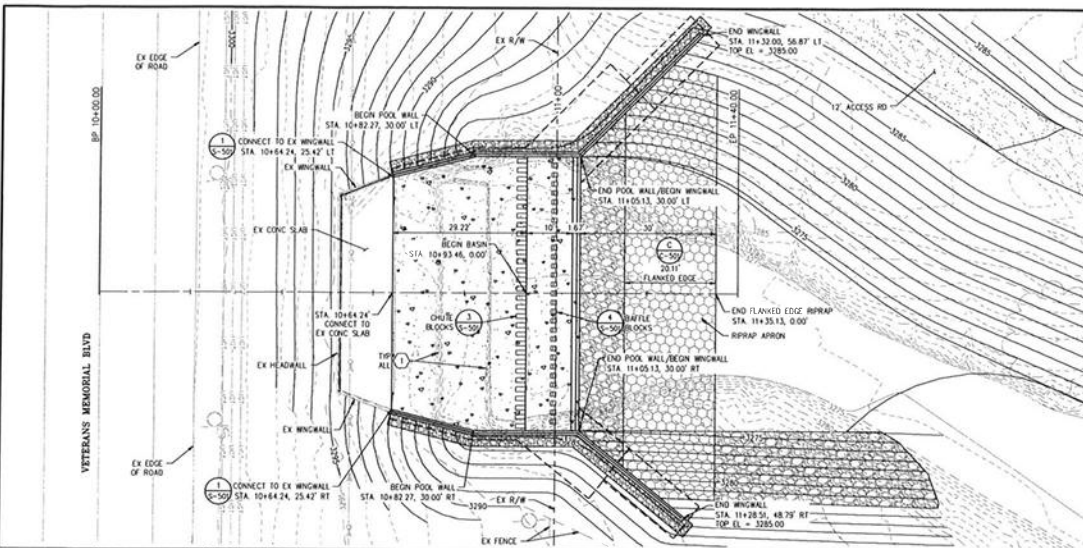
1 TYPICAL ACCESS ROAD SECTION 1
SCALE: 1" = 5'

POINT	NORTHING	EASTING	ELEVATION
1	585514.731	1099770.282	3275.00
2	585510.087	1099776.352	3274.94
3	585528.457	1099806.619	3274.66
4	585527.729	1099819.406	3274.39
5	585529.461	1099859.086	3274.21
6	585545.018	1099936.721	3273.54
7	585547.940	1099965.436	3273.29
8	585465.989	1099805.271	3275.00
9	585504.676	1099859.166	3273.88
10	585499.064	1099878.327	3281.38
11	585512.837	1099753.126	3281.00
12	585569.718	1099806.743	3286.39

POINT	NORTHING	EASTING	ELEVATION
13	585569.303	1099843.307	3286.00
14	585570.383	1099854.229	3285.78
15	585576.037	1099860.940	3285.23
16	585575.789	1099892.355	3285.00
17	585548.115	1099950.754	3273.00
18	585508.612	1099671.330	3301.38
19	585582.585	1099746.240	3287.24
20	585581.717	1099804.680	3286.63
21	585581.302	1099843.443	3286.24
22	585581.123	1099851.744	3286.07
23	585583.777	1099878.455	3285.47
24	585587.409	1099895.549	3285.24

POINT	NORTHING	EASTING	ELEVATION
25	585559.735	1100002.748	3283.24
26	585548.208	1100018.055	3273.00
27	585477.025	1099731.837	3294.71
28	585502.270	1099781.002	3284.88
29	585516.115	1099762.051	3284.68
30	585532.803	1099776.029	3284.70
31	585441.554	1099757.588	3284.73
32	585444.558	1099769.467	3281.11
33	585463.640	1099805.691	3284.84
34	585463.817	1099835.791	3284.37

DATE	20/07/20	20 E THOMAS ROAD, SUITE 2500 PROBIE, IA 50072-3111 (800) 327-7700
DRAWN	ZS	
CHECKED	MC	
DATE	07/07/20	
STILLING BASIN OUTFALL GRADING PLAN		
SAN MANUEL BRIDGE SCOUR MITIGATION SAINT ANTHONY FALLS		
DATE	07/07/20	DRIVING NO. C-101



DATE	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9/20/22	AZ	504006	5	10

GENERAL NOTES

1. WINGWALLS NOT SHOWN IN PROFILE. SEE DWG NO. 5-101 FOR DETAILS.
2. FOR STRUCTURE DETAILS SEE STRUCTURAL SHEETS.
3. CONSTRUCTION ACTIVITIES SHALL REMAIN WITHIN VETERANS MEMORIAL BLVD EXISTING R/W AND PROPOSED DRAINAGE EASEMENT.

KEYED NOTES

1. REMOVE AND DISPOSE EXISTING CAGON BASKETS.

LEGEND

- EROSION PROTECTION ROCK MULCH
- RIPRAP CLASS IV
- RIPRAP CLASS IV FLANKED EDGE, SEE DWG C-509
- CLASS 8 6" BASE COURSE

LEGEND

- EROSION PROTECTION ROCK MULCH
- RIPRAP CLASS IV
- RIPRAP CLASS IV FLANKED EDGE, SEE DWG C-509
- CLASS 8 6" BASE COURSE



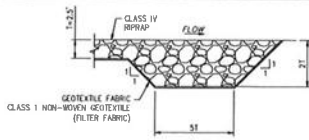
DESIGN	DATE	SCALE
DRYAN	9/20/22	AS SHOWN
CHECKED	DATE	SCALE

HDR 20 E THOMAS ROAD, SUITE 2500
PHOENIX, AZ 85016-3113
(602) 582-7700

**STILLING BASIN
PLAN AND PROFILE**

**SAN MANUEL BRIDGE SCOUR MITIGATION
SAINT ANTHONY FALLS**

DRAWING NO. C-205



GRADATION (BASED ON FHWA HEC-23 TABLE 4.1 IN DESIGN GUIDELINE 4)

NOMINAL RIPRAP CLASS		D ₅₀ (IN)			D ₇₅ (IN)			D ₁₀₀ (IN)		
CLASS	WEIGHT	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
IV	300 lb	15	9.2	13.0	14.5	17.5	19.5	23.0	30.0	

- NOTES:**
1. T = RIPRAP THICKNESS
 2. D₅₀ = 15 in
 3. LENGTH OF RIPRAP APRON CALLED OUT IN PLANS INCLUDES FLANKED EDGE.

C FLANKED EDGE RIPRAP
NOT TO SCALE

AREA	DATE	PROJECT	NO.	REV.	BY	DATE
9	AZ	6064066	6	10		



DATE	BY	SCALE	PROJECT
DESIGN	JL	1/2"	FOR 20 E THOMAS ROAD, SUITE 2000 PHOENIX, AZ 85024-3118 (602) 522-7700 STILLING BASIN MISCELLANEOUS DETAILS SAN MANUEL BRIDGE SCOUR MITIGATION SANT ANTHONY FALLS
DRAWN	JL	1/2"	
CHECKED	AC	1/2"	
LOCATION:			DRAWING NO. C-501

GENERAL STRUCTURAL NOTES (GSN)

- GENERAL**
- D1. **SCOPE**
THE NOTES ON THIS SHEET AND THE STANDARD STRUCTURAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT UNLESS SPECIFICALLY CALLED OUT OR NOT. EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS, THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION.
- D2. **CONTRACT DOCUMENTS**
CONTRACT DOCUMENTS SHOW THE FINISHED PRODUCT. CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS VISITS TO THE JOB SITE BY THE ENGINEER TO DETERMINE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT THE ENGINEER IS RESPONSIBLE FOR CONTRACTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.
- D3. **APPLICABLE SPECIFICATIONS AND CODES**
A. INTERNATIONAL BUILDING CODE (IBC 2018) WITH APPLICABLE EDITIONS OF THE CODE REFERENCED STANDARDS AND WITH PINAL COUNTY AMENDMENTS.
B. AIA 318-14 CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
C. IAC 2020 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- D4. **DESIGN CRITERIA (APPLIES TO ALL STRUCTURES UNW)**
A. **DEAD LOAD**
1. ACTUAL TRIBUTARY STRUCTURE WEIGHT
B. WIND:
1. RISK CATEGORY = I
2. BASIC WIND SPEED = 103 MPH
3. EXPOSURE = C
C. **SEISMIC**
1. BELOW GRADE WATER BEARING STRUCTURES = B
a. RISK CATEGORY = I
b. IMPORTANCE FACTOR = 1.0
c. SITE CLASS = C
2. SPECTRAL RESPONSE ACCELERATION, SS = 0.267
3. SPECTRAL RESPONSE ACCELERATION, SI = 0.083
4. SPECTRAL RESPONSE ACCELERATION, S1 = 0.133
5. SPECTRAL RESPONSE COEFFICIENT, SD1 = 0.133
6. SEISMIC DESIGN CATEGORY = C
- D5. **GEOLOGICAL**
THE FOLLOWING NON-STRUCTURAL GEOLOGICAL REPORT WAS DEVELOPED FOR THIS PROJECT AND IS THE BASIS OF THIS STRUCTURAL DESIGN:
GEOLOGICAL FIRM NAME: TERRACON
ADDRESS: 4685 SOUTH ASH AVENUE, TENC, AZ 85282
REPORT NUMBER: G521140
A. ALLOWABLE SOIL BEARING PRESSURE = 2,000 PSF
B. ACTIVE LATERAL EARTH PRESSURE = 35 PSF
C. PASSIVE LATERAL EARTH PRESSURE = 150 PSF
D. SUBGRADE MODULUS FOR MAT FDN = 250 PD
E. COEFFICIENT OF FRICTION = 0.52
- D6. **SAFETY**
SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE.
- D7. **SPECIAL INSPECTIONS**
SPECIAL INSPECTIONS ARE REQUIRED IN ACCORDANCE WITH CHAPTER 1 AND CHAPTER 17 OF THE IBC. PAYMENT FOR THESE INSPECTIONS IS NOT THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE FULL ACCESS TO THE WORK BY THE SPECIAL INSPECTOR AND SHALL PROVIDE FOR THESE INSPECTIONS IN HIS CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE SPECIFICATIONS. A STATEMENT OF CONTRACTOR RESPONSIBILITY WILL BE SUBMITTED PRIOR TO ANY WORK THAT REQUIRES SPECIAL INSPECTION, AS REQUIRED BY SECTION 1704 OF THE IBC. SEE TESTING AND INSPECTIONS NOTE 4 ON THIS SHEET. SPECIAL INSPECTIONS ARE REQUIRED FOR THE ITEMS AS SHOWN IN THE SCHEDULE ON THIS SHEET.
- D8. **CONCRETE**
THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL.
- D9. **CONFLICTS**
IN CASES WHERE CONFLICTS OCCUR BETWEEN THE DRAWINGS OR BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL CONTROL, FOR ALL PURPOSES. SUBMIT QUESTIONS IN WRITING TO ENGINEER FOR CLARIFICATION PRIOR TO CONSTRUCTION.
- CONCRETE**
- C1. **CONCRETE MATERIAL STRENGTHS**
f_c = 4,000 PSI (CLASS #4)
REINFORCING f_y = 60,000 PSI
- C2. **CONCRETE COVER**
UNLESS OTHERWISE NOTED OR SHOWN, PROVIDE CONCRETE COVER FOR REINFORCING AS FOLLOWS:
CONCRETE DEPOSITED AGAINST EARTH: 3 IN
ALL OTHER: 2 IN
SEE DRAWINGS FOR EXCEPTIONS
- C3. ALL DETAILING, FABRICATION, AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AIA MANUAL OF STANDARD PRACTICE. SEE SPECIFICATIONS FOR ADDITIONAL REINFORCING PLACEMENT REQUIREMENTS.

CONCRETE (CONTINUED)

- C4. NEVER TO OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION FOR EMBEDDED ITEMS AND PENETRATIONS NOT SHOWN ON STRUCTURAL DRAWINGS AND AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.
- C5. PLACE CONCRETE IN CONTINUOUS OPERATION WITH PLANNED JOINTS OR SECTIONS IN ACCORDANCE WITH AIA 304, 304R, AND AIA 304.2R.
- C6. PROVIDE 3/4 IN CHAMFERS AT ALL EXPOSED EDGES. NOT ALL CHAMFERS MAY BE SHOWN ON DRAWINGS.
- C7. FIELD ADJUST REINFORCING AT OPENINGS AND ENDED ITEMS AS INDICATED.
- C8. **ANCHOR BOLTS**
ALL ANCHOR BOLTS IN CONCRETE SHALL BE ASTM F593 CH2 STAINLESS STEEL WITH WATERTIGHT NUTS AND WASHERS UNLESS OTHERWISE NOTED.
- C9. ANCHOR BOLTS NOT SPECIFIED BY ENGINEER SHALL BE DESIGNED AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE PROJECT AND CODE REQUIREMENTS. SUBMIT AS A SHOP DRAWING FOR REVIEW AND APPROVAL BY THE ENGINEER. COORDINATE LOCATION, SIZE AND EMBEDMENT PRIOR TO CASTING CONCRETE.
- D10. ALL CAST-IN-PLACE AND POST-INSTALLED ANCHORS INDICATED IN THE STRUCTURAL DOCUMENTS SHALL COMPLY WITH CHAPTER 17 OF AIA 318 AND CHAPTER 19 OF THE IBC. ALL EXPANSION AND ADHESIVE ANCHORS SHALL HAVE THE ICC REPORT SHOWING EQUIVALENT LOAD CAPACITY. SUBMIT AND INSTALL PER THE ICC EVALUATION REPORT ANCHOR INSTALLATIONS REQUIRE SPECIAL INSPECTION, PER THE SCHEDULE ON THIS SHEET.
- D11. **MACROFIBRE REINFORCING FIBERS**
CONFORMS TO ASTM C1110
PROVIDE DOSAGE TO OBTAIN A MINIMUM AVERAGE RESIDUAL STRENGTH AT A NET DEFLECTION OF 1/160 TO 1/80 IN ACCORDANCE WITH ASTM C1609 AND ASTM 1395. DOSAGE SHALL NOT BE LESS THAN 3 LBS PER CUBIC YARD.
PROVIDE DOSAGE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. PRE-APPROVED PRESSURE SHALL BE MATCHED BY MASTER BULKERS SOLUTIONS.
PRODUCT SUBSTITUTION REQUESTS MAY BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- POST-INSTALLED ANCHORS**
- PA1. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONTRACT DRAWINGS OR WHERE APPROVED IN WRITING BY THE ENGINEER. ALL ANCHOR INSTALLATIONS, INCLUDING CAST-IN-PLACE ANCHORS REQUIRE SPECIAL INSPECTION PER THE 2018 IBC AND PER THIS PROJECT'S REQUIREMENTS.
- PA2. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MII) AND ICC REPORTS.
- PA3. SPECIAL INSPECTION SHALL BE PROVIDED BY THE OWNER OR HIS DESIGNATED REPRESENTATIVE FOR ALL CAST-IN-PLACE, ADHESIVE AND MECHANICAL ANCHOR INSTALLATIONS AS REQUIRED BY THE BUILDING CODE AND ICC REPORTS. INDEPENDENT ON-SITE PROVE LOAD TESTING PERFORMED BY THE CONTRACTOR, SHALL BE PERFORMED IN THE PRESENCE OF THE SPECIAL INSPECTOR FOR ALL ANCHORS INSTALLED WITHOUT SPECIAL INSPECTION.
- PA4. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER ALONG WITH CALCULATIONS THAT ARE PREPARED AND SEALED BY AN ARIZONA REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARDS AS REQUIRED BY THE BUILDING CODE. PRODUCT ICC-ES REPORTS SHALL BE INCLUDED WITH THE SUBMITTAL PACKAGE.
- PA5. UNLESS NOTED OTHERWISE ON PLANS, ACCEPTABLE POST-INSTALLED CONCRETE ANCHOR PRODUCTS SHALL BE ADHESIVE ANCHORS FOR USE IN CRACKED CONCRETE AND SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC308. SEE WAG SPECIFICATION SECTION 505 FOR ADDITIONAL INFORMATION.
- WATERSTOP**
- WS1. PROVIDE PVC WATERSTOP WHERE INDICATED ON THE DRAWINGS.
- WS2. INSTALL WATERSTOP IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. PRE-APPROVED WATERSTOP SHALL BE JP SPECIALTIES PUGHSTO RETROFIT WATERSTOP SYSTEM.
- WS3. PRODUCT SUBSTITUTION REQUESTS MAY BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

TESTING AND INSPECTION FOR QUALITY ASSURANCE:

DATE	STATE	PINAL COUNTY PROJECT NO.	DATE	SCALE	DATE
9	AZ	006-0066	7	10	AS BUILT

- THE BUILDING CODE (2018 IBC WITH PINAL COUNTY AMENDMENTS) SECTION 1704 REQUIRES THAT QUALIFIED SPECIAL INSPECTORS, WHO ARE CONTRACTUALLY INDEPENDENT OF THE CONTRACTOR AND ARE APPROVED BY THE BUILDING OFFICIAL, PERFORM ALL SPECIAL INSPECTION DUTIES AND RESPONSIBILITIES AS REQUIRED BY THE BUILDING CODE.
- THE FOLLOWING SCHEDULE CONTAINS A LIST OF SPECIAL INSPECTION ACTIVITIES RELATED TO THE QUALITY ASSURANCE PLAN REQUIRED BY CHAPTER 17 OF THE BUILDING CODE FOR THE FABRICATION, ERECTION AND CONSTRUCTION OF THE STRUCTURAL SYSTEMS AS SHOWN ON THE CONTRACT DOCUMENTS FOR THE PROJECT. ALL INSPECTORS SHALL BE QUALIFIED BY TRAINING AND EXPERIENCE FOR THE REQUIRED INSPECTIONS AND TEST PROCEDURES. REFER TO BUILDING CODE CHAPTER 17 FOR SPECIFIC TEST PROCEDURES.
- TESTING AND INSPECTION REPORTS SHALL BE PREPARED FOR EACH INSPECTION ITEM ON A DAILY BASIS UNLESS WORK IS PERFORMED ON THAT ITEM. REPORTS SHALL BE DISTRIBUTED TO THE OWNER, CONTRACTOR, AND THE ENGINEER FOR THEIR REVIEW, COMMENT, AND ACTION, AS NEEDED.
- THE CONTRACTOR SHALL SUBMIT A STATEMENT OF RESPONSIBILITY CONTAINING THE FOLLOWING:
 - ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.
 - ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
 - PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS.
 - IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

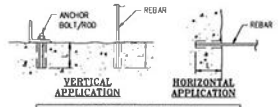
SCHEDULE OF SPECIAL INSPECTION SERVICES

INSPECTION ITEM REQUIRED	FREQUENCY		CODE REFERENCE
	CONTINUOUS*	PERIODIC	
GENERAL STRUCTURAL OBSERVATIONS			
CONDUCT VISUAL OBSERVATION OF THE STRUCTURAL SYSTEMS FOR GENERAL CONFORMANCE TO THE CONSTRUCTION DOCUMENTS. PREPARE WRITTEN REPORT OF OBSERVATIONS DESCRIBING WORK PROGRESS AND NON-COMPLYING ITEMS.	-	X	IBC 1704
SOIL & EARTHWORK			
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X	
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X	TABLE 1705.6
VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-	
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X	
CONCRETE AND REINFORCING STEEL			
INSPECTION OF REINFORCING STEEL AND PLACEMENT.	-	X	IBC TABLE 1705.3 AIA 318: CH 10, 25.2, 25.3, 26.1-26.3
INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	X	-	AIA 318: 17.8.2
VERIFYING USE OF REINFORCING DESIGN MIX.	-	X	AIA 318: CH 19, 26.4.3, 26.4.4
AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C172, ASTM C31, AIA 318: 26.5, 26.17
INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	AIA 318: 26.5.3-26.5.5
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	AIA 318: 26.11.1(a)
DURING THE REPAIR OF SURFACE DEFECTS IN THE EXISTING CONCRETE SURFACES, VERIFY REPAIR TECHNIQUE WITH APPROVED REPAIR PROCESS AND PROVIDE ALL INSPECTIONS THAT ARE REQUIRED FOR NEW INSTALLATION.	X	-	IBC 110.3.9
*YEAR PERIOD OF ACTIVITY REQUIRING SPECIAL INSPECTION			



20 E THOMAS ROAD, SUITE 2000
 PHOENIX, AZ 85014-3110
 (602) 927-7700
GENERAL STRUCTURAL NOTES AND SPECIAL INSPECTION SCHEDULE
 SAN MANUEL BRIDGE SCOUR MITIGATION
 SAINT ANTHONY FALLS
 DRAWING NO. S-501

YEAR	STATE	FIRM COUNTY PROJECT NO.	DATE	SCALE	AS BUILT
9	AZ	064006	8	10	



ADHESIVE ANCHOR SCHEDULE			
REINFORCING BARS	ANCHOR BOLTS/RODS	ANCHOR BOLTS/RODS	ANCHOR BOLTS/RODS
BAR SIZE	EMBED LENGTH (L)	DIA. (IN)	EMBED LENGTH (L)
#3	4"	3/8"	5"
#4	5"	1/2"	6"
#5	6"	5/8"	7"
#6	7"	3/4"	8"
#7	8"	7/8"	9"
#8	9"	1"	10"

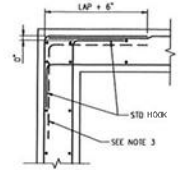
- NOTES:
- ADHESIVE TYPE IS SUBJECT TO APPROVAL OF THE ENGINEER OF RECORD.
 - EMBEDMENT LENGTHS SHOWN ARE MINIMUM. PROVIDE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.

4 ADHESIVE ANCHOR SCHEDULE
NTS

LAP SPlice AND EMBEDMENT LENGTHS
 $f_c = 4.0 \text{ ksi}$ $f_y = 60 \text{ ksi}$

BAR SIZE	BAR SPACING > 4"	BAR SPACING <= 4"
#3	14"	20"
#4	18"	26"
#5	23"	33"
#6	29"	42"
#7	35"	52"
#8	43"	64"
#9	52"	78"
#10	62"	94"
#11	73"	112"

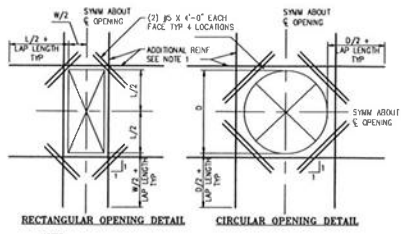
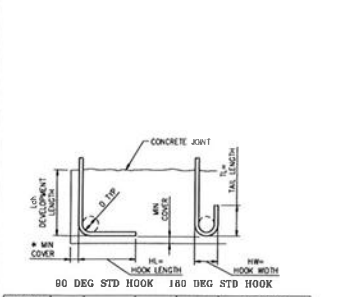
- NOTES:
- PROVIDE MINIMUM LAP SPlice LENGTHS AND EMBEDMENTS PER TABLE UNLESS NOTED OTHERWISE. EMBEDMENT LENGTH EQUALS THE LAP SPlice LENGTH UNLESS OTHERWISE NOTED.
 - BAR SPACING AT LAP SPlice IS THE MINIMUM CLEAR DISTANCE BETWEEN LAPPED BARS PLUS ONE BAR DIAMETER.
 - ALL SPlices TO BE CONTACT SPlices AND WELD TOGETHER UNLESS OTHERWISE APPROVED BY ENGINEER.



- NOTES:
- ALL HOOKS SHALL BE STD 90 DEGREE HOOKS UNDO.
 - SEE DRAWINGS FOR POSITION OF VERTICAL REIN VERSUS HORIZONTAL REINFORCING. THE CASE SHOWN IS MOST COMMONLY USED FOR WALL TO SLAB CONNECTIONS SHOWN IN SECTION VIEW SPECIFIC DIMS CONTROL.
 - PROVIDE SEPARATE CORNER BARS TO CREATE CONTINUITY AT OUTSIDE FACE BARS AT CONTRACTOR'S OPTION.

2 TYPICAL WALL REINFORCEMENT AT CORNERS
NTS

1 REINFORCING LAP AND EMBEDMENT SCHEDULE
NTS



- NOTES:
- PROVIDE ADDITIONAL REINFORCING THE SAME SIZE AS DISCONTINUOUS REINFORCEMENT AT OPENING. QUANTITY OF REINFORCING IN EACH DIRECTION SHALL BE EQUAL TO OR GREATER THAN THE NUMBER OF DISCONTINUOUS BARS. PLACE 1/2 OF ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING. PLACE ADDITIONAL REINFORCEMENT AT 3" OC (TYPICAL BOTH DIRECTIONS AND ALL LAYERS OF REINFORCEMENT). START FIRST BAR 2" CLEAR TO OPENING.
 - EXTEND ADDITIONAL REINFORCING BEYOND EDGE OF OPENING AS SHOWN ABOVE. ADDITIONAL BARS MAY TERMINATE AT THE END OF THE WALL WITH A STANDARD HOOK WHERE THE LENGTH OF THE WALL WILL NOT PERMIT BARS TO EXTEND AS SHOWN ABOVE.
 - TYPICAL WALL OR SLAB REINFORCING NOT SHOWN FOR CLARITY. TERMINATE TYPICAL REINFORCING 2" CLEAR TO OPENING.
 - THIS DETAIL APPLIES AT ALL LOCATIONS WHERE THE OPENING SIZE EXCEEDS THE TYPICAL SPACING OF THE WALL OR SLAB REINFORCING.
 - UNLESS SHOWN OTHERWISE, ON DRAWINGS, PROVIDE EXTRA REINFORCING AROUND OPENINGS AS SHOWN AND INDICATED ABOVE.
 - PROVIDE ADDITIONAL BOMBS PER NOTE 1 ABOVE FOR ALL OPENINGS NEAR THE FLOOR SLAB, BASE SLAB, OR CORNERS.

90 DEG STD HOOK 180 DEG STD HOOK

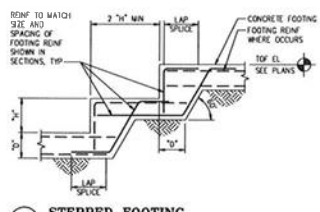
BAR SIZE	HL	HW	TL	D	$f_c = 4.0 \text{ ksi}$	$f_y = 60 \text{ ksi}$
#3	6"	3"	3"	2 1/4"	8"	8"
#4	8"	4"	4 1/2"	3"	7"	7"
#5	10"	5"	5"	3 3/4"	9"	9"
#6	12"	6"	6"	4 1/2"	10"	10"
#7	14"	7"	7"	5 1/4"	12"	12"
#8	16"	8"	8"	6"	14"	14"
#9	18"	9"	9 1/2"	7 1/2"	15"	15"
#10	20"	10"	10 1/2"	8 3/4"	17"	17"
#11	22"	11"	11 1/2"	10"	19"	19"

- NOTES:
- (*) COMPLYING WITH MINIMUM COVER REQUIREMENTS OF AC 318-14, 25.4.2. OTHERWISE, L_{min} MUST BE RE-CALCULATED.
 - ALL HOOKS SHOWN ON THE DRAWINGS SHALL BE STANDARD HOOKS UNDO.

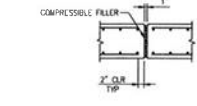
5 REINFORCING HOOK SCHEDULE
NTS

6 ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE SLABS OR WALLS
NTS

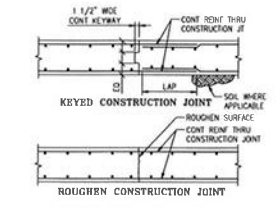
3 REINFORCING SPlice NOT AT CONSTRUCTION JOINT
NTS



7 STEPPED FOOTING
NTS



8 EXPANSION JOINT (EJ)
NTS



8 CONSTRUCTION JOINT (CJ)
NTS

DESIGN	DATE	12/22/11		20 E THOMAS ROAD, SUITE 2000 PHOENIX, AZ 85024-3118 (602) 952-7700	
DRAWN	DATE	12/22/11			
CHECKED	DATE	12/22/11			

STRUCTURAL STANDARD DETAILS

SAN MANUEL BRIDGE SCOUR MITIGATION
SAINT ANTHONY FALLS

DRAWING NO. S-007

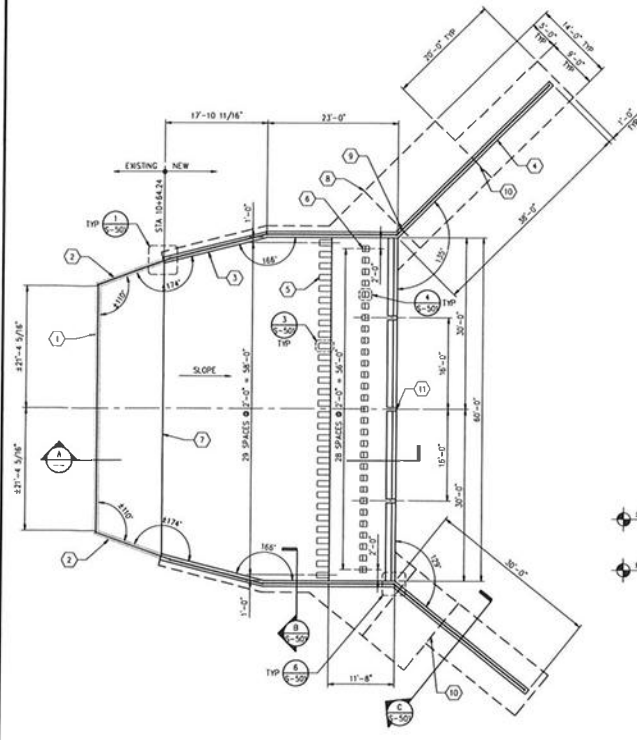
DATE	BY	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9/10/09	AZ	006006	9	10

GENERAL NOTES

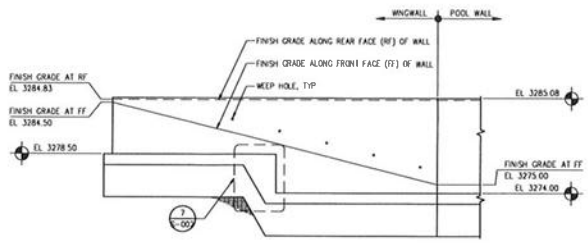
- SEE SHEETS 5-001 AND 5-002 FOR GENERAL STRUCTURAL NOTES, SPECIAL INSPECTION SCHEDULE, AND STANDARD STRUCTURAL DETAILS.
- INFORMATION RELATED TO THE EXISTING STRUCTURE SHOWN ON THIS DRAWING IS BASED ON AS-BUILT PLANS AND DETAILS. SEE NOTE 03 ON SHEET 5-001 FOR ADDITIONAL INFORMATION.
- SEE CIVIL DRAWINGS FOR COORDINATE POINTS AND HORIZONTAL AND VERTICAL LOCATION OF STRUCTURE.
- PROVIDE MACROSYNTHETIC FIBERS IN CONCRETE FOR THE SPURWAY SLAB AND POOL WALLS. SEE GENERAL STRUCTURAL NOTES ON SHEET 5-001 FOR ADDITIONAL INFORMATION.

KEYED NOTES

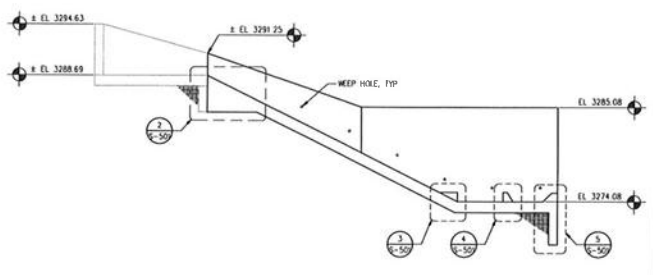
- EXISTING CONCRETE HEADWALL.
- EXISTING CONCRETE INGWALL.
- NEW CONCRETE POOL WALL, TYPICAL.
- NEW CONCRETE INGWALL, TYPICAL.
- NEW CONCRETE CHUTE BLOCK, TYPICAL.
- NEW CONCRETE BATTLE BLOCK, TYPICAL.
- CONSTRUCTION JOINT BETWEEN NEW AND EXISTING CONCRETE PER DETAIL 2 ON SHEET 5-001.
- CONSTRUCTION JOINT IN FOOTING AND KEY, TYPICAL. SEE DETAIL 9 ON SHEET 5-002.
- EXPANSION JOINT IN WALL, TYPICAL. SEE DETAIL 8 ON SHEET 5-002.
- FOOTING STEP PER DETAIL 7 ON SHEET 5-002, TYPICAL. SEE DETAIL 1 ON THIS SHEET FOR REQUIRED TOP OF FOOTING ELEVATIONS AT STEP.
- 8" WIDE NOTCH IN STILLING BASIN END BATTLE BLOCK, TYPICAL.



STILLING BASIN PLAN
1/8" = 1'-0"



1 WINGWALL PROFILE
3/16" = 1'-0"



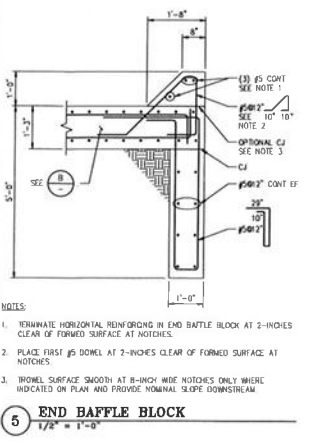
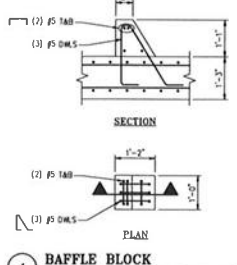
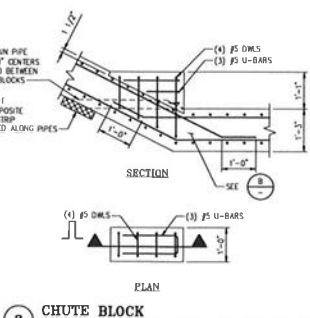
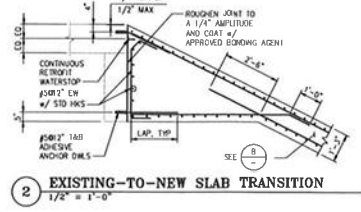
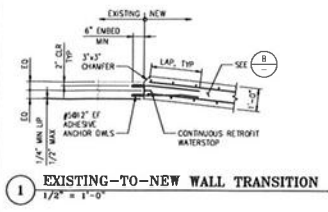
A STILLING BASIN FULL SECTION
3/16" = 1'-0"



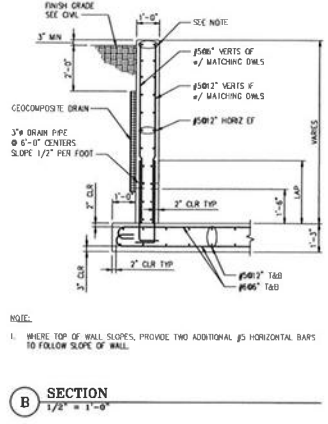
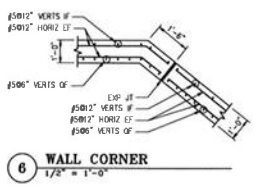
DATE	BY	SCALE	20 E THOMAS ROAD, SUITE 2000 PHOENIX, AZ 85012-3111 (602) 922-7700
DESIGN	RM	07/07	
DRAWN	RM	07/07	
CHECKED	TR	07/07	
STILLING BASIN STRUCTURAL PLAN			
LEGION SAN MANUEL BRIDGE SCOUR MITIGATION SAINT ANTHONY FALLS			



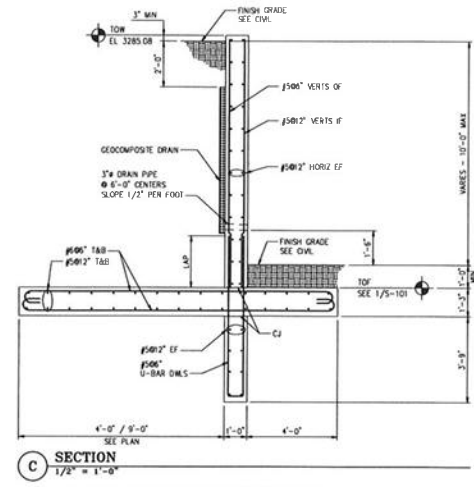
DATE	BY	CHK	APP	SCALE	NO.
9/22/10	AZ	SK	SK	1/2" = 1'-0"	10



- NOTES:
1. TERMINATE HORIZONTAL REINFORCING IN END BAFFLE BLOCK AT 2-INCHES CLEAR OF FORMED SURFACE AT NOTCHES.
 2. PLACE FIRST #5 DORTEL AT 2-INCHES CLEAR OF FORMED SURFACE AT NOTCHES.
 3. TRIMEL SURFACE SMOOTH AT 8-INCH WIDE NOTCHES ONLY WHERE INDICATED ON PLAN AND PROVIDE NOMINAL SLOPE DOWNSTREAM.



- NOTE:
1. WHERE TOP OF WALL SLOPES, PROVIDE TWO ADDITIONAL #5 HORIZONTAL BARS TO FOLLOW SLOPE OF WALL.



DATE	BY	CHK	APP	SCALE	NO.
02/02/10	SK	SK	SK	1/2" = 1'-0"	10

HR 20 E THOMAS ROAD, SUITE 2000
 PHOENIX, AZ 85028-3119
 (602) 942-7700
 STRUCTURAL SECTIONS AND DETAILS
 SAN MANUEL BRIDGE SCOUR MITIGATION
 SAINT ANTHONY FALLS
 DRAWING NO. S-501

EXHIBIT 2
(Insurance Requirements)

Grantee's agent and contractors shall continuously maintain the following minimum insurance coverage during the Term of the Agreement and at any other time that Grantee or its agents and contractors, employees and contractors enter, or perform activities on the Easement Property or TEA:

Commercial general liability insurance coverage, (at least as broad as comprehensive general liability insurance coverage), with a broad form comprehensive general liability endorsement of single limits of no less than \$2,000,000.00 per occurrence, and aggregate limits of no less than \$2,000,000.00, for bodily injury, death, personal liability and property damage liability on a claims-made basis.

Automobile and liability insurance covering owned, non-owned, leased and hired vehicles with combined single limits of no less than \$1,000,000.00 per occurrence of bodily injury, death, and property damage liability on a claims-made basis.

Worker's compensation insurance in the statutory amounts for the State of Texas and employer's liability insurance with limits of not less than the applicable State of Arizona statutory minimums or \$100,000/\$100,000 /\$500,000, whichever is greater.

The insurance policies shall contain no exclusions or limitations with regard to explosion, collapse or underground hazard coverage. The insurance policies shall name the Indemnified Parties as an additional insured. The policies shall state that Grantee's agent and contractors's coverage is primary. All the insurance policies shall contain an endorsement providing that written notice by certified mail, return receipt requested shall be given to Grantor at least thirty (30) days prior to termination, cancellation, or nonrenewal of any policy. All insurance policies shall contain a contractual liability endorsement covering Grantee's agent and contractors's liability under this Agreement and all contracts entered into by Grantee's agent and contractors to insure Grantee's agent and contractors's indemnity obligations and other insurable provisions of this Agreement. The insurance policies shall contain no co-insurance provisions. Grantee's agent and contractors shall require Grantee's agent and contractors's insurance carrier to waive its right of subrogation as to Grantor and the other Indemnified Parties.