

General Notes

- Contractor shall protect existing landscaping, irrigation, and street lights.

Construction Notes

- Note 202 115 LF
Install Handrail per MAG Std. Det. 145 with Type 1 Anchor Plate Detail.
- Note 500 50 LF
Construct 15' wide Concrete Channel per Details 2 & 3, Sheet C3, and the structural Details on Sheets S1 and S2. Includes weir construction.
- Note 503 5 LF
Install 18" Galvanized spiral ribbed culvert. Slope bottom of catch basin/channel to drain to culvert. Connect culvert to proposed channel per Detail 14, Sheet C4.
- Note 504 4 EA
Install flap gate at the outlet of pipe per Detail 14, Sheet C4. Flap gate size shall match pipe outlet size.
- Note 514 1 LS
Grade to drain this area Per Grading Detail 8 Sheet C4.
- Note 518 1 LS
Grade to drain this area Per Grading Detail 12 Sheet C4.
- Note 520 2 EA
Connect Existing 18" RCP storm drain piping to New Box Culvert per Detail 14, Sheet C4.
- Note 525 1 EA
Construct 15" ADS Nyloplast Drain Basin with curb inlet structure and standard H-20 grate. Install single curb behind grate to match existing per MAG Std. Det. 222. Includes 15" ADS HDPE pipe, fittings and connection per Detail 14, Sheet C4. Includes removal and replacement of pavement. Station and offset are to the center of the grate.
- | Sta. | Offset | Grate | Invert |
|-----------|-----------|-------|---------|
| 110+38.09 | 14.86' RT | 3107 | 3104.22 |
- Note 529 1 EA
Install 18" flared end section. Connect culvert to proposed channel per Detail 14, Sheet C4.
- Note 530 Incidental
Tie roof drains to top of channel wall so that they drain over the top of the wall to the new channel.
- Note 538 1 EA
New cast in place concrete headwall per ADOT Std. Det. B-04.10, modified per Detail 17, Sheet C5. Connect channel walls to box culvert per Detail 17, Sheet C5.
- Note 541 150 LF
New cast-in-place box culvert per ADOT Std. Det. B-02.10.
*Overall culvert dimensioned as follows:
10' Wide Sta. 109+75 to 111+50
8' Wide Sta. 111+59.91 to 113+65.18
3.5' High Sta. 109+75 to 110+90.33
3' High Sta. 111+50 to 113+65.18
Horizontal Transition Sta. 111+50 to 111+59.91
Vertical Transition Sta. 110+90.33 to 111+50

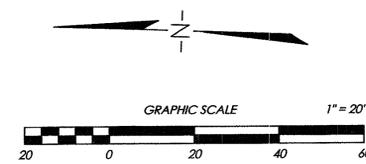
CALL TWO WORKING DAYS BEFORE YOU DIG
888-800-OR
1-800-578-1111
(OUTSIDE MARICOPA COUNTY)

By: [Signature]

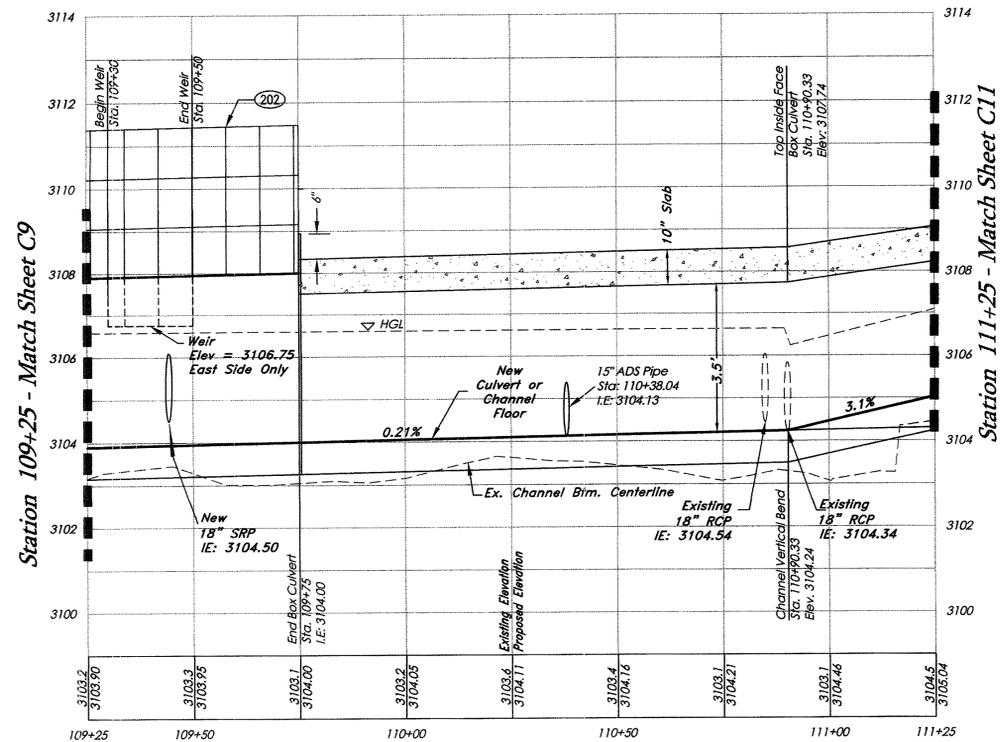
Date: 1/17/12

Revisions:

Draw Note 510 Change Quantity in Note 504
Added Sta 109+75 to Plan for Reference



Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 2'



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Town Of Camp Verde
Finnie Flat Channel Improvements
Base Bid Rectangular Concrete Channel/Box Culvert
Sta. 109+25 to Sta. 111+25

Sheet Scale: 1" = 20'
By: bs/bal/fnc
Date: JUN 11
Job No: 86-13045
Drawing No: N/A

C10 of 13

Sign Table						
Sign #	Sign Code	Description	Station	Offset	Direction	Type of Post
1	R3-7R	Right Lane Must Turn Right	10+95	40' RT	Eastbound	MAG Std. Det. 131 Type 'A'
2	R3-7R	Right Lane Must Turn Right	12+42	35' RT	Eastbound	MAG Std. Det. 131 Type 'A'
3	R3-5R & R3-5F	Right Turn Only & Supplemental Plaque "RIGHT LANE"	13+07	35' RT	Eastbound	MAG Std. Det. 131 Type 'A'



Sign Code and Description
R3-5R, Right Turn Only &
R3-5F, Supplemental Plaque "RIGHT LANE"

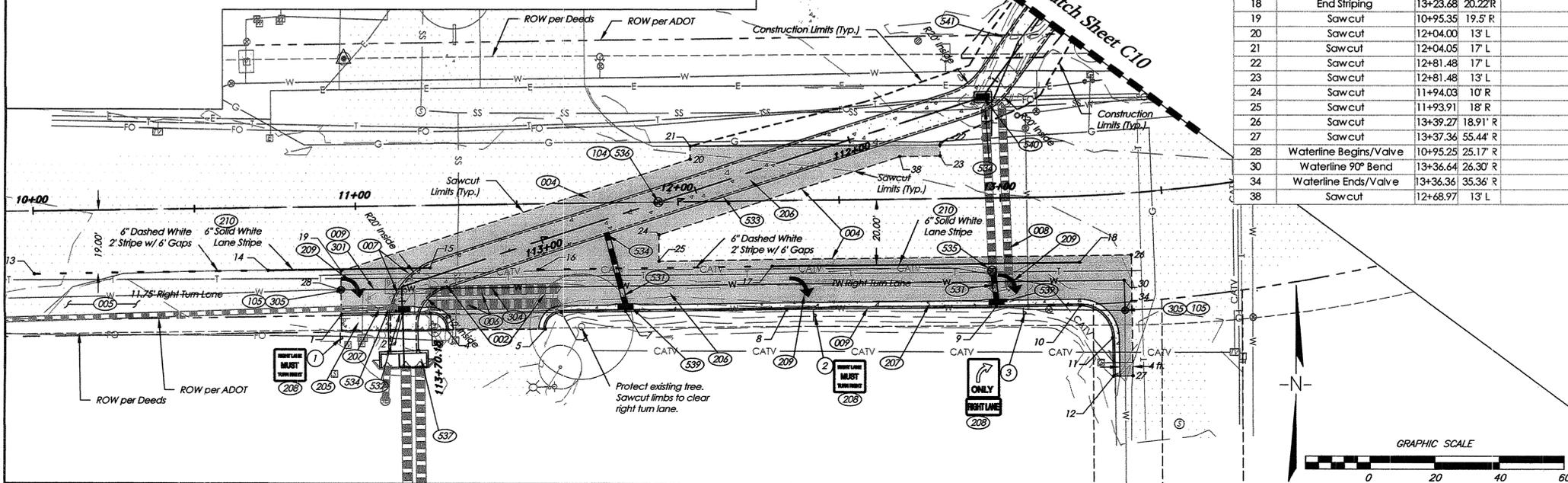
Sign Numbers
3

1 Sign Details and Table
Not to Scale



Sign Code and Description
R3-7R, Right Lane Must Turn Right

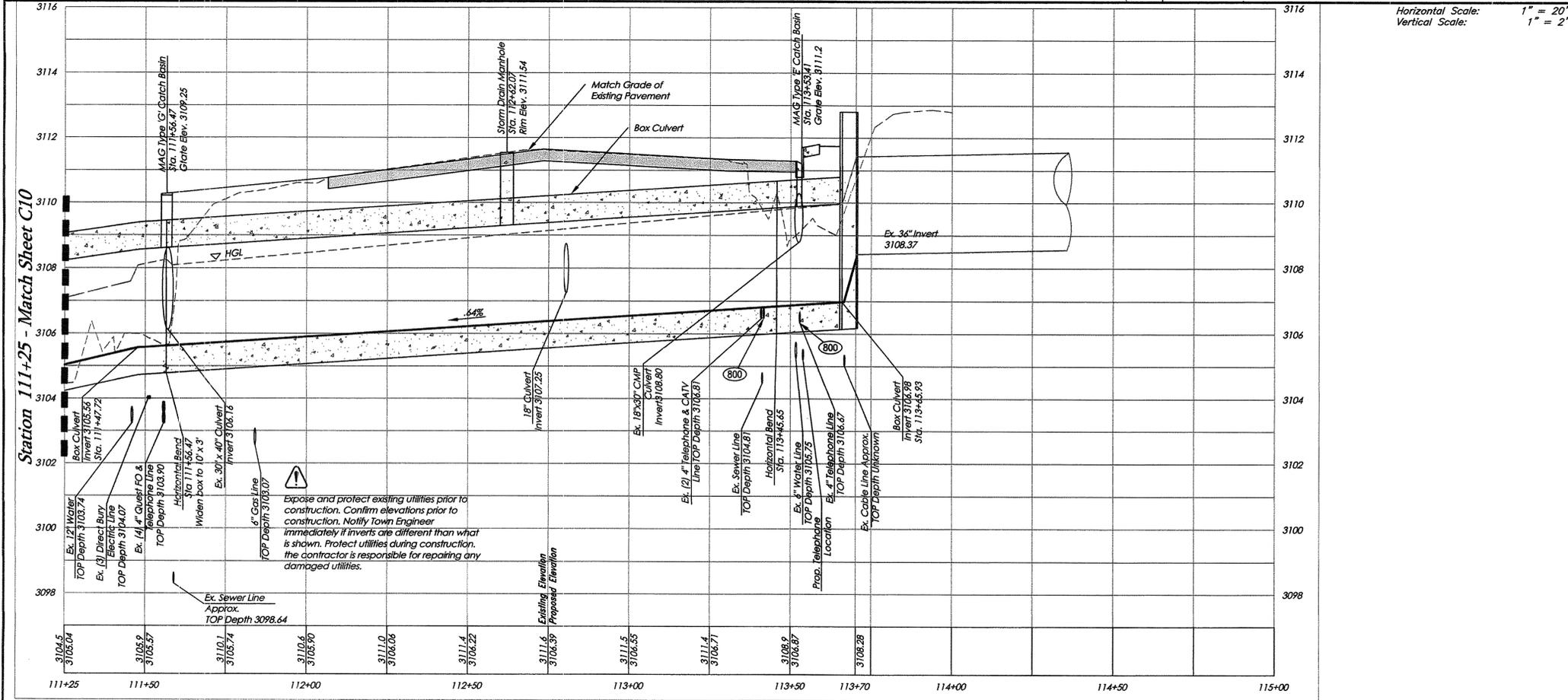
Sign Numbers
1, 2



Point #	Description	Station	Offset	Elevation
1	Back of Curb	10+95.22	32.8' R	Match Existing
2	Back of Curb Catch Basin	11+14.24	32.8' R	3111.7
3	Back of Curb PC 5' Radius	11+22.88	32.8' R	3111.84
4	Back of Curb PT 5' Radius	11+27.88	37.8' R	Match Existing
5	Back of Curb PT 5' Radius	11+58.38	38' R	Match Existing
6	Back of Curb PC 5' Radius	11+63.39	33' R	3111.7
7	Back of Curb Catch Basin	11+83.38	33' R	3111.42
8	Back of Curb	12+33.38	33' R	3111.82
9	Back of Curb Catch Basin	12+98.30	33' R	3111.09
10	Back of Curb PT 10' Radius	13+23.34	33.21' R	3111.22
11	Back of Curb PC 10' Radius	13+32.32	43.49' R	3111.34
12	Back of Curb	13+31.93	55.19' R	Match Existing
13	Begin Striping	10+00	19' R	
14	Begin Solid Striping	10+72.76	19' R	
15	End Striping	11+22.87	19' R	
16	Begin Striping	11+56.38	20' R	
17	Begin Solid Striping	12+28.98	20' R	
18	End Striping	13+23.68	20.22' R	
19	Saw cut	10+95.35	19.5' R	
20	Saw cut	12+04.00	13' L	
21	Saw cut	12+04.05	17' L	
22	Saw cut	12+81.48	17' L	
23	Saw cut	12+81.48	13' L	
24	Saw cut	11+94.03	10' R	
25	Saw cut	11+93.91	18' R	
26	Saw cut	13+39.27	18.91' R	
27	Saw cut	13+37.36	55.44' R	
28	Waterline Begins/Valve	10+95.25	25.17' R	
30	Waterline 90° Bend	13+36.64	26.30' R	
34	Waterline Ends/Valve	13+36.36	35.36' R	
38	Saw cut	12+68.97	13' L	

- Construction Notes**
- Note 002 40 LF
Remove and dispose of existing concrete curb and gutter.
 - Note 004 425 SY
Sawcut, remove and dispose of asphalt concrete within the construction limits.
 - Note 005 1 LS
Obfuscate asphalt striping by sandblasting per ADOT Spec 701-3.06.
 - Note 006 80 LF
Remove and dispose of existing storm drain pipe.
 - Note 007 1 LS (Allowance)
Relocate telephone and cable TV lines below new box culvert. Coordinate with Qwest and cable company.
 - Note 008 1 LS
Stump and abandon existing storm drain pipe.
 - Note 009 250 LF
Cut and abandon existing 6" waterline. Install insert valves prior to abandoning water line. Coordinate with Camp Verde Water.
 - Note 104 1 EA
Adjust manhole to finish grade per MAG Std. Det. 422.
 - Note 105 2 EA
Adjust valve to finished grade per MAG Std. Det. 391-1. Connect to existing waterline.
 - Note 205 155 SF
New 5' wide concrete sidewalk over 3" ABC per MAG Std. Det. 230.
 - Note 206 664 SY
New 4" AC/10" ABC pavement section per Detail T3, sheet C3.
 - Note 207 233 LF
New Type 'A' curb and gutter per MAG Std. Det. 220.
 - Note 208 3 EA
New traffic control signs per MUTCD at locations shown and the sign table. Sign base per MAG Std. Det. 131 Type A.
 - Note 209 1 LS
New text and symbol markings at locations shown on this sheet per the MUTCD and per ADOT Std. Spec. 705.
 - Note 210 1 LS
New lane striping at the locations shown on this sheet per the MUTCD and per ADOT Std. Spec. 708.
 - Note 301 1 LS (Allowance)
New waterline vertical realignment under box culvert per Detail 4, Sheet C. If clearance is less than 1-ft between the top of pipe and the box culvert.
 - Note 304 210 LF
New 6" Class 350 DIP Waterline with joint restraints per Detail T2, Sheet C3. Includes 2 - 45° bends and gate valve.
 - Note 305 2 EA
New 6" insert valve, box and cover per MAG Std. Det. 301 and 391. Provide materials submittal to TOCV prior to installation. Install valves prior to other construction. Connect to existing waterline. Locate waterline prior to construction.
 - Note 531 32 LF
New 18" SRP storm drain per Detail T1, Sheet C3.
 - Note 532 1 EA
New modified Type 'E' catch basin per MAG Std. Det. 534. Connect catch basin to top of box culvert.
 - Note 533 206 LF
New 8x3' cast in place box culvert per ADOT Std. Det. B-02.10, and specifications.
 - Note 534 3 EA
Connect pipe culvert to box culvert. Adjust invert as necessary. Includes pipe extensions and concrete collar per ADOT Std. Detail C-13.80.
 - Note 535 1 EA
New 48" storm drain manhole per MAG Std. Det. 520.
 - Note 536 1 EA
New 48" storm drain manhole shaft per MAG Std. Det. 522. Connect manhole base to 8x3' box culvert at locations shown and per the profile.
 - Note 537 1 EA
New cast in place headwall and vault structure per ADOT Std. Det. B-04.30, modified per Detail 18, Sheet C5.
 - Note 539 2 EA
New type 'E' catch basin per MAG Std. Det. 534.
 - Note 540 1 EA
New modified Type 'G' catch basin per MAG Std. Det. 537. Includes 2' concrete apron.
 - Note 541 35 LF
New cast-in-place box culvert per ADOT Std. Det. B-02.10.
*Overall culvert dimensioned as follows:
10' Wide Sta. 109+75 to 111+50
8' Wide Sta. 111+59.91 to 113+65.18
3.5' High Sta. 109+75 to 110+90.33
3' High Sta. 111+50 to 113+65.18
Horizontal Transition Sta. 111+50 to 111+59.91
Vertical Transition Sta. 110+90.33 to 111+50

- General Note**
- Existing utilities within 2 (two) feet of the new box culvert shall be exposed and inspected prior to re-burial by each appropriate utility company.
- Note 800 Incidental (Allowance)
Coordinate relocation of Qwest line and Cable line.



Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 2'

CALL TWO WORKING DAYS BEFORE YOU DIG
888-888-8888
OR
1-800-STRIKE-IT
(OUTSIDE MARICOPA COUNTY)

By: _____
Date: _____

Revisions:
Added reference to the Allowances on Notes 007 and 800.

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Town Of Camp Verde
Finnie Flat Channel Improvements
Base Bid Box Culvert Design
Sta. 111+25 to End

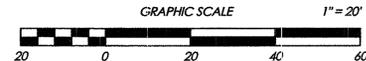
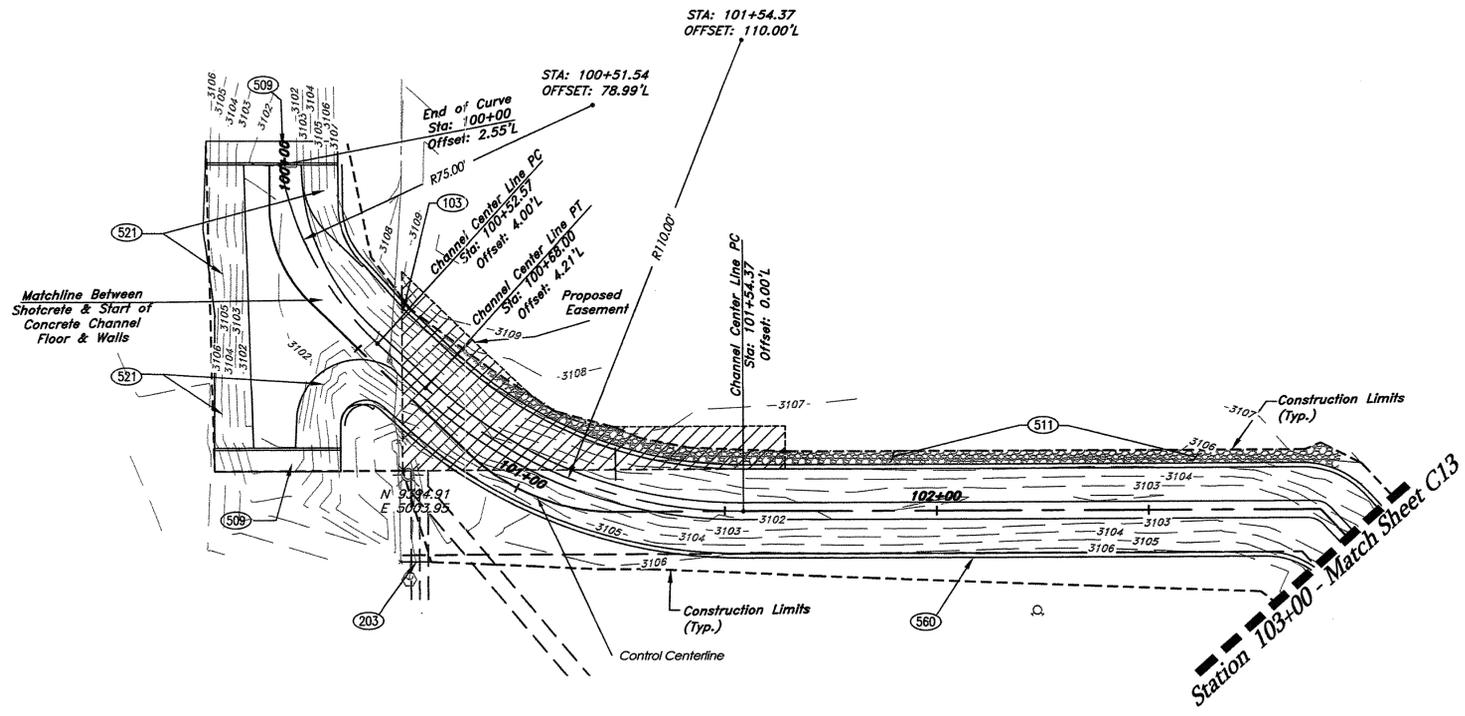
Sheet C11 of 13
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By: bsb/nc
Date: JUN 11
Job No: 86-13045
Drawing No: N/A

General Notes

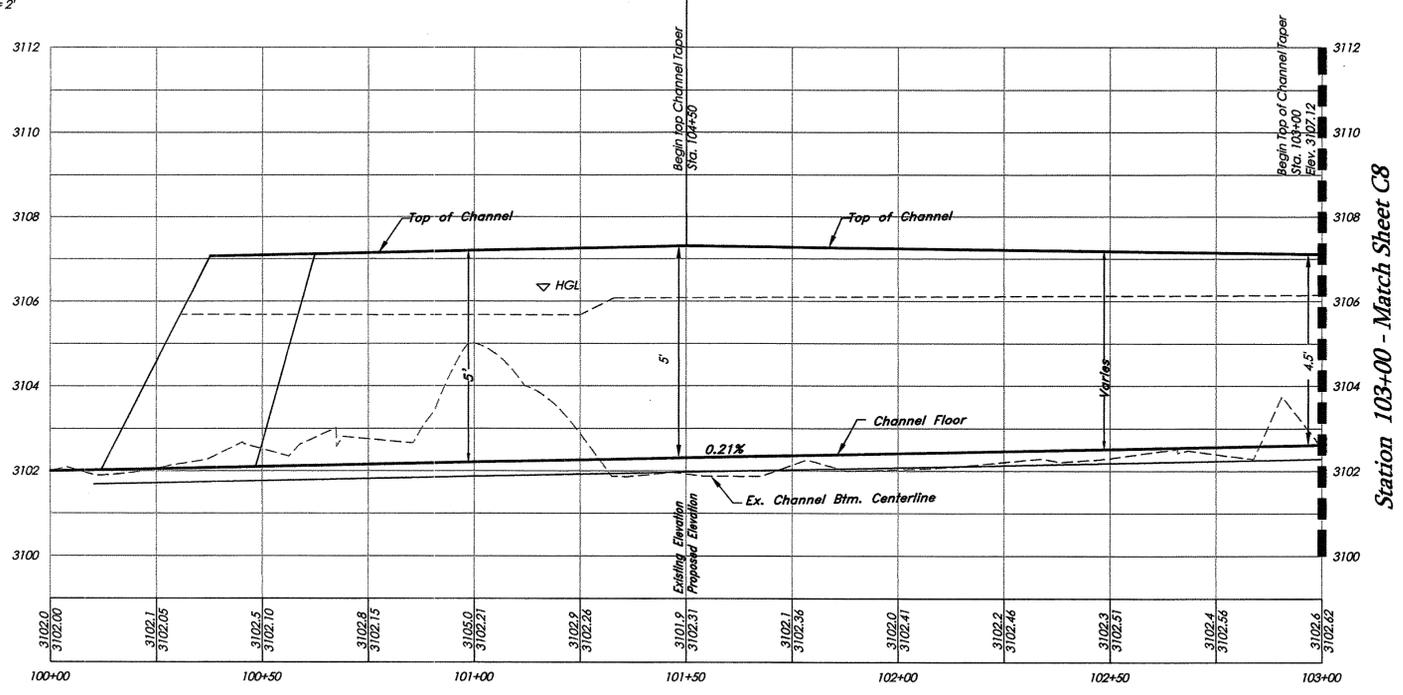
- Contractor shall protect existing landscaping, irrigation, and street lights.

Construction Notes

- Note 103 40 LF
Remove and replace existing barbed wire fence to the nearest fence pole.
- Note 203 7 LF
Install New Barbwire Fence in the location shown.
- Note 509 12 CY
Construct riprap in the locations shown. Riprap shall be hand placed 6"-12" native stone, 12" deep. Slope riprap to drain.
- Note 511 1 LS, 73 SY Landscape rock
Grade to drain this area Per Grading Detail 5 Sheet C4. Includes landscaping rock.
- Note 521 1475 SY
Install 4" Shotcrete to Match Existing Channel Bank, Slopes, & Floor in areas where the two channels meet as shown on plan.
- Note 560 9090 SF
New Shotcrete channel per Details 20 & 21, sheet C13.

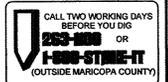


Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 2'

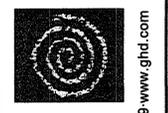


Station 103+00 - Match Sheet C8

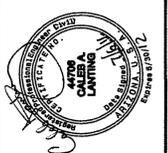
Option 2



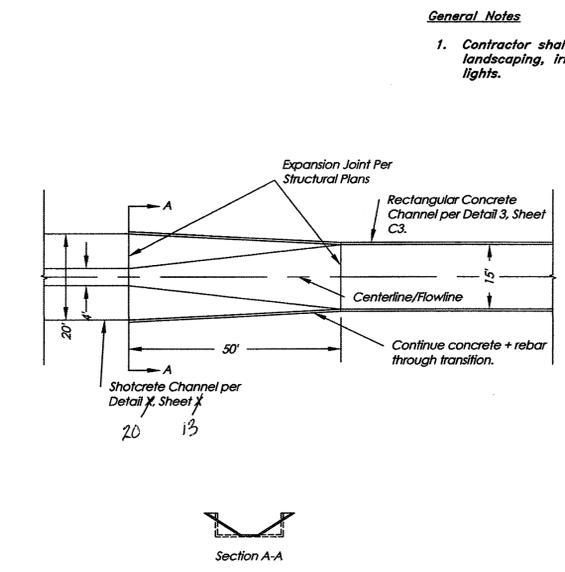
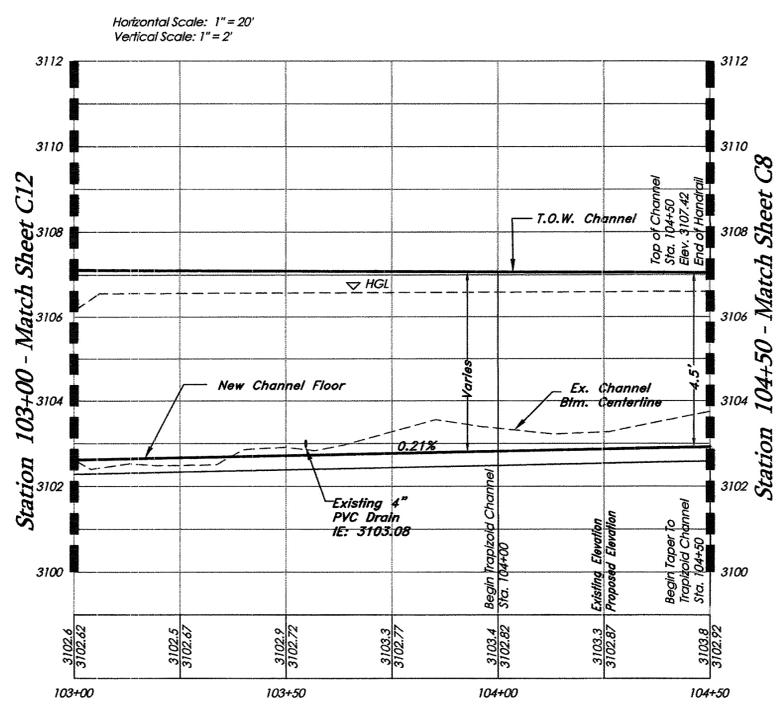
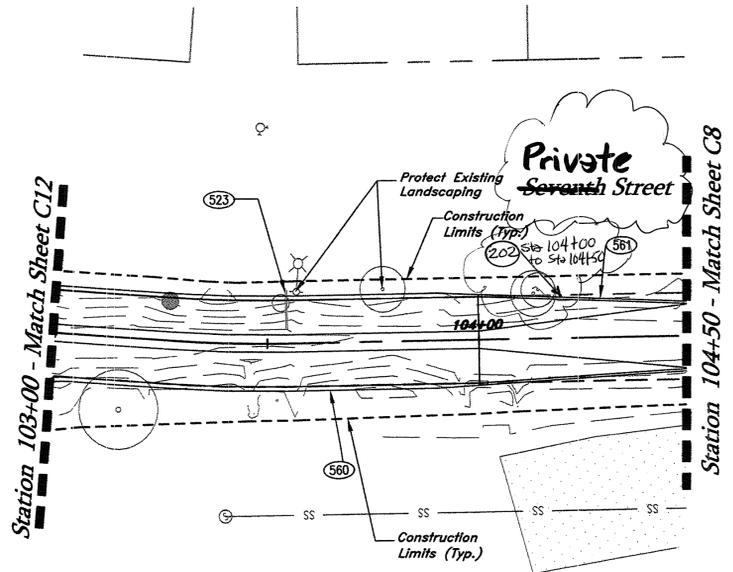
By:	
Date:	1/17/12
Revisions:	Revised Sheet Title, Revised Quantities Note 521



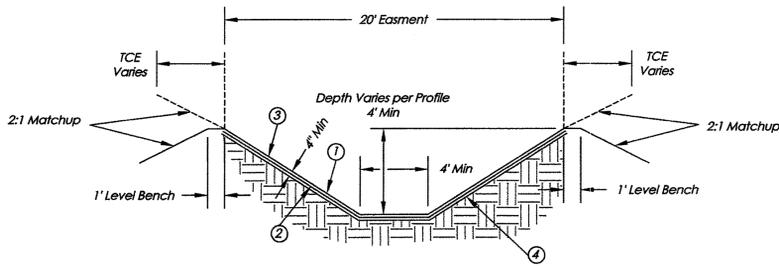
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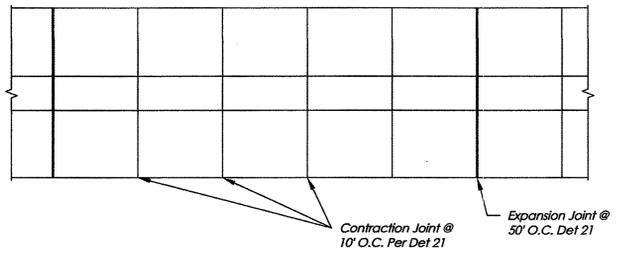
Town Of Camp Verde
Finnie Flat Channel Improvements
Proposed Trapizoid Shotcrete Channel
Sta. 100+00 to 103+00
Sheet of 13
Scale: 1"=20'
Date: JUN 11
Job No. 86-13045
By: bs/bal/mc
Ckt: cl
Drawing No: N/A



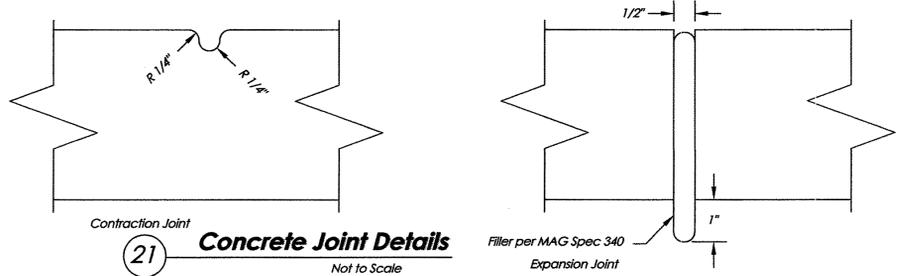
19 Concrete Culvert Transition Detail
Not to Scale



- Notes:
- ① 4" minimum thick Shotcrete per MAG Spec 525.
 - ② 6x6 - W1.4xW1.4 welded wire fabric per MAG Spec 525.
 - ③ Smooth finish, Shotcrete, float finish or approved equal.
 - ④ 8" Subgrade preparation per MAG



20 Shotcrete Channel Detail
Not to Scale



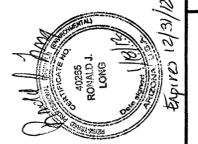
21 Concrete Joint Details
Not to Scale

General Notes
1. Contractor shall protect existing landscaping, irrigation, and street lights.

Construction Notes

- Note 523 1 EA
Cut off & Connect Existing 4" PVC storm drain piping to new channel wall, and adjust existing pipe slope Invert Elev. to match New Channel floor Grade at connection point. Includes Flap Gate.
- Note 560 2200 SF
New Shotcrete channel per Details x, x, this sheet. 50ft transition per Detail 20 & 21, this sheet.
- Note 561 1 LS
50ft transition per Detail 19, this sheet. Sta: 104+00 to 104+50
- Note 562 1 EA
Connect existing 4" PVC pipe to shot crete channel. See Note 523

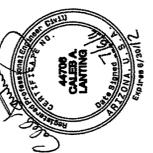
Note 202 50 LF
Install Handrail per MAG Std Det. 145 with Type 1 Anchor Plates Sta 104+00 to Sta 104+50



CALL TWO WORKING DAYS BEFORE YOU DIG 888-888-8888 OR 1-800-555-IT (OUTSIDE MARICOPA COUNTY)
By: _____
Date: _____
Revisions: REVISED Street Above and construction date 502. Released sheet I.T.H. Add Note 7/2/12.
G:\BA\1894\CAD\BID\CVS\DRY\CV03 - CID\94-1904-ASE.dwg, 6/30/2011 8:38:45 AM



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Town Of Camp Verde
Finnis Flat Channel Improvements
Base of Trapezoid Shotcrete Channel
Sta. 100+00 to 104+50
Sheet 13 of 13
Scale: 1"=20'
Job No: 06-13045
Date: JUN 11
Pr: bs/pal/mc
CK: cl
Drawing No: N/A

Option 2

CODE:

2006 EDITION OF THE INTERNATIONAL BUILDING CODE WITH TOWN OF CAMP VERDE AMENDMENTS, AND ALL REFERENCED STANDARDS AND SPECIFICATIONS THEREIN.

FOUNDATIONS:

ALLOWABLE SOIL BEARING PRESSURE PER 2006 I.B.C. TABLE 1804.2, SOIL CLASS 4. GEOTECHNICAL ENGINEER TO INSPECT SOIL CONDITIONS DURING EXCAVATIONS AND PRIOR TO POURING FOOTINGS.

Table with 2 columns: SPREAD FOOTINGS BEARING SOIL DESIGN VALUE, BEARING VALUE. Row 1: SPREAD FOOTINGS BEARING 2'-0" MINIMUM INTO FIRM UNDISTURBED SOIL (NATURAL GRADE), 1,500 PSF.

CONCRETE:

Table with 3 columns: CONCRETE, MINIMUM 28 DAY COMPRESSIVE STRENGTH, SLUMP AT PLACEMENT. Rows include minimum concrete strength (3,000 PSI) and maximum wall height (4 1/2' MAXIMUM).

*MAXIMUM WATER/CEMENT RATIO FOR ALL CONCRETE SLABS SHALL BE 0.50 UNO. CONCRETE SLABS SHOULD BE ALLOWED TO CURE ADEQUATELY BEFORE APPLYING MOISTURE SENSITIVE MATERIAL.

CONCRETE CONTAINING SUPERPLASTICIZING ADMIXTURE SHALL HAVE A SLUMP NOT EXCEEDING 3" TO BE FIELD VERIFIED PRIOR TO ADDING ADMIXTURE AND NOT EXCEEDING 6" AT PLACEMENT.

MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT THAT SLABS ON GRADE NEED BE VIBRATED ONLY AROUND UNDER-FLOOR DUCTS, ETC. CAST CLOSURE POUR AROUND COLUMNS AFTER DEAD LOAD IS APPLIED.

ALL AGGREGATE SHALL BE TESTED FOR DELETERIOUS MATERIALS USING PETROGRAPHIC ANALYSIS (ASTM C 242) OR THE RAPID MORTAR BAR TEST (ASTM C 1260).

FLY ASH SHALL NOT BE USED IN ARCHITECTURALLY EXPOSED CONCRETE WITHOUT APPROVAL FROM ARCHITECT OR RECORD. CONCRETE PLACEMENT AND CURING SHALL BE IN ACCORDANCE WITH ACI RECOMMENDATIONS.

COLD WEATHER PLACEMENT OF CONCRETE: THE CONTRACTOR SHALL PROVIDE HEATING EQUIPMENT FOR CONCRETE MATERIALS AND PROTECT CONCRETE DURING FREEZING OR NEAR FREEZING WEATHER.

FREEZING AND THAWING EXPOSURE: NORMAL WEIGHT CONCRETE EXPOSED TO FREEZING AND THAWING OR DE-ICING CHEMICALS SHALL BE AIR-ENTRAINED WITH AIR CONTENT INDICATED IN TABLE 1904.2.2 OF THE 2006 INTERNATIONAL BUILDING CODE.

REINFORCING: TYPICAL REINFORCING BAR STRENGTHS. #3 OR LARGER - ASTM A615 (GR60) DEFORMED REINFORCING TO BE WELDED - ASTM A706 (GR60) LOW ALLOY, DEFORMED.

REINFORCING:

Table with 2 columns: TYPICAL CLEAR CONCRETE COVERAGES, CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH, FORMED CONCRETE EXPOSED TO EARTH OR WEATHER.

ALL REINFORCING TO BE WELDED SHALL BE WELDED IN ACCORDANCE WITH AWS D1.4. NO TACK WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH STRUCTURAL ENGINEER.

LAP SPLICES IN CONCRETE: UNLESS NOTED OTHERWISE, LAP SPLICES IN CONCRETE BEAMS, WALLS, AND SLABS SHALL BE CLASS 'B' TENSION LAP SPLICES AND LAP SPLICES IN CONCRETE COLUMNS SHALL BE STANDARD COMPRESSION LAP SPLICES PER THE LATEST EDITION OF ACI 318.

ALL SPLICE LOCATIONS SUBJECT TO APPROVAL: PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF FOOTINGS AND WALLS.

SPECIAL INSPECTIONS:

SPECIAL INSPECTION IS REQUIRED DURING THE FOLLOWING OPERATIONS PER I.B.C. SECTION 1704: CONCRETE: DURING TAKING OF TEST SPECIMENS AND PLACING OF REINFORCED CONCRETE.

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR: 1. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.

DUTIES AND RESPONSIBILITIES OF THE CONTRACTOR: 1. FOR INSPECTION OF CONCRETE, BOLTS IN CONCRETE, REINFORCING STEEL, EXPANSION BOLTS, ADHESIVE ANCHORS, AND STRUCTURAL MASONRY, NOTIFY THE SPECIAL INSPECTOR THAT WORK IS READY FOR INSPECTION AT LEAST ONE WORKING DAY (24 HOURS MINIMUM) BEFORE SUCH INSPECTION IS REQUIRED.

GENERAL:

THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION.

CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

OPTIONS ARE INTENDED FOR CONTRACTORS CONVENIENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES DUE TO THE OPTIONS AND SHALL COORDINATE ALL DETAILS.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED.

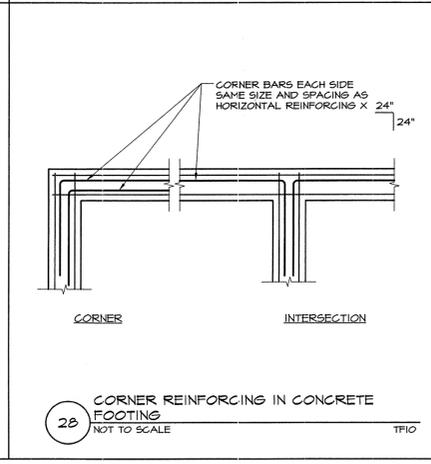
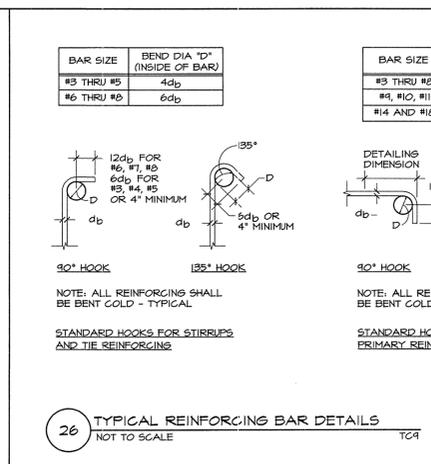
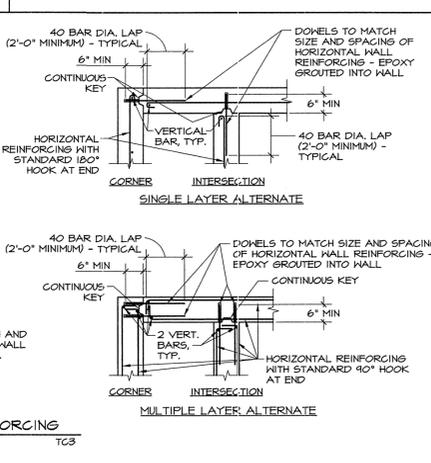
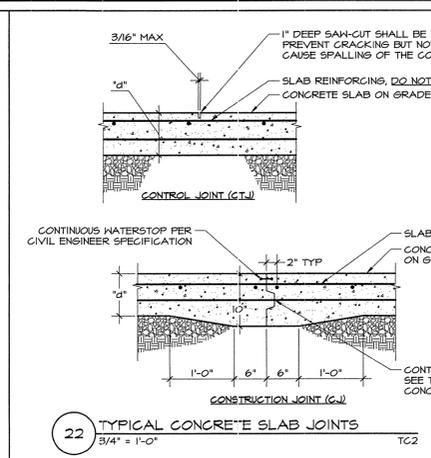
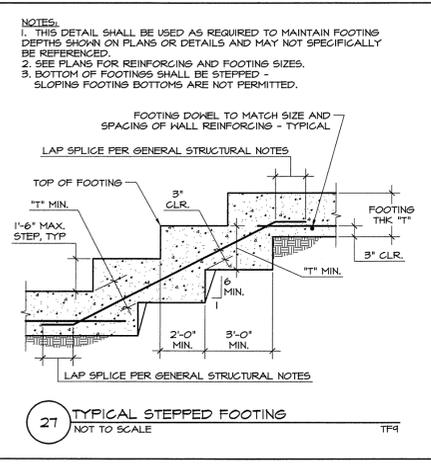
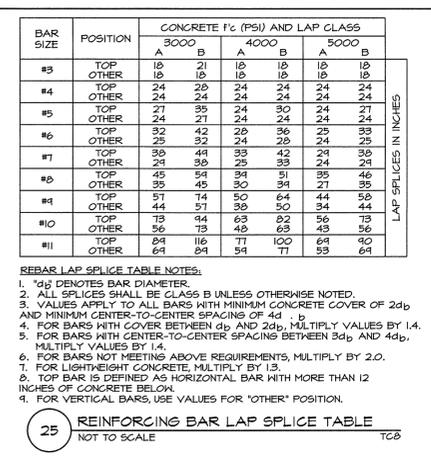
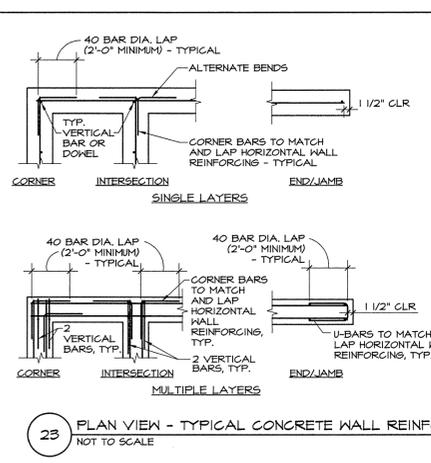
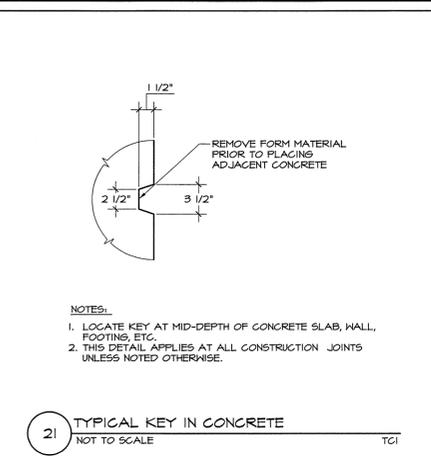
TYPICAL DIMENSION NOTE: CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH CIVIL DRAWINGS PRIOR TO CONSTRUCTION.

TYPICAL DETAILS NOTE: TYPICAL DETAILS NOT CUT ON DRAWINGS. THEY ARE DETAILS THAT ARE COMMON TO STRUCTURAL CONSTRUCTION.

2006 IBC - TABLE 1704.4 REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

Table with 5 columns: VERIFICATION AND INSPECTION, CONTINUOUS, PERIODIC, REFERENCED STANDARD, IBC REFERENCE. Rows include inspection of reinforcing steel, steel welding, bolts, and concrete placement.

WHERE APPLICABLE, SEE ALSO SECTION 1707.1, SPECIAL INSPECTION FOR SEISMIC RESISTANCE.



NOTES: 1. SLAB REINFORCING SHALL BE SUPPORTED AS REQUIRED TO PROVIDE CLEARANCE AS SHOWN. 2. USE CONTROL JOINT OR CONSTRUCTION JOINT DETAIL AT 15'-0\"/>

LOCATION OF CONSTRUCTION JOINTS SHALL NOT EXCEED 100 FEET IN HORIZONTAL DIRECTION UNLESS SHOWN OTHERWISE ON DRAWINGS.

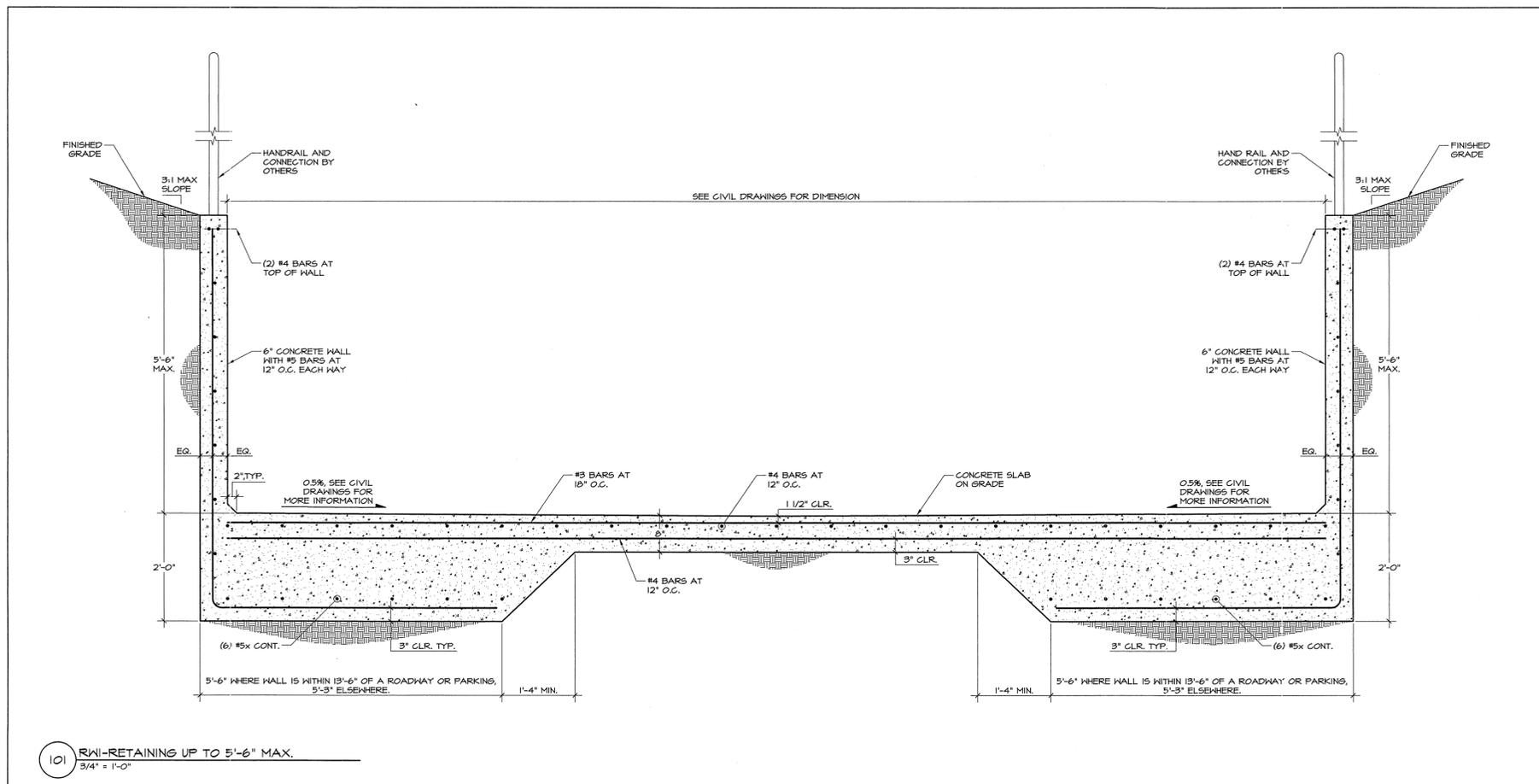
NOTE: ALL REINFORCING SHALL BE BENT COLD - TYPICAL. STANDARD HOOKS FOR STIRRUPS AND TIE REINFORCING.

NOTE: 1. THIS DETAIL SHALL BE USED AS REQUIRED TO MAINTAIN FOOTING DEPTHS SHOWN ON PLANS OR DETAILS AND MAY NOT SPECIFICALLY BE REFERENCED. 2. SEE PLANS FOR REINFORCING AND FOOTING SIZES.

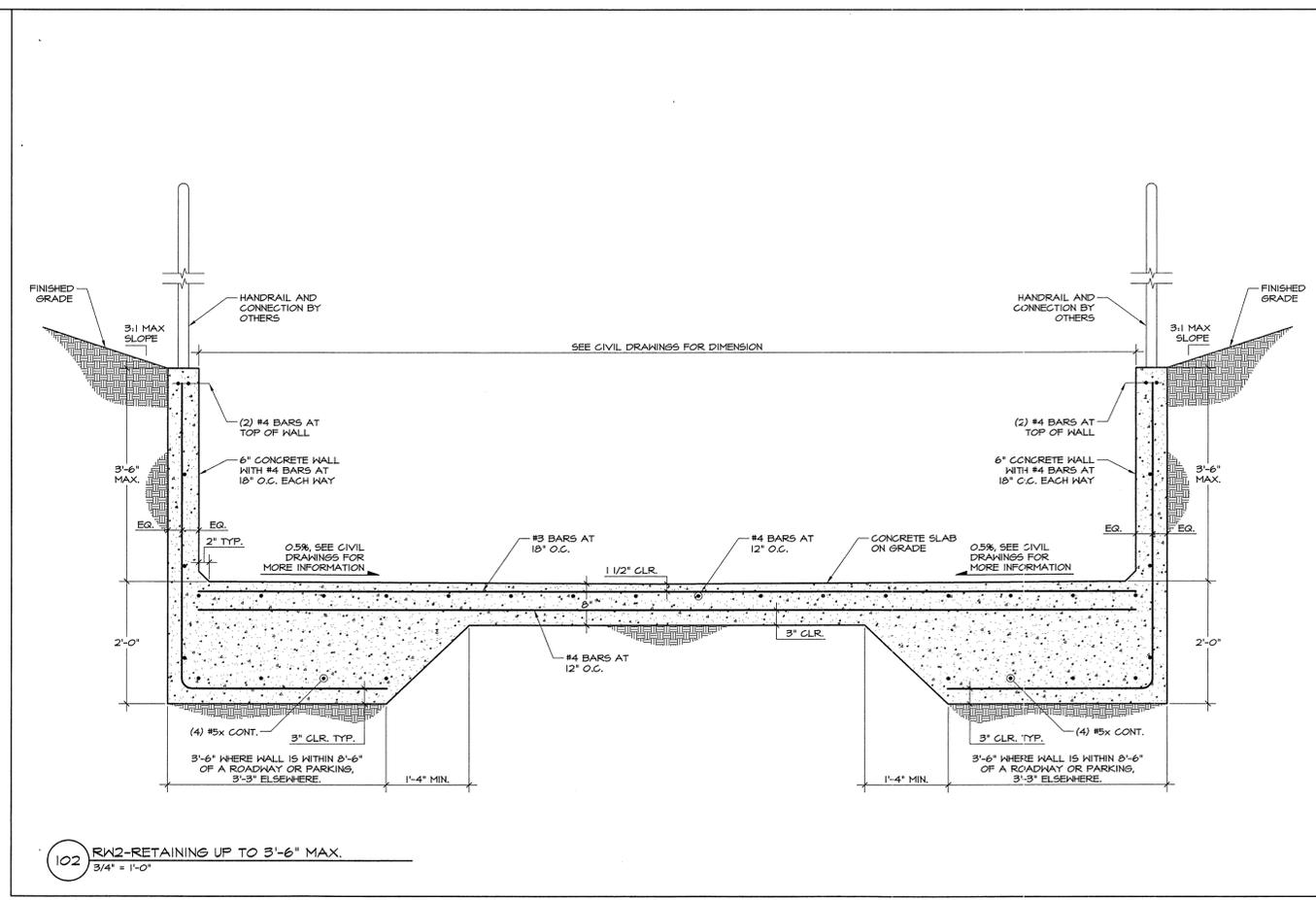
Vertical sidebar containing contact information for TOR ENGINEERING (1623 N. FIRST ST., STE. 201 FLAGSTAFF, ARIZONA 86004), FINNIE FLAT CONCRETE RETAINING WALLS, and ARIZONA ENGINEERING. Includes phone numbers, website, and professional seals.

By: _____
 Date: _____

Revisions:



101 RW1-RETAINING UP TO 5'-6" MAX.
 3/4" = 1'-0"



102 RW2-RETAINING UP TO 3'-6" MAX.
 3/4" = 1'-0"



ARIZONA ENGINEERING
 CLIENTS | PEOPLE | PERFORMANCE
 1501 South Yale Street Suite 101 Flagstaff, AZ, USA 1-928-774-7179 www.ghd.com



**FINNIE FLAT
 CONCRETE RETAINING WALLS
 CAMP VERDE, ARIZONA**

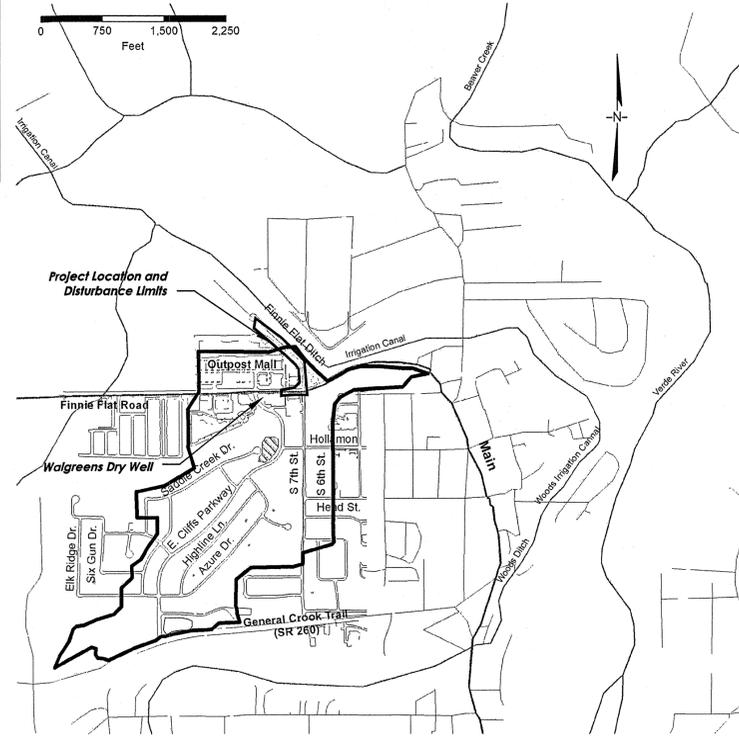
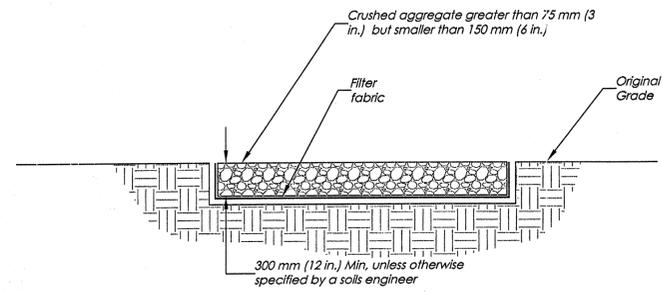
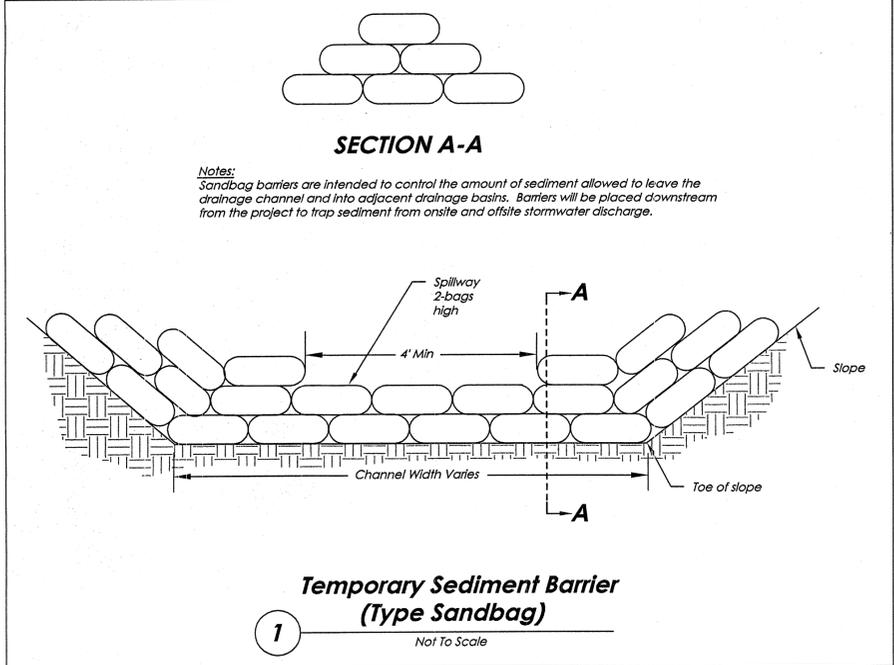
Job No: 0870CY03
 Date: OCT 2009
 Scale: AS NOTED
 Drawing No: N/A

TOR ENGINEERING
 1623 N. FIRST ST., STE. 201
 FLAGSTAFF, ARIZONA 86004

PHONE: 928.526.6174 FAX: 928.213.8778
 TOR PROJECT MANAGER: PETE PREBUS
 TOR PROJECT ENGINEER: ANDREW SAYER
 DRAWN BY: BRIAN SHEPHERD
 JOB ORDER #: 061042D

THIS DRAWING IS THE PROPERTY OF TOR ENGINEERING. THE USE OF THIS DRAWING IS LIMITED TO THE ORIGINAL SITE IT WAS PREPARED FOR AND SHALL BE EXPRESSLY LIMITED TO SUCH USE. ANY CHANGES TO THE DRAWING ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD. REUSE, REPRODUCTION, OR PUBLICATION BY ANY METHOD IS NOT PERMITTED WITHOUT WRITTEN CONSENT OF TOR ENGINEERING.

K:\STRUCT\Jobs Flag\Curren\0610042D\Camp Verde Retaining Walls Revised\Drawings\0610042D.S2.DETAILS.rwg, 10/19/2009 1:46:15 PM, sheet01



General Notes

A copy of the approved plans for this project, together with this Storm Water Pollution Prevention Plan (SWPPP) and binder, shall be maintained on the site and available for review. Those elements on the grading and drainage plan, which are pertinent to or referenced by the SWPPP shall be considered a part of the SWPPP.

The party responsible for the SWPPP is _____ Contact _____ at _____

The SWPPP shall be posted in a conspicuous location near the construction entrance, and that all operator(s) shall sign and certify the SWPPP they will implement

Description:

This SWPPP is for the roadway, drainage and utilities shown on the Channel Improvement Plans. The facilities shown on this plan must be constructed in conjunction with all clearing and grading activities in such a manner as to insure that sediment-laden water does not enter the drainage system or violate applicable water standards. These facilities must be installed and in operation prior to any general grading or land clearing. Wherever possible, maintain natural vegetation for silt control.

The total area of the site is 1.02 Acres. The total estimated disturbed area for this project is: 1.02 acres. The percentage of pre development impervious area of the project is 9%. The percentage of post development impervious area of the project is 58%.

The pre- and post- development runoff coefficients, soil data, runoff data and drainage patterns can be found in the Phase 1 Drainage Report prepared by GHD Inc. dated January 12, 2009. The Contractor is responsible to protect existing improvements outside of the Town of Camp Verde property. Any damaged improvements shall be replaced by the Contractor at his expense.

Contractor/Operator:
 In general terms, operators are those that have the ability to make decisions concerning the project design and details, and those with the ability to make on site decisions concerning site activities and implementation of BMPs.

The operator must be a person knowledgeable in the principles and practice of erosion and sediment controls and who possesses the skills to assess conditions at the site that could impact storm water quality and the effectiveness of the BMPs selected to control the quality of the storm water discharges.

Operator's responsibilities include but are not limited to, filing the NOI and NOT with ADEQ and the Town of Camp Verde, being familiar with, installing and maintaining BMPs, assigning qualified inspectors to the project to inspect the job during designated rain fall events and coordinating town of Camp Verde BMP inspection.

The operator shall implement the SWPPP from initial commencement of construction activity until final stabilization is complete and a NOT is filed, or a NOT transferring the site to a new operator is received by ADEQ.

The Contractor/Operator is responsible for determining the sequencing of construction activities, and installing the appropriate Best Management Practices (BMP's) to fit the construction sequence.

The Contractor/Operator must provide temporary stabilization for disturbed areas within 14 days, or as soon as practical.

NOI/NOT
 The Contractor/Operator shall file a Notice of Intent (NOI) a minimum of 7 days prior to construction commencing.

The Contractor/Operator shall file a Notice of Termination once construction is complete, final stabilization has occurred and the Town of Camp Verde has approved and accepted the project.

The Contractor/Operator shall maintain the following records as part of the SWPPP:

- Dates when major grading activities occur.
- Dates when construction activities temporarily or permanently cease on any portion of the site; and
- Dates when stabilization measures are initiated and completed and reasons for delay, if applicable.

Potential pollutants from construction activities are:

- Grease and fuels from standard construction equipment
- Asphalt Concrete
- Portland Cement Concrete
- Dirt, Gravel, and Dust

Contractor will maintain a Spill Prevention and Control Plan. In the event of a spill, Contractor will follow standard safety practices, dam, clean-up and contact ADEQ when at or over spill reporting limit.

INSPECTION NOTES:

- Routine Inspection Schedule.**
 The Contractor/Operator must ensure routine inspections are performed at the site to ensure that BMPs are functional and that the SWPPP is being properly implemented. The Contractor/Operator must specify an inspection schedule as part of the SWPPP and may choose either of the following:
 a. The site will be inspected at least once every 7 calendar days, or
 b. The site will be inspected at least once every 14 calendar days, and also within 24 hours of the end of each storm event of 0.5 inches or greater.

- Reduced Inspection Frequency.**
 When any of the following conditions apply:
 a. The site has been temporarily stabilized;
 b. Runoff is unlikely due to winter conditions (e.g., site is covered with snow, ice, or frozen ground exists); or
 c. Construction is in an area of the state that receives < 20 inches of average annual rainfall and construction is occurring during the seasonal dry period;
 The Contractor/Operator is required to routinely inspect only once each month, and anytime rain is predicted, and within 24 hours of the end of each storm event of 0.5 inches or greater.

- Inspectors.** Inspections must be done by qualified personnel. "Qualified personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls and who possesses the skills to assess conditions at the site that could impact storm water quality and the effectiveness of the BMPs selected to control the quality of the storm water discharges.

- Scope of Inspections.** Inspections must include all areas of the site disturbed by construction activity and areas used for storage of materials that are exposed to precipitation. Inspectors must look for evidence of, or the potential for, pollutants entering the drainage system. Sedimentation and erosion control measures identified in the SWPPP must be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they must be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected to the extent that the inspections are practicable. Locations where vehicles enter or exit the site must be inspected for evidence of offsite sediment tracking. All BMPs and areas inspected and the conditions found must be documented.

- Compliance Evaluation Report.**
 For each inspection, the operator shall complete an inspection report. At a minimum the report must include:

- The inspection date;
- Name(s) and title(s) and qualifications of person(s) making the inspection. Qualifications must either be on/attached to the report or alternatively, if the SWPPP documents the qualifications of the inspectors by name, that portion of the SWPPP may be referenced.
- Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection), including best estimate of the beginning of each storm event, duration of each event, time elapsed since last storm event, and approximate amount of rainfall for each event (in inches);
- Location(s) of discharges of sediment or other pollutants from the site;
- Location(s) and identification of BMPs that need to be maintained; failed to operate as designed or prove inadequate;
- Location(s) where additional BMPs that do not exist at the time of inspection are needed;
- Corrective actions required, including any changes to SWPPP necessary and implementation dates;
- Identification of all sources of non-storm water and the associated pollution prevention control measures; and
- Identification of material storage areas and evidence of or potential for, pollutant discharge from such areas.

- Maintaining Inspection Records.**
 The operator must ensure the inspection report and record of any follow-up actions taken is retained as part of the SWPPP for at least three years from the date that permit coverage expires or is terminated. Inspection reports must identify any noncompliance with the conditions of this permit. Where a report does not identify any incidents of noncompliance, the report must contain a certification that the construction project or site is being operated in compliance with the SWPPP and the permit. The report shall be signed.

- Follow-up Actions.**
 Based on the results of the inspection, the operator must modify the SWPPP to include additional or modified BMPs designed to correct problems identified. The operator must complete revisions to the SWPPP within seven calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary, implementation must be completed before the next anticipated storm event is impracticable, they shall be implemented as soon as practicable.

- Maintaining an Updated SWPPP.**
 The operator must amend the SWPPP within 15 business days whenever:
- There is a change in design, construction, operation, or maintenance at the construction site that has a significant effect on the discharge of pollutants to the waters of the United States that has not been previously addressed in the SWPPP; or
 - During inspections, monitoring if required, or investigations by the operator or by local, state, MS4, or federal officials, it is determined the discharges are causing or contributing to water quality exceedances or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site.

By:	
Date:	
Revisions:	

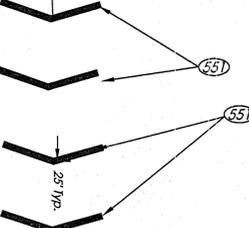


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To Verde River
Approx. 3200 ft.

Area Not Disturbed



Existing Earthen Channel to Remain Undisturbed.

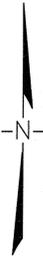
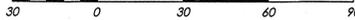
Area Not Disturbed

Area of Disturbance Limits

Area Not Disturbed

Protect Existing Trees Along Channel (typ.)

GRAPHIC SCALE 1" = 30'



Match Improvements Left

Match Improvements Right

Area of Disturbance Limits

Protect Existing Landscaping

Area Not Disturbed

15' Wide Channel

Area Not Disturbed

Area Not Disturbed

Protect Existing Trees Along Channel (typ.)

Chase Bank Parking

Unimproved Prunage Channel

Area of Disturbance Limits

Area Not Disturbed

Area of Disturbance Limits

Area of Disturbance Limits

Area of Disturbance Limits

Protect Existing Tree

Area of Disturbance Limits

Legend



Temporary Sediment Barrier



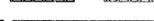
Flow Direction



Proposed/Existing Asphalt Concrete



Proposed/Existing Concrete



Proposed/Existing Rip Rap



Proposed/Existing Culvert/Stormdrain



Proposed/Existing Sewer Line



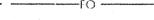
Proposed/Existing Water Line



Proposed/Existing Electric Line



Proposed/Existing Overhead Electric Line



Proposed/Existing Cable Line



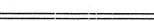
Proposed/Existing Telephone Line



Proposed/Existing Fiber Optic Line



Proposed/Existing Gas Line



Proposed/Existing Fence



Existing Easement



Proposed/Existing Index Contour (5')



Proposed/Existing Interval Contour (1')



New Channel Wall



New Catch Basin



New ADS Catch Basin



Existing Tree



Existing/Proposed Gas Meter



Existing/Proposed Water Valve



Existing/Proposed Fire Hydrant

Existing/Proposed Utility Pole

Existing/Proposed Light Pole

Existing/Proposed Sewer Manhole

Existing/Proposed Control Point

CONSTRUCTION NOTES (551)

Note 551: 4 EA

Install Temporary Sediment Barrier each spaced 25' apart and per Detail 1, Sheet P1 for entire duration of construction. Remove and dispose sediment and debris trapped as sediment builds up along barriers.

Note 552: 1 LS

Install stabilized construction entrance/exit per Detail 2, Sheet P1. Construction entrance/exit(s) location shall be established at the pre-construction meeting prior to beginning construction activities. Construction traffic/equipment entering and exiting the disturbed area shall be limited to the stabilized construction entrance/exit. Stabilized construction entrance locations shall be relocated as construction progresses.

CALL TWO WORKING DAYS BEFORE YOU DIG
283-1111 or
1-800-STABE-IT
(OUTSIDE MARICOPA COUNTY)

By:	
Date:	
Revisions:	



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Town Of Camp Verde
Finnie Flat Channel Improvements
Storm Water Pollution Prevention Plan
SWPPP Site Plan - Exhibit B

Sheet P2 of P2
Scale: 1" = 30'
By: rms
Date: OCT 11
Job No: 86-13045
Drawing No: N/A