

**SPECIAL PROVISIONS
FOR
PIMA COUNTY DEPARTMENT OF TRANSPORTATION**



**MADERA CANYON ROAD
FLORIDA CANYON WASH BRIDGE
FEDERAL PROJECT NO. PPM-0(273)D
ADOT TRACS NO. T0540 01C
PIMA COUNTY PROJECT NO. 24041PJ**

**MEDIUM WASH BRIDGE
FEDERAL PROJECT NO. PPM-0(274)D
ADOT TRACS NO. T0541 01C
PIMA COUNTY PROJECT NO. 24043PJ**

May 8, 2026

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KATHRYN SKINNER, P.E. DIRECTOR

PROFESSIONAL ENGINEER SEAL:

This book of specifications has been prepared by HDR Engineering, Inc., Solis Engineering Company, and Wheat (a J2 Design Group). The Structural Engineer and the Civil Engineers have affixed their seals below to attest that these specifications have been prepared under their direction:

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- (b) Larry J. Barela, PE, Civil Engineer, RLS, Land Surveyor, HDR Engineering, Inc. (Civil & Roadway Design)



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MADERA CANYON ROAD, FLORIDA CANYON WASH AND MEDIUM WASH BRIDGES

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GENERAL NOTES

1. Project Location

The proposed work is located within Sections 11 and 14 in Township 19 South, Range 14 East, Gila and Salt River Base and Meridian, Pima County, Arizona. The work extends along Madera Canyon Road for a distance of approximately 0.144 miles near and encompassing the bridge crossing over Florida Canyon Wash and 0.188 miles near and encompassing the bridge crossing over Medium Wash.

2. Scope of Work

The proposed scope of work for the Florida Canyon Wash Project (24041PJ) includes the construction of a detour to carry Madera Canyon Road traffic around the Florida Canyon Wash construction site as well as the Medium Wash construction site, removal of an existing concrete slab bridge at Florida Canyon Wash, construction of a new 3-span cast-in-place concrete closed frame bridge (Superbox) at Florida Canyon Wash, concrete retaining wall, riprap slope protection, asphalt concrete surface roadway, guardrail, and other incidental items.

The proposed scope of work for the Medium Wash Project (24043PJ) includes removal of an existing concrete slab bridge at Medium Wash, construction of a new 3-span cast-in-place concrete closed frame bridge (Superbox) at Medium Wash, riprap slope protection, replacement of an existing single-barrel 36-inch corrugated metal pipe (CMP) culvert with a single-barrel 36-inch reinforced concrete pipe (RCP) culvert, asphalt concrete surface roadway, guardrail, and other incidental items.

3. Contract Time

The work specified shall be completed within 300 working days. The road closure period shall not exceed 260 working days.

4. Maintenance & Protection of Traffic

Madera Canyon Road is to be closed during construction from approximately 400 feet south of the Florida Canyon Wash to approximately 1750 feet north of the Medium Wash. The contractor shall construct a detour as part of the Florida Canyon Wash project in accordance with the detour plans shown in the contract documents to carry Madera Canyon Road traffic around both construction sites. The contractor shall maintain access to Forest Road 488. The contractor shall maintain the detour road throughout construction and make repairs due to normal vehicular use and rebuild damaged parts of the detour road as required when high flows cause damage or wash out the detour. The Contractor shall be responsible for construction zone traffic control in accordance with the project plans and in accordance with Section 701 of the Standard Specifications and these Special Provisions. The Contractor's compensation for constructing and maintaining a detour and providing and maintaining traffic control elements to close the road and provide a safe construction zone is included under Bid Items denoted with a 'D' in the Florida Canyon Wash Bid Schedule.

5. Permits

Before undertaking work at any location covered by this project, the contractor shall obtain all applicable permits, including but not limited to: water quality, air quality, traffic control, street closure and right of way. The approved plan is considered the right-of-way use permit for work within unincorporated Pima County when administered or funded by Pima County. The contractor is responsible for paying all applicable fees, taxes, and other costs for all work performed on this project, and for obtaining all permits including those in other jurisdictions. Before undertaking work outside the limits of the plans, specifications and project clearances, a separate right-of-way use permit is required.

All necessary environmental studies have been completed and ADOT has provided Pima County with a Categorical Exclusion that constitutes federal environmental approval. A copy of the Environmental Commitments is included in Appendix B.

Pima County is operating under a 404 Nationwide Permit with non-notification for this project. A copy of the permit may be found in Appendix C of these special provisions. The contractor shall comply with all permit conditions.

The Contractor shall obtain a Notice of Intent to Clear Land Permit from the Arizona Department of Agriculture. A copy of the permit application can be found in Appendix D. The contractor shall comply with all permit conditions.

The contractor shall file a Notice of Intent to use the statewide Construction General Permit for Discharge to Waters of the United States and a Notice of Termination when the site is stabilized with the Arizona Department of Environmental Quality (ADEQ). The contractor shall maintain and implement Pima County's Stormwater Pollution Prevention Plan under the Construction General Permit. The contractor is directed to Section 810 of these Special Provisions and the Stormwater Pollution Prevention Plan for the project.

Prior to any ground disturbing activity, the contractor shall obtain an Activity Permit from the Pima County Department of Environmental Quality. The contractor shall implement the standard specifications for dust suppression.

6. Storm Water/Ground Water Management

It is the Contractor's responsibility to allow for any subsurface ground water and storm water runoff at the time of project construction. The Contractor shall not divert or impound water in such a manner as to flood adjacent homes, facilities, or roadways. No additional compensation shall be provided for dewatering or diversion structures required to construct or protect the work. The Contractor shall post the Arizona Pollutant Discharge Elimination System (AZPDES) project number at the project ingress and egress points before ground disturbance occurs.

The Contractor's attention is also directed to Section 810 of these Special Provisions and the Stormwater Pollution Prevention Plan (SWPPP) for the project regarding the requirements for temporary and permanent erosion control. The original Stormwater Pollution Prevention Plan shall remain the property of Pima County DOT and will be returned to Pima County DOT at

final acceptance.

The contractor shall install the required number of rain gauges before ground disturbance occurs, in accordance with Sections 810-2.08 and 810-3.08. The rain gauge locations shall be recorded in the SWPPP plans.

7. Construction Survey and Layout

Construction survey and layout will be provided by the contractor. See Section 925 of these Special Provisions.

8. Existing Vegetation

The removal, salvage, or protection of vegetation shall be in accordance with the details shown on the project Demolition Plans. Existing vegetation on this project shall not be disturbed beyond those limits actually needed for construction purposes. Those items unnecessarily damaged shall be repaired or replaced at the contractor's expense.

Existing or relocated vegetation which is identified on the project demolition plans as to be preserved in place on this project shall be protected in place with fencing installed at the drip-line of the tree canopy per Section 201. Preservation fencing shall be installed prior to project clearing. This protected vegetation and vegetation beyond the project impact limits shall not be disturbed. Those items in these areas which are damaged shall be repaired, remedied or replaced at the contractor's expense.

In some circumstances, vegetation from adjacent properties may obstruct construction, with branches or other plant parts leaning over into the right of way. This vegetation shall be managed per Section 201-3.05.

9. Disadvantaged Business Enterprise Goals and On-the-Job Training Hours

Refer to Disadvantaged Business Enterprise (DBE) requirements in the issued for bid (IFB) solicitation package.

10. Specifications and Details

The work embraced herein shall be performed in accordance with the requirements of the following separate documents:

Pima County (PC), Standard Details for Public Improvements, Latest Edition
<https://www.pima.gov/978/Standard-Details>

Pima County (PC), Supplemental Specifications and Details, Latest Edition
<https://www.pima.gov/979/Supplemental-Specifications>

Pima Association of Governments (PAG), Standard Specifications for Public Improvements, 2015 Edition, Volume 1, <http://apps.pagnet.org/standardspecifications>

Pima Association of Governments (PAG), Standard Details for Public Improvements, 2015 Edition, Volume 2, <http://apps.pagnet.org/standardspecifications>

Pima Association of Governments (PAG), Federal Aid Supplement for Public Improvements, 2015 Edition, Volume 3, <http://apps.pagnet.org/standardspecifications>

Pima County/City of Tucson Signing and Pavement Marking Manual, Latest Edition
<https://www.pima.gov/969/Design>

Pima County Traffic Signal Design Manual, Latest Edition
<https://www.pima.gov/969/Design>

U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices for Streets and Highways, December 2009, and amendments
https://mutcd.fhwa.dot.gov/pdfs/2009/pdf_index.htm

Arizona Supplement to the Manual on Uniform Traffic Control Devices (MUTCD), 2009 edition (January 2012), <https://azdot.gov/business/engineering-and-construction/traffic/traffic-engineering-references>

Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, 2008 Edition, <http://www.azdot.gov/docs/business/2008-standards-specifications-for-road-and-bridge-construction.pdf?sfvrsn=0>

Arizona Department of Transportation, Highways Division, Part 1 - Construction Standard Drawings, May 2012 with current updates
<https://azdot.gov/business/engineering-and-construction/roadway-engineering/roadway-design/construction-standard>

Arizona Department of Transportation, Highways Division, Part 2 - Bridge Group Structural Detail Drawings, current edition
<https://azdot.gov/business/engineering-and-construction/bridge/bridge-design-services/structure-detail-drawings>

Arizona Department of Transportation, Highways Division, Part 3 - Traffic Signals and Lighting Standard Drawings, December 2012 with current updates
<https://azdot.gov/business/engineering-and-construction/traffic/signals-and-lighting-standard-sls-drawings>

Arizona Department of Transportation, Highways Division, Part 4 - Signing and Marking Standard Drawings, January 2002 with current updates
<https://azdot.gov/business/engineering-and-construction/traffic/signing-and-marking-standard-sms-drawings>

11. Project Limits

The contractor shall perform all work within the public right-of-way, legally obtained easements and property legally acquired by the Agency. The contractor shall assume all responsibility and liability for any encroachment upon private property. The use of private property for construction yards will be allowed only if zoning requirements allows its use for this purpose. See Section 106-9 for further details regarding temporary construction yards.

12. Noxious and Invasive Vegetation

Prior to the start of construction and before ground disturbing or earthmoving activities occur, the contractor shall treat noxious and invasive vegetation, particularly buffelgrass, in accordance with Section 201-3.04. Invasive species eradication shall continue throughout the entire project from clearing and grubbing through final project acceptance.

13. Disposal of Materials

All construction debris, rubble, and other materials that are not recycled on the project, sent to a recycling facility, or taken by the contractor, shall be disposed of by the contractor at a waste disposal facility. Costs associated with the disposal of these materials shall be incidental to the related items of work. Fees associated with the disposal of these materials shall be paid by the contractor.

14. Contract Administration

Prior to submittal of contract administration documents, examples of which are listed below, the contractor shall review all documentation for accuracy and compliance with the contract. Any variance from the plans and specifications shall be clearly noted and is subject to approval by the Engineer. A contractor's transmittal letter shall accompany all submittals and shall include certification as to accuracy and compliance with the plans and specifications.

Contract administration submittals shall include, but are not limited to, the following examples: escrow agreements; subcontracts; purchase orders; certified payrolls for contractor and subcontractors; Davis Bacon wage determinations; force account billings; equal employment opportunity reports for contractor and subcontractors; trainee preconstruction information; proof of apprenticeship; weekly individual training reports; rental equipment invoices; material invoices showing all unit prices; pay estimates; affidavit of certification of payments to disadvantaged business enterprise firms; requested lien releases; and consent from surety.

Monthly meetings may be scheduled with the contractor, at the discretion of the Engineer, to discuss and resolve any problems associated with contract administration submittals. The monthly meetings shall be held at the Field Engineering Building at 1313 South Mission Road. Meetings shall continue on an accelerated basis after project construction completion until all contract administration issues are resolved.

Submittals that are not certified, or are incomplete, will be returned to the contractor unprocessed for proper resubmittal and may result in payment delays, or partial payment, as deemed appropriate by the Engineer.

15. Work Hours/Noise Abatement Ordinance

Construction noise abatement and start/stop times shall be in accordance with Pima County Ordinance No. 1999-61: Regulating *the Excessive, Unnecessary and Annoying Noises in Pima County*. A copy of the Noise Ordinance is included in Appendix A of these special provisions.

16. Shoring and Bracing

There will be no separate payment for shoring and bracing, unless shown in the bidding schedule.

17. Archeological Features

In the event that human remains, including human skeletal remains, cremations, and/or ceremonial objects and funerary objects are found during excavation or construction in any part of the project area, ground disturbing activities must cease in the immediate vicinity of the discovery. Should artifacts or human remains be uncovered, the area will be taped off and further investigation by Pima County will follow. State laws ARS 41-865 and ARS 41-844 require that the Arizona State Museum (520-621-4795) be notified of the discovery by the contractor so that cultural groups who claim cultural or religious affinity to them can make appropriate arrangements for the repatriation and reburial of the remains. The human remains will be removed from the site by a professional archaeologist pending consultation and review by the Arizona State Museum and the concerned cultural groups.

The work is subject to delay in that location pursuant to ARS 41-844 while an examination takes place.

18. Hazardous Materials

If suspected hazardous materials are encountered during construction, work shall cease at the location and the Engineer shall be contacted at (520) 724-6567 to arrange for proper assessment, treatment, or disposal of those materials. The area will be taped off, and further investigation and clean up by Pima County will follow. No adjustments will be made due to work shut down. If potentially hazardous or contaminated materials are encountered, the contractor shall stop work and remove all workers within the contaminated area. For life threatening situations, follow the procedures in the Safety Plan, as specified in Subsection 107-7.02.

19. Contractor's Staging or Storage Yard

Potential staging areas are shown on the project plans, however, it is the contractor's responsibility to locate a staging area(s) and obtain approval of said area(s) from the Engineer. Staging areas and vehicle storage yards are not permitted in the washes within the project area. Staging areas and vehicle storage yards are only permitted within the limits that have been

environmentally cleared by Pima County. The contractor will need to provide a SWPPP addendum to cover their offsite staging area and include the offsite staging area acreage of disturbance on their NOI. Refer to Section 106-9 of the Standard Specifications for offsite staging outside of the right-of-way. Contractor staging areas, when located outside the project clearing limits, shall be stabilized at the expense of the Contractor and approved by the Engineer. The contractor is responsible for restoring staging areas to their preconstruction condition. If a staging area is located on existing pavement to remain, any damage incurred during construction to the pavement or striping shall be repaired by the contractor at no cost to the County.

20. Construction Water/Dust Control

The contractor shall provide potable water for use in construction, compaction and dust control. Reclaimed water may only be used if there is no discharge of this water to surface waters of the U.S. and the reclaimed water remains on-site. The contractor shall notify the Arizona Department of Environmental Quality (ADEQ) for all discharges of reclaimed water to surface waters of the U.S. or off-site.

21. Utility Relocation

Utility relocation work not shown on the project plans or noted in the Special Provisions will be the responsibility of the appropriate utility. The contractor is hereby notified that the utility companies, in conjunction with the contract work, will perform utility relocation work. The contractor shall make every effort to cooperate fully with each utility company and acknowledges and agrees that delays to his operations may necessarily occur. Due to these delays that are anticipated by the utility companies, the Engineer shall consider requests by the contractor for contract time extensions. The contractor is also referred to Section 105-6, Cooperation With Utility Companies.

The contractor shall consider the extent of utility work in preparing the contract bid and project schedule. It will be the contractor's responsibility, prior to bidding, to contact the appropriate utilities to obtain additional information such as relocation as-builts, relocation sequencing, utility windows, construction time frames, and identification of areas requiring subgrade preparation by the contractor prior to the start of utility work.

22. Erosion Control Measures

The contractor's attention is directed to the requirements of Section 810 of the specifications and the following:

The contractor shall phase or sequence construction activities to minimize the area of disturbance at any one time. Sediment and erosion control measures shall be installed before upgradient land is disturbed. Once an area of the project has been cleared, the contractor is responsible for documenting in the SWPPP book all erosion control measure activities by the contractor or others in the area that has been cleared.

The contractor shall remove, dispose or realign temporary erosion control measures as directed by the Engineer. Subsequent removal, disposal or realignment of temporary erosion control measures will be incidental to the respective work item and no additional payment will be made.

23. (NOT USED)

24. Contractor's Environmental Requirements and Mitigation Measures

The environmental requirements and mitigation measures are included in the ADOT Environmental Commitments attached in Appendix B. These mitigation measures are not subject to change without prior written approval from the Federal Highway Administration. The contractor shall follow all the requirements of the permits specified in the Environmental Commitments and comply with the project special provisions as well as the PAG Standard Specifications for Public Improvements, as well as all applicable local environmental requirements.

25. Quality Assurance and Quality Control

The contractor is solely responsible for quality control measures necessary to provide acceptable quality in the production, handling, and placement of all materials. The contractor's attention is directed to Special Provision 106-4 of the contract documents for quality control requirements. No payment will be made for such measures the cost being considered as included in contract items. Quality assurance testing is the responsibility of Pima County.

26. Contractor's Environmental Requirements and Mitigation Measures

The contractor is responsible for keeping a set of record project plans on site for annotation of changes in detail, location, and depth of all items constructed which vary from the contract documents that are made during the construction. When the project includes utility potholing under either bid item, 5150005 or 5150007 such potholes shall be identified on the record drawings. The record project plans shall include any revised or added plan sheets.

Upon completion of the work, the contractor shall transfer the annotated information to a clean set of the project plans. The dimensions and notations provided on the record project plans shall be complete, clear, and legible.

No later than 60 calendar days after acceptance of the project or as directed by the Engineer, the contractor shall submit the dated record set of project plans along with a transmittal letter to the Engineer for review and acceptance. Final retention shall not be released until the record project plans are accepted by the Engineer.

The cost of furnishing record drawings shall be considered as included in the contract unit price for one or more of the contract items.

(101ABREV, 6/5/14)

SECTION 101 - ABBREVIATIONS AND DEFINITIONS

101-3 TERMS of the Standard Specifications are revised as follows:

Contract Time - Change to read “**Construction Time**”. This change is applicable when the term “Contract Time” is used in all sections throughout the Standard Specifications.

Supplemental Agreement - Add the following: “All supplemental agreements will be issued in compliance with Section 11.16.010 of the Pima County Procurement Code.”

(102FHWA_NOBID, 10/23/13)

SECTION 102 - BIDDING REQUIREMENTS AND CONDITIONS

102-3 SUSPENSION FROM BIDDING of the Standard Specifications is modified to add:

The signature of the bid proposal by a bidder constitutes the bidder's certification, under penalty of perjury under the laws of the United States, that the bidder, or any person associated therewith in the capacity of owner, partner, director, officer, principal investor, project director, manager, auditor, or any position involving the administration of federal funds, has not been, or is not currently, under suspension, debarment, voluntary exclusion or been determined ineligible by any federal agency within the past three years. Signature of the bid proposal also certifies, under penalty of perjury under the laws of the United States, that the bidder does not have a proposed debarment pending. In addition, signature of the bid proposal certifies that the bidder has not been indicted, convicted, or had a civil judgment rendered against (it) by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

Any exceptions to the above paragraph shall be noted and fully described on a separate sheet and attached to the bid proposal.

(102FHWA_BID_REQ_COND, 7/8/14)

102-9.01 Non-Collusion Certification of the Standard Specifications is modified to add:

The bidder certifies that, pursuant to Subsection 112 (c) of Title 23, United States Code and Title 44, Chapter 10, Article 1 of the Arizona Revised Statutes, that neither it nor anyone associated with the company, firm, corporation, or individual has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of full competitive bidding in connection with the above referenced project.

The bidder further certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee

of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, the making of any Federal loan, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract grant, loan, or cooperative agreement.

- (2) If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "*Disclosure Form to Report Lobbying*", in accordance with its instructions. Copies of Form-LLL, "*Disclosure Form to Report Lobbying*", are available at the Pima County Administration Building, Procurement Department - Design and Construction Division, 130 West Congress Street, Third Floor, Tucson, AZ 85701.
- (3) This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000.00 and not more than \$100,000.00 for each such failure. This penalty also applies to any person or agency that fails to submit or amend the disclosure form (LLL), when required. Failure to submit the required certification may result in payment under this contract being delayed or denied.
- (4) The bidder also agrees, by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all subcontracts and lower tier subcontractors shall certify and disclose accordingly.

The Agency will keep the prime contract's certifications on file as part of their original bid proposals. Each prime contractor shall keep individual certifications from all subcontractors and lower tier subcontractors on file. Certification shall be retained for three years following completion and acceptance of any given project.

Disclosure forms for the prime contractor shall be submitted to the Engineer at the pre-construction conference. Disclosure forms for subcontractors and lower tier subcontractors shall be submitted to the Engineer by the prime contractor along with the submittal of each subcontractor or lower tier subcontractor, as required under subsection 108-1, when said subcontractors exceed \$100,000.00. During the performance of the contract the prime contractor and any affected subcontractors shall file revised disclosure forms at the end of each calendar year quarter in which events occur that materially affect the accuracy of any previously filed disclosure form. Disclosure forms will be submitted by the Engineer to the Federal Highway Administration for further processing.

(103FHWA_NO_LOCAL_PREF, 4/1/14)

SECTION 103 - AWARD AND EXECUTION OF CONTRACT

103-1 CONSIDERATION OF BIDS of the Standard Specifications is modified to add:

No part of these specifications shall be construed to:

- (a) To require the use of or provide a price differential in favor of articles or materials produced within the State, or otherwise to prohibit, restrict or discriminate against the use of articles or materials shipped from or prepared, made or produced in any State, territory or possession of the United States; or
- (b) To prohibit, restrict or otherwise discriminate against the use of articles or materials of foreign origin to any greater extent than is permissible under policies of the Department of Transportation as evidenced by requirements and procedures prescribed by the FHWA Administrator to carry out such policies.

(103FHWA_AWARD_LISC, 12-23-12)

103-2 AWARD OF CONTRACT of the Standard Specifications is modified to add:

This contract is funded, either wholly or in part, by federal funds, and the award of contract may be made contingent upon the successful bidder obtaining an appropriate license from the State Registrar of Contractors, in accordance with Arizona Revised Statutes 32-1101 through 32-1170.03. The license must be obtained within 60 calendar days following opening of bid proposals. No adjustment in proposed bid prices or damages for delay will be allowed as a result of any delay caused by the lack of an appropriate license.

Failure to acquire the necessary licensing within the specified period of time shall result in either award to the next lowest responsible bidder, or re-advertisement of the contract, as may be in the best interests of the Agency.

Licensing information is available from:

Registrar of Contractors
3838 N. Central, Suite 400
Phoenix, AZ 85012

Phone: (602) 542-1525

(104FHWA_CHANGE_CONDITION, 03/06/18)

SECTION 104 - SCOPE OF WORK

104-2 ALTERATIONS TO THE CONTRACT

104-2.01 By the Agency of the Standard Specifications is revised to read:

The Agency reserves the right to revise the contract at any time. Such revisions shall neither invalidate the contract nor release the surety. The contractor agrees to complete the contract as revised. The contractor shall not proceed with work for which a revision to the contract is required without prior approval from the Engineer. Once approval is received, the contractor shall proceed with such direction immediately, whether the Engineer considers that the contract has been revised or not.

It is the contractor's obligation to notify the Engineer in writing that a revision to the contract is necessary and provide such notification in accordance with Subsection 104-4. Whenever the words notice, notification, request or notify are used in this subsection, such notice or request shall be provided in accordance with the requirements of Subsection 104-4.

Supplemental Agreements will be issued for the reasons specified in 104-2.03 and 104-2.04 of the Standard Specifications, in addition to the following reasons:

- (A) To accomplish extra work as defined in Subsection 101-3 and specified in subsection 104-3.
- (B) If the work is suspended by order of the Engineer as provided below:
 - (1) If the performance of all or any portion of the work is suspended or delayed by the Engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the Engineer, in writing, a request for adjustment within seven calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.
 - (2) Upon receipt, the Engineer will evaluate the contractor's request. If the Engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the Engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the Engineer's determination whether or not an adjustment of the contract is warranted.
 - (3) No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.

- (4) No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

(C) If there are significant changes in the character of work, as provided below:

- (1) The Engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Changes in quantities and alterations shall not invalidate the contract nor release the surety. The contractor agrees to perform the work as altered.
- (2) If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or, by affecting other work, cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the Engineer may determine to be fair and equitable.
- (3) If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided in the contract.
- (4) The term "significant change" shall be construed to apply only to the following circumstances:
 - (a) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or
 - (b) When a major item of work, as defined in the below table, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any adjusted unit price for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity. Any adjustment in contract unit price for a decrease in quantity below 75 percent shall apply only to the actual amount of work performed, except that the product of the adjusted unit price and the reduced quantity of work performed shall in no case exceed the product of the original contract unit price and 75 percent of the Bid Schedule quantity.

Major Item - A major item is an item whose total cost, determined by multiplying the bidding schedule quantity and contract unit price, is equal to or greater than the amount in column 3 for the associated contract amount. Refer to Table 104-1. Unless completely eliminated a major item will remain a major item.

Minor Item - A minor item is any item which is not a major item.

Table 104-1 Major Item

Total Contract Amount (As-Bid)		Major Item Criteria
Equal to or greater than	But less than	Equal to or greater than the amount listed
\$0.00	\$100,000	\$5,000
\$100,000	\$200,000	\$10,000
\$200,000	\$450,000	\$15,000
\$450,000	\$750,000	\$25,000
\$750,000	\$1,100,000	\$35,000
\$1,100,000	\$1,500,000	\$45,000
\$1,500,000	\$2,000,000	\$55,000
\$2,000,000	\$2,500,000	\$65,000
\$2,500,000	\$3,000,000	\$75,000
\$3,000,000	\$5,000,000	\$85,000
\$5,000,000	\$7,000,000	\$120,000
\$7,000,000	\$10,000,000	\$150,000
\$10,000,000	\$25,000,000	\$250,000
\$25,000,000	\$50,000,000	\$350,000
\$50,000,000	---	\$500,000

(D) To revise the contract time in accordance with Subsection 108-8.

If the Supplemental Agreement is to provide for an increase or decrease in the contract price or time, such increases or decreases will be determined in accordance with the requirements herein and Subsections 108-8 and 109-4.

When the Agency makes alterations in the details of construction or specifications that are limited in scope, to the extent that the cost of the alterations will not exceed \$10,000.00, the Agency and the contractor may reach agreement upon the scope of work and an amount to cover the cost of the work to be performed. This agreement shall be reflected in a letter from the Agency to the contractor, which, when executed by both parties, shall have the same force and effect as a supplemental agreement. Work shall not proceed until both parties have signed the agreement. This work will be paid for under Item 9300100 - Incidental Items Allowance, which shall serve as an account for the payment of letter agreements in accordance with this specification. Any balance left in this account at the end of the construction phase will not be paid and will be expunged from the contract.

104-2.02 Due to Physical Conditions of the Standard Specifications is revised to read:

104-2.02 Differing Site Conditions

- (A) During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected work is performed.
- (B) Upon written notification, the Engineer will investigate the conditions and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding anticipated profits, will be made and the contract modified in writing accordingly. The Engineer will notify the contractor of the determination whether or not an adjustment of the contract is warranted.
- (C) No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.
- (D) No contract adjustment will be allowed under this clause for any effects caused on unchanged work.
- (E) The contract contains no indication of the soil conditions to be encountered. Caliche-like material is prevalent throughout the Tucson area and the contractor is expected to utilize the proper equipment to excavate the material. Hard digging is not considered a differing site condition.
- (F) Archaeological or cultural features shall be treated as noted in Subsection 107-6.

(105FHWA_PARTIAL, 12/19/14)

SECTION 105 - CONTROL OF WORK

105-17 ACCEPTANCE

105-17.01 Partial Acceptance of the Standard Specifications is revised to read:

If at any time during the prosecution of the project the contractor completes a unit or portion of the project, the contractor may submit a written request to the Engineer to conduct an inspection of the specified unit or portion. The Engineer shall approve or disapprove the contractor's request within five working days of its receipt.

If the Engineer determines, upon inspection, that the unit or portion of the project has been satisfactorily completed in compliance with the contract, the Engineer may accept that unit or portion of the project as being completed. If such a determination is made by

the Engineer, the contractor may be relieved of further responsibility for that unit or portion of the project, in conformance with the provisions of Subsection 105-16.

Any retainage previously withheld for work which has been included in the partial acceptance shall be promptly released to the contractor. The contractor shall pay any such retainage owed to subcontractors within 30 days of receipt by the contractor.

Partial acceptance shall neither void nor alter any of the terms of the contract nor constitute the start of the warranty/guarantee period specified in Subsection 105-21.

(105FHWA_FNL, 10/23/13)

105-17.04 Final Acceptance of the Standard Specifications is modified to add:

Final acceptance will not be made until all completed plans and working drawings as required in Subsection 105-2 have been submitted and deemed acceptable by the Engineer. In addition, final acceptance will not be made until all "*Certification of Payments to DBE Firms*" affidavits, as required in the contract documents, have been submitted and deemed acceptable by the Engineer and the Arizona Department of Transportation Civil Rights Office.

(105REVIEW_OF_WORKSITE, 02-18-16)

105-22 REVIEW OF WORKSITE is added to the Standard Specifications as follows:

(A) Incident. The contractor shall inspect the worksite at least fourteen (14) calendar days prior to the scheduled start of a construction activity for the purpose of identifying any aerial, surface, and underground utility facility or utility activity that will impact (i.e., interfere, alter, or conflict) the work. Each impact hereinafter referred to as an "Incident" whether discovered prior to or during a construction activity shall be addressed in accordance with the procedures and requirements of this Section.

Inspection of the work site shall include, but not be limited to, the collection of field data on the horizontal and vertical location of underground facilities through ground markings (A.R.S. §§ 40-360.22), exposing of underground facilities, and evaluating field data against the project plans and construction methods for impacts.

(B) Reporting. The contractor shall fill out an incident report form and assign a sequential incident number. The report form may be obtained from the Agency's website or Engineer.

The report shall include the name of the utility facility owner (if not known, identify as "unknown"), incident location (station/offset/elevation), date and time discovered, color photographs (preferably date and time stamped), description of incident including the impact on the performance of work and type of facility discovered (type of material, size, quantity, identifying marks).

(C) Notification. The contractor shall notify the Engineer, utility facility owner, and Agency Right-of-way/Utility Section of an Incident no less than fourteen (14) calendar days prior to the scheduled start date of the construction activity unless the Incident was discovered during the construction activity in which case notice shall be given immediately. Notice shall be deemed to have been duly given when the incident report (a) has been delivered in person or (b) upon confirmation of receipt when transmitted by facsimile or email.

If the utility facility owner is not known, the contractor shall contact the state one call notification center (Arizona Blue Stake, Inc.) for assistance in identifying the owner.

(D) Resolution/Mitigation. The Agency, upon receipt of notice, shall take the necessary action to address the incident by removal or relocation of the affected facility, altering the work, or stoppage of the activity.

The Agency shall allow the utility facility owner to resolve the incident within a time frame specified by the Engineer. If the utility facility owner is unable to perform, the Agency may, at its option, authorize the contractor to perform work to resolve or mitigate the incident by force account in accordance with the provisions of subsection 109-5(B).

(E) Submission of Additional Compensation. In the event that the contractor perceives that additional compensation has occurred as a result of an incident, the contractor shall immediately bring such matter to the attention of the Engineer for the earliest possible resolution, and the Engineer shall promptly notify the affect utility provider(s) and Agency Right-of-way/Utility Section of the request for additional compensation.

The contractor may request additional compensation by (a) filing a claim in accordance with the requirements and procedures under Subsection 105-18 or (b) if agreed to by the Engineer, submit for approval by the Engineer an itemization of additional labor, material, and equipment costs. Itemization of costs shall be documented on the incident report. The amount of payment shall be determined in accordance with the provision of subsection 109-5(B).

At the request of the Engineer, the contractor shall make available all documentation supporting the amount of additional compensation, and the Engineer shall make such documentation available to the utility provider upon request.

When quantifying additional compensation under item (b) above, the contractor shall submit to the Engineer as promptly as possible following completion and acceptance by the Agency the itemization of labor, material, and equipment, but in no event later than fourteen (14) calendar days, the contractor's incurred costs which shall be considered complete and final compensation for the incident.

Failure on the part of the contractor to adhere to the procedures and requirements of this Section will be cause for dismissal of the additional compensation request.

(F) Incident Log and Progress Meeting. The contractor shall maintain a utility incident log provided by the Agency. The log shall be kept current, reviewed at the weekly progress meeting, and included with the weekly construction progress meeting minutes.

(106QA/QC, 06/20/23)

SECTION 106 - CONTROL OF MATERIAL

106-4 TESTS AND ACCEPTANCE OF MATERIALS of the Standard Specifications is revised to read:

106-4.01 General. All materials will be inspected, tested and approved prior to incorporation in the work. Any work in which materials not previously approved are used shall be performed at the contractor's risk and may be considered as unauthorized and unacceptable and not subject to the payment provisions of the contract.

Any laboratory performing sampling and testing for the project shall be open to unrestricted access for inspection and review by the Agency. The laboratory shall provide an adequate amount of enclosed space and be supplied with the proper equipment, facilities, and utilities so that the required testing procedures can be performed. It shall have adequate lighting, ventilation, and means of ingress and egress. The laboratory shall be equipped with heating and cooling equipment capable of maintaining an ambient air temperature of 68 to 78 degrees F. The laboratory and all equipment and facilities therein shall be kept clean and maintained in good working order.

Sampling and testing of materials shall be in accordance with the requirements of:

- The ADOT Materials Testing Manual
- The ADOT Materials Policy and Procedure Directives Manual.
- Applicable Federal, AASHTO, or ASTM specifications or test designations.
- Applicable specifications or test designations of other nationally recognize organizations.

Whenever a reference is made to an Arizona Test Method or an ADOT Materials Policy and Procedure Directive, it shall mean the test method or policy and procedure directive in effect on the bid opening date.

Unless otherwise specified, whenever a reference is made to a Federal, AASHTO, or ASTM specification or test designation, or to a specification or test designation of other nationally recognized organizations, it shall mean the specification or test designation in effect on the bid opening date.

106-4.02 Quality Control. The contractor is responsible for quality control measures necessary to provide acceptable quality in the production, handling, and placement of all materials. No payment will be made for such measures; the cost being considered as included in contract items.

(A) General. At the preconstruction conference, the contractor shall designate a qualified employee as Quality Control Manager to be responsible for implementing, monitoring and, as necessary, adjusting the processes to assure acceptable quality. The quality control manager shall be a full-time employee of the contractor, and shall be on the project site during all construction

activities. Also at the preconstruction conference, the contractor shall be prepared to discuss his understanding of the quality control responsibilities for the specified materials.

(B) Quality Sampling and Testing Supervisor. The contractor shall designate a Quality Sampling and Testing Supervisor(s) who is responsible to supervise the sampling and testing, and who meets the requirements given in Table 106-1 for the specific material on which sampling and testing is being performed. The Quality Sampling and Testing Supervisor(s) shall be an employee of the contractor or a consultant or a consultant engaged by the contractor, and be responsible for supervising the sampling and testing on more than one project. The Quality Sampling and Testing Supervisor(s) shall be able to be at the job site within 24 hours from any point in time.

(C) Quality Sampling and Testing Technician. Quality Sampling and Testing Technicians who perform the actual sampling and testing shall meet the requirements given in Table 106-2 for the specific material on which sampling and testing is being performed. Quality Sampling and Testing Technicians shall be employees of the Quality Control Laboratory and be supervised by a qualified Quality Sampling and Testing Supervisor for the specific material on which sampling and testing is being performed.

See Table 106-1 on the next page

TABLE 106- 1	
QUALITY SAMPLING AND TESTING SUPERVISOR REQUIREMENTS	
Soils and Aggregate	
Field	Laboratory
Arizona Technical Testing Institute (ATTI) "Field" certification plus one of (a) through (g) below.	Arizona Technical Testing Institute (ATTI) "Laboratory Soils/ Aggregate" certification plus one of (a) through (g) below.
Asphaltic Concrete	
Field	Laboratory
Arizona Technical Testing Institute (ATTI) "Field" certification plus one of (a) through (g) below.	Arizona Technical Testing Institute (ATTI) "Asphalt" certification plus one of (a) through (g) below.
Concrete	
Field	Laboratory
American Concrete Institute (ACI) "Concrete Field Testing Technician Grade I" certification plus one of (a) through (g) below.	American Concrete Institute (ACI) "Concrete Strength Testing Technician" Certification plus one of (a) through (g) below.

(a) Professional Engineer, registered in the State of Arizona, with one year of highway materials sampling and testing experience acceptable to the Department.
(b) Engineer- In- Training, certified by the State of Arizona, with two years of highway materials sampling and testing experience acceptable to the Department.
(c) Obtained a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology, Construction, or related field acceptable to the Department; and with three years of highway materials sampling and testing experience acceptable to the Department.
(d) Certified by the National Institute for Certification in Engineering Technologies (NICET) in the Construction Materials Testing field as an Engineering Technician (Level III) or higher in the appropriate subfield in which sampling and testing is being performed.
(e) Certified by NICET in the Transportation Engineering Technology field as an Engineering Technician (Level III) or higher in the Highway Materials subfield.
(f) Certified by NICET as an Engineering Technician, or higher, in Civil Engineering Technology with five years of highway materials sampling and testing experience acceptable to the Department.
(g) An individual with eight years of highway materials sampling and testing and construction experience acceptable to the Department.

TABLE 106- 2 QUALITY SAMPLING AND TESTING TECHNICIAN REQUIREMENTS	
Soils and Aggregate	
Field	Laboratory
Arizona Technical Testing Institute (ATTI) "Field" certification.	Arizona Technical Testing Institute (ATTI) "Laboratory Soils/ Aggregate" certification.
Asphaltic Concrete	
Field	Laboratory
Arizona Technical Testing Institute (ATTI) "Field" certification.	Arizona Technical Testing Institute (ATTI) "Asphalt" certification.
Concrete	
Field	Laboratory
American Concrete Institute (ACI) "Concrete Field Testing Technician Grade I" certification.	American Concrete Institute (ACI) "Concrete Strength Testing Technician" Certification.

106-4.03 Quality Assurance and Quality Control Laboratory. All field and laboratory sampling and testing shall be performed by a laboratory or laboratories on the ADOT Directory of Approved Materials Testing Laboratories. When field sampling and testing procedures are performed, the appropriate valid Arizona Technical Testing Institute (ATTI) and/or American Concrete Institute (ACI) certification(s) are required.

106-4.04 Quality Assurance Testing. Compliance with specifications is determined by assurance sampling and testing. All materials shall be randomly sampled at prescribed frequencies as given in the Pima County Department of Transportation Sampling Guide Schedule. Unless otherwise indicated in the Special Provisions, Quality Assurance testing is the responsibility of the contractor at no additional cost to the agency. On *Pima County Capital Improvement Projects*, materials shall be sampled and tested by a qualified representative of the Agency, at the expense of the Agency, unless otherwise specified in the contract documents. Testing shall be in accordance with the Pima County Department of Transportation Sampling Guide Schedule, a copy of which can be found on the Pima County Department of Transportation web-site; Roadway Design Standards and Manuals, and in Appendix F of these Special Provisions.

106-4.05 Records. The quality control and the quality assurance laboratory shall maintain all sampling and testing records and supporting documentation used in the preparation of Weekly Sampling and Testing Reports. Upon request, the contractor shall make sampling and testing records and supporting documentation available to the Engineer for review and copying as desired.

Linear charts shall be maintained by the contractor and posted in a location satisfactory to the Engineer and shall be kept up to date at all times. As a minimum, the quality control charts shall identify the project number, the contract item number, the test number, each test parameter, the upper and/ or lower specification limit applicable to each test parameter, and the contractor's test results. The contractor shall use the charts as part of a process control system for identifying production and equipment problems and for identifying potential pay factor reductions before they occur.

106-4.06 Weekly Reports. Weekly Sampling and Testing Reports are to be submitted to the Engineer. The weekly reports shall state the types of work, such as earthwork, Portland cement concrete, or asphaltic concrete, which have been performed during the report period. The report shall also include the process control measures taken to assure quality. The weekly report shall provide sample identification information for materials tested during the report period, including sample number, date sampled, sample location, person obtaining sample, and original source of material. The report shall also provide the results for all required tests and any retests, corrective actions, and other relevant information. Although hand-written documentation can be included, the report's narrative, sample identification information, results for tests and any retests, and corrective actions shall be typed to ensure the Agency can make clear reproductions of the documents.

The report period shall end at midnight of each Friday, and the report shall be submitted to the Engineer no later than 5: 00 p.m. of the following Wednesday unless the Engineer and contractor agree upon a different day and time.

(106FHWA_DMAT, 4/30/14)

106-14 DOMESTIC MATERIALS (FEDERAL-AID PROJECTS ONLY) is hereby added to the Standard Specifications:

Portland cement used on this project may be foreign or domestic. Certificates of Compliance and Certificates of Analysis for cement shall conform to the requirements of Subsection 106-5, and shall additionally identify whether the cement is foreign or domestic.

Steel and iron materials and products used on this project shall comply with the current “*Buy America*” requirements of 23 CFR 635.410.

All manufacturing processes to produce steel products used on this project shall occur in the United States. The iron used in the process shall be domestic. Raw materials used in manufacturing the steel products may be foreign or domestic. Steel not meeting these requirements may be used in products on this project provided that the invoiced cost to the contractor for such steel products incorporated into the work does not exceed either one-tenth of one percent of the total (final) contract cost or \$2,500, whichever is greater.

Any process which involves the application of a coating to iron or steel shall occur in the United States. These processes include epoxy coating, galvanizing, painting, or any other coating which protects or enhances the value of covered material.

The requirements specified herein shall only apply to steel and iron products permanently incorporated into the project. “*Buy America*” provisions do not apply to temporary steel items, such as sheet piling, temporary bridges, steel scaffolding and falsework, or to materials which remain in place at the contractor’s convenience.

The contractor shall furnish the Engineer with Certificates of Compliance, conforming to the requirements of Subsection 106-5, which state that steel products utilized on the project meet the requirements specified. The Certificates of Compliance shall also certify that all manufacturing processes to produce steel products, and any application of a coating to iron or steel, occurred in the United States.

Convict-produced materials may not be used unless the materials were produced prior to July 1, 1991 at a prison facility specifically producing convict-made materials for Federal-aid construction projects.

(106FHWA_CMATLS, 02/07/23)

106-17 CONSTRUCTION MATERIALS (FEDERAL-AID PROJECTS ONLY) is hereby added to the Standard Specifications:

A construction material, when used on a federal-aid construction project shall comply with the requirements of Build America, Buy America (BABA) Act specified in Title IX, Subtitle A, Part 1, Sections 70901 and 70911-70918 (Pub. L. No. 117-58 §§ 70901; §§ 70911-70918) of the Infrastructure Investment and Job Act (IIJA).

A “construction material” that is permanently incorporated on the project shall include an article, material, or supply that is or consists primarily of the following:

1. Non-ferrous metals;
2. Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
3. Glass (including optic glass);
4. Lumber; or
5. Drywall.

Items manufactured through a combination of either two or more materials listed above, or at least one of the materials listed above and a material not listed shall be considered as a manufactured product, rather than as a construction material.

Build America, Buy America provisions specified for manufactured products in Section 70912(6) (B) of the IIJA, do not apply to federal-aid construction projects per FHWA’s existing statutory requirement applicable to manufactured products. A “manufactured product” is considered an item that undergoes one or more manufacturing processes before the item can be used on a federal-aid construction project.

Construction materials shall not include cement and cementitious materials; bituminous materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives.

All construction materials shall be produced in the United States. This means, all manufacturing processes to produce the construction materials shall occur in the United States. All manufacturing processes for construction materials shall mean the final manufacturing process and the immediately preceding manufacturing stage for the construction material.

The contractor shall furnish the Engineer with Certificates of Compliance, conforming to the requirements of Subsection 106-5 of the specifications, which shall state that the construction materials incorporated in the project meet the requirements specified herein.

Certificates of Compliance shall also certify that all manufacturing processes to produce construction materials occurred in the United States.

Convict-produced materials are prohibited in accordance with the requirements of 23 CFR 635.417.

(107UTIL, 03/14/17)

SECTION 107 - LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

107-21 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES of the Standard Specifications is modified to add:

The following utilities and private individuals may have facilities in or near the project area:

Owner	Contact	Phone Number
Lumen Technologies	Kevin Wagner	(815) 245-9640
Trico Electric Cooperative	Wesley Crane	(520) 744-2944, Ext.1356
University of Arizona (UA) Santa Rita Experimental Range/Santa Rita Ranch	Andrew McGibbon	(520) 471-9462

The existence and locations of underground utilities indicated on the plans are not guaranteed and shall be investigated and verified in the field by the contractor before starting work. Excavations in the vicinity of existing structures and utilities shall be carefully done. At least two full working days prior to commencing excavation, the contractor shall call Arizona 811 (formerly Arizona Blue Stake), 1-800-STAKE-IT, between the hours of 7:00 a.m. and 4:30 p.m., Monday through Friday, for information relative to the location of buried utilities.

It shall be the responsibility of the contractor to contact the utility companies in order for them to determine if there is a need to brace, shore, support and protect their facilities during the construction of the project.

Utility locations shown on the project plans are approximate, and all utilities are not necessarily shown. The possibility of conflicts with existing utilities exists. If conflicting utilities interfere with the contractor's normal progress towards completion of the project, the Pima County Department of Transportation may, at its option, authorize the contractor to relocate said conflicting utilities by force account in accordance with the provisions of subsection 109-5.02 of the Standard Specifications and these Special Provisions.

The following utility companies have facilities within the project limits, but are not anticipated to be in conflict:

Trico Electric Cooperative

Trico has facilities within the project limits that are not anticipated to be conflict with the proposed improvements. Trico requests to be included in the contractor's preconstruction meeting to provide a description of their facilities within the project limits.

Trico's Operations Department: (520) 744-2944 ext. 2730.
Operations Construction Manager: Jeremy Burnett
Manager Distribution Maintenance: Andy Betancourt

Lumen Technologies

Lumen Technologies has underground and overhead facilities (coaxial & fiber optic cables) along the east side of Madera Canyon Road through the limits of the project. Lumen has relocated their previously above-ground facilities attached to the Florida Canyon Wash and Medium Wash bridge structures. These relocated facilities are now overhead lines supported by poles on each side of the existing bridge structures. These poles shall be protected in place.

The following utility companies have facilities in conflict with the proposed construction and anticipate certain adjustments and relocation during construction:

University of Arizona (UA) Santa Rita Experimental Range/Santa Rita Ranch

A waterline belonging to the UA Santa Rita Experimental Range runs diagonally beneath the Florida Canyon Wash and Medium Wash bridge structures. This above-ground waterline is maintained by the Santa Rita Ranch. The contractor shall provide and install PVC sleeves through the existing roadway embankment at the two specified locations and elevations shown on the project plans. The PVC sleeves are intended to provide access for Santa Rita Ranch to install replacement or temporary waterlines through the roadway prism and to allow uninterrupted water service for the ranch during construction activities. The sleeves are paid for under Item 8101106. At least three weeks prior to removal of the Florida Canyon Wash Bridge and the Medium Wash Bridge, the Contractor shall notify Santa Rita Ranch that the existing waterlines will require relocation. The Contractor shall coordinate this work with Santa Rita Ranch by contacting Mr. Andrew McGibbon at (520) 471-9462 (santaritaranch@icloud.com). In addition, there are two existing waterline crossings along the proposed detour which shall be protected in accordance with the project plans.

The contractor shall be responsible for coordinating their work around the waterline relocation efforts.

(107FHWA_RECORDS, 8/5/14)

107-25 CONTRACTOR AND SUBCONTRACTOR RECORDS of the Standard Specifications is revised to read:

The contractor shall keep one copy of all specifications, project plans, addenda, modifications, working drawings, and shop drawings at the site, in good order and annotated to show all changes made during the construction process as they occurred. Upon completion of the project and prior to submittal of the final application for payment, the annotated set of project plans together with any annotated working and shop drawings of significance shall be delivered to the Engineer for the Agency's record.

The contractor, subcontractors and all material suppliers shall keep and maintain all books, papers, records, files, accounts, reports, bid documents with backup data, and all other material relating to the contract and project for the length of time required under:

- 49 CFR 18.42

- The term of the program regulations
- The term of the grant Agreement
- Arizona Revised Statutes
- Local ordinance or policy
- 5 years following project closeout, whichever is longest.

All of the above material shall be made available to the Agency for auditing, inspection and copying and shall be produced, upon request, at the Agency office.

The contractor shall insert the above requirement in each subcontract, purchase order and lease agreement and shall also include in all subcontracts a clause requiring subcontractors to include the above requirement in any lower-tier subcontract, purchase order or lease agreement.

(108FHWA_SUBCONTRACTS, 12/06)

SECTION 108 - PROSECUTION AND PROGRESS

108-1 SUBLETTING OF CONTRACT of the Standard Specifications is modified to add:

The Contractor shall provide to the Engineer a complete copy of each subcontract and lower tier subcontract. Each subcontract and lower tier subcontract shall include all of the required contract provisions including, but not limited to, the *Equal Opportunity Provisions*, *FHWA Form 1273*, *Required Contract Provisions* and the *Wage Determination Decision* if these Provisions are made part of the prime contract.

108-3 PRECONSTRUCTION CONFERENCE

108-3.01 Schedule of the Standard Specifications is modified to add:

The Contractor shall be responsible for planning, scheduling and reporting the progress of the work to ensure timely completion of the contract.

The Contractor shall submit a schedule in two parts, in accordance with the following:

(A) Part I shall be a preliminary schedule and shall be submitted at the Preconstruction Conference for the Engineer's review and concurrence. It shall be a schematic (arrow) diagram or precedence diagram, showing the work stages and operations for all activities required by the contract. The diagram shall be in sufficient detail to allow day-to-day monitoring of the Contractor's operations. Along with the preliminary schedule, the Contractor shall include its calendar for the contract period which shall show work days, calendar days and dates. The diagram shall include four to 10 milestone events as identified by the Contractor and accepted by the Engineer.

(B) Part II shall be submitted for the Engineer's review and concurrence within 15 calendar days after Part I has been accepted by the Engineer. This second schedule shall include a complete critical path schedule to cover the Contractor's anticipated time schedule. The schedule shall include a detailed network diagram in an editable Microsoft Project Format that is acceptable to the Engineer with the following features:

- (1) It shall be time-scaled in calendar days. All activities shall be plotted on their early start and finish dates. Unless approved by the Engineer, activities shall not exceed 15 working days in length. The plot shall have a size and scale acceptable to the Engineer.
- (2) It shall show the order and interdependence of activities and the sequence of work as reflected in the Schedule Report specified in Subsection 108.03(B)(7) below. The critical activities shall be prominently distinguished on all reports by the use of color or other means acceptable to the Engineer.
- (3) It shall include, in addition to all construction activities, such tasks as mobilization, demobilization, submittal and approval of samples of materials and shop drawings, procurement of significant materials and equipment, fabrication of special items, installation and testing and interfacing with other projects.
- (4) The activities shall be sufficiently detailed so that a reviewer can follow the sequence. For example, the activities shall show forming, reinforcing, and placement of concrete on the calendar days they are scheduled to be performed.
- (5) The diagram shall show for each activity the preceding and following event numbers or activity numbers, the activity description, the total float, and the duration of the activity in working days.
- (6) The activities shall be organized and described so as to conform to the contract bid items. Activity descriptions shall be unique and specific with respect to the type of work and location.
- (7) The diagram shall be accompanied by a Schedule Report of the network with a tabulation of the following data for each activity:
 - (a) Preceding and following event numbers or activity number
 - (b) Activity description
 - (c) Activity duration
 - (d) Earliest start date
 - (e) Earliest finish date
 - (f) Latest start date

- (g) Latest finish date
 - (h) Total float times
 - (i) Responsibility for activity - e.g., Contractor, subcontractor, supplier, etc.
 - (j) Resource loading for each activity listing personnel, equipment and anticipated revenue.
- (C) The Contractor shall make updated schedules and reports under the following circumstances or as requested:
- (1) The Contractor shall submit a monthly report of actual construction progress by the 10th working day of each calendar month by updating its schedule report to reflect all complete and in progress activities on the project. All negative float shall be explained in detail. If, in the opinion of the Engineer, the detailed network diagram requires revision, either wholly or in part, the Engineer shall so direct the Contractor and the Contractor shall submit such revision within 10 calendar days.
 - (2) The monthly report also shall show the activities or portion of activities completed during the one-month reporting period and the portion completed on the project to date, showing actual start and finish dates plus all future activities.
 - (3) The monthly report shall state the percentage of revenue actually earned as of the report date.
 - (4) The monthly report shall be accompanied by a narrative description of job progress, problem areas, current and anticipated delaying factors and their expected effect, and any corrective actions proposed or taken. The narrative description shall also clearly identify any departures from earlier schedules, including, but not limited to, changes in logical sequence or logical ties, constraints, changes in activity durations and changes, additions or deletions in event numbers, activity numbers and activity descriptions. The reasons for each departure shall be included in the narrative description. Any additions or deletions of milestone events must be approved by the Engineer.
 - (5) The monthly report shall include a summary of all activities sequenced by the total float from least to greatest float and ordered by early start.
 - (6) The required schedules and report shall be submitted to the Engineer as follows:
 - (a) Part I (Preliminary Schedule): seven originals
 - (b) Part II (Detail Network Diagram): seven originals
 - (c) Revisions to Part II: seven originals

- (d) Monthly Report: three originals plus three copies of the narrative
- (7) The monthly report shall include a detailed predecessor/successor analysis showing the predecessors, successors, logic ties, and constraints for each activity scheduled. These activities shall be ordered by event number or activity number from least to greatest.
- (8) All Extra Work shall be shown on an updated Schedule.

The automated system software shall be Microsoft Project or approved equal.

All submittals including reports and schedules shall be provided to the Pima County Project Manager digitally. E-mails with pdf attachments are the preferred means of receiving documents for review and approval.

No measurement or direct payment will be made for Contractor costs relating to preparation and submission of schedules and reports and revisions thereto, the cost being considered as included in the prices paid for contract items.

Float time is not for the exclusive use or benefit of either the Department or the Contractor. Extension of time for performance may be granted to the extent that equitable time adjustment for the activity affected exceeds the total float or where otherwise justified, impact on the contract completion can be shown.

Concurrence of the Contractor's schedules by the Engineer is not to be construed as relieving the Contractor of its obligation to complete the work within the contract time; or as granting, rejecting, or in any other way acting on the Contractor's requests for adjustments to the date for completing contract work, or claims for additional compensation. Such requests shall be processed in strict compliance with other relevant provisions of the contract.

The Contractor shall participate in a review and evaluation of the proposed Part I, Preliminary Schedule, and Part II, Schedule, and monthly updated schedule by the Engineer. Any revisions necessary as a result of their review shall be submitted for concurrence to the Engineer within 10 calendar days after the review. The accepted Part II, Schedule, shall then be used by the Contractor for planning, organizing, executing, and directing the work and for reporting progress of work accomplished. The Contractor shall furnish to the Engineer for project use a copy of the Part II, Schedule, and a monthly updated schedule on a compatible computer disk of a size and configuration designated by the Engineer.

The Engineer shall complete review of Part I, Preliminary Schedule, and Part II, Schedule, within 15 calendar days of the receipt of each. No monthly progress payment will be made until Part I has been accepted. Within the next 60 calendar days after concurrence with Part I, Part II will be submitted and reviewed. If Part II has not been accepted within these 60 calendar days, progress payment will be withheld until Part II has been concurred with by the Engineer.

Failure of the Contractor to comply with the monthly updated Schedule requirements specified herein will be grounds for the Engineer to withhold an additional 10 percent of the monthly

progress payments, in addition to the normal retention, until the Contractor is in compliance. Additional money withheld will be paid upon compliance to the Contractor in the next scheduled monthly estimate. If the monthly updated schedule is not received by the 10th working day of each month, but received prior to the 25th of the month, five percent will be withheld until the following estimate.

(109ALLOWANCE, 04/11/17)

SECTION 109 - MEASUREMENT AND PAYMENT

109-1 MEASUREMENT OF QUANTITIES of the Standard Specifications is modified to add:

The term “Dollar” or its abbreviation “USD” (US Dollar) when included in the bidding schedule as a unit of measurement, shall mean an allowance for the payment of the work in conformance with the provisions of Subsection 109-5.01.

(109FHWA_MAJOR_MINOR_ITEM, 3/06/18)

109-3 ALTERATIONS TO THE CONTRACT WORK of the Standard Specifications is revised to modify the 2nd bullet to read:

- When the total quantity of any minor or major contract item of work per Subsection 104-2.01(C)(4b) varies from the Bidding Schedule quantity for that item by more than 25 percent.

(109FHWA_RETENTION, 03/31/25)

109-8 RETENTION of the Standard Specifications is modified to read:

On federally funded projects only, as applicable under the Agency’s DBE program, the following apply:

(A) No Retainage on Progress Payments.

(1) This is a federally funded project. Therefore, notwithstanding A.R.S. § 34-221, the Agency will not withhold retainage from progress payments. Neither the contractor, nor the subcontractor of any tier, may withhold any retainage on progress payments to subcontractors or suppliers of any tier.

(2) This provision does not prevent the Agency from withholding retainage or reducing payments where otherwise provided in the contract. These cases may include, but are not limited to:

- (a) Delayed work;

- (b) Work that is not satisfactorily performed; or
- (c) A failure to submit necessary reports, certifications, or documents to the Agency.

(B) Subcontractor Payments.

(1) No Retainage:

- (a) This is a federally funded project. Therefore, notwithstanding A.R.S. § 34-221, neither the contractor, nor the subcontractor of any tier, may withhold any retainage on progress payments to subcontractors or suppliers of any tier.
- (b) Pursuant to Subsection (B)(2) of this Specification, the contract does not prevent the LPA/Subrecipient Procurement Office from withholding retainage or reducing payments where otherwise provided in the contract. These cases may include, but are not limited to:
 - (i) Delayed work;
 - (ii) Work that is not satisfactorily performed; or
 - (iii) A failure to submit necessary reports, certifications, or documents to the Agency.
- (c) When the Agency withholds retainage or reduces payments under Subsection (A)(2) of this Specification, the contractor may withhold retainage on progress payments to subcontractors or suppliers of any tier. However, the contractor may only withhold a reasonable amount of retainage.
- (d) For the purpose of this section, a “reasonable amount” of retainage is based on the subcontractor’s involvement or the supplier’s involvement in the cause for the Agency’s reduction of payment. The final amount retained from all subcontractors and suppliers shall not be higher than the amount retained by the Agency. However, tier subcontracts shall include provisions that comply with this section.

(2) No Set-offs Arising from Other Contracts:

If a subcontractor is performing work on multiple contracts for the same contractor or subcontractor of any tier, the contractor or subcontractor of any tier shall not withhold or reduce payment from its subcontractors on the contract because of disputes or claims on another contract.

109-12 LUMP SUM PAYMENT FOR STRUCTURES

(A) General of the Standard Specifications is modified to add:

The Department will compensate the contractor for construction of each of the following structures or groups of structures on the basis of a lump sum amount:

For the Florida Canyon Wash Bridge project (24041PJ)
ITEM 9999901 - LUMP SUM STRUCTURE NO.1 (FLORIDA CANYON WASH BRIDGE)

For the Medium Wash Bridge project (24043PJ)
ITEM 9999901 - LUMP SUM STRUCTURE NO.1 (MEDIUM WASH BRIDGE)

The lump sum amount includes structural concrete, reinforcing steel, concrete barriers, approach slabs, dowels, bituminous joint filler, concrete apron, and all other work shown on the plans, including structural excavation and structure backfill, subgrade preparation, geocomposite wall drains, and all other work related to construction of the bridge.

(109FUEL_ADJUST, 7/08/22)

109-13 COMPENSATION FOR FUEL ADJUSTMENT is hereby added to the Standard Specifications:

109-13.01 Fuel Cost Adjustment.

(A) General. The Agency will adjust monthly progress payments up or down as appropriate for cost fluctuations in diesel fuel as determined in accordance with these Special Provisions.

A fuel cost adjustment will be made when fluctuations in the price of diesel fuel, in excess of 15 percent, occur throughout this contract. The Agency will not provide such adjustments for fluctuations in the price of diesel fuel of 15 percent or less.

No adjustments will be made for fluctuations in the price of fuels other than diesel.

(B) Determination of Compensation. The base index price of fuel will be determined by the Agency from the selling prices of diesel fuel published by OPIS (Oil Price Information Service). The base index price to be used will be the price for Diesel fuel No. 2, Low Sulfur, PAD 5, City of Tucson. The reported average value for the Tucson area will be used.

The base index price for each month will be the arithmetic average of the selling price for diesel fuel, as specified above, shown in the last four reports received prior to the last Wednesday of the month.

This price will be effective as of the last Wednesday of each month, and will be posted on the Arizona Department of Transportation (ADOT) website, at <http://www.azdot.gov/Highways/cns/bitmat.asp>, on or shortly after the last Wednesday of the month.

This price may also be obtained from Contracts and Specifications Services at (602) 712 - 7221.

This price will be deemed the "initial cost" for diesel fuel on projects for which bids are opened during the following month.

The current index price for diesel fuel in subsequent months will be the base index price, determined as specified above, for the current month. The amount of adjustment per gallon will be the net difference between the "initial cost," adjusted by 15 percent, and the current index price. The monthly adjustment will be determined by the Engineer and included in the payment

estimate as a fuel adjustment. For fluctuations in excess of 15 percent, fuel cost adjustments will only be made for current price index increases greater than 1.15 times the "initial cost" or for decreases less than 0.85 times the "initial cost." No calculation will be made for fluctuations in the current index price of 15 percent or less when compared to the "initial cost."

The number of gallons of diesel fuel used per month will be considered to equal 1.5 percent of the dollar amount of work reported by the contractor for each month. Such dollar amount will not include incentives earned by the contractor for pavement smoothness, thickness, or strength for Portland cement concrete pavements; for pavement smoothness or quality lots for asphaltic concrete pavements; for any other revenue derived from quality incentives; or for revenue accrued in the previous month for bituminous material cost fluctuations or diesel fuel price adjustments.

A monthly adjustment, if applicable, will be made on this quantity, as shown below:

$$S = \frac{0.015(Q)}{IC} \times (CP - AC)$$

Where: S = Monetary amount of the adjustment (plus or minus) in dollars
CP = Current index price in dollars per gallon
IC = "Initial cost" as determined above, dollars per gallon
AC = Adjusted "initial cost" (1.15 or 0.85 times IC) in dollars per gallon
Q = Dollar amount of work completed for the month

If adjustments are made in the contract quantities, the contractor shall accept any fuel adjustment as full compensation for increases or decreases in the price of fuel regardless of the amounts of overrun or underrun.

The value calculated above (plus or minus) will be adjusted to include sales tax and other taxes as applicable.

No additional compensation will be made for any additional charges, costs, expenses, etc., which the contractor may have incurred since the time of bidding and which may be the result of any fluctuation in the base index price of diesel fuel.

No adjustments will be made for work performed after Substantial Completion has been achieved, as defined in Subsection 105-17, and for work performed beyond the contract time.

The need for application of the adjustments herein to extra work will be determined by the Engineer on an individual basis and, if appropriate, will be specified on the work order.

(C) Payment. Price adjustment will be shown on the monthly progress estimate, but will not be included in the total cost of work for determination of progress or for extension of contract time.

Fuel adjustment compensation (*S*) will be paid for at the contract unit price each for each dollar of compensation determined above, rounded to the nearest dollar, and will be paid for under Bid Item 1090010 - Fuel Adjustment Allowance.

(110CONCRETE_REDUC, 7/27/15)

SECTION 110 - CORRECTIVE REQUIREMENTS FOR DEFICIENCIES

110-3 PORTLAND CEMENT CONCRETE

110-3.01 Class S and Class B Concrete of the Standard Specifications is revised to read:

110-3.01 Class X, Class S and Class B Concrete

(A) Compressive Strength. Class X, Class S and Class B Portland cement concrete will be accepted for compressive strength and paid for in accordance with Table 110-4. Concrete will be paid for by the square foot or by the cubic yard, complete in place, except that a reduction in the contract unit price, to the nearest cent, will be made for the quantity of concrete represented by 28-day compressive strength test results less than the specified requirement.

Concrete failing to meet at least 95 percent of the 28-day compressive strength specified or any concrete failing to meet the requirements of Subsection 1006-7.01 will be subject to the provisions of Subsection 1006-7.06.

Class S, Class X, or Class B Portland cement concrete which fails to achieve the required 28-day compressive strength but meets the percent of the 28-day compressive strength noted in Table 110-4 may be subject to rejection by the Engineer if it is determined that the deficient compressive strength is detrimental to the integrity of the structure.

**TABLE 110-4
PORTLAND CEMENT CONCRETE (CLASS 'X', 'S' AND 'B')
CONTRACT UNIT PRICE REDUCTION FACTORS
FOR STRENGTH DEFICIENCIES**

3,000 psi and Below ⁽¹⁾		3,500 psi ⁽¹⁾		4,000 psi and Above ⁽¹⁾	
Percent of 28-day strength attained ⁽²⁾	Percent Reduction in Contract Unit Price ⁽³⁾	Percent of 28-day strength attained ⁽²⁾	Percent Reduction in Contract Unit Price ⁽³⁾	Percent of 28-day strength attained ⁽²⁾	Percent Reduction in Contract Unit Price ⁽³⁾
100 or more	0	100 or more	0	100 or more	0
97 - 99	3	98 - 99	2	99	1
94 - 96	6	96 - 97	4	98	2
91 - 93	9	94 - 95	6	97	3
88 - 90	12	92 - 93	8	96	4
85 - 87	15	90 - 91	10	95	5
< 85	30 ⁽⁴⁾	< 90	30 ⁽⁴⁾	< 95	30 ⁽⁴⁾
(1) Compressive strength as shown on the project plans or specified in the Special Provisions.					
(2) To nearest one percent.					
(3) For items measured and paid for by the cubic yard, the reduction shall not exceed \$150.00 per cubic yard.					
(4) The contract unit price reduction factor applies only if the concrete represented by the test results is allowed to remain in place.					

(201NOX_PLANT_REM, 10/31/18)

SECTION 201 - CLEARING & GRUBBING

201-1 DESCRIPTION of the Standard Specifications is modified to revise the 1st line of the 1st paragraph to read:

The work under this Section shall consist of clearing, grubbing, pruning, removing and ...

201-2 MATERIALS

201-2.01 Herbicides of the Standard Specifications is modified to add:

Herbicides proposed in the plan for use on projects adjacent to BLM and USFS lands shall be in conformance with the latest version of the following documents:

“Final Vegetation Treatments Using Herbicides Programmatic Environmental impact Statement for BLM” available electronically at http://www.blm.gov/wo/st/en/prog/more/veg_eis.html;

“Environmental Assessment for Management of Noxious Weeds and Hazardous Vegetation on Public Roads on National Forest System Lands in Arizona”, available electronically on the Arizona Memory Project website (Arizona State Library) at <http://azmemory.azlibrary.gov/cdm/ref/collection/feddocs/id/486>;

The environmental documents include lists of approved herbicides, mitigations and Best Management Practices.

201-3 CONSTRUCTION DETAILS

201-3.01 Clearing and Grubbing the sixth paragraph of this subsection of the Standard Specifications is revised to read:

The contractor shall carefully prune all branches of trees less than 16 feet above any part of the roadway and less than 8 feet above or within 2 horizontal feet of sidewalks, multi-use paths, traffic control cabinets and intersection site distance triangles and all branches which have been broken or injured during construction. Pruning shall be performed or directed by a certified arborist in accordance with the requirements of bid item 8061700.

201-3.02 Vegetation Preserved-In-Place the fourth paragraph of this subsection of the Standard Specifications is revised to read:

The contractor will provide and install all required preservation fence material as shown on the project plans and in conformance with the requirements of the specifications and Special Provisions.

201-3.03 Salvaged and Transplanted Vegetation of the Standard Specifications is modified to add:

The contractor shall guarantee the survival and health of all plants salvaged and replanted as part of this contract in conformance with the requirements of Subsection 809-3.08.

201-3.04 Noxious and Invasive Vegetation of the Standard Specifications is modified to replace the first sentence of paragraph one with the following:

Prior to the start of construction, the contractor shall retain the services of a person, subject to the approval of the Engineer, knowledgeable in identification of noxious and invasive plant species, such as a certified arborist, biologist, horticulturist, or botanist with a degree in a plant oriented natural resource field, or a person holding a State of Arizona Office of Pest Management Applicator License in Category B3 (Right of Way and Weed Control) to survey the limits of the project for the presence of noxious or invasive vegetation list in Table 201-3.

201-3.04 Noxious and Invasive Vegetation of the Standard Specifications is modified to revise the 2nd paragraph to read:

Removal and treatment of noxious and invasive vegetation shall be by manual methods or, when appropriate, with the application of herbicides and shall occur prior to the start of clearing and grubbing and landscape establishment.

201-3.04 Noxious and Invasive Vegetation of the Standard Specifications is modified to delete the 6th and 7th paragraphs and add the following:

Areas of noxious and invasive vegetation infestation shall be mapped on a project site map or aerial photo of the project and shall be provided to the Engineer before work begins and when work is completed. This map shall be updated throughout the duration of the project and placed in an appendix in the Stormwater Pollution Prevention Plan (SWPPP). In addition, all herbicides used at the site shall be listed in Section 1.11, *Potential Sources of Pollution*, of the SWPPP.

Noxious and invasive vegetation that shall be treated include the following:

Table 201-3 Noxious and Invasive Vegetation	
<u>Scientific Name</u>	<u>Common Name</u>
Acroptilan repens	Russian Knapweed
Alhagi maurorum	Camelthorn
Arundo donax	Giant Reed
Brassica tournefortii	Sahara Mustard
Bromus rubens	Red Brome
Bromus species	Other Brome species
Centaurea spp.	Starthistle species
Chondrilla juncea	Rush Skeletonweed
Cortaderia selloana	Pampas Grass
Cynodon dactylon	Bermudagrass
Eragrostis lehmanniana	Lehmann lovegrass
Erodium cicutarium	Redstem filaree
Hordeum murinum	Mouse Barley
Mesembryanthemum Nodiflorum	Slenderleaf Iceplant
Nicotina glauca	Tree Tobacco

Oncosiphon piluliferum	Stinknet
Pennisetum ciliare	Buffelgrass
Pennisetum setaceum	Fountain Grass
Rhus lancea	African Sumac
Salsola species	Russian Thistle
Sorghum halepense	Johnsongrass
Sisymbrium ino	London Rocket
Sonchus asper	Spiny sowthistle
Tamarix spp.	Tamarix
Tribulus terrestris	Puncturevine

Herbicides shall not be used in washes and right-of-way dip crossings classified as waters of the United States. Only manual removal of noxious and invasive plant species shall be allowed at these locations. Noxious and invasive vegetation that are treated by herbicides can be left in place to decompose. Plants that are manually dug shall be put into large plastic bags with tie closures before removing from the project. No portion of the root ball shall be left behind. Bags shall be disposed of in a landfill. Mowing or chopping of noxious and invasive vegetation is prohibited.

Buffelgrass, fountain grass, and plants treated by chemical means must be green and actively growing for herbicides to be effective. Plants shall be sprayed when greater than 50% of the plant is green material. Only targeted plants shall be sprayed. Targeted plants shall be sprayed so that the herbicide coats all leaves but does not run off.

The contractor shall keep a record of all herbicide applications, as outlined in Arizona Administrative Code R3-8-501. Treated areas shall be recorded on the project site map or aerial photo of the project as described previously. This map shall include all areas of noxious and invasive vegetation removal, whether by manual or chemical methods.

201-3.05 Vegetation from Private Property Obstructing Construction is hereby added to the Standard Specifications:

Prior to the start of construction, the contractor will bring to the attention of the Engineer vegetation from private property that extends into the right of way and impacts, obstructs or interferes with the project. The Engineer will consult with the arborist (Subsection 201-3.01) to determine the appropriate mitigation: preservation, pruning, or removal.

The Engineer shall contact the Agency's Community Relations section regarding pruning and/or plant removal a minimum of four weeks in advance of the work. Community Relations shall direct property owners to prune and/or remove obstructive plant parts within two weeks of the time they are contacted. If removal and/or pruning are not provided by the property owner within the specified date, the property owner shall be advised that pruning and/or removal will be done by the Agency. No pruning or removal of plant parts from vegetation originating on private property shall be performed without proof of notification to the property owner by Community Relations.

If the Engineer determines that additional pruning and/or removal of plants is required during construction, the notification procedure described above shall be followed.

All required pruning shall be performed or directed by a certified arborist in accordance with the

requirements of bid item 8061700.

201-4 METHOD OF MEASUREMENT of the Standard Specifications is modified to delete the 2nd and 6th paragraphs and to add the following:

No direct measurement will be made for protecting vegetation preserved-in-place, the cost of which is considered incidental to and included in the payment for the other contract items in the bidding schedule with the exception that when the bidding schedule contains specific items referencing this Section, measurement for specified items will be made by the units designated in the bidding schedule.

Eradication and control of noxious and invasive species prior to the start of landscape establishment will be measured for payment on a USD (dollar) basis.

No direct measurement for payment will be made for eradication and control of noxious and invasive species during landscape establishment.

Landscape pruning will be measured per in conformance with bid item 8061700.

201-5 BASIS OF PAYMENT of the Standard Specifications is modified to add:

Payment for eradication and control of noxious and invasive plant species prior to the start of landscape establishment, measured as provided above, will be paid for using any of the methods described in Subsection 109-5.01 of the Standard Specifications and shall be full compensation for the work, complete in place.

Eradication and control of noxious and invasive species will be measured for payment on a USD (dollar) basis and paid for under bid item 2010010.

Payment for eradication and control of noxious and invasive plant species during landscape establishment will be paid for in conformance with Section 807 of the Standard Specifications and Special Provisions.

Payment for landscape pruning as specified herein and as directed by the Engineer will be paid for in conformance with the requirements of bid item 8061700.

(201PRES_FENCE_TYPEA, 10/31/17)

ITEM 2010004 - PRESERVATION FENCE (TYPE A)

1. DESCRIPTION

The work under this item shall consist of furnishing, installing, maintaining and removing of preservation fence with warning signs at the locations and in conformance with details shown on

the project plans and requirements of these specifications. Preservation fence shall be rope fencing.

2. MATERIALS

Preservation fence shall be 4' high and consists of 2 strands of 3/8" diameter, twisted, high visibility, yellow polypropylene rope-fence.

Fence posts will be either wood or metal T-posts. Wood posts shall be hardwood with a wedge or pencil tip at one end, and shall be at least six feet (6') in length with a minimum nominal 2"x2" cross section. Steel posts shall be at least six feet (6') in length, and have a minimum weight of 0.85 lb/ft of length.

Warning signs shall be made of durable, weatherproof material. Lettering shall be a minimum of 1" height, and clearly legible. The text on the signs shall be as follows:

PRESERVATION AREA DO NOT ENTER
--

3. CONSTRUCTION DETAILS

Preservation fence shall conform to Pima County Standard Detail 120 - Preservation Fence (Type A). At the direction of the Engineer, Preservation Fence (Type B) maybe used in lieu of Preservation Fence (Type A) in areas determined by the Engineer that require extra emphasis and in accordance with Section 904 of these Special Provisions.

Fence posts shall be set a maximum spacing of 20 feet or as directed by the Engineer, maintained in a vertical position, and hand set or set with a post driver. Posts shall be installed a minimum of 2 feet into the ground. If hand set, all backfill material shall be thoroughly tamped. Wood posts may be sharpened to a dull point if power driven. Posts damaged by power driving shall be removed and replaced prior to final acceptance.

Warning signs shall be securely attached in the upper half of the fence, and placed at 50-foot maximum intervals.

All vegetation identified on the project plans as being preserved-in-place shall be protected from damage or destruction caused by the contractor's operations by preservation fencing. The locations of vegetation so identified on the project plans are approximate. Actual locations will be determined during the project walk-through specified in Subsection 201-3.01 of the Standard Specifications.

Vegetation located outside of the right-of-way but whose canopy encroaches into right-of-way may also be protected with preservation fencing if so directed by the Engineer.

Flagging may be used to designate preserve-in-place areas prior to the installation of the preservation fence.

Fencing shall be installed at the drip line of each tree or group of trees, and shall remain in place for the duration of construction operations. Fencing that is damaged or destroyed shall be repaired or replaced

by the contractor within 2 working days.

4. METHOD OF MEASUREMENT

Preservation fence shall be measured by the linear foot of fence complete in place.

5. BASIS OF PAYMENT

Payment for preservation fence, measured as provided above, will be made at the contract unit price and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals required to furnish, install, maintain and remove the preservation fence and warning signs.

Price adjustment for variation in bid quantity per Subsections 109-3 and 109-4 of the Standard Specifications does not apply to this item of work.

(202REM_BRIDGE, 8/21/09)

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202-3 CONSTRUCTION DETAILS

202-3.05 Removal of Bridge: the fifth paragraph of the Standard Specifications is revised to read:

It is unknown whether the pier/abutment footings of the existing Florida Canyon Wash Bridge and the existing Medium Wash Bridge are supported on piles. The existing pier, abutment, and wingwall footings shall be removed to at least 1 foot below the elevation of the bottom of the bottom slab of the new bridge. If piles are found supporting the existing bridge footings, the top of each individual pile shall be removed to a minimum depth of four feet below the bottom of the bridge bottom slab. After the piles are removed the excavations shall be backfilled according to the following requirements:

- Moisture-condition the excavated soils to within the limits of +/-2 percent of the optimum moisture content as determined by ASTM D698.
- Place the moisture-conditioned soil in maximum loose lifts of 8 inch thickness within the pile excavation.
- Compact to a minimum dry density of 95% of the Standard Proctor maximum dry density in accordance with ASTM D698.

202-3.05 Removal of Bridge: the last paragraph of the Standard Specifications is modified to add:

All construction debris shall be removed from the wash channels within 24 hours. No debris will be allowed to be buried in the wash channels.

202-3.05 Removal of Bridge: of the Standard Specifications is modified to add:

The existing Madera Canyon Road Bridge over Florida Canyon Wash (Structure No. 8302) is a two-span cast-in-place reinforced concrete slab bridge supported on 24" diameter concrete columns at the pier and full-height concrete abutments. Concrete wingwalls exist at all four corners of the bridge and stone wingwalls supplement the wingwalls at the north abutment. It was originally constructed in 1935, and according to Pima County, the superstructure was washed away in a storm and most likely rebuilt in 1954, as indicated on the Structure Inventory and Appraisal form. The bridge is approximately 49'-7" long, measured back-to-back of abutments and has a clear roadway width of approximately 14'-0". The clear span of the 17" thick deck between pier/abutment beams is approximately 22'-4". The bridge has a 45° skew. No plans of the bridge are available. The structure including wingwalls shall be removed as indicated on the project plans and in accordance with Section 202 of the Standard Specifications and these Special Provisions.

The existing Madera Canyon Road Bridge over Florida Canyon Wash (Structure No. 8302) as described above, is to be removed and paid for as a lump sum item under Item 2020002 – REMOVAL OF BRIDGE as part of the 24041PJ project.

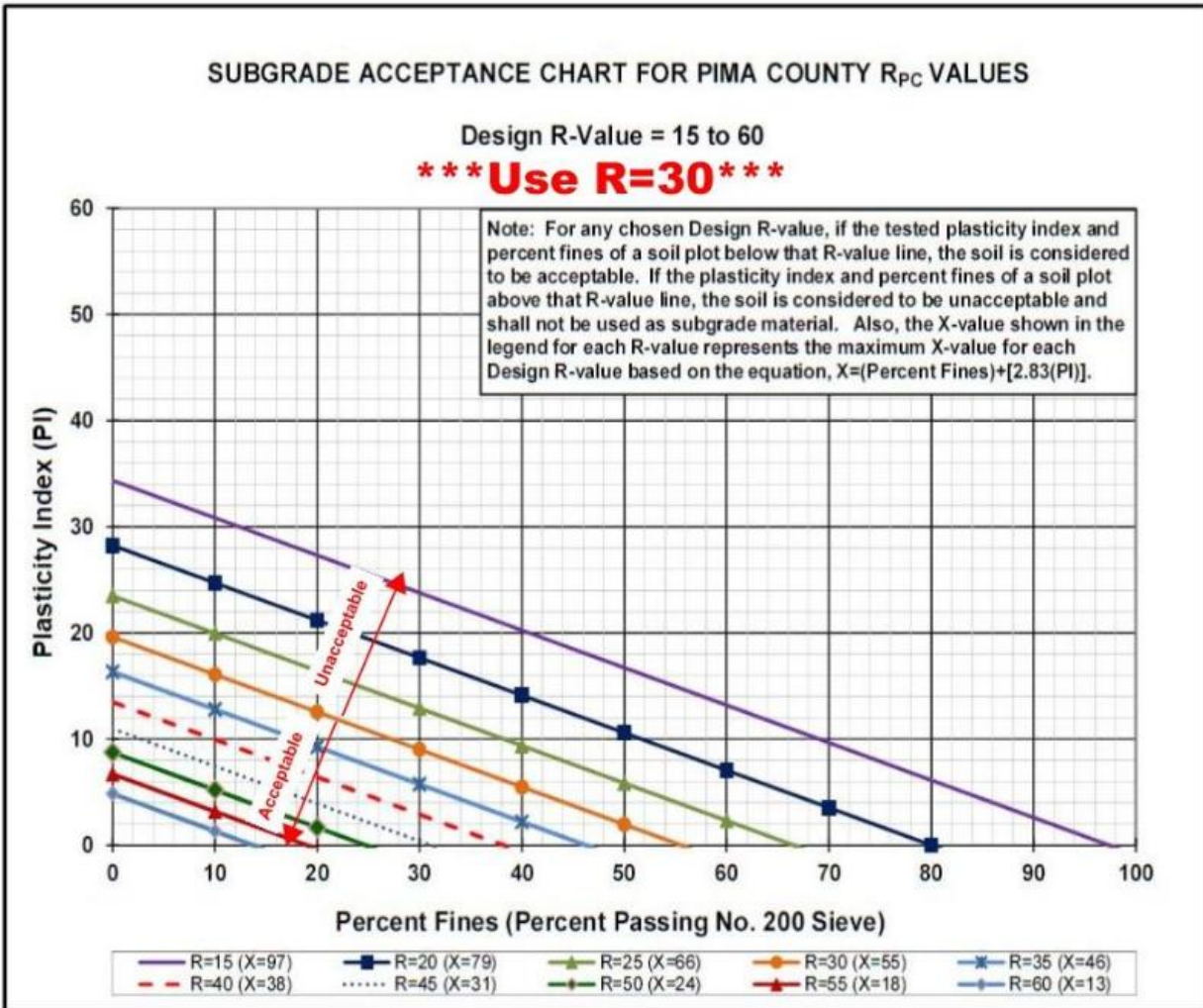
The existing Madera Canyon Road Bridge over Medium Wash (Structure No. 8301) is a three-span cast-in-place reinforced concrete slab bridge supported on 24" diameter concrete columns at the piers and full-height concrete abutments. Concrete wingwalls exist at all four corners of the bridge. It was originally constructed in 1935, and according to Pima County, the superstructure was washed away in a storm and most likely rebuilt in 1954, as indicated on the Structure Inventory and Appraisal form. The bridge is approximately 82'-2" long, measured back-to-back of abutments and has a clear roadway width of approximately 14'-2". The clear span of the 16½" thick deck between pier/abutment beams is approximately 25'-8". The bridge is not skewed. No plans of the bridge are available. The structure including wingwalls shall be removed as indicated on the project plans and in accordance with Section 202 of the Standard Specifications and these Special Provisions.

The existing Madera Canyon Road Bridge over Medium Wash (Structure No. 8301) as described above, is to be removed and paid for as a lump sum item under Item 2020002 – REMOVAL OF BRIDGE as part of the 24043PJ project.

SECTION 203 - EARTHWORK

203-2 GENERAL of the Standard Specifications is modified to add:

The subgrade acceptance chart, as noted below, shall be used to determine whether subgrade materials are acceptable.



***** Use R=30 *****

If the existing subgrade soils do not meet these criteria, the contractor shall remove the unsuitable soils to a depth of three feet below finished pavement subgrade and replace with suitable fill as outlined in Section 203-8.02 of the Standard Specifications as modified in these Special Provisions.

203-3.03 Construction Details

203-3.03 (D) Surplus Material of the Standard Specifications is modified to add:

The contractor shall construct a stockpile from excess excavated material for the county to use for a future culvert replacement project on Madera Canyon Road as described in the Earthwork Notes on Sheet G2 of the Florida Canyon Wash plan set. The excavated material shall meet the requirements for roadway borrow in accordance with Section 203-8.02 of these special provisions. The material shall be tested by the contractor and shown to be acceptable prior to placing within the stockpile area. Ramps formed for the stockpile construction shall be of the same material as that being stockpiled, and will be considered a part of the stockpile. The location for the stockpile is shown in the Geometric Layout sheets and Erosion Control sheets for the Florida Canyon Wash and Medium Wash plan sets and further details are included in an exhibit in Appendix E of these special provisions.

An overhead power line crosses over the stockpile area. The contractor shall construct the stockpile in a safe manner. Prior to construction, the contractor shall coordinate with Trico Electric regarding the construction of the stockpile and shall meet clearance requirements and shall have the power lines protected as required to safely construct the stockpile.

203-3.04 Method of Measurement of the Standard Specifications is modified to add:

No measurement will be made for construction of the stockpile.

203-3.05 Basis of Payment of the Standard Specifications is modified to add:

No payment will be made for construction of the stockpile, the work being considered incidental to Bid Item 2030300 Roadway Excavation, Bid Item 2030300D Roadway Excavation for the detour, or from Structural Excavation, which is not a pay item but is considered incidental to bridge construction.

203-8 BORROW

203-8.02 Materials the last sentence of the first paragraph of the Standard Specifications is revised to read:

Borrow placed within three feet of the finished subgrade elevation shall conform to the following requirement:

$PC + (2.83 \times PI)$ shall not exceed 55,

where:

PC = Percent of material passing the No. 200 sieve (determined in accordance with Arizona Test Method 201), and

PI = Plasticity Index (determined in accordance with AASHTO T 90).

(205RDWYGRAD, 2/28/18)

SECTION 205 – ROADWAY GRADING

205-3 CONSTRUCTION DETAILS

205-3.01 General of the Standard Specifications is modified to revise the 2nd paragraph to read:

Where new bituminous pavement is to match existing bituminous surfaces, the existing bituminous surfaces is to be saw cut to a straight line with vertical edges free from irregularities. When shown on the plans or directed by the Engineer, transverse saw cuts are to be skewed to an angle of 20-degrees to a line perpendicular to the roadway centerline.

205-3.02 Excavation of the Standard Specifications is modified to read:

Excavation shall be in accordance with Subsections 203-3.01 and 203-3.03.

205-5 BASIS OF PAYMENT of the Standard Specifications is modified to read:

The accepted quantities of roadway grading measured as provided above, will be paid for at the contract unit price indicated in the bidding schedule and will be considered as compensation, in full, for the item complete in place, including removing pavement, saw cutting of existing pavement, excavating, removal and disposal of excess material, furnishing and placing embankment material including borrow, all grading, shaping and compacting of materials as specified herein and all labor, equipment, materials, tools, supplies and incidentals necessary for the work in conformance with the requirements of this Section, the project plans, Special Provisions or as may be directed by the Engineer.

(406ASPHALTIC_CONCRETE, 01/25/21)

SECTION 406 - ASPHALTIC CONCRETE

406-3.08(E) Compaction Control. 4th paragraph of the Standard Specifications is revised to read:

For each 250 Tons of asphaltic concrete, two cores shall be taken by the contractor under the Engineer's direction. One core to be tested by contractors Quality Control and one will be tested by the Quality Assurance lab (QA). Compaction acceptance will be based upon asphalt testing results performed by the QA lab.

406-5 Basis of Payment of the Standard Specifications is modified to read:

The accepted quantities of asphaltic concrete, measured as provided above, will be paid for under the appropriate bid items at the contract unit price, or adjusted unit price, complete-in-place.

Should testing determine the asphalt cement deficient in meeting the requirements specified in Section 1005 of the Standard Specifications, the asphaltic concrete, representing the half shift or half-shifts in which such a deficient material was utilized, shall be evaluated as to acceptance in accordance with the requirements of Subsection 110-2.

Deficiencies in mineral aggregate gradation, asphalt cement content, asphaltic concrete thickness or compaction will be evaluated in accordance with the criteria established in Subsection 110-2.

Deficiencies in In-Place Voids will be evaluated per Subsection 110-2 and Table 110-3 as follows:

**Table 110-3 Asphaltic Concrete
PAYMENT REDUCTION AMOUNTS FOR VOID DEFICENCIES**

In-place Air Voids (Percent)	Contract Unit Price Reduction Amount	
	Dollars/Ton	Dollars/Metric Ton
7% or less	0.00	0.00
7.1 to 8.0	-1.00	-1.10
8.1 to 9.0	-2.00	-2.20
9.1 or greater	-3.00 ¹	-3.30 ¹

Note (1): Reject status: The payment adjustment amount shall apply only if the asphaltic concrete is allowed to remain in place, subject to the provisions of Subsection 110.2.03.

406-5.01 Asphaltic Concrete Price Adjustment. An adjustment to the unit price of asphaltic concrete due to increases or decreases in the price of bituminous material, of any type, incorporated into the asphaltic concrete mix, will be made by the Agency when such increases or decreases occur after bid opening.

Adjustments to the unit price of the bituminous material specified in Subsection 406-2.05, shall conform to the following requirements.

The price of bituminous material used in the asphaltic concrete mixture will be determined monthly by the Agency based on sales cost data for the specified grade or type of bituminous material, as published, in memorandum form, by the Arizona Department of Transportation's Contracts and Specifications Section. The Agency's monthly price determination for bituminous material will be made available upon written request to the Agency.

The "initial cost" of bituminous material, of the type or grade specified for a project, will be the cost, as determined by the Agency and based on the above Arizona Department of Transportation memorandum, for the month during which bids are opened for the project.

An adjustment in compensation will be made for either an increase or decrease in the cost of bituminous material based on the difference in sales cost using data from the Arizona Department of Transportation memorandum, current as of the date(s) of placement of asphaltic concrete on the project, as compared to the "initial cost."

Adjustments to the cost of bituminous material shall conform to the following calculation:

BITUMINOUS MATERIAL COST (**Date of Use**) minus BITUMINOUS
MATERIAL COST (*INITIAL*)

Multiply the above cost difference by the percentage of bituminous material in the asphaltic concrete mix design.

The resulting value is the cost adjustment amount to be applied to each ton of asphaltic concrete incorporated into the work.

EXAMPLE: “Initial” cost at bid opening = \$100.00/Ton

Date of use cost = \$120.00/Ton

Percent bituminous material per mix design = 5.2%

Asphaltic Concrete Price Adjustment = (\$120.00/Ton-\$100.00/Ton) x 0.052 = \$1.04/Ton

The tons of asphaltic concrete which are paid for on an invoice basis and for which an adjustment is applicable are the tons which have been delivered to the project and incorporated into the work. The adjustment will be applicable for each date of asphaltic concrete use. No adjustment will be made for waste, rejected or unused asphaltic concrete.

No further compensation, beyond that computed herein, will be made for any increased or additional charges, costs, expenses, taxes, etc., which the contractor may have incurred since the time of bid opening and which may have resulted from an increase in the “initial” cost of bituminous material.

Upon expiration of the contract time stipulated in the contract documents or as may have been extended in conformance with the provisions of Subsection 108-8, any adjustment in the price of bituminous material shall use as its basis the cost determination from the Arizona Department of Transportation memorandum for the month in which the contract time, or approved extension thereto, expired.

(406SAFETY_EDGE, 05/18/18)

406-1 DESCRIPTION of the Standard Specifications is modified to add:

The work under this section shall also consist of furnishing all equipment, labor and materials required to construct a sloped Safety Edge_{sm} pavement edge treatment equal to 30 degrees plus or minus 5 degrees measured from the pavement surface cross slope extended. The Safety Edge_{sm} pavement edge treatment shall consist of consolidated asphaltic concrete, placed at the outside edge of the roadway pavement section, in accordance with the details shown on the project plans and the requirements of these specifications, in order to lessen the severity of roadway departures

406-2 MATERIALS of the Standard Specifications is modified to add:

Materials furnished for asphaltic concrete Safety Edge_{sm} pavement treatment shall conform to the requirements of Section 406-2 and these specifications.

406-3 CONSTRUCTION DETAILS

406-3.06 Placing and Finishing

406-3.06(A) General Requirement of the Standard Specifications is modified to add:

Surfaces on which the asphaltic concrete Safety Edge_{sm} pavement treatment will be placed shall be graded to the lines and grades shown on the project plans, or as established by the Engineer. Once the Safety Edge_{sm} has been placed and compacted, the Contractor shall furnish, place and compact the shoulder backfill material to the top of the Safety Edge_{sm}, in accordance with the details shown on the project plans.

The Safety Edge_{sm} may be constructed on each lift of asphaltic concrete, or to the full specified plan depth on the final lift. The finished shape of the Safety Edge_{sm} shall extend for the full depth of the asphalt pavement, or for the top 5 inches, whichever is less. The Engineer may allow the Contractor to use handwork for short sections or to saw cut the sloped Safety Edge_{sm} after paving operations are completed in areas such as transitions at driveways and intersections.

406-3.06 (D) Placing and Finishing Asphaltic Concrete by Means of Self-Propelled Paving Machines of the Standard Specifications is modified to add:

The paver shall include an approved longitudinal paver wedge system to create a sloped safety edge, as shown on the project plans. The wedge system shall be attached to the screed and shall compact the asphaltic concrete to a density at least as dense as the compaction imparted to the rest of the asphaltic concrete lift by the paving screed. Final compaction of the horizontal asphalt lifts shall be performed in such a manner so as not to deform the safety edge. No additional compaction is required of the safety edge itself. The wedge system shall be capable of providing a sloped safety edge equal to 30 degrees plus or minus 5 degrees measured from the pavement surface cross slope extended. The use of a single plate strike off is not permitted. The wedge system shall be adjustable to accommodate varying paving thicknesses and to allow for automatic transition to cross side streets, driveways and obstructions.

If the Contractor elects to acquire a Safety Edge_{sm} shoe device, the following manufacturers have also been approved by FHWA:

Transtech Systems, Inc.
1594 State Street
Schenectady, NY 12304
800-724-6306
518-370-5558
<http://www.transtechsys.com>

Advant-Edge Paving Equipment LLC.
1197 Hillside Avenue, Suite B47
Niskayuna, NY 12309
518-280-6090
<http://www.advantedgepaving.com>

Troxler Electronic Laboratories, Inc.
3008 E. Cornwallis Rd., PO Box 12057
Research Triangle Park, NC 27709
877-876-9537

<http://www.troxlerlabs.com/products/paving.php>

Carlson Paving Products
18425 50th Ave. East
Tacoma, WA 98446
253-278-9426

<http://www.carlsonpavingproducts.com>

The Contractor shall submit the proposed wedge system for approval at the Preconstruction Conference. The Engineer may require proof that the system has been used on previous projects with acceptable results, or may require a test section constructed prior to the beginning of work in order to demonstrate that it creates an acceptable wedge shape and compaction. Paving shall not begin until the system is approved in writing by the Engineer.

406-4 METHOD OF MEASUREMENT of the Standard Specifications is modified to add:

Asphaltic concrete Safety Edge_{sm} pavement edge treatment will not be measured separately, but shall be considered as incidental to the cost of the asphaltic concrete paving course.

406-5 BASIS OF PAYMENT of the Standard Specifications is modified to add:

Separate payment for furnishing, placing and finishing the asphaltic concrete Safety Edge_{sm} pavement edge treatment shall not be made, the cost being considered as incidental to the cost of the asphaltic concrete paving course.

(515UTL_IMPACT_ALLOWANCE,3/13/17)

ITEM 5150101 - UTILITY IMPACTS ALLOWANCE

1. DESCRIPTION

The work under this item shall be subject to the approval of the Engineer shall consist of furnishing all labor, materials, equipment, and other incidentals required for modifying, adjusting, protecting, and supporting utility facilities not provided for in the contract as awarded that interfere or conflict with the construction of the project.

2. MATERIALS (None Specified)

3. CONSTRUCTION REQUIREMENTS

All work under this item shall be as directed by the Engineer.

4. METHOD OF MEASUREMENT

Utility impacts will be measured on a USD (dollar) basis.

5. BASIS OF PAYMENT

Payment for utility impacts shall be paid for using any of the methods described in Subsection 109-5.01 of the Standard Specifications and shall be full compensation for the work, complete in place.

(601CLASS_X_CONC, 12/5/14)

SECTION 601 - CONCRETE STRUCTURES

601-2 MATERIALS:

601-2.01 Portland Cement Concrete the first sentence of the Standard Specifications is revised to read:

Portland cement concrete shall conform to the requirements of Section 1006 for Class B, Class S, or Class X as shown on the project plans.

601-3 CONSTRUCTION DETAILS

601-3.01 Foundations. the fourth paragraph of the Standard Specifications is revised to read:

The bottom slab, wingwall footings, and concrete apron at the bridge shall bear on 8 inches of aggregate base. The aggregate base shall conform to Section 303 of the Standard Specifications and shall be compacted to a density of not less than 100% and within +/- 2% optimum moisture content of the maximum dry density as determined in accordance with the requirements of

Arizona Test Method 225. The top 6 inches of subgrade beneath the aggregate base shall be scarified and recompact to a density of not less than 100% and within +/- 2% optimum moisture content of the maximum dry density as determined in accordance with the requirements of Arizona Test Method 225.

(601BRIDGE_DECK_TINING, 11/16/15)

601-3 CONSTRUCTION DETAILS

601-3.05 (D) Bridge Deck the third paragraph of the Standard Specifications is revised to read:

Where the surface will be exposed directly to traffic it shall be textured transversely after final floating of the plastic surface, by tining to produce a uniformly grooved surface. Other methods to produce surface texturing similar to tining require review and approval by the Engineer prior to construction. The use of sawcutting for deck grooves shall not be permitted.

601-3.05 (D) Bridge Deck the sixth paragraph of the Standard Specifications is hereby deleted

(601CONCRETE_BRIDGE_STRUC, 11/16/15)

601-4 METHOD OF MEASUREMENT the first paragraph of the Standard Specifications is modified to add:

When concrete is measured for payment by the cubic yard, reinforcing steel shall be measured in conformance with the requirements of Section 605.

601-5 BASIS OF PAYMENT

601-5.01 Concrete Box Culverts and Minor Structures the second paragraph of the Standard Specifications is modified to add:

When concrete is measured for payment by the cubic yard, reinforcing steel shall be measured and paid in accordance with the requirements of Section 605.

601-5.02 Concrete Bridge Structures the first two paragraphs of the Standard Specifications are revised to read:

The contract price paid for structural concrete for bridge elements will include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for all work involved in furnishing, placing, and curing and texturing concrete and transporting and erecting falsework, falsework piling, forms, precast concrete items, water stops, roadway drains, scuppers, metal hinges and expansion joints, bearing pads and all incidental installation components and backfilling to provide a concrete structure complete in place as shown on the project plans, as specified herein, and as directed by the Engineer.

Structural concrete in concrete bridge structures, measured as provided above, will be paid for at the contract unit price, complete in place, except that an adjustment, to the nearest cent in the

contract unit price, will be made for the quantity of concrete represented by the results of a cylinder strength test that is less than the specified 28-day compressive strength, in conformance with Table 110-9. When structural concrete is measured for payment by the cubic yard, reinforcing steel shall be measured and paid in accordance with the requirements of Section 605.

ITEM 6010723 – CONCRETE APRON

1. DESCRIPTION

The work under this item shall include furnishing all materials for the construction of the cast-in-place concrete apron at the bridge, in conformance with the project plans and these special provisions.

2. MATERIALS

Concrete shall be Class S concrete, with a compressive strength as listed in the details, and shall conform to the requirements of Section 1006. All reinforcing shall be ASTM A615, Grade 60, $f_y = 60,000$ psi, and shall conform to the requirements of Section 1003. Backfill materials shall conform to the requirements of Section 203-5 of the Standard Specifications and the project plans.

3. CONSTRUCTION REQUIREMENTS

The concrete apron shall be constructed as detailed in the project plans. Structural excavation and backfill shall be in accordance with Section 203-5 and the project plans. Reinforcing steel shall be handled and placed in accordance with the requirements of Section 605. Preparation work and placement of concrete shall be in accordance with the requirements of Section 601. The concrete apron shall bear on 8 inches of aggregate base. The aggregate base shall conform to Section 303 of the Standard Specifications and shall be compacted to a density of not less than 100% and within $\pm 2\%$ optimum moisture content of the maximum dry density as determined in accordance with the requirements of Arizona Test Method 225 and as directed and approved by the Engineer. The top 6 inches of subgrade beneath the aggregate base shall be scarified and recompact to a density of not less than 100% and within $\pm 2\%$ optimum moisture content of the maximum dry density as determined in accordance with the requirements of Arizona Test Method 225 and as directed and approved by the Engineer.

4. METHOD OF MEASUREMENT

The concrete apron shall be measured by the cubic yard, complete in place. No separate measurements for payment will be made for structural excavation and backfill required for the construction of the concrete apron, the cost being considered incidental to the construction of the concrete structures.

5. BASIS OF PAYMENT

Payment for cast-in-place reinforced concrete apron, measured as provided above, will be made at the contract unit price, complete in place. This will include necessary excavation, scarification & re-compaction, aggregate base, structural concrete, reinforcing, backfilling, furnishing materials,

labor, equipment, installation, and all other items necessary to complete the work as shown on the project plans and as specified herein.

Payment for the removal of rock, hard pan, other unyielding material, or soft, spongy or other unstable soil below the vertical limits as shown on the plans, and the backfilling of these over-excavated areas, as specified herein and as directed by the Engineer, will be paid for in accordance with the requirements of Section 104 of the Standard Specifications.

(608SIGN_PANELS, 11/20/14)

SECTION 608 - SIGN PANELS

608-2 MATERIALS

608-2.02 Extruded Aluminum Sign Panels with Direct-Applied, Digitally-Imaged or Demountable Characters. the 3rd paragraph of the Standard Specifications is revised to read:

The letters, numerals, symbols, borders and other features of the sign message shall be direct-applied, digitally-imaged or demountable, and shall conform to the requirements of Subsection 608-2.06, Silk-Screen-Printed, Direct-Applied and Electronic-Cut Characters or Subsection 608-2.07, Digitally-Imaged Characters.

(701,DETOUR_SPEED 12/16/16)

SECTION 701 - MAINTENANCE AND PROTECTION OF TRAFFIC

701-3 CONSTRUCTION DETAILS

701-3.01 General of the Standard Specifications is modified to add:

The design speed for detours shall be 25 mph with a minimum of two, 11-foot lanes, one for each direction of travel unless directed otherwise by the Engineer.

SECTION 701 - MAINTENANCE AND PROTECTION OF TRAFFIC

701-1 DESCRIPTION of the Standard Specifications is revised to add:

As stated in General Note 4 of these Special Provisions, Madera Canyon Road is to be closed during construction from approximately 400 feet south of the Florida Canyon Wash to approximately 1750 feet north of the Medium Wash. The contractor shall construct a detour in accordance with the detour plans shown in the contract documents to carry Madera Canyon Road traffic around the construction site. The contractor shall maintain access to Forest Road 488. The contractor shall maintain the detour road throughout construction and make repairs due to normal vehicular use and rebuild damaged parts of the detour road as required when high flows cause damage or wash out the detour. The Contractor shall be responsible for construction zone traffic control in accordance with the contract drawings and these Special Provisions.

SECTION 701-4.03 PROVIDE DETOUR

701-4.03 Provide Detour. The 4th paragraph of the Standard Specifications is revised to read:

Unless otherwise specified in the Special Provisions, the contractor will provide all traffic striping and their removal for all detours shown on the project plans. Temporary detours constructed and utilized for the contractor's convenience shall also be striped by the contractor as provided in Subsection 701-4.01

701-4 METHOD OF MEASUREMENT of the Standard Specifications is revised to read:

Basic Maintenance and Protection of Traffic, Construction Elements, and Flagging Services will be measured as a single, complete, lump sum Item 7010005D - Traffic Control.

Basic maintenance and protection of traffic shall consist of the preparation and approval of a traffic control plan, flagging services and furnishing, installing, maintaining, moving, and removing barriers, barricades, warning signs, delineators, lights, cones, installation of temporary pavement markings for the maintenance of traffic and/or construction sequencing, the removal of existing pavement markings and raised pavement markers by obliteration, the covering of any existing signs, impact attenuation devices, and other traffic control devices in order to provide safe and efficient passage through and/or around the project construction site and protect the public and workers from injuries and property damage for the duration of the project. The cost for maintaining all traffic control materials, labor and equipment is included under lump sum Item 7010005 D - Traffic Control, except for bid Items 7010025 D - Flashing Arrow Panel and 7010027 D - Changeable Message Board. Flashing Arrow Panel and Changeable Message Board will be measured separately as Each/Day. The cost to construction and maintain the detour is included in the items in the Florida Canyon Wash Bid Schedule denoted with a suffix 'D' to indicate it is an item associated with the detour.

701-5 BASIS OF PAYMENT of the Standard Specifications is revised to read:

The accepted quantity of Basic Maintenance and Protection of Traffic, Construction Area Elements, Flagging Services, will be paid for at the contract lump sum price under Item 7010005 D, Traffic Control. The lump sum bid price submitted by the contractor shall be full compensation for the work of maintenance and protection of traffic and work site access planning and control. The lump sum bid price shall also be estimated for the entire duration of the contract time that accounts for both the contract working days and non-working calendar days.

The accepted quantities for Flashing Arrow Panel and Changeable Message Board, measured as provided above, will be paid for at the contract unit price included in the bidding schedule. Price adjustment for variation in total bid quantity per Subsection 109-3 and 109-4 of the Standard Specifications do not apply to work under these bid items.

The contractor's attention is called to the following work considered incidental to Item 7010005 D: installation of temporary pavement markings for the maintenance of traffic due to construction sequencing. No direct payment shall be made for temporary striping called for in section 701-4. This work shall be considered incidental to other traffic control related items.

Adjustments in compensation for the original contract period will not be made to the lump sum Item 7010005 D - Traffic Control. The lump sum amount of this item of work will be paid to the contractor for the original contract period regardless of the contractor's construction schedule; early construction completion; impacts to contractor's construction schedule critical path; increase or decrease in line item quantities; weather limitations; utility conflict; material change in the character of the work; etc.

Adjustments in compensation for work performed after the expiration of the original contract period and within an approved contract time extension will be made at the discretion of the Engineer for the approved time extension period.

(703DELINEATORS_MARKERS, 5/27/14)

SECTION 703 - DELINEATORS AND MARKERS

703-1 DESCRIPTION

The work under this section shall consist of furnishing and installing delineators, reference markers, object markers, snow markers and milepost markers in conformance with the details shown on the plans and in accordance with the requirements of these specifications.

The types of delineators and markers to be installed and the locations will be shown on the project plans.

703-2 MATERIALS

703-2.01 General

Certificates of Compliance conforming to the requirements of Subsection 106.05 shall be submitted.

703-2.02 Metal Posts

Posts for delineators and for all markers, including mileposts or reference markers installed on freeways shall conform to the details shown in the project plans.

703-2.03 Concrete

Concrete for the milepost or reference marker foundations shall be utility concrete conforming to the requirements of Section 922.

703-2.04 Metal Plates

Metal plates for the various types of object markers shall conform to the details shown on the plans and shall be fabricated in one piece from 0.063-inch-thick aluminum- alloy sheet 3003-H 14, 5052-H 38, or 6061-T6, all conforming to the requirements of ASTM B209.

703-2.05 Paint

Paint for use on the metal plates shall conform to the requirements of Section 1002 for the type and color of paint specified on the plans.

703-2.06 Retroreflective Sheeting

Retroreflective sheeting for delineators and markers shall conform to the requirements of Section 1007.

The type of retroreflective sheeting to be applied shall be as specified on the plans.

703-2.07 Prismatic Reflectors

Prismatic reflectors for delineators and markers shall conform to the requirements of Section 1008.

The type of prismatic reflectors to be used shall be as specified on the plans.

703-2.08 Hardware

Steel bolts and nuts of the types shown on the plans shall be galvanized in accordance with the requirements of ASTM A153 or shall be cadmium plated in accordance with the requirements of ASTM B766.

703-3 CONSTRUCTION REQUIREMENTS

Metal posts shall be cut and perforated to the sizes and shape shown on the plans. The finished posts shall be straight with a permissible tolerance in straightness of 1/16 inch per three (3) feet of post length.

Posts on which galvanizing has been damaged in transporting, handling or erecting shall be repaired by the contractor at its expense in accordance with the requirements of Subsection 610-3.06.

Metal plates shall be cut to size and shape and the holes punched for mounting all in accordance with the details shown on the plans. The surfaces and edges of the plates shall be free of buckles, warps, dents, cockles, burrs, and defects resulting from fabrication.

Posts shall be set vertically to line at the locations designated on the plans. Posts, except mileposts or reference marker posts requiring concrete foundations, shall be set firmly in the ground by a method that will not bend the post or deface the top of the post. If ground conditions are such that the posts cannot be driven without damaging the posts, pilot holes shall be required. Metal plates shall be installed after the posts have been set in place.

Posts shall be placed in the ground to the depth shown on the plans.

Foundations for the milepost or reference marker posts installed on freeways shall be constructed to the details and dimensions shown on the project plans. Excavation shall conform to the requirements of Subsection 203- 5.03(A).

Existing markers and delineators that are to remain in place and which have been damaged by the contractor shall be replaced with new ones at its expense.

703-4 METHOD OF MEASUREMENT

Delineators and markers will be measured by the unit for each type of delineator and marker furnished and installed.

703-5 BASIS OF PAYMENT

The accepted quantities of delineators and markers, measured as provided above, will be paid for at the contract price each for the type of delineator or marker designated in the bidding schedule, which price shall be full compensation for the work complete in place.

(704EXTRUDED, 4/24/15)

SECTION 704 - THERMOPLASTIC STRIPES AND MARKINGS

704-2 MATERIALS

704-2.03 Physical Characteristics of the Composition

(C) Retroreflectance. of the Standard Specifications is revised to read:

(C) Retroreflectance. The white and yellow thermoplastic materials shall have the following minimum retroreflectance values by a Mirolux 30 portable retroreflectometer or similar approved device within 30 days after application to the roadway surface:

Product	Retroreflectance (Millicandelas)
White	200
Yellow	125

704-2.04 Physical Requirements for Glass Beads of the Standard Specifications is revised to read:

The term “glass bead” shall be synonymous with the term “glass sphere” as used herein.

Inter-mix and drop on reflective glass beads shall conform to the requirements of Subsection 708-2.02 or AASHTO M 247-13, Type 1, and may be coated or uncoated as recommended by the manufacturer. If uncoated beads are used, the thermoplastic formulation shall be configured to minimize settling of the intermix beads when the material is heated and applied.

If recommended by the manufacturer, the drop-on beads shall have an adherence coating.

704-3.03 Application

(G) Thermoplastic Application. the 1st paragraph of the Standard Specifications is revised to read:

The thermoplastic pavement marking material shall be extruded, ribbon, or sprayed on to the pavement surface at a material temperature between 400 and 440 degrees F, depending on manufacturer's recommendations, ambient air and pavement temperatures, and the nature of the pavement surface. The contractor shall verify temperature requirements with a non-contact infrared thermometer as directed by the engineer.

(G) Thermoplastic Application. the 6th paragraph of the Standard Specifications is revised to read:

Unless otherwise specified, thermoplastic pavement markings for legends and symbols, and for crosswalks, stop bars and other transverse elements, shall be extruded, and shall be 0.090 ± 0.002 inches thick. Longitudinal markings, such as edge lines, lane lines, gore lines, and other markings parallel to traffic, shall be either sprayed, ribbon, or extruded thermoplastic as specified on the project plans. If sprayed, thermoplastic pavement marking lines are to be 0.060 ± 0.002 inches thick. If ribbon or extruded thermoplastic, pavement marking lines are to be 0.090 ± 0.002 inches thick. Longitudinal markings of approximately 200 feet or less may be extruded. The thermoplastic thickness shall be uniform and consistent throughout the total length of the marking project.

(706RAISE_PVMT_MK, 3/14/13)

SECTION 706 - RAISED PAVEMENT MARKERS

706-2 MATERIALS

706-2.05 Bituminous Adhesive of the Standard Specifications is modified to add:

The bituminous adhesive for pavement markers shall be a hot-melt adhesive manufactured by:

Avery Dennison	Crafco, Incorporated	Gulf State Asphalt Company, LP
Reflective Films Division	420 North Roosevelt Ave.	300 Christy Place
6565 West Howard Street	Chandler, Arizona 85226	South Houston, Texas 77587
Niles, Illinois 60714	Product: Crafco 34269	Product: Evergrip Bituminous Marker
Product: Stimsonite 2202031		

Materials other than those listed above may be used, but must be approved by the Agency, in accordance with Section 106-8.

(708PAINT_LAYOUT_MK, 4/24/15)

SECTION 708 - PAINTED PAVEMENT MARKINGS

708-1 DESCRIPTION of the Standard Specifications is modified to add:

Work under this section also includes the installation of painted layout striping that is placed prior to the final thermoplastic striping, as indicated on the project plans under the pavement marking General Notes.

708-2 MATERIALS

708-2.01 Pavement Marking Paint.

(E) Qualitative Requirements:

(9) Spraying Properties. The first paragraph of the Standard Specifications is revised to read:

The paint shall be applied at a 15 mils (.015”) wet film thickness in the field. The paint shall show the following properties at ambient temperatures of 50° F to 100° F with a paint spray temperature of 150° F, maximum, and 8 pounds of post-applied glass beads per gallon of paint conforming to Subsection 708-2.02 of these specifications:

708-2.02 Reflective Glass Beads (Spheres).

(A) General. of the Standard Specifications is modified to add:

Glass beads shall conform to the requirements of AASHTO M 247-13 Type 1, with an adhesion and moisture proof coating.

(708PAINT_PVMT_MK, 7/8/14)

SECTION 708 - PAINTED PAVEMENT MARKINGS

708-2 MATERIALS

708-2.01 Pavement Marking Paint.

(E) Qualitative Requirements of the Standard Specifications is modified to add:

(12) Road Service Rating: Test stripes of the paint shall be applied transversely across the road, four inches in width and approximately 12 feet long at a location approved by the Engineer.

Wet film thickness of the test stripes shall be approximately 15 mils (375 *micrometers*) as determined according to ASTM D 4414 and ASTM D 713 prior to test stripe application. To aid in obtaining the correct film thickness, a length of roofing paper placed by the side of the road can be used. Place a rigid metal test panel on the roofing paper in the path of a test line. Immediately after the test line is applied by the striper, measure the wet film thickness. If not

satisfactory, adjust the spray pressure and repeat until the target wet film thickness is attained. It is important that no glass beads be present that would give a false wet film thickness. When the wet film thickness is correct, apply a test line across a tared metal test panel. After this, apply another test line across a different tared metal test panel, this time also adding the beads. These samples are necessary to determine the initial bead retention.

Glass beads conforming to the requirements of Subsection 708-2.02 (moisture proof type) will be applied after the paint has been applied, but during the same striping operation at a rate such that the initial bead retention on the test line is a minimum of six pounds of beads per gallon wet paint (*0.7 Kilograms of beads per liter*). The initial bead retention will be determined analytically by Agency concurrently with the determination of the dry paint thickness utilizing tared metal test panels. The paint shall accept the glass beads so that the spheres are embedded into the paint film to a depth of 50 percent of their diameter. Test stripes will be observed for a period of 180 days from date of application. Paints will be evaluated for wear according to ASTM D 913.

After 180 days of service, on a visual rating scale of 0 to 100 percent, paints must have a rating of 92 percent or better to be acceptable. All ratings will be taken in the wheel track area. Glass beads shall show no more than a 30 percent loss after 180 days of test. This will be determined by taking close-up photographs of the paint film and by count determining the average bead loss.

The road service test may be waived at the option of the Engineer or evaluated for a period of time less than 180 days.

(805SEEDING, 2/9/2018)

SECTION 805 - SEEDING

805-1 DESCRIPTION of the Standard Specifications is modified to add:

The work covered by this section shall also include the preparation of soil within areas to be seeded, the hydroseeding of disturbed area with native plants (Class II), and the installation of a temporary, degradable erosion control blanket in areas designated on the project plans.

805-2 MATERIALS

805-2.02 Seed of the Standard Specifications is modified to revise the first paragraph to read:

Seed mix species and the Pure Live Seed (PLS) will be as shown on the project plans.

805-2.02 Seed of the Standard Specifications is modified to delete items (A) and (B).

805-2.02 Seed of the Standard Specifications is modified add:

The seed is to be obtained from seed suppliers through harvesting of wildland collections, or field-grown seeds grown prior to or during the contract period.

Weed content of the contract-specified seed mix is not exceed 0.5 percent.

Seed is to be stored under dry conditions, at temperatures of between 35° F and 120° F, and out of direct sunlight. Seed that has become moldy, wet, or otherwise damaged, will not be acceptable. Seed shall be called for in pounds of pure, live seed (PLS), where PLS is defined as the product of seed germination (G) and seed Purity (P) all divided by 100.

805-2.08 Erosion Control Blanket is hereby added to the Standard Specifications:

Erosion control blankets shall be of the biodegradable blanket type. The blanket shall be a machine produced mat of straw or wood excelsior fiber covered on the top and bottom sides with photo degradable extruded plastic or woven biodegradable nettings having maximum openings of 0.5" x 1.0". Erosion control blankets shall have a functional longevity of 10 months. Erosion control blankets shall be as manufactured by North American Green, Model S150, or approved equal.

805-3 CONSTRUCTION DETAILS

805-3.02(B) Seeding (Class II) of the Standard Specifications is modified to add:

In areas specified on the project plans to receive special granite mulch or special rock mulch prior to seed application, see Section 803-3.02(A) – Granite Mulch Special or 803 - 3.03 (A) - Rock Mulch Special of these special provisions.

805-3.05 Erosion Control Blanket is hereby added to the Standard Specifications:

Upon completion of the hydroseeding operations, erosion control blankets shall only be installed over those seeded areas that are indicated on the landscape plans to receive erosion control blanket. The blanket shall be installed as detailed on the project plans and per the manufacturer's written instructions and recommendations. The blanket shall be installed as soon as possible after seeding. The Contractor shall be responsible for reseeded any seeded areas disturbed by the installation of the blanket or that area eroded prior to the installation of the blanket.

805-4 METHOD OF MEASUREMENT of the Standard Specifications is revised to read:

Seeding (Class I), will be measured for payment by the square foot of ground surface measured to the nearest 1,000 square feet or as a single complete unit of work for each completed seeding application.

Application of Class I seeding using hydroseeding methods shall be measured for payment as provided above.

The initial application for Seeding (Class II) will be measured either by the square yard of ground surface, to the nearest 100 square yards seeded, or by the acre to the nearest 0.1 acre, complete-in-place.

The second application for Seeding (Class II) will be measured either by the square yard of ground surface, to the nearest 100 square yards seeded, or by the acre to the nearest 0.1 acre, complete-in-place.

Seeding (Class III) will be measured for payment by the square foot of ground surface to the nearest 1,000 square feet seeded, by the acre to the nearest 0.1 acre or as a single complete unit of work for each completed seeding application.

Application of Class II and Class III seeding using hydroseeding methods shall be measured for payment as provided above.

Erosion Control Blankets will be measured by the square yard, complete-in-place.

805-5 BASIS OF PAYMENT of the Standard Specifications is revised to read:

Accepted quantities of seeding, measured as provided for above, will be paid for at the contract unit price indicated in the Bidding Schedule and will be considered as compensation, in full, for the item complete in place, including all labor, equipment, materials, tools, supplies and incidentals necessary for the work in conformance with the requirements herein, the project plans or as may be directed by the Engineer. Price adjustments for variation in total bid quantity per Subsections 109-3 and 109-4 of the Standard Specifications do not apply to work under this item.

No direct measurement or payment will be made for the preparation or the preservation of seeding areas, the cost being considered as included in the cost of the contract item.

Accepted quantities of erosion control blankets, measured as provided for above, will be paid for at the contract unit price indicated in the Bidding Schedule and will be considered as compensation, in full, for the item complete in place including all labor, equipment, materials, tools, supplies and incidentals necessary for the work in conformance with the requirements herein, the project plans or as may be directed by the Engineer.

When multiple mobilizations are required to accomplish seeding as specified herein, the cost will be included in the price bid for the seeding. No adjustments will be made to the contract for the number of seeding mobilization activities. Should the contractor fail to provide seeding for a sub-area as specified herein, the Engineer will immediately notify the contractor of such non-compliance. Should the contractor fail to immediately remedy the unstabilized area, the Engineer may suspend work until such seeding stabilization has been completed, or proceed to provide the necessary seeding stabilization. The entire cost of such work will be deducted from the monies due or to become due to the contractor. In addition, no adjustment to the contract time will be made for suspensions resulting from the contractor's failure to provide seeding for a sub-area within the time periods specified herein.

(806 TREES_SHRUBS, 11/30/2017)

SECTION 806 - TREES, SHRUBS, AND PLANTS

806-2 MATERIALS

806-2.02 Nursery Stock Plants. of the Standard Specifications is modified to add:

The presence of any noxious or invasive species listed in Section 201-3.04, or any undesirable organism in the soil surrounding the plants, or any of the before mentioned conditions, may be cause for rejection of the plants.

Nursery provided plants shall be as listed in the Special Provisions.

806-2.02(A) Plant Size. of the Standard Specifications is modified to add:

All plants specified as tree pot containers shall have a height of either 15 or 24 inches. Fifteen inch tree pots shall have a root zone at least 13 inches in length. Twenty-four-inch tree pots shall have a root zone at least 22 inches in length. The height of tree pot plants shall be as follows: a minimum of 12 inches measured from the top of the soil to the apical tip of the plant for 15-inch tree pots, and a minimum of 24 inches from the top of the soil to the apical tip of the plant for 24-inch tree pots. A maximum height does not apply for plants grown in tree pots as long as the plant is still viable and healthy. Each plant shall be capable of standing erect without support, after planting.

806-2.06 Prepared Soil. of the Standard Specifications is hereby renamed as follows:

806-2.06 Soil backfill. Soil backfill at tree pits and shrub pits, planting trenches and bedding shall consist of a clean, native site soil, with all rocks over 2" in diameter removed.

Backfilling mix for succulents, ocotillo and other cacti shall include 0.25 pounds of soil sulfur blended uniformly and homogeneously into clean, native site soil prior to backfilling of pits, as noted on project plans. Soil sulphur shall be granular or prilled agricultural grade, containing 99.5 percent sulphur and 0.5 percent inert ingredients ("Dispersion" or approved equal).

No mulch shall be included in planting pits.

806-2.08 Mulch. of the Standard Specifications is revised to read:

Mulch shall not be used.

806-2.14 Agency Provided Plants. is hereby added to the Standard Specifications:

In addition to the general requirements listed above, plants listed as *Agency Provided* shall be provided by the Pima County Native Plant Nursery (PCNPN), located at 3500 W. River Road, Tucson, Arizona 85741. The contractor shall notify the Nursery Manager at (520) 877-6000 one

month prior to the first pickup date, and at least 5 business days for subsequent pickups. The contractor shall arrange for pickup from this site, and delivery to the installation site. The contractor shall be responsible for the return of plant containers to the nursery.

The contractor has the option to refuse selected plants from PCNPN stock due to ill health, poor form or other specific reasons. Placement of PCNPN plants on the delivery vehicle constitutes acceptance of the plant material by the contractor. Any PCNPN provided plants above the 10% margin that die while under the duration of the contractor's construction and landscape establishment period, shall be replaced in kind by the contractor at no cost to the Agency.

The PCNPN will replace any deceased plant material free of charge regardless of container size. This guarantee covers plant material for a 180-day period after project landscape establishment when plants were properly installed according to county specifications. This guarantee does not include plant mortality due to poor contractor oversight or design flaws. The Engineer is responsible for determining if the plants were installed and maintained per specification or if mortality was due to unforeseen causes not at the fault of the PCNPN, i.e., vandalism. Failure to install plant material per specification, which has been established to ensure plant health and survivability, will void the replacement guarantee. This guarantee is for original plant material and does not cover replaced plant material.

The contractor shall return all containers to the PCNPN. This includes all hardware (wire and screens) associated with the tall pots. Failure to do so will result in the following charges to the contractor: \$2.00 per 3- or 5-gallon standard container; \$5.00 per 15-gallon container; \$5.00 per tall pot unit consisting of tall pot tube, tall pot hardware, and galvanized wire; \$2.00 per 15-inch Tree pot; and \$5.00 per 24-inch tree pot.

Agency provided plants shall be as listed in the Special Provisions.

806-3 CONSTRUCTION REQUIREMENTS

806-3.01 Planting Season. of the Standard Specifications is revised to read:

806-3.01 Schedule and Planting Season. The contractor shall provide a tentative planting schedule to the Engineer at the pre-construction meeting and shall update this schedule as the project progresses. No later than 30 days after the contract is awarded, the Contractor shall meet with the PCNPN Manager and the Engineer to discuss planting schedule, plant pickup, return of containers, and guarantee limitations. At this meeting, the Contractor will provide a time-window for picking up agency provided plants that is agreeable to the Engineer and the PCNPN Manager. The Contractor will provide the Engineer and the PCNPN Manager with meeting notes that include a schedule for picking up agency provided plants. The Contractor is responsible for notifying the Engineer and the PCNPN Manager immediately whenever changes in the planting schedule occur. The Contractor shall be responsible for, delivering, unloading, installing and fulfilling the guarantee requirements of agency provided plants. One month prior to planting, the contractor shall coordinate a firm schedule for picking up plants from the PCNPN that is within the previously agreed upon time-window for pick up

The schedule for planting trees and shrubs, within the contract time shall be at the discretion of

the contractor. Planting during extremely cold, hot or windy periods shall be at the sole risk of the contractor. Plants which are damaged or die prior to final acceptance as a result of extreme weather conditions shall be removed and replaced, in kind, at no additional cost to the Agency.

If *Agency Provided* plants as described in Subsection 806-2.03 become unviable due to project delays, 4-10 active grow months may be necessary to establish replacement plants from the notice of delay. If the contractor cannot pick up agency provided plants from the PCNPN, then the contractor is responsible for payment of the full cost of the unviable plants and the replacement plants.

806-3.02 Excavation. of the Standard Specifications is modified to add:

Planting pits for tree pots shall be excavated to the specified dimensions with the sides of the pit roughened or scarified. Pits to accommodate tree pots shall be sized as follows: planting pits for 24-inch tree pots shall be augured with a 16-inch diameter augur to a depth of 30 inches; planting pits for 15-inch tree pots shall be hand-dug or augured to a diameter of 12 inches and to a depth of 18 inches.

Planting tree pot plants in soft, sandy, or cobble soils requires no special treatment above the afore listed specification for tree pot planting pits. The methods and means required to satisfy the planting pit specifications in soft, sandy, or cobble soils is at the discretion of the landscape contractor. After placing the tree pot plant in the pit, the pit shall then be backfilled with on-site native soil and thoroughly soaked at the end of each day's planting session. Tree pot backfill may utilize on-site native soil providing the soil meets the requirements of Subsection 806-2.05.

806-3.04 Planting

806-3.04 (A) General. of the Standard Specifications is modified to add:

The contractor shall pay particular attention to the presence of noxious and invasive species listed in Section 201-3.04 in, or adjacent to, planting areas.

The presence of any noxious or invasive species in the planting pit shall be grounds for immediate removal, disposal, and replacement of that plant.

Should the contractor encounter any unforeseen or unsuitable planting condition, it shall be immediately brought to the attention of the Engineer.

Prior to planting trees and shrubs, the contractor shall remove all container stakes. Stakes shall be removed carefully so as to not damage plants. Under no circumstance shall container stakes be included when trees or shrubs are planted into the ground.

806-3.05 Pruning. All plants shall be pruned at the direction of a Certified Arborist approved by the Engineer. Pruning shall conform to the requirements of *ANSI-A-300 (Part I)-2017 Pruning*, as published by the Tree Care Industry Association, Inc. (Telephone: 1-800-733-2622, website: www.tcia.org); and *Best Management Practices, Tree Pruning (Revised 2017)*, as published by the International Society of Arboriculture (Telephone: 1-217-355-9411, website: www.isa-

arbor.com).

Pruning shall be kept to a minimum and shall only be undertaken to achieve the primary objectives established in *ANSI-A-300 (Part 1)* as follows:

- restoration (removing dead, damaged or diseased branches);
- managing health;
- providing clearance or;
- reducing risk.

No more than 25% of the foliage shall be removed by pruning. Excessive branch removal on the lower two-thirds of a branch or stem is to be avoided. If excessive pruning is necessary to avoid conflicts with utilities, traffic, or other site element; the arborist shall notify the Engineer for approval prior to pruning. Pruning equipment that damages living tissues and bark beyond the scope of normal work practices shall be avoided.

Treatments shall not be used to cover wounds or pruning cuts, except when necessary for disease, insect, or mistletoe control.

806-3.06 Staking. of the Standard Specifications is modified to add:

No trees shall be staked except when directed by the Engineer. When staking is specified or directed, the work shall be performed as detailed on the project plans or Standard Details.

806-3.07 Care and Protection of Trees, Shrubs and Plants.

806-3.07 (B) Application of Chemicals. of the Standard Specifications is modified to add:

All herbicide application shall be done in accordance with Section 201-3.04.

Herbicides shall not be used in waters of the U.S. These include washes, the edge of the wash, dip crossings and conveyances to waters of the U.S. Only manual removal of noxious and invasive species shall be allowed at these locations. See Section 201-3.04.

806-3.07 (C) Rodent Damage. of the Standard Specifications is modified to add:

Pre-emergent herbicides shall not be used in areas that will be seeded as shown on the project plans.

(806LNDSC_PRUNING, 01/23/18)

ITEM 8061700 - LANDSCAPE PRUNING

1. DESCRIPTION

The work under this bid item consists of furnishing all materials, equipment, tools, and labor necessary to prune trees with branches that impact, obstruct, or interfere with the completion of the project. The work is to be conducted by or under the supervision of a certified arborist and at the direction of the Engineer.

2. MATERIALS (None Specified)

3. CONSTRUCTION DETAILS

Pruning is to be performed in accordance with *ANSI-A-300 (Part I)-2017 Pruning*, as published by the Tree Care Industry Association, Inc. (Telephone: 1-800-733-2622, website: www.tcia.org); and *Best Management Practices, Tree Pruning (Revised 2017)*, as published by the International Society of Arboriculture (Telephone: 1-217-355-9411, website: www.isa-arbor.com). The contractor is to familiarize themselves with accepted horticulture practices as defined by these guidelines.

Pruning is to be performed by or under the supervision of a certified arborist and no more than three laborers.

Trimming and other associated debris are to be disposed of within seven calendar days of cutting.

Pruning is to be kept to a minimum and should only be done in order to achieve the following objectives: restoration (removing dead, damaged or diseased branches), managing plant health, providing clearance, and risk reduction.

No more than 25% of the foliage is to be removed. Excessive branch removal on the lower two-thirds of a branch or stem is to be avoided. If excessive pruning is necessary to avoid conflicts with utilities, traffic, or other work, the contractor is to bring this to the attention of the Engineer.

Pruning equipment that damages living tissue and bark beyond the scope of normal work practices is to be avoided.

Pruning cuts are to be made in accordance to the following practices: tools are to be sharp; cuts are to remove a branch at its point of origin, close to the trunk or parent branch and not cut into the branch bark ridge or branch collar or leave a stub; mid-branch cuts are not allowed; when pruning to a lateral, the remaining lateral branch should be large enough to assume the terminal role; final cuts should result in a flat surface with adjacent bark firmly attached; final cuts for removal of a dead branch is to be made just outside the collar of living tissue; branch removal is to be done in such a manner as to not damage other parts of the tree or other plants or property;

and severed branches are to be removed from the crown upon completion of the pruning, when the tree would be left unattended, and at the end of the workday.

Wound treatments will not be used to cover wounds or pruning cuts, except when necessary for disease, insect, or mistletoe.

4. METHOD OF MEASUREMENT

Landscape pruning will be measured for payment on an hourly basis.

5. BASIS OF PAYMENT

Landscape pruning, measured as provided above, will be paid at the contract unit rate per hour per person (arborists and one to three laborers), which includes full compensation for the work described herein, include time spent by the arborist on-site and disposal of trimmings and associated debris and dumping fees.

Price adjustment for variation in total bid quantity per Subsections 109-3 and 109-4 of the Standard Specifications and Special Provisions does not apply to this bid item.

(807LANDSCP_EST, 2/03/18)

SECTION 807 - LANDSCAPING ESTABLISHMENT

807-1 DESCRIPTION of the Standard Specifications is modified to read:

The work under this Section shall consist of the care of all planted stock in conformance with accepted horticultural practices; eradication of noxious and invasive vegetation; keeping all horticultural and related areas free of weeds, grasses, litter and debris; replacing dead, dying or diseased plant material, pruning trees and shrubs, procuring and applying water to irrigated and un-irrigated planted stock including hand watering of cacti, trees, and shrubs, repairing, adjusting or replacing stakes and support wires; furnishing and applying sprays and dust to combat disease, insects and other pests; protecting trees and shrubs from rodent damage; pruning as required by the Engineer; sweeping of sidewalk or multi-use paths adjacent to landscape areas; and the testing, adjusting, repairing and operating of the irrigation system; as shown on the project plans and in conformance with the requirements of these specifications and the Special Provisions.

807-3 CONSTRUCTION DETAILS

807-3.01 General of the Standard Specifications is modified to revise the first paragraph to read as follows:

The contractor or the landscape/irrigation subcontractor responsible for the initial planting, shall be the only contractor responsible for performing all work under this Section. Subcontracting of landscaping establishment shall not be permitted except for application of herbicides for the eradication of noxious and invasive vegetation requiring special licensing requirements.

807-3.02 Time Period and Schedule of the Standard Specifications is revised to read:

The landscaping establishment period shall be three hundred and sixty-five (365) consecutive calendar days. The time period shall begin after written notice from the Engineer of substantial completion of the landscape portion of the project and when the Engineer is assured that the work can be performed in a continuous and consistent manner without restricting the use of any facilities by the traveling public.

The contractor shall submit a work schedule of operations for approval by the Engineer each month with the dates of work to be completed. The work schedule shall indicate responsibility for the landscaping establishment work, including contact information. The work shall include the tasks specified in Subsection 807-1.

The Engineer, accompanied by the contractor, will inspect the site monthly during the landscape establishment period and at its expiration; and at other times as deemed necessary by the Engineer or contractor. The Engineer will send a punch list to the contractor that includes items requiring attention and correction. The contractor shall have 30 calendar days from when the punchlist is sent, to complete these items. If the items on the list are not completed within the 30-day time period, the landscape establishment period will be extended additional days for each day until the work is completed. Should the contractor fail to carry out the work within thirty days, the Agency may, at its sole discretion, have the work performed. The cost of work performed by the Agency shall be invoiced to, or withheld from funds owed the contractor.

When, in the opinion of the Engineer, the methods being used to control or eradicate pests and noxious or invasive species or perform other maintenance functions are unsatisfactory, the Contractor shall immediately modify his methods, as directed by the Engineer.

A special inspection will be required at any time during the landscaping establishment period when, in the opinion of the Engineer, conditions justify such action.

During any suspension of the work period, the contractor shall properly and continuously maintain, in an acceptable growing condition, all newly established plantings, including hydroseeded areas, furnished and installed under the contract and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

The contractor upon receipt of the final acceptance letter shall be relieved from further landscape establishment responsibilities in accordance with Subsection 105-17.04.

807-3.03 Planted Stock Establishment

(D) Tree Staking of the Standard Specifications is modified to add:

All tree stakes shall be removed by the end of the landscape establishment period.

807-3.05 Control of Weeds and Pests of the Standard Specifications is modified to add:

During the landscape establishment period, the contractor shall be responsible for maintaining

chemical and mechanical rodent protection in accordance with Subsection 806-3.07(C).

807-3.06 Irrigation of Planted Stock and Seeded Areas of the Standard Specifications is modified to add:

Hand watering of un-irrigated trees and shrubs shall be performed during the establishment period as required or as directed by the Engineer. Wells shall be constructed that follow the circumference of the plant's root ball, in accordance with the landscape detail. Minimum well wall heights are shown below:

Plant Size	Minimum Wall Height
1 gallon	1.5"
3-5 gallon	2"
15 gallon or treepot	3"

All trees and shrubs will be hand watered deeply immediately after planting regardless of the season of the year. Use the "Days' Between Hand Watering" chart below as a general guide for subsequent irrigation. Days between watering may vary greatly depending on the year and amount of rainfall. The contractor will closely monitor rainfall and will be held responsible for the plant's survival. The contractor will replace all plants that have died due to lack of water.

The contractor will apply water at a rate so as not to cause erosion and will be responsible for damage to landscaping caused by hand watering.

Days Between Hand Watering												
Root Zone Size	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
6" (1 gallon plant)	10	6	4	3	2	2	3	3	3	4	7	8
12" (5 gallon plant)	19	12	7	+6	5	4	5	6	6	8	14	17
24" (treepots from Pima County Native Plant Nursery)	39	23	14	11	10	8	11	11	12	15	27	33

807-3.08 Noxious and Invasive Vegetation Eradication is added to the Standard Specifications as follows:

Eradication of noxious and invasive vegetation identified in Subsection 201-3.04, Table 201-3 of the Special Provisions shall be provided over the entire project through the use of herbicides or manual means in accordance with Section 201-3.04 and the Special Provisions.

Manual labor/hand removal of noxious and invasive vegetation shall occur when growing around trees and other plants within the project. Herbicides shall not be used in this instance as they will cause damage to surrounding desirable vegetation. Herbicides employed during the term of the maintenance period shall not cause the extermination of any landscape plant material nor have detrimental residual effects.

No chemical shall stain or cause to stain, nor cause damage to any portion of the project or improvements, including landscape plant material. If staining or damage occurs, requisite repairs or replacements shall be the contractor's responsibility at no additional cost to the Agency.

The contractor shall kept a record of all chemical applications noting date and where applied, rate of application, whether pre-emergent or post emergent and method of application. A copy of this record shall be submitted to the Engineer at the end of the maintenance period.

Applications of chemicals shall be in such a manner so as to not cause injury to the personal health of anyone working on the project, observing, or passing by. Care shall be taken such that no puddles or pools of water which may contain toxic amounts of chemicals shall remain after completion of application. Chemicals shall not be allowed to fall on or translocate to areas not identified for treatment.

Chemicals shall be approved by the EPA for the intended use and applied in strict accordance with EPA guidelines and the manufacturer's instructions.

807-4 METHOD OF MEASUREMENT of the Standard Specifications is modified to add:

No direct measurement for payment will be made for noxious and invasive species eradication during landscaping establishment, the cost to be included in the payment for the landscape establishment bid item.

807-5 BASIS OF PAYMENT of the Standard Specifications is modified to insert the following italicized work task into paragraph 1:

Landscaping establishment, measured as provided above, will be paid for at the contract unit price indicated in the bidding schedule and will be considered as compensation, in full, for the item complete in place including *noxious and invasive species eradication*; care of all planted stock in conformance with ...

(809NPSALV, 12/5/14)

SECTION 809 - NATIVE PLANT SALVAGE

809-1 DESCRIPTION of the Standard Specifications is revised to read:

The work under this section shall also include the salvaging, transporting, and planting of native trees, shrubs, cacti (including but not limited to Saguaro and Pima Pineapple cacti), succulents and ocotillo residing within the disturbance limits as required per the details shown on the project plans and under the terms and conditions of the Standard Specifications and these Special Provisions. All salvaged local stock shall be “once-moved” to a designated, permanent location, designated as the “Transplant Area” as shown on the project plans.

The work shall also include the layout and preparation of planting pits, including excavating and backfilling, and any additional borrow necessary to backfill planting pits; the storage and protection of all planted and unplanted stock and other materials; soil amendments, fertilizers, tillage, watering, staking, pruning; the cleanup of the area; removal of unwanted grasses and weeds and undesirable vegetation; disposal of unwanted or deleterious materials; and care and maintenance all in accordance with the details shown on the project plans and the requirements of these specifications.

The work shall also include all equipment, labor and materials, the documentation, measurement, and inspection of stock as identified herein.

All landscape items shall be completed within the number of days identified for the project, including documenting the conditions of the plants to be salvaged, salvaging of plant material and replanting and establishment.

809-2 MATERIALS

809-2.01 Plants Designated to be Salvaged of the Standard Specifications is modified to add:

Certificates of Compliance conforming to the requirements of Subsection 106-5.02 shall be submitted to the Engineer for all contractor furnished materials, unless otherwise specified.

The following subsections are hereby added to the Standard Specifications:

809-2.04 Local Stock. Local stock shall be defined as those cacti (including but not limited to Saguaro and Pima Pineapple cacti), succulents, and ocotillo shown on the project plans.

809-2.05 Soil Backfill. Soil backfill at plant pits shall consist of clean, native site soil, amended as follows:

809-2.05 (A) Soil Backfill for Cacti. Backfill mix for cacti, excluding Pima Pineapple Cacti shall include one (1) 50 pound bag of granular Gypsum and 5 pounds of Triple Super 0450 Phosphate, per one cubic yard of native site soil. All amendments shall be blended uniformly

and homogeneously into clean, native site soil prior to backfilling of plant pits, as noted on project plans.

All rocks greater than 2" in diameter shall be removed from backfill.

809-2.05 (B) Soil Backfill for Pima Pineapple Cacti. Backfill mix shall include 0.25 pound of Soil Sulfur per plant. All amendments shall be blended uniformly and homogeneously into screened, native site soil prior to backfilling of pits, as noted on project plans.

Soil backfill at plant pits shall be screened to remove all soil clods and all rocks over ½-inch in diameter.

809-2.06 Water. Water shall conform to the requirements of Subsection 805-2.04. Water used during salvaging, planting, maintenance and landscape establishment as described herein to salvage the plants, and to properly plant, maintain, care for and establish the plant material, as described in Section 807, shall be potable and furnished by the contractor. No separate measurement or payment will be made for the water, the cost of which shall be included in other landscape items. It shall be the contractor's responsibility to secure any necessary sources, permits and approvals.

809-2.07 Paint. Paint used for marking the solar orientation on the cacti shall be water-soluble, and white in color.

809.2.08 Chemical Fertilizer. Soil Sulfur shall be Powdered or Dust (not granular), 98 percent pure. Phosphorus shall be Triple Super 0450, granular. Gypsum shall be soluble, granular, for soil backfill; and soluble, powdered, to seal cacti root cuts.

809-2.09 Wire Cage. Protection from animal damage shall consist of mechanical methods. Mechanical animal control shall be provided by wire fabric having 1-inch size spaces, with a black or dark brown PVC coating; landscape staples consisting of 1/8-inch diameter, stiff, galvanized wire, approximately 12 inches long, bent in half; and 12-gauge, galvanized annealed wire.

809-3 CONSTRUCTION DETAILS of the Standard Specifications is revised to read:

No vehicles, equipment and machinery required to perform the work shall trespass outside the boundaries of the clearing limits, approved limits of grading, and planned access routes approved by the Engineer. Vehicular access to plants from areas outside the approved limits is prohibited. The contractor shall adhere to the Standard Specifications with respect to parking of all vehicles.

All plants and natural areas outside the limits of grading, or designated as to be preserved-in-place, shall be protected during the implementation of the native plant salvage work. Damage or destruction of any local stock pioneering, clearing or other means shall be replaced with equal-sized like-kind nursery stock. All labor and costs for replacing the damaged plants shall be at the contractor's expense.

If necessary, plants not scheduled for salvage may be trimmed or, if within the limits of grading, removed as needed to obtain access and safe working conditions around individual plants to be

salvaged. Removal and trimming work shall be as approved by the Engineer.

The contractor performing the work as specified herein shall have a minimum of 8 years' experience in relocating native plants and cacti similar to those shown in the project plans and special provisions.

The contractor shall meet the following requirements and shall submit the necessary written documentation to the Engineer at the preconstruction conference as herein specified:

- (1) Must be an Arizona licensed landscape contractor in good standing.
- (2) Submit a list of a minimum of five native plant salvaging and relocation projects satisfactorily completed. The list shall include the dates of the project work, type of equipment used, description of the project and work performed, the name and phone number of a contact person representing the agency, company or owner for which the work was completed.
- (3) Project records shall show successful Saguaro replanting and survival of at least 80 percent for 3 years after replanting.
- (4) Submit a list of the contractor's key personnel (minimum one) who will supervise and perform the actual relocation operations. Personnel listed must be on site and in responsible charge during all operations. This list shall be accompanied with resumes for all key personnel. The resumes shall include at the minimum the following information and demonstrate compliance with any requirements requested: Level of and number of years of applicable training/ experience, detailed work experience including work performed, equipment operated, dates of work and work references (one project minimum), specialist skills or equipment qualifications, degree of participation on actual projects listed in (2) above or other projects similar to (2) above. Any substitution of key personnel will need to meet the requirements under this section and need prior review and approval by the Engineer.
- (5) The contractor shall be responsible to review the project, these specifications and visit the site. The subcontractor's signature on the proposal form shall certify that the contractor performing the work described in Section 809 of the Standard Specifications and these Special Provisions, whether the prime contractor or a subcontractor, has completed this review.

Pima County reserves the right to reject at any time the contractor based on the review of the qualifications statement and/or performance of the work herein.

809-3.01 Schedule and Planting Season. The contractor shall provide a tentative salvage and planting schedule to the Engineer at the pre-construction meeting and shall update this schedule as the project progresses. No later than 30 days after the contract is awarded, the Contractor shall meet with the Engineer to discuss salvage and planting schedule. The Contractor shall notify the Engineer immediately whenever changes in the salvaging and planting schedule occur.

The schedule for salvaging and planting cacti, within the contract time shall be at the discretion of the contractor, with approval from the Engineer. Planting during extremely cold, hot, wet or

windy periods shall be at the sole risk of the contractor. Plants which are damaged or die prior to final acceptance as a result of extreme weather conditions shall be removed and replaced, in kind, at no additional cost to the Agency.

It is recommended that Pima Pineapple Cacti be salvaged and planted during the months of April, May, or June. Pima Pineapple Cacti shall not be salvaged or planted during active monsoon seasons or winter rains. Transplanting shall be avoided during active flower and fruit production (first rain after June 15 through November 1).

809-3.02 Excavation. The Engineer is responsible for staking the locations of the planting pits to receive the salvage material in reasonably close conformity to the locations shown on the project plans. The Engineer shall approve the plant pit locations prior to any excavating of planting pits. The contractor shall lay out the planting pits in accordance with the project staked locations. Planting pits shall be dug prior to any salvaging activities.

Plant pits shall be located in an open area, away from the canopy of trees or large shrubs. Do not plant in sites that support dense stands of perennial grasses or non-native grasses. Do not plant in wash bottoms or slopes. Look for open site along ridge lines with little vegetative cover.

Prior to commencing plant pit or trench excavation activity, the contractor shall contact Arizona Blue Stake (800-STAKE-IT) in conformance with the requirements of Subsection 203-2. It shall be the contractor's responsibility to determine the exact location of the utilities prior to any construction operations and to notify the utility companies at least two working days prior to commencing any work on the project.

The contractor shall pay particular attention to the presence of noxious and invasive species listed in Section 201-3.04 in, or adjacent to, planting areas. Planting pits excavated in areas where the presences of noxious or invasive species are observed shall be inspected to assure complete eradication of any roots or rhizomes which may have grown into the area of the pit. All eradication work and material shall be provided by the contractor, at no additional cost to the Agency.

In the event that existing field conditions such as subsurface utilities, pipes, structures, impervious materials or inadequate drainage necessitate relocation of planting pits, the Engineer will designate new locations. Adequate drainage for planting pits shall be based on a minimum percolation rate for the pit of 6 inches per hour.

Planting pits shall be excavated to the dimensions indicated on the project plans or in the Special Provisions and shall have horizontal bottoms. When dimensions are not specified, the pits and trenches shall be excavated to a depth equivalent to the depth of the root ball, plus 6 inches. The width of pits for cacti shall be the following: width of the root ball plus 12 inches, with the plant centered in the pit (i.e. provide 6 inches additional width around all sides of root ball).

Subsequent to excavation, each plant pit shall be flagged and labeled for each plant it is to receive. No separate payment will be made by the Agency for the staking, flagging or labeling of plant pits.

Excavation of planting pits shall not be done when, in the opinion of the Engineer, the moisture content of the soil is excessive with respect to accepted horticultural practice.

809-3.03 Handling Plants. The contractor shall use care to avoid scarring or damage to plants. All plants shall be dug, handled, prepared, moved and planted with care and skill, in accordance with recognized standard practice for the kind of plant involved. The methods and/or materials shall not damage and/or mar the surface or internal structure of any plant.

Plants shall be protected at all times against freezing temperatures, the sun and the wind while in transit. All temporarily stored plants shall be protected from extreme weather.

Plants showing damage from salvaging, transporting, planting and maintenance activities or from animals shall be determined as acceptable or unacceptable by the Engineer. Should sufficient damage occur to plants, the contractor shall replace the stock with the same species of equal size, at no additional cost to the Agency.

Plants shall not be salvaged, transported or removed during rainy weather conditions as determined by the Engineer. This work may resume with approval by Engineer.

If slings or cables are used to support stock during transporting and planting, the plant shall be protected at the points of contact with the slings or cables by the use of burlap, canvas, sections of automobile tire casing, or other suitable protective material.

Cables shall be so placed as to maintain proper support and balance at all times. The contractor shall be responsible for the care of the plants and any damage caused by improper support.

809-3.04 Salvaging. The contractor shall provide the Engineer at least three days' notice prior to the requested field review with the Engineer. The local stock plants to be salvaged shall be as noted on the project plans. Plants identified for salvaging and replanting shall be determined at the discretion of the Engineer. During the field review, the contractor shall flag the individual plants to be salvaged. The work will be paid for under the applicable salvage bid item as directed by the Engineer. No separate measurement or payment will be made for field reviews.

Local stock that does not display a healthy vigorous appearance and/or displays poor health symptoms as specified in these Special Provisions shall be determined as unacceptable by the Engineer.

The contractor shall be responsible to do an investigation of underground soil, rock and surrounding area conditions near the plants using approved methods and equipment. If upon this investigation a flagged plant is found to have a decreased chance of being successfully relocated, the contractor shall contact the Engineer for a review of the field conditions. A decision will be made for each plant in question. Substitutions such as using local nursery stock from within the project limits may be considered. If the contractor is directed to salvage another plant, in lieu of the flagged plant, the contractor shall document the conditions of the substituted plant using the inventory form approved by the Engineer. Removal of the substituted plant shall not commence until the Engineer has approved the inventory data for the alternative plant.

The excavation and removal for all local stock shall be approved by the Engineer. The method

shall demonstrate that the excavation process for the local stock will provide the minimal acceptable root lengths as specified herein these Special Provisions; locate and expose the roots without damaging the local stock with the equipment or machinery used for the excavating; expose the roots to appropriate lengths by the use of hand tools prior to cutting the roots.

The contractor shall mark the north exposed surface of all Saguaro and Pima Pineapple cacti to be transplanted by a method acceptable to the Engineer. The mark or its installation process shall not damage or deface the local stock. The mark must be capable of withstanding poor weather and expected working conditions without the possibility of erasure or detachment throughout the duration of the contract.

Transporting of any plant materials for the project shall be in compliance with all State and local requirements. Should the contractor need any permits, the contractor shall be responsible to obtain all necessary permits and tags for transporting plant materials on public roadways; no separate payment will be made to the contractor for the permits. Permits and tags shall be made available to the Engineer upon request.

809-3.04 (A) Pima Pineapple Cacti Salvage. When removing plants from the ground, care shall be taken to include intact lateral and basal roots. Contractor shall hand excavate to a minimum depth of 10 inches and a minimum width of 16 inches in each direction from the center of plant. Contractor shall keep as much of the root ball intact as possible to minimize disturbance to the root structure.

All damaged roots shall be cut back to a non-damaged area on roots and immediately sealed with either powdered Gypsum or dusting Sulfur.

Salvaged Pima Pineapple cacti shall be once-moved, and placed immediately in pre-dug planting pit. Do not backfill; allow roots to seal for a duration of 24 hours prior to backfill.

Cover with 75% shade cloth.

809-3.04 B) Saguaro and other Cacti Salvage. When removing plants from the ground, care shall be taken to minimize damage to the roots. The contractor shall excavate to a minimum depth of 12 inches and a minimum width of 18 inches in each direction from the center of plant. The contractor shall keep as much of the root ball intact as possible to minimize disturbance to the root structure.

All damaged roots shall be cut back to a non-damaged area on roots and immediately sealed with either powdered Gypsum or dusting Sulfur.

Salvaged Saguaro cacti shall be once-moved, and placed immediately in pre-dug planting pit, and backfilled.

809-3.05 Pruning. All final cuts made to the lateral roots shall be accomplished by the use of sterile clippers. All cuts shall be treated with powdered Gypsum or dusting Sulfur on the same day that the cut and/or wound was made.

No cuts shall be made to the basal root of the Pima Pineapple cactus.

809-3.06 Planting.

809-3.06 (A) General. Should the contractor encounter any unforeseen or unsuitable planting condition, it shall be immediately brought to the attention of the Engineer.

All salvaged plants shall be transplanted into the designated Cacti Transplant area, as shown on the project plans.

Backfill of planting pits shall be well worked about the roots and settled by tamping so as to remove all air pockets. Backfill planting pit in 6-inch lifts, and tamp between lifts. Care shall be taken to not damage root structure during soil placement and tamping.

All plants are to be replanted in the same solar orientation and as near as possible to their vertical growth habit found prior to their initial removal.

After planting, the contractor shall maintain all local stock in established positions during construction and landscaping establishment periods.

809-3.06 (B) Saguaro and other Cacti Planting. Saguaro cacti shall be replanted at their original growing depth to not more than 2 inches deeper than their original growing depth. The root collars of all Saguaro cacti replanted deeper than their original growing depth shall be in a callused condition. No air roots or old root system shall be visible after planting in the final planting location.

If planting occurs between May and September, cacti may be covered with 75% shade cloth, at the discretion of the Engineer. Avoid planting during winter rainy season.

Final cuts to roots shall provide no less than 12-inch root lengths. After the final cut, the remaining roots shall be structurally intact with no signs of splintering or shredding. All wounds and/or cuts made to the roots shall be treated with powdered Gypsum or powdered Sulfur immediately after that the cut and/or wound was made.

Local stock shall also be required to be planted with soil backfill, as described in Section 809-2.03(A) in its final location.

All stock shall be planted to ensure positive drainage away from base of plant.

Do not irrigate at the time of transplanting. Irrigate approximately 3 weeks after transplanting to saturate the soil. Irrigation shall continue every 3 weeks for the duration of the landscape establishment period. Irrigate plants in a manner that does not result in exposure of roots or stem.

809-3.06 (C) Pima Pineapple Cacti Planting. Plant shall be replanted at its original growing depth. Local stock shall also be required to be planted with soil backfill, as described in Section 809-2.03(B) in its final location. Mound sandy soil around the lower $\frac{1}{4}$ to $\frac{1}{3}$ of the plant. Maintain this mound around the base of the plant. Remove Shade Cloth prior to installing hardware cage over the plant.

Do not irrigate at the time of transplanting. Irrigate approximately 2 weeks after transplanting at

a rate of 1 gallon per plant. Irrigation shall continue every 3 weeks for the duration of the landscape establishment period. Irrigate plants in a manner that does not result in exposure of roots or stem.

809-3.07 Care and Protection of Plants.

809-3.07 (A) General. Prior to the beginning of work under Section 807 - Landscaping Establishment; the contractor shall be responsible for maintaining and protecting all planting areas, as specified in Subsection 807-3.03. Such care and protection shall include, but not be limited to, the watering of stock, removal of construction trash and debris, eradicating and removing noxious or invasive species as specified in the Special Provisions, repairing, adjusting, or replacing stakes and support wires, repairing weather damage or damage caused by the public, furnishing and applying sprays, dust, and/or cages to combat vandalism, disease, insects, rodents and pests and taking such precautions as necessary to prevent damage from cold, frost, sunburn or other hazards. All undesirable noxious or invasive species listed in Section 201-3.04 shall be eradicated with herbicides or manual methods during Phase I, and disposed of by the contractor in accordance with Subsection 807-3.03.

Transplanted stock that does not display a healthy vigorous appearance in close conformity to its appearance prior to its initial removal and/or displays poor health symptoms as specified in these Special Provisions shall be determined as unacceptable by the Engineer.

The Engineer will also inspect the transplanted stock for symptoms that indicate poor health. Poor health symptoms will include items such as presence of rot, wrinkled or loose epidermis; no measurable increases to the diameter or adjacent separation after the local stock has received adequate irrigation or rain; change in color not consistent with color changes to identical species existing in the given area. These criteria shall be used by the Engineer to determine if the transplanted stock is in close conformity in health and/or vigor and acceptable for payment; or determined unacceptable for no payment by the agency.

After replanting, all stock within a species that becomes unacceptable as determined by the Engineer shall be cumulatively added to any previous totals of unacceptable local stock for a new cumulative total. The new total shall then be used to determine the additional quantities of local stock to be replaced by the contractor as per the details shown on the project plans and as specified in the Standard Specifications and these Special Provisions.

The Engineer will perform visual inspections each month in the presence of the contractor, unless the Engineer and the contractor agree to other arrangements in writing. Local stock measurements identified in these Special Provisions will be conducted as part of these monthly inspections, as applicable.

No further payment will be made to the contractor for any local stock determined as unacceptable by the Engineer until the unacceptable local stock quantities are replaced with nursery stock as specified in the Standard Specifications and these Special Provisions.

(B) Application of Chemicals. Any person or persons applying herbicides will be considered as doing so for hire and shall be required to be licensed in accordance with the requirements of

Title 3, Chapter 2, Arizona Revised Statutes, Article 6, Section 3-377.

All herbicide application shall be done in accordance with Section 201-3.04. The contractor shall notify the Engineer and obtain prior approval of the use of any chemicals for noxious or invasive species eradication. The types of herbicide to be used and the methods of application shall be in conformity with the Environmental Protection Agency requirements, labeling instructions, and shall be approved by the Engineer. The contractor shall keep a record of all applications, the type of herbicide used such as pre- or post-emergent, the rate and method of application and the date and location of such applications on forms acceptable to the Engineer. A copy of this record shall be submitted to the Engineer after each application.

Pre-emergent herbicides or manual control shall be used on noxious or invasive species in planting areas located within the project limits; but noxious or invasive species control within granite mulch, decomposed granite, or rock mulch shall be as specified under those items of work. All areas shall be kept free of noxious or invasive species. All planting areas within the project limits shall receive an approved pre-emergent herbicide, as specified under Subsection 803-3.02. The application of herbicide shall include all areas not covered under other items of the specifications.

Herbicides shall not be used in waters of the U.S. These include washes, the edge of the wash, dip crossings and conveyances to waters of the U.S. Only manual removal of noxious and invasive species shall be allowed at these locations. Refer to Section 201-3.04.

(C) Wire Cage. The contractor shall inspect newly installed plants daily for damage caused by animals. At the first sign of such damage, and/or under the direction of the Engineer, the contractor shall protect the plants. The contractor shall construct wire perimeter protection around the plants as follows:

Install wire fabric around cacti with a minimum 12-inch distance between the plant to the wire fabric cage in all directions. Secure the wire fabric to itself with 12-gauge, galvanized annealed wire and to the ground with landscape staples driven to full depth into the soil through the bottom wire of the wire fabric.

All Wire Cages shall be removed at the end of the Landscape Establishment period.

(D) Water. The contractor shall adequately irrigate plants to maintain a healthy and vigorous growing condition during the landscape establishment period, as determined by the Engineer.

809-3.08 Plant Guarantee. The Contractor shall guarantee the survival and health of all plants salvaged and replanted as part of this contract. The salvaged native plant guarantee period shall extend through the end of the Landscaping Establishment Period. All plants which die during the guarantee period, for reasons other than acts-of-God and/or causes deliberate shall be replaced by the Contractor with plants of the same size and species.

Replacements shall be provided at the Contractor's expense.
To satisfy the plant guarantee requirements, the plant shall:

- (1) Exhibit healthy growth throughout the plant structure;
- (2) Be reasonably free from insects or other infestations that would reduce the plant's long-term potential for survival;
- (3) Be reasonably free from physical damage that would reduce the plant's long term potential for survival.

809-4 METHOD OF MEASUREMENT

The native plant salvage work for the Saguaro will be measured on a lineal foot basis for the plant type listed in the Bidding Schedule.

The native plant salvage work for the Pima Pineapple cactus will be measured on a per each basis for the plant type listed in the Bidding Schedule.

809-5 BASIS OF PAYMENT

The accepted quantities of salvaged plants, measured as provided above, will be paid for at the contract unit price each for the pay unit designated in the bidding schedule, complete in place. No payment will be made for plants that are delivered to the transplant location area in a dead, damaged, or unhealthy condition.

Protecting cacti from animal damage will be paid in accordance with Subsection 104-3.

(810EROS_CON, 06/19/23)

SECTION 810 - EROSION CONTROL AND POLLUTION PREVENTION

810-1 DESCRIPTION of the Standard Specifications is modified to add:

810-1.01 General. On projects where an Arizona Pollutant Discharge Elimination System or equivalent National Pollutant Discharge Elimination System (AZPDES/NPDES) permit is required, the contractor shall implement the requirements of the permit for sediment and erosion control due to stormwater runoff during construction, as specified under the current AZPDES/NPDES Construction General Permit. The Agency and the contractor shall prepare and submit separate Notices of Intent (NOI) and Notices of Termination (NOT) forms for the project. The contractor shall copy their AZPDES NOI Application and NOI Certification to the owner of the Municipal Separate Storm Sewer System (MS4) (i.e. Pima County Department of Environmental Quality, City of Tucson Stormwater Management, Town of Marana Environmental Engineering, or the Town of Oro Valley Stormwater Utility). The contractor shall copy their AZPDES NOT Acknowledgement to the owner of the MS4 upon project stabilization. Copies of all NOI and NOT documentation shall be placed in to the SWPPP, along with verification that these were sent to the owner of the MS4. If the project lies in multiple MS4s, the NOI Application, Authorization, notification of sending the permit, and NOT shall be sent to all MS4s in which the project is located.

The Agency has prepared a Stormwater Pollution Prevention Plan (SWPPP), which includes a narrative description of the proposed measures to be implemented, sequence of construction activities, and a site-specific diagram indicating the proposed locations where erosion and sediment

control devices or measures may be required during construction. The SWPPP also includes pollution prevention controls.

This SWPPP is included in the Special Provisions. A list of subcontractors and key field personnel contact numbers shall be placed into the SWPPP. The contractor shall also be responsible for assembling member(s) of a Stormwater Team. The Stormwater Team shall be responsible for modifications to the SWPPP, and for compliance with the requirements in the AZPDES permit. Members of the Stormwater Team shall be listed in the SWPPP, along with title, responsibility, and qualifications. A member of the contractor's Stormwater Team shall be available for inspections with an Agency Representative. Prior to the start of construction, each contractor and all subcontractors shall be asked to sign a certification that they understand all requirements of the AZPDES/NPDES permit. Signed certifications shall be placed into the SWPPP.

Documentation in the SWPPP book required by the AZPDES permit shall also be included. This includes updating project maps and all appendices as required in the permit. It also includes placing the inspection report in the SWPPP book within 7 calendar days of completing the inspection.

Permanent erosion control will be constructed under the specific items found in the plans and listed in the Special Provisions and bid schedule.

810-2 MATERIALS

810-2.09 Track Out Pad is hereby added to the Standard Specifications:

Track Out Pads shall consist of clean fractured aggregate between 1" and 3" in size and 6" in depth.

810-2.10 AZPDES Sign Information is hereby added to the Standard Specifications:

The contractor shall post the AZPDES Authorization number near entrances to the project. The Authorization number can be added to existing project signs near project entries, such as the RTA sign. Lettering is to be a simple and legible font, minimum 2" height. If the job trailer is not on the project site, the location of the job trailer shall also be provided on the sign using similar lettering. Lettering shall be of a waterproof type, such as ready to apply, waterproof, vinyl letters.

810-3 CONSTRUCTION REQUIREMENTS

810-3.01 General of the Standard Specifications is modified to add:

Prior to the start of construction, the Engineer and contractor will jointly review the Stormwater Pollution Prevention Plan (SWPPP), make any revisions needed, and approve and sign the SWPPP. The contractor shall use the signed SWPPP provided at the pre-construction meeting, and implement the SWPPP as required throughout the construction and establishment periods. The Engineer and contractor will perform a minimum of one routine inspection of disturbed areas that have not been stabilized at least once every 14 calendar days *and* within 24 hours of the end of a 0.5 inch rainfall. Reduced inspection frequency can occur when the site has been temporarily

stabilized. The reduced inspection frequency is once every 28 days *and* before predicted rainfall events *and* after 0.5 inch rainfall events.

After each inspection, the contractor shall document the findings and revise the SWPPP as necessary. The Engineer and contractor shall jointly approve and sign each revision to the SWPPP before implementation. The contractor shall complete revisions to the SWPPP within 15 calendar days following notification if ADEQ determines the SWPPP is deficient. The contractor shall amend the SWPPP, as needed and record inspection results in the SWPPP within 7 calendar days after an inspection by local, state or federal officials. Changes to the SWPPP must be implemented in the field within 7 calendar days, or before the next rainfall event.

Final stabilization is met when all soil disturbing activities have been completed, temporary Best Management Practices have been removed and disposed of, and either a uniform perennial vegetative cover with a density of 70% of the native background has been established on all unpaved areas, or equivalent permanent stabilization measures are in place. Until final stabilization of the project, the contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements, or from the nonexecution of the work. The contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final stabilization. No reimbursement shall be made for work necessary due to the contractor's failure to comply with the requirements of the SWPPP. The original completed SWPPP shall be returned to the Agency.

Except as specifically provided under Subsection 108-4, in the case of suspension of work from any cause whatsoever, the contractor shall be responsible for the project and shall take such precautions as may be necessary to prevent damage to the project, provide for normal drainage and shall erect any necessary temporary structures, signs, or other facilities. During such period of suspension of work, the contractor shall properly and continuously maintain, in an acceptable growing condition, all newly established plantings, seedlings and soddings, furnished under its contract and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

810-3.04 Other Pollution Controls of the Standard Specifications is modified to add:

The contractor shall document all treatment chemicals, i.e. polymers, flocculants or other cationic treatment chemicals used on the project. Documentation shall be in accordance with the current AZPDES/NPDES Construction General Permit and shall include a list of treatment chemicals used, justification for use, training provided in appropriate use, description of how they will be stored, dosage used, and a copy of Material Safety Data Sheets (MSDS).

Storage, handling and disposal of construction products, materials, and wastes shall comply with the current AZPDES/NPDES Construction General Permit. Control measures include the use of plastic sheeting under containers or bags of chemicals stored outside, providing adequately sized secondary containment under drums of chemicals, storing chemicals in water-tight, sealed containers that are labeled in accordance with applicable federal, state, tribal, or local requirements, and separating and labeling hazardous and non-hazardous waste. The contractor shall implement measures to minimize the potential for leaks and spills by installing barriers between material storage and traffic areas.

The contractor shall provide waste containers (e.g. dumpster or trash receptacles with covers/lids) of sufficient size and number to contain construction and domestic wastes. Domestic waste shall be cleaned up and disposed of daily in designated waste containers, and cleaned up immediately if overflowing.

810-3.06 Off Site Staging and Storage Yard of the Standard Specifications is modified to add:

If the contractor has entered into a separate agreement with an owner or lessee of private property to obtain property for use as a storage or staging area, both the Agency and the contractor shall state in its SWPPP that this area is under the control of the contractor.

810-3.07 SWPPP Implementation Plan of the Standard Specifications is modified to add:

The contractor will provide an implementation plan describing the SWPPP activities associated with the construction sequencing of the project and how all requirements of the SWPPP will be accomplished during all phases of construction, including housekeeping requirements. All disturbed slopes that will not be stabilized within the SWPPP mandated 14 days must have temporary stabilization installed.

The implementation plan shall also include the contractor's training plan for their own Stormwater Team, as well as for remaining staff and sub-contractors. The contractor shall provide new employee training at least one (1) time per year and shall provide refresher training for existing employees directly involved in SWPPP activities at least once every two (2) years. The contractor's training plan shall cover all requirements included in the most current version of the AZPDES Construction General Permit and shall include at minimum:

- County ordinances related to stormwater and construction
- Requirements for structural and non-structural control measures on construction sites, such as erosion and sediment controls
- Construction control measures maintenance requirements
- Inspection procedures
- Enforcement procedures
- Requirements and restrictions related to other permits included in the SWPPP, including the 404 Permit, prohibiting stockpiling in drainage conveyances and washes
- Concrete Waste Management
- Hazardous waste management, including spill reporting and mitigation
- Proper storage of construction materials
- Proper storage of construction waste
- Litter control
- Management of stockpiles, excavations, and spoils
- Management of portable toilets
- Respect for project work boundaries and preservation fence limits
- Respect for existing vegetation
- Installation of sediment wattles and logs

810-3.08 (I) Track Out Pad is hereby added to the Standard Specifications:

The work under this item shall consist of furnishing all materials, tools, equipment, and labor necessary to install and remove the Track Out Pads at all construction entrances; locations to be determined by the contractor and approved by the Engineer.

At the completion of the project, the contractor shall remove the Track Out Pads and restore/re-grade the area to return the ground elevation and grading to existing conditions as close as possible.

810-3.10 (J) AZPDES Sign Information is hereby added to the Standard Specifications:

The work under this item shall consist of furnishing all materials and labor necessary to add the AZCON authorization number to signs at all major entrances to the project site. The wording shall read "AZCON - _____". The operator must post the following statement: "For stormwater complaints, please visit www.azdeq.gov." Wording or diagrams showing the location of the job trailer shall also be provided. If there is no sign which this information can be added to, the contractor shall furnish a sign for this purpose.

(810LOGS_WATTLES, 3/25/15)

ITEM 8100005 - SEDIMENT LOG (DISCRETIONARY)

ITEM 8100006 - SEDIMENT WATTLE (DISCRETIONARY)

1. DESCRIPTION

The work under these items shall include furnishing, installing, maintaining, and removing of sediment logs and sediment wattles, as directed by the Engineer during the course of construction and not provided for in the original project SWPPP plans. This work is in addition to the work shown in the project SWPPP plans, and is solely at the discretion of the Engineer.

2. MATERIALS

Materials shall conform to the requirements of Section 810-2.04.

3. CONSTRUCTION DETAILS

Construction details shall conform to the requirements of Section 810-3.08, and placement of sediment logs and sediment wattles shall conform to the details shown on the project SWPPP plans, at the direction of the Engineer.

4. METHOD OF MEASUREMENT

The work under these items shall be measured by the linear foot of Sediment Logs and Sediment Wattles, complete in place, parallel to the central axis of the log or wattle.

5. BASIS OF PAYMENT

The accepted quantity of Sediment Log (Discretionary) and Sediment Wattle (Discretionary), measured as provided above, shall be paid for at the contract unit price, complete in place including all equipment, labor and materials.

Price adjustment for variation in total bid quantity per Subsections 109-3 and 109-4 of the Standard Specifications do not apply to work under these bid items.

ITEM 8101106 – PIPE, POLYVINYL CHLORIDE (PVC), 6” (CLASS 200)

1. DESCRIPTION

This item shall consist of furnishing all labor, materials, equipment, and incidentals necessary to install PVC pipe sleeves through the Madera Canyon Road embankment at the locations shown on the project plans.

Existing above-ground waterlines owned and operated by Santa Rita Ranch pass beneath Madera Canyon Road at the Medium Wash Bridge and Florida Canyon Wash Bridge locations, traversing each wash beneath the bridge structures. The PVC sleeves are intended to provide access for Santa Rita Ranch to install replacement or temporary waterlines through the roadway prism and to allow uninterrupted water service for the ranch during construction activities.

2. MATERIALS

Pipe shall be polyvinyl chloride (PVC), 6-inch nominal diameter, Class 200, and shall conform to the requirements of Sections 929-2.04 and 808-2.06 of the PAG Standard Specifications. PVC pipe shall meet the requirements of the following standards:

- ASTM D1784
- ASTM D1785
- ASTM D2241

PVC fittings shall conform to:

- ASTM D1784
- ASTM D2672

All materials shall be new and free from defects.

3. CONSTRUCTION REQUIREMENTS

At least three (3) weeks prior to removal of the Florida Canyon Wash Bridge and the Medium Wash Bridge, the Contractor shall notify Santa Rita Ranch that the existing waterlines will require relocation. The Contractor shall coordinate this work with Santa Rita Ranch by contacting Mr. Andrew McGibbon at (520) 471-9462 (santaritaranch@icloud.com) to confirm scheduling and to verify that the sleeve locations shown on the project plans are suitable for

Santa Rita Ranch's use. Adjustments to sleeve locations shall be made as directed and approved by the Engineer.

Prior to bridge removal, the Contractor shall install the PVC sleeves through the existing roadway embankment at the locations and elevations shown on the project plans. Installation shall include trench excavation across the roadway, placement of the PVC sleeves, and backfilling.

Backfill material shall be placed and compacted around the pipe in accordance with the PAG Standard Specifications.

The Contractor shall coordinate and cooperate with Santa Rita Ranch throughout construction to protect existing waterlines and to facilitate continuous water service during all phases of the work.

4. METHOD OF MEASUREMENT

Pipe, Polyvinyl Chloride (PVC), will be measured by the linear foot of pipe installed, complete in place.

5. BASIS OF PAYMENT

The accepted quantities of Pipe, Polyvinyl Chloride (PVC), measured as provided above, will be paid for at the contract unit price shown in the bidding schedule. Such payment shall be full compensation for furnishing all materials, labor, equipment, coordination, and incidentals necessary to complete the work as specified.

ITEM 9030101 - FENCE GATE, TYPE 1, SINGLE

1. DESCRIPTION

The work under this item shall consist of furnishing all materials and constructing fence gates at the locations and in conformance with the details shown on the project plans. Fence gates shall be of the types and sizes shown on the project plans and shall be constructed in conformance with the requirements of these specifications.

2. MATERIALS

Materials shall conform to the requirements of Subsection 903-2.

3. CONSTRUCTION REQUIREMENTS

Fence gates (type 1, single, 12') shall conform to Arizona Department of Transportation Standard Drawing C-12.10 – Type 1 Single Gate, in the 12-foot-wide configuration.

4. METHOD OF MEASUREMENT

The work under this item shall be measured by each fence gate complete in place.

5. BASIS OF PAYMENT

The accepted quantities of fence gate, measured as provided above, will be paid for at the contract unit price indicated in the bidding schedule and will be considered as compensation in full for the item, complete in place.

ITEM 9030303 - BARBED WIRE GAME FENCE

1. DESCRIPTION

The work under this item shall consist of furnishing all materials and constructing game fences at the locations and in conformance with the details shown on the project plans. Fences shall be of the types and sizes shown on the project plans and shall be constructed in conformance with the requirements of these specifications.

2. MATERIALS

Materials shall conform to the requirements of Subsection 903-2.

3. CONSTRUCTION REQUIREMENTS

Game fence shall conform to Arizona Department of Transportation Standard Drawing C-12.10 – Barbed Wire Game Fence, with the following modification. The top wire of the game fence shall be modified to be barbless.

4. METHOD OF MEASUREMENT

The work under this item shall be measured by the linear foot of fence complete in place.

5. BASIS OF PAYMENT

The accepted quantities of game fence, measured as provided above, will be paid for at the contract unit price indicated in the bidding schedule and will be considered as compensation in full for the item, complete in place.

(905GRDRL, 06/08/21)

SECTION 905 – GUARDRAIL

SECTION 905 – GUARDRAIL of the Standard Specifications is revised to read:

905-1 DESCRIPTION:

The work under this section shall consist of furnishing all labor, equipment, and materials to install guardrail, guardrail transitions, guardrail terminals, and end anchors, constructed new, reconstructed, or constructed guardrail from salvage in accordance with the locations and details shown on the plans and the requirements of these specifications, including all necessary components and delineation.

905-2 MATERIALS:

Materials for guardrail, guardrail transitions, and end anchors shall conform to the requirements of Section 1012 of the specifications and the plans.

Materials for guardrail terminals shall conform to the requirements of the approved manufacturer's drawings and specifications. Only those guardrail terminals referenced in the plans will be allowed.

Flexible guardrail markers shall be made of a high quality, impact- and ultraviolet-resistant, flexible, white-colored plastic or similar material with a minimum thickness of 0.075 inch. This material shall be configured into a rectangular body that is flat, curvilinear or tubular with a width of between 3 and 4 inches. The minimum reflective area for L-shaped and T-shaped markers, attached to the top of wooden posts, and U-shaped markers, attached to the top of steel I-beam posts, shall be 10 square inches. The reflectorized surface for flexible vertical guardrail markers attached to the approach side of posts shall be 3 inches wide by 5 inches long.

Adhesive materials for applying reflective sheeting to guardrail terminals and flexible guardrail markers shall be in accordance with the sheeting manufacturer's recommendations.

Guardrail delineator material shall be specifically manufactured to provide roadside delineation. All delineators shall consist of complete units that are pre-cut, pre-drilled as applicable, and ready to be installed in the field. The delineators shall be packaged in such manner as to prevent damage and deterioration during shipping and storage.

Reflective sheeting for object markers on guardrail terminals, and reflective sheeting used for all other guardrail markers, including flexible guardrail markers, shall conform to the requirements of Section 1007 of the specifications.

Transparent colors, inks and paints used in fabrication shall be of the type and quality recommended by the sheeting manufacturer.

Transparent colors shall be applied with screen mesh P.E. 157 using fill pass.

Approved guardrail terminals, flexible guardrail markers, and reflective sheeting products are shown on the Department's Approved Products List (APL). Copies of the most current version of the APL are available on the internet from the Arizona Department of Transportation Research Center, through its Product Evaluation program.

905-3 CONSTRUCTION REQUIREMENTS:

905-3.01 General:

The construction of the various types of guardrail, guardrail transitions, guardrail terminals, and end anchors shall include the assembly and erection of all component parts complete at the locations shown on the project plans or as directed by the Engineer. All materials shall be new except as provided for under Subsections 905-3.04 and 905-3.05 of the specifications.

The various types of guardrail shall be constructed with wood or composite blockouts on either wood or steel posts, at the option of the contractor, except where the post materials to be used are specified on the plans. Excluding guardrail transitions, terminals, long span, box culvert posts, and end anchors, the same type of post shall be used in any one continuous length of guardrail.

All metalwork shall be fabricated in the shop. No punching, drilling, cutting or welding shall be done in the field, except as provided for under Subsections 905-3.04, 905-3.05, and 905-3.06 of the specifications.

Where field cutting or boring of wood posts and blockouts is permitted, the affected areas shall be treated in accordance with the AWP Standard M4.

Where wood posts with rectangular sections are used, the posts shall be set so that the longest dimension is perpendicular to the rail.

All bolts shall extend beyond the nuts a minimum of two threads, except that all bolts on posts adjacent to pedestrian traffic shall be cut off 1/4 inch from the nut.

All bolts shall be securely tightened unless torque requirements are specified on the plans or manufacturer's drawings.

Guardrail elements shall be spliced by lapping in the direction of traffic in the nearest adjacent lane.

Rail height of guardrail, transitions, terminals, long span, box culvert posts, and end anchors shall be within ± 1 inch of the control height shown on project plans.

When guardrail is being constructed, or reconstructed under traffic, the contractor shall conduct its operations so as to constitute the least hazard to the public and construction personnel. Traffic control shall be provided in accordance with the requirements of Section 701 of the specifications.

905-3.02 Roadway Guardrail:

Guardrail posts shall be set to the line, grade, and spacing shown on the plans. Earthwork placement, grading, compacting, and bituminous surfacing shall be completed prior to installation of the guardrail posts.

Wood posts shall be placed in pre-punched or pre-drilled pilot holes. Steel posts shall either be driven, or placed in manually or mechanically dug holes. New post holes, and existing post holes to be reused shall contain well compacted material under the post, and shall be backfilled with moist soils placed in compacted lifts as approved by the Engineer. Pre-punched post holes, or full depth post driving shall not be used at locations where damage to the curb, gutter, sidewalk, buried items, shoulders or pavement might occur. The Engineer will be the sole judge as to whether driving of posts will be allowed.

Driving of posts shall be accomplished in a manner which will prevent battering, burring, separation of the galvanizing from the steel or distortion of the post. Any post which is bent or otherwise damaged to the extent it is unfit for use in the unfinished work, as determined by the Engineer, shall be removed and replaced at no additional cost to the Agency.

Where curb, gutter, sidewalk, buried items, shoulders, or pavement are disturbed in the construction of guardrail, the damage shall be repaired as approved by the Engineer.

Where the top surface of a culvert or other utility is at an elevation which would interfere with full depth post placement, the post shall be eliminated and long span guardrail shall be placed in accordance with the requirements of Subsection 905-3.09 of the specifications. Where the top surface of a box culvert is at an elevation which would interfere with full depth post placement, and long span guardrail cannot be used, the post shall be placed and anchored in accordance with the requirements of Subsection 905-3.06 of the specifications.

Where rock prevents the full depth placement of posts, the rock, post, and backfill shall be treated in accordance with Standard Drawings.

Wood blockouts shall be toe-nailed to the wood posts with one 16-penny galvanized nail on each side of the top of the blockout. Blockouts shall be set so that the top of the blockout is no more than 1/2 inch above or below the top of the post, unless otherwise shown on the project plans.

Rail elements shall be spliced at 25-foot intervals or less. Rail elements shall be spliced halfway between adjacent posts unless otherwise shown on the project plans. When the radius of curvature is 150 feet or less, the rail elements shall be shop curved.

905-3.03 Guardrail End Anchors:

End anchors shall be installed in accordance with the plans. Foundation tubes shall be supplied as part of the end anchor. Foundation tubes shall be driven with an approved driving head, or placed in manually or mechanically dug holes. The tubes shall not be driven with the wood post in place. When foundation tubes are placed in holes, the space around and under the tubes shall be backfilled with moist soils placed in compacted lifts, as approved by the Engineer. The foundation tube shall not protrude more than 4 inches above the ground as measured along a 5-foot chord.

905-3.04 Construct Guardrail from Salvage:

Salvaged guardrail, guardrail transitions, end anchors, and other guardrail systems shall be constructed at the locations shown on the project plans and in accordance with the provisions specified herein for new construction.

If any salvaged materials are deemed by the Engineer, to be unsuitable for reuse or if the quantities of salvaged materials are insufficient to complete the work, the contractor shall furnish new materials in sufficient quantities to complete the work and the cost of furnishing such materials will be paid for in accordance with the provisions of Subsection 109.04 of the specifications.

Salvage foundation tubes for end anchors shall not be reused.

Where new bolt holes in rail elements are permitted and approved by the Engineer, the holes shall be made by drilling or punching. Flame-cut bolt holes will not be permitted. All metal cut in the field shall be cleaned and painted with two coats of zinc paint in accordance with Section 1002 of the specifications.

905-3.05 Reconstruct Guardrail:

(A) General:

Existing guardrail, guardrail transitions, guardrail terminals, end anchors, and other guardrail systems shall be reconstructed at the locations shown on the project plans, and in accordance with the provisions specified herein for new construction.

Guardrail shall be reconstructed in accordance with either Subsection 905-3.05(B) or 905-3.05(C) of the specifications.

For reconstructed guardrail transitions, guardrail terminals, end anchors, and other guardrail systems, all components shall be completely removed and then reconstructed in place using existing posts, blockouts, and hardware, unless otherwise specified herein.

Reconstructed end anchors shall be installed with new foundation tubes.

Unless otherwise specified herein, where existing posts include a concrete foundation, the concrete foundation shall be fully removed and the hole backfilled with moist soil in compacted lifts, as approved by the Engineer. No separate payment will be made for removal of concrete foundations, or the subsequent backfill and compaction, the cost being considered as included in the contract item.

All guardrail components to be re-used shall be removed in such a manner as to prevent damage to and minimize the loss of the components.

Where new bolt holes in reused rail elements are permitted and approved by the Engineer, the holes shall be made by drilling or punching. Flamecut bolt holes will not be permitted. All metal

cut in the field shall be cleaned and painted with two coats of zinc paint in accordance with Section 1002 of the specifications.

Items designated to be reused which are lost, damaged or destroyed as a result of the contractor's operations shall be repaired or replaced by the contractor at no additional cost to the Agency.

If any materials designated for reconstruction are deemed by the Engineer to be unsuitable for reuse or if the quantities of existing materials are insufficient to complete the work, the contractor shall furnish new materials in sufficient quantities to complete the work and the cost of furnishing such materials will be paid for in accordance with the provisions of Subsection 109.04 of the specifications.

Existing posts, blockouts, rail elements, or hardware which are not required for guardrail reconstruction or which the Engineer deems unsuitable for reconstruction, shall be removed and disposed of as directed by the Engineer.

(A) Reconstruct Guardrail with Existing Materials:

When reconstruct guardrail with existing materials is specified, all guardrail components shall be completely removed and then reconstructed in place using existing rail elements, posts, blockouts, and hardware for posts and blockouts.

(B) Reconstruct Guardrail with New Posts, Blockouts, and Hardware:

When reconstruct guardrail with new posts, blockouts and hardware is specified, all guardrail components shall be completely removed and then reconstructed in place using existing rail elements, and new posts, blockouts, and hardware for posts and blockouts.

905-3.06 Box Culvert Guardrail Posts:

Box culvert guardrail posts for low fill culverts shall be constructed in accordance with plans.

Where field-cutting of steel posts is required, the affected areas shall be cleaned and painted with two coats of zinc paint in accordance with Section 1002 of the specifications.

905-3.07 Blank:

905-3.08 Guardrail Transitions:

Guardrail transitions to concrete barriers shall be constructed in accordance with the plans.

905-3.09 Long Span Guardrail:

This work shall consist of furnishing and constructing long span guardrail, including all materials, in accordance with the requirements of the project plans.

905-3.10 Guardrail Terminals:

Guardrail terminals shall be installed in accordance with the manufacturer's specifications and approved drawings. Prior to starting work, the contractor shall submit the current version of the manufacturer's approved drawings and installation manuals for each type of guardrail terminal to be installed on the project. In case of discrepancy or conflict, the current manufacturer's specifications and approved drawings shall govern. Manufacturer's dimensions relative to the finished surface shall be measured along a 5-foot chord.

Earthwork placement, grading, compacting, and pavement surfacing shall be completed prior to installation of posts for guardrail terminals. The contractor shall install the posts in a manner that prevents heaving or other damage to the surface material. If the Engineer determines that heaving or other damage has occurred, the contractor shall remove and replace surface material at no additional cost to the Agency.

905-3.11 Guardrail Delineation:

(A) General:

Flexible guardrail markers shall be either L-shaped, U-shaped (for steel I-beam posts), or T-shaped delineators, or flexible vertical delineators. Flexible L-shaped, U-shaped, and T-shaped delineators shall be installed on the top of the posts, and shall be placed as close as possible to the roadway edge of the post with the retroreflective surface facing oncoming traffic of the nearest traveled lane. Flexible vertical delineators shall be installed on the side of the post facing oncoming traffic, level and true, with the retroreflective sheeting 38 inches above the roadway surface.

When nails are used to secure delineation to the top of wood posts, a minimum of two nails shall be driven at an angle to prevent the post from splitting. Side-mounted flexible vertical delineators shall be secured to wood posts with two 1/8-inch diameter by 2-inch-long galvanized lag screws and flat washers. Side mounted delineation shall be secured to metal posts by drilling two holes through the post and attaching with two galvanized 1/8-inch diameter by 3/4-inch-long bolts, flat washers, and lock nuts. Self-tapping 1/8-inch screws may be used as permitted by the Engineer.

The color of the retroreflective portion of the barrier markers and flexible delineators shall conform to the color of the adjacent edge line. Field application of retroreflective sheeting will not be allowed. The manufacturer shall apply all sheeting in the factory.

The contractor shall remove and replace damaged delineation at no additional cost to the Agency.

(A) Guardrail Delineation:

Flexible guardrail markers shall be installed at every sixth post. On radial sections of guardrail, the flexible guardrail markers shall be placed at every other post.

(B) Guardrail Terminal Delineation:

Delineation for guardrail terminals shall be compatible with the average project elevation and traffic direction shown on the plans. The contractor shall maintain consistency within the project limits by selecting the same type of delineation for all similar installations.

For guardrail terminals, the contractor shall use L-shaped, T-shaped, or U-shaped markers, or flexible vertical delineators on the posts shown in Standard Drawings.

The configuration of reflective sheeting object markers on the approach and departure faces of the guardrail terminal.

905-4 METHOD OF MEASUREMENT:

The limits of measurement for the various guardrail items are shown on the plans.

Guardrail, of the type shown on the project plans, will be measured by the linear foot along the face of the rail element from center to center of splices, exclusive of guardrail terminals, end anchors, and guardrail transitions. Lengths of tapers required for connecting to existing guardrail and the long span guardrail will be included in overall guardrail length.

Guardrail terminals will be measured by the unit each, including all components and delineation required for a complete installation as shown on the plans and in the approved manufacturer's drawing and installation manual.

Guardrail end anchors will be measured by the unit each, including delineation and all other components required for a complete installation as shown on the plans.

Guardrail transitions will be measured by the unit each, including delineation and all other components required for a complete installation as shown on the plans.

Box culvert guardrail posts will be measured by the unit for each post anchored as shown on the plans. One unit will consist of the cut and fitted guardrail post, anchor plate, and hardware.

Constructing the various types of guardrail, guardrail transitions, and end anchors from salvage will be measured by the linear foot, or by the unit each, using the limits of measurement specified for new construction.

Reconstructing the various types of guardrail, guardrail transitions, guardrail terminals, and end anchors will be measured by the linear foot, or by the unit each, using the limits of measurement specified for new construction.

905-5 Basis of Payment:

The accepted quantities of guardrail, measured as provided above, will be paid for at the contract unit price per linear foot for the types of guardrail installation designated in the bidding schedule, complete in place, including all guardrail delineation, excavation, backfill and disposal of surplus material.

The accepted quantities of guardrail terminals, measured as provided above, will be paid for at the contract unit price each, complete in place, including all components and delineation as required, excavation, backfill and disposal of surplus material.

The accepted quantities of guardrail end anchors, measured as provided above, will be paid for at the contract unit price each, complete in place, including all guardrail components and delineation as required, excavation, backfill, disposal of surplus material, and installation of foundation tubes.

The accepted quantities of guardrail transitions to concrete barriers, measured as provided above, will be paid for at the contract unit price each, complete in place, including guardrail posts, blockouts, hardware, terminal connection, excavation, backfill and disposal of surplus material. Concrete barrier that is constructed with a guardrail transition shall be measured and paid for in accordance with the requirements of Section 910 of the specifications for concrete barrier transition.

Payment for furnishing and placing earthwork and surfacing material for pavement widening associated with new guardrail and at the flares of guardrail terminals will be measured and paid for under the respective contract items.

The accepted quantities of box culvert guardrail posts, measured as provided above, will be paid for at the contract unit price each, and shall be full compensation for the work, complete in place, including anchor plates, hardware, excavation, backfill, removing and replacing surfacing, cutting and fitting steel beam posts, drilling anchor bolt holes in steel posts and box culverts, and disposal of surplus materials.

The accepted quantities of construct guardrail, guardrail transitions, and end anchors from salvage, measured as provided above, will be paid for at the contract unit price, complete in place, including all new guardrail delineation, removal of existing delineation as necessary, excavation, backfill and disposal of surplus or unusable materials.

The accepted quantities of reconstruct guardrail with existing materials, measured as provided above, will be paid for at the contract unit price, complete in place, including all new guardrail delineation, removal of existing delineation as necessary, excavation, backfill and compaction, and disposal of surplus or unusable materials.

The accepted quantities of reconstruct guardrail with new posts, blockouts, and hardware, measured as provided above, will be paid for at the contract unit price, complete in place, including all new posts, blockouts, and hardware, new guardrail delineation, removal of existing delineation as necessary, excavation, backfill and compaction, and disposal of surplus or unusable materials.

The accepted quantities of reconstruct guardrail transitions, guardrail terminals, and end anchors, measured as provided above, will be paid for at the contract unit price, complete in place, including new guardrail delineation, removal of existing delineation as necessary, excavation, backfill and compaction, and disposal of surplus or unusable materials. Payment for

reconstructing end anchors will include all costs for providing and installing new foundation tubes.

The contractor will be paid in accordance with the provisions of Subsection 109.04 of the specifications for furnishing new posts, blockouts, rail elements or hardware to replace components deemed by the Engineer unsuitable for reuse, or to supplement insufficient existing quantities for reconstructing the various types of guardrail, or for constructing the various types of guardrail from salvage.

Reconstruct guardrail does not include stockpiling or relocating guardrail. Guardrail requiring stockpiling or relocating will be compensated under two separate bid items:

(A) Remove and Salvage Guardrail; and

(B) Construct Guardrail from Salvage.

(925CONSTR_SURVEY_06/02/21)

SECTION 925 - CONSTRUCTION SURVEYING AND LAYOUT

925-1 DESCRIPTION of the Standard Specifications second paragraph is deleted.

925-3 CONSTRUCTION REQUIREMENTS

925-3.01 Personnel and Equipment of the Standard Specifications second paragraph is modified to read:

All survey and layout work, as described in the section, shall be under the direction of a Land Surveyor registered in the State of Arizona. Each survey crew chief shall be NSPS Certified Level III, NICET Certified Level III, or a Land Surveyor-in-Training in the State of Arizona.

925-3.03 Field Staking and Layout

925-3.03 (B) Agency Provided Information of the Standard Specifications third paragraph is modified read:

For vertical control, the Engineer will have Agency survey personnel establish bench marks for the entire length of the project at horizontal intervals not to exceed 500 feet.

925-3.03 (B) Agency Provided Information of the Standard Specifications is modified to replace the last paragraph:

The contractor shall adhere to the requirements specified in Subsection 925-3.04 when locating or establishing ties to section line, right-of-way, and roadway monuments.

925-3.03 (C) Survey Staking by the Contractor of the Standard Specifications is modified to add:

The Engineer shall provide a copy of the Pima County Department of Transportation Survey Staking Request form to the contractor for use in requesting staking to be performed by the contractor's surveyor.

The contractor shall provide a copy of Survey Staking Requests, prepared for the contractor's surveyor, to the Engineer. The request shall afford a minimum forty-eight (48) hours' notice for the establishment of staking. The request shall list, in order of importance, the items to be staked including the area and necessary offsets required. Within Twenty-four (24) hours of staking completion, the contractor shall provide to the Engineer a copy of the staking field notes (cut sheets) of the items listed in the Survey Request. All survey field notes are to be submitted within thirty (30) days from the completion of the project and will become the property of the Agency.

925-3.03 (C) Survey Staking by the Contractor of the Standard Specifications is modified to replace the seventh paragraph:

The contractor shall exercise care in the preservation of stakes, references and benchmarks and shall have them reset by the contractor's surveyor when any are damaged, lost, displaced or removed at no additional cost to the Agency.

925-3.03 (D) Layout for Pavement Striping of the Standard Specifications is modified to replace the last sentence of the first paragraph:

Refer to Subsection 704-3.01 for pavement striping layout requirements.

925-3.04 (C) Survey Staking by the Contractor of the Standard Specifications is modified to replace the third paragraph:

A copy of the corner recordation documentation shall be submitted to the Engineer within ten working days of completion of the project for review by the Pima County DOT Survey office. Upon acknowledgment of acceptance by the Pima County Survey office, the contractor shall have the corner documentation recorded at the appropriate county recorder's office and a copy of the record of Survey documentation shall be submitted to the Engineer within five working days of recording.

925-4 METHOD OF MEASUREMENT of the Standard Specifications is modified to add:

Additional staking and layout will be measured on a USD (dollar) basis.

925-4 METHOD OF MEASUREMENT of the Standard Specifications is modified to delete the 2nd paragraph.

925-5 BASIS OF PAYMENT of the Standard Specifications is modified to add the following predetermined rates for additional staking and layout work directed by the Engineer:

Table 925-1
Additional Staking and Layout Service Rates

Description of Service	Unit	Rate
One-Person Survey Party	Hour	\$80
Two-Person Survey Party	Hour	\$130
Three-Person Survey Party	Hour	\$165
Survey Manager	Hour	\$135
Office Survey Technician	Hour	\$80

925-5 BASIS OF PAYMENT of the Standard Specifications fourth paragraph, 1st and 2nd sentences are revised to read:

If additional staking and layout are required as a result of additional work directed by the Engineer, payment will be made at the respective predetermined unit prices specified in Table 925-1 of this Special Provision and will be paid for under bid item 9250111, *Additional Staking and Layout Allowance*, of the bidding schedule.

(930INCIDENTAL_ITEMS_ALLOWANCE, 3/13/17)

ITEM 9300100 - INCIDENTAL ITEMS ALLOWANCE

1. DESCRIPTION

The work under this item shall be subject to the approval of the Engineer and shall consist of furnishing all labor, materials, equipment and other incidentals necessary or convenient to the successful completion of the project not provided for in the contract as awarded.

2. MATERIALS (None Specified)

3. CONSTRUCTION DETAILS

All work under this item shall be as directed by the Engineer.

4. METHOD OF MEASUREMENT

Incidental items will be measured on a USD (dollar) basis.

5. BASIS OF PAYMENT

Payment for incidental items shall be paid for using any of the methods described in Subsection

109-5.01 of the Standard Specifications and shall be full compensation for the work, complete in place.

ITEM 9300117 D- MISCELLANEOUS WORK 7 (CHAIN LINK MESH BANK PROTECTION)

1. DESCRIPTION

The work under this section consists of furnishing all materials, tools, equipment and labor necessary to install chain link mesh bank protection as described in and in accordance with the details shown on the project plans.

2. MATERIALS

Chain link fence fabric shall conform to the requirements of Section 902-2.04 of the specifications.

Tension wire and fabric fasteners shall conform to the requirements of Section 902-2.05 of the specifications.

Bolts and nuts shall conform to the requirements of ASTM F568.

Wire rope shall conform to the requirements of ASTM A475 for the diameter shown on the plans.

Bank protection fabric shall be a geotextile fabric conforming to the requirements of Section 1014-5.

3. CONSTRUCTION REQUIREMENTS

Chain link fence fabric shall be fabricated into a continuous mat to be installed to the shape and dimensions detailed on the project plans. The fence fabric shall be overlapped a minimum of 12" for all adjacent sections of fence fabric that abut each other and shall have tension wire woven through the overlapped sections and tied with hog ring fasteners at 1.5' on center.

A layer of bank protection fabric shall line the inside chain link mesh face. Any joints in the bank protection fabric shall overlap the adjacent bank protection fabric a minimum of 3'.

Wire rope shall be intertwined with the chain link fence fabric, the CMP eye bolts, and the barrier loop connections to anchor the CMP in place.

4. METHOD OF MEASUREMENT

ITEM 9300117 D – MISCELLANEOUS WORK 7 (CHAIN LINK MESH BANK PROTECTION), will be measured by the total square yard of chain link mesh bank protection installed. This unit shall be considered as compensation, in full, for the item, complete in place,

including chain link fabric, any fencing overlap at joints, bank protection fabric, tension wires and fabric fasteners, wire rope and clamps, excavation, preparing the ground area, backfilling, and all labor, equipment, materials, tools, supplies and incidentals necessary for the work in conformance with the requirements of this Section, the project plans, this special provision, or as may be directed by the Engineer.

No direct measurement will be made for the bank protection fabric, the cost being considered as incidental to and included in the payment of chain link mesh bank protection.

5. BASIS OF PAYMENT

The accepted quantities of ITEM 9300117 D – MISCELLANEOUS WORK 7 (CHAIN LINK MESH BANK PROTECTION), measured as provided above, will be paid for at the contract unit bid price, complete in-place.

ITEM 9300122 D - MISCELLANEOUS WORK 12 (STACKED TEMPORARY CONCRETE BARRIER)

1. DESCRIPTION

The work under this section consists of furnishing all materials, tools, equipment and labor necessary to install stacked temporary concrete barrier as headwalls and cutoff walls in accordance with the details shown on the project plans and in accordance with this special provision.

2. MATERIALS

12.5' long temporary concrete barriers conforming to the requirements of ADOT Traffic Signing and Marking Standard Drawings, Detail C-3.

3. CONSTRUCTION REQUIREMENTS

Crossings to receive stacked temporary concrete barrier are to be constructed and installed per plan details, with a slight batter. The area shall be cleared and grubbed to remove any organic materials, excavated to the required base, and then compacted to 95% of standard proctor, prior to setting the temporary concrete barrier as cut-off walls.

Temporary concrete barriers shall be stacked and installed in accordance with the details shown on the project plans to form temporary headwalls and cutoff walls at temporary CMP culvert inlets and outlets at detour channel crossings.

4. METHOD OF MEASUREMENT

ITEM 9300122 D – MISCELLANEOUS WORK 12 (STACKED TEMPORARY CONCRETE BARRIER) will be measured by the linear feet of temporary concrete barriers installed in place, regardless of whether buried as a cut-off wall or at grade and stacked, as a headwall. This unit

shall be considered as compensation, in full, for the item, complete in place, including temporary concrete barriers, pins, nuts and washers, excavation, preparing the ground area, backfilling, and all labor, equipment, materials, tools, graffiti removal, supplies and incidentals necessary for the work in conformance with the project plans, this special provision, or as may be directed by the Engineer.

5. BASIS OF PAYMENT

The accepted quantities of ITEM 9300122 D – MISCELLANEOUS WORK 12 (STACKED TEMPORARY CONCRETE BARRIER), measured as provided above, will be paid for at the contract unit bid price, complete in-place.

ITEM 9300123 D- MISCELLANEOUS WORK 13 (WATER SERVICE CONCRETE ENCASEMENT)

1. DESCRIPTION

The work under this section consists of furnishing all materials and constructing concrete encasement for an existing water service line in accordance with the project plans.

2. MATERIALS

Concrete shall be Class B. 2,500 psi. Concrete shall conform to the requirements of Sections 1006 and 1006 of the specifications.

Polyvinyl Chloride (PVC) Pipe, Schedule 40, shall conform to ASTM D1785 or as approved by the Engineer.

Polyvinyl Chloride (PVC) Fittings. PVC fittings shall comply with ASTM D2466 or as approved by the Engineer.

Primer for Polyvinyl Chloride (PVC) Solvent Weld Pipe Joints. Primer for solvent weld pipe joints shall be appropriate for the type, size, and schedule of pipe and fitting to be connected and shall conform to ASTM F656.

Cement for Polyvinyl Chloride (PVC) Solvent Weld Pipe Joints shall be appropriate for the type, size, and schedule of pipe and fitting to be connected and shall conform ASTM D2564.

Semi-rigid, closed-cell polypropylene foam, shall conform to the requirements of ASTM D8139.

3. CONSTRUCTION REQUIREMENTS

The existing steel water service line shall be exposed, evenly secured to avoid sag, excavated around, for the limits shown on the project plans.

The 4" PVC sleeve shall be cut longitudinally to allow for placement around the existing water line. Prior to placement of concrete, the PVC sleeve shall be wrapped with duct tape to prevent

concrete from seeping into the sleeve cavity. The sleeve shall maintain an even offset from the existing waterline.

At the open ends of the PVC sleeve that would admit water or debris, each end section shall be filled to a depth of 4" inches with commercial quality open cell polyurethane foam or closed by other means subject to the approval of the Engineer.

4. METHOD OF MEASUREMENT

ITEM 9300123 D MISCELLANEOUS WORK 13 (WATER SERVICE CONCRETE ENCASEMENT) will be measured by the linear foot of concrete encased pipe constructed around the existing waterline. This item shall include all materials, tools, equipment, and labor necessary to construct this work including any necessary excavation, PVC pipe and fittings, PVC cement, semi rigid foam, tape, furnishing and installing Class B concrete, formwork, backfilling, compacting, any adjustments to the detour profile required to provide for a smooth transition over this encasement, and all labor and any incidentals necessary to complete the work.

5. BASIS OF PAYMENT

The accepted quantity of ITEM 9300123 D MISCELLANEOUS WORK 13 (WATER SERVICE CONCRETE ENCASEMENT), measured as provided above, will be paid for at the contract unit bid price, complete in-place.

ITEM 9300127 – MISCELLANEOUS WORK 17 (REBUILD STORM DAMAGED DETOUR)

1. DESCRIPTION

The work under this section shall include all labor, equipment, materials, mobilizations, qualified equipment operators, supervision, tools, fuel, water, and any other items necessary to rebuild damaged portions of the detour using both existing salvage materials and new materials per plan requirements.

During a rebuild, the existing detour road is inaccessible, the contractor shall grade a temporary and adjacent one-way detour road to maintain emergency access for nearby residents and fire. That work is considered incidental to this work item.

2. MATERIALS

All materials shall conform to the Standard Specifications and the project plans.

3. CONSTRUCTION REQUIREMENTS

It shall be the Contractor's responsibility to rebuild the damaged detour per the original project plans, details, Standard Specifications, and these special provisions.

4. METHOD OF MEASUREMENT

ITEM 9300127 – MISCELLANEOUS WORK 17 (REBUILD STORM DAMAGED DETOUR) will be measured by the unit Each.

5. BASIS OF PAYMENT

The accepted quantities of ITEM 9300127 – MISCELLANEOUS WORK 17 (REBUILD STORM DAMAGED DETOUR) measured as provided above, will be paid as designated in the bidding schedule, including all materials, furnish and apply water, inspection, salvaging materials displaced by storms, removals, disposal, grading of temporary detour roads, and any other means necessary to rebuild the detour to the original plan requirements.

ITEM 9300128 – MISCELLANEOUS WORK 18 (REMOVE DETOUR)

1. DESCRIPTION

The work under this section shall consist of furnishing all equipment, labor, and materials for the removal, wholly or in part, and satisfactory disposal of all structures and materials that constitute the detour as detailed in the project plans, and that are not specified for salvage or to remain-in place.

Areas and extents designated for removal shall be returned to their original state, matching the adjacent lines and grades. These extents are identified in **Table D1**. Typical sections in the project plans show ripping extents.

Materials removed and not designated for salvage or incorporation into the work shall become the property of the contractor.

2. MATERIALS

(None Specified)

3. CONSTRUCTION REQUIREMENTS

Items which are to be salvaged or reused in the new construction and are damaged or destroyed as a result of the contractor's operations shall be repaired or replaced by the contractor at no additional cost to the Agency. Damaged items shall be repaired to the satisfaction of the Engineer.

Holes, cavities, trenches and depressions resulting from the removal of components of the detour shall be backfilled with suitable material which shall be compacted to a density of not less than 95 percent of the maximum density. This work shall be completed in conformance with the construction requirements of Section 203. If recycled cement treated base materials are used, they shall meet the gradation requirements of Section 203. At locations of minor and major channel crossings reflected in **Table D1**, detour fill material shall be removed and the channel

graded back to original conditions. Material generated from the removal of detour embankment shall be relocated to areas requiring material to fill in cavities or depressions. Material shall be spread and compacted accordingly. Any excess material not used to reshape the detour limits shall be deposited to the job site borrow pit, or as directed by the Engineer.

At specified detour removal extents (**Table D1**), the removal of bituminous pavement is required at the temporary asphaltic concrete detour connections. Pavement removal shall be completed in conformance with the requirements of Section 202-3.03 (B) and shall keep the aggregate base, under the temporary detour pavement, in place. At locations where the detour pavement abuts existing pavement for Madera Canyon Road, the original edge of pavement shall be re-established with a neat edge. Aggregate base spoils shall be used to form a maximum 6:1 slope from the neat edge to the exposed aggregate base surface. This work shall be considered incidental to the detour removal item.

At specified detour removal extents (**Table D1**), a 12-foot-wide aggregate base surface shall remain in place for future use by ranchers. All other remaining portions of the ABC driving surface (outer 8-ft – both sides) shall be ripped to a depth of 6 inches, then reworked and blended to match existing terrain and the remaining edges of the 12-foot wide ABC path. All voids and sharp edges shall be removed, resulting in a smooth contour.

At specified detour removal extents (**Table D1**), where cement treated base driving surface was installed, all cement treated base and corresponding fill material shall be removed to the original elevation of the natural channel.

Table D1 – Detour Removal & Ripping Extents

DETOUR EXTENTS	STATION	REMOVAL OR RIPPING ACTION
Sta 10+96 to 14+37		Remove AC/ Leave AB
Sta 14+37 to Sta 22+75		Rip AB/ Leave 12' Road
Sta 22+75 to Sta 23+50		Remove all AB and Fill
Sta 23+50 to Sta 26+50		Remove CTB and Fill
Sta 26+50 to Sta 35+28		Remove all AB and Fill
Sta 35+28 to Sta 44+75		Rip AB/ Leave 12' Road
Sta 44+75 to Sta 47+00		Remove CTB and Fill
Sta 47+00 to Sta 50+80		Remove all AB and Fill
Sta 50+80 to Sta 53+29		Rip AB/ Leave 12' Road
Sta 53+29 to 55+33		Remove AC/ Leave AB

The obliteration of pavement markings for the detour shall be completed in conformance with the requirements of Section 701-3.11.

The removal of signs and delineators for the detour shall be completed in conformance with the requirements of Section 202-3.06.

The temporary concrete barriers installed as part of the stacked temporary concrete barriers shall be removed by the contractor. Temporary concrete barriers are the property of the contractor.

After the detour is no longer in use, all pre-cast cattle guard units, installed with the detour, shall be removed and delivered to the County by the contractor. The contractor is responsible for the safe storage at the construction site until delivery and the safe unloading of the salvaged material. Contractor shall verify the delivery location with Pima County. Notifications for all deliveries shall be made at least 2 working days prior to delivery and deliveries will not be accepted on Fridays. The delivery location is at the Pima County maintenance yard located at 1313 S. Mission Road, Tucson, AZ. The Pima County contact person is Arnold A Leyva, Public Works Manager. Arnold can be reached by phone at 520-703-4605 (cell) or 520-724-2382 (office) or by e-mail at Arnold.leyva@pima.gov.

All CMP culverts installed as part of the detour shall be removed in conformance with the requirements of Section 202-3.02. The Engineer will determine if the culverts are salvageable. Salvaged culverts shall be delivered to the Pima County yard indicated above. Those culverts deemed non-salvageable, shall be removed from the site and disposed of by the contractor.

Chain link mesh bank protection and bank protection fabric shall be removed from the site and disposed of by the contractor.

Riprap installed at minor channel crossings shall remain on site and be blended uniformly into the surrounding terrain. Any corresponding bank protection fabric shall be removed from the site and disposed of by the contractor.

Any removal of barbed wire fence in association with the detour, shall be completed in conformance with the requirements of Section 202-3.08. See project plans for locations where barbed wire fence installed with the detour shall remain in place.

4. METHOD OF MEASUREMENT

ITEM 9300128 – MISCELLANEOUS WORK 18 (REMOVE DETOUR) will be measured for payment by the unit Lump Sum. This unit shall include all materials, tools, equipment, and labor necessary to perform this work including, but not limited to the removal and disposal of asphalt, aggregate base, damaged pipe culverts, barbed wire and gates, filter fabric, chain-link fabric, cement treated base, sign foundations, and all other supporting incidentals. Detour embankment spoils shall be spread and compacted to fill removal voids throughout the detour. This includes the hauling of detour embankment material from unwanted areas to the final placement location. This work also includes salvage of materials and deliveries to location(s) designated by the Engineer. Items for salvage shall be signs and signposts, corrugated metal pipe, or as directed by the Engineer. Salvaged material shall be carefully dismantled and stored by the contractor in a manner and at a location satisfactory to the Engineer. Prior to completion of the project, the contractor shall give the Engineer 48-hour notice of delivery of all salvaged material to the Agency location provided by the Engineer.

5. BASIS OF PAYMENT

The accepted quantities of ITEM 9300128 – MISCELLANEOUS WORK 18 (REMOVE DETOUR), measured as provided above, will be paid for at the contract unit bid price, complete in-place.

ITEM 9300129 D - MISCELLANEOUS WORK 19 (MAINTAIN DETOUR ROAD)

1. DESCRIPTION

The work under this section shall include all labor, equipment, materials, mobilizations, qualified equipment operators, supervision, tools, fuel, water, and any other items necessary to maintain the detour to the lines, grades and typical sections included in the project plans. The contractor shall maintain all detour surfaces (asphalt, aggregate base, cement treated base), parallel drainage ditches, signage, barricades, cattle guards, gates, fencing, concrete barrier, and temporary culverts, so all detour infrastructure are clear of debris and rubbish. Regular grading using a motor grader and the application of water shall be conducted so dust is minimized and the detour remains smooth. Potholes shall be immediately filled.

2. MATERIALS

All materials shall conform to the Standard Specifications.

3. CONSTRUCTION REQUIREMENTS

It shall be the Contractor's responsibility to maintain the construction detour, repair the surface as-needed to maintain a smooth detour (in-kind), maintain the parallel drainage ditches, maintain signage, barricades, cattle guards, gates, fencing, furnish and reapply aggregate base as needed, and inspect and clean temporary culverts and concrete barricades so all infrastructure are clear of debris and rubbish, as long as the detour is required.

4. METHOD OF MEASUREMENT

ITEM 9300129 D – MISCELLANEOUS WORK 19 (MAINTAIN DETOUR ROAD) will be measured on a Lump Sum basis.

5. BASIS OF PAYMENT

The accepted quantities of ITEM 9300129 D – MISCELLANEOUS WORK 19 (MAINTAIN DETOUR ROAD), measured as provided above, will be paid as designated in the bidding schedule, including all maintenance activities, materials, furnish and apply water, inspection, removals, disposal, and means necessary to maintain the detour to achieve a safe and smooth roadway for public use.

When measured on a lump sum basis, payments will be made monthly in proportion to the amount of work done as determined by the Engineer.

(1005BITMAT, 12/19/18)

SECTION 1005 - BITUMINOUS MATERIALS FOR SURFACING

1005-3 BITUMINOUS MATERIAL REQUIREMENTS

1005-3.01 Asphalt Cement of the Standard Specifications is modified to add:

Terminal mix shall use performance grade (PG 76-22 TR+) asphalt binder conforming to the requirements of Table 1005-1.

1005-3.01 Asphalt Cement of the Standard Specifications is modified to revise Table 1005-1:

TABLE 1005-1 PG 76-22 TR+ ASPHALT BINDER				
Test Property	Test Method	Requirement	Test Result	Percent of Contract Unit Price Allowed
Solubility in Trichloroethylene, %, minimum	ASTM D 2042	97.5	-----	-----
Softening Point, °C, minimum	AASHTO T 53	60	≥ 60 57 - 59 < 57	100 85 70 (1)
Elastic Recovery, @ 10 °C, %, minimum	AASHTO T 301	55	≥ 55 50 - 54 < 50	100 85 70 (1)
Phase Angle (δ), @ 70 °C @ 10 rad/sec, degrees, maximum	AASHTO T 315	75	≤ 75 76 - 83 > 83	100 85 65 (1)
(1) Reject Status: The pay adjustment applies if allowed to remain in place.				
Notes: - PG 76-22 TR+ asphalt binder shall contain a minimum of 8 percent crumb rubber and a minimum of two percent SBS (styrene-butadiene-styrene) polymer. - PG 76-22 TR+ asphalt binder shall conform to the requirements of AASHTO M 320 and, in addition, shall meet the requirements specified above. - Should the bituminous material be deficient on more than one of the properties listed in Tables 1005-1, the pay adjustment will be the greatest reduction to the contract unit price specified considering individual test results. - The pressure aging temperature for PG 76-22 TR+ asphalt binder shall be 110 °C. - The crumb rubber shall be derived from processing whole scrap tires or shredded tire materials. The tires from which the crumb rubber is produced shall be taken from automobiles, trucks, or other equipment owned and operated in the United States. The processing shall not produce, as a waste product, casings or other round tire material that can hold water when stored or disposed of above ground.				

1005-3.07 Asphalt Cement of the Standard Specifications is revise to read:

Bituminous material for slurry seal shall be a cationic quick setting asphaltic emulsion conforming to the requirements for PMCQS-1h grade meeting the following requirements:

TESTS ON EMULSIONS	Test Method	Min	Max
Viscosity, Saybolt-Furol at 77°F, sec	AASHTO T 59	20	100

TESTS ON RESIDUE FROM DISTILLATION	Test Method	Min	Max
Residue by evaporation, %	ARIZ 504	60	
Penetration, 25°C (77°F), 100 g., 5 sec	AASHTO T 49	55	75
Ductility, 25°C (77°F), 5 cm per min, cm	AASHTO T 51	40	
Ring and Ball Softening Point	AASHTO T 53	130	
Elastic Recovery, %	AASHTO T 30	55	
Solubility in trichloroethylene, Wt. %	AASHTO T 59	97.5	

Storage Stability Test, 1 day, %	-----	1	
Particle charge test	AASHTO T 59	Positive	

1005-3.08 Other Requirements of the Standard Specifications is modified to revise
Table 1005-5:

TABLE 1005-5 OTHER REQUIREMENTS			
GRADE OF ASPHALT SPECIFICATION DESIGNATION	RANGE OF TEMPERATURES FOR APPLICATION BY SPRAYING, °F (1)	RANGE OF AGGREGATE TEMPERATURES FOR PLANT MIXING, °F	BASIS OF CONVERSION, AVERAGE GALLONS PER TON AT 60 °F
Paving Asphalt: PG 76-22 TR+ PG 76-XX PG 70-XX PG 64-XX PG 58-XX PG-52-XX	275 – 400	----	---- 229 232 233 235 236 238
Liquid Asphalt: MC-70 MC-250 MC-800 MC-3000	---- 105 - 175 140 - 225 175 - 255 215 – 290	---- 90 - 155 125 - 200 160 - 225 200 - 260	---- 253 249 245 241
Emulsified Asphalt: RS-1 CRS-1 PMCQS-1h RS-2 CRS-2 CRS-2P SS-1 CSS-1 HFE – 150P HFE – 300P	---- 70 - 140 125 - 185 125 - 185 125 - 185 125 - 185 125 – 185 (2) 70 - 160 70 - 160 ---- ----	----	240
Emulsified Asphalt: (Special Type)	70 – 160	----	240
Recycling Agent: (RA-1, RA-5, RA- 25, and RA-75)	----	----	240
Emulsified Recycling Agent: (ERA-1, ERA-5, ERA-25 and ERA- 75)	70 – 160	----	240
NOTES: (1) Not applicable to plant mixing. (2) Or as directed by the Engineer.			

(1006CLASS_X_CONC, 11/16/15)

SECTION 1006 - PORTLAND CEMENT CONCRETE

1006-2 MATERIALS

1006 - 2.03 Aggregates

(B) **Fine Aggregate** under the fourth paragraph, and (C) **Coarse Aggregate** under the second paragraph, replace the individual Fine and Coarse Aggregate gradation requirements with the following:

Aggregates for the 4500 psi bridge deck Class “X” concrete shall be combined to meet the trapezoid target area on the Combined Aggregates Relationship Chart as determined by the “*Shilstone*” procedure for performance based concrete mixtures, see Chart No. 1.

Aggregate grading shall follow the trend on the 0.45 Power Curve without major deviations.

Nominal maximum aggregate size shall be 1”.

The following is an *Example* of a gradation that satisfies the Shilstone Combined Aggregates:

Sieve Size:	Percent Passing:
1½"	100
1"	96
¾"	84
½"	71
⅜"	60
¼"	-
#4	42
#8	33
#16	25
#30	17
#50	8
#100	2
#200	0.5

A copy of the design procedure and design form is included.

Quality Control - The concrete producer shall maintain a continuing quality control program, including aggregate testing, and making adjustments in proportions where required to meet the Mixture Design requirements.

If the concrete producer has any questions concerning this Special Provision, please contact the Pima County Department of Transportation Materials Lab, located in the Field Engineering Division, 1313 South Mission Road, Tucson, AZ 85713 at (520) 724-2339.

1006-3 DESIGN OF MIXTURES

1006-3.01 Design Criteria of the Standard Specifications is modified to add:

For Class X concrete, the slump shall be 4.0" $\pm$ 1". A maximum of 20% of the required weight of Portland cement may be replaced with a fly ash admixture. The maximum water/cementitious material (W/CM) ratio shall be 0.45.

Table 1006-1 of the Standard Specifications is revised to read:

TABLE 1006-1		
CONCRETE CLASS	Minimum 28-Day Compressive Strength Required: (psi)	Hydraulic Cement Content: Pounds per Cu. Yd. (Minimum – Maximum)
S	3,000 (minimum)	564 – 752
B	2,500	517 – 658
X	4,500	517 – 658

1006-3.02 Design Procedures of the Standard Specifications is modified to read:

At least six weeks prior to the placement of the bridge deck(s), the Contractor shall furnish a mix design for the 4500 psi bridge deck Class X concrete for review and approval. The design should include the following additional information: composite and individual grading, Combined Aggregates Relationships Chart, 0.45 Power Grading Chart, and the Percent Aggregate Retained Chart.

The Engineer shall be solely responsible for determining if the proposed mix is acceptable for the intended purpose.

1006-6 CURING CONCRETE

1006-6.01 (E) Curing Bridge Deck of the Standard Specifications is modified to add the following to the end of the 2nd paragraph:

The water curing period shall be continued for a period of not less than ten (10) days.

CONCRETE MIXTURE DESIGN

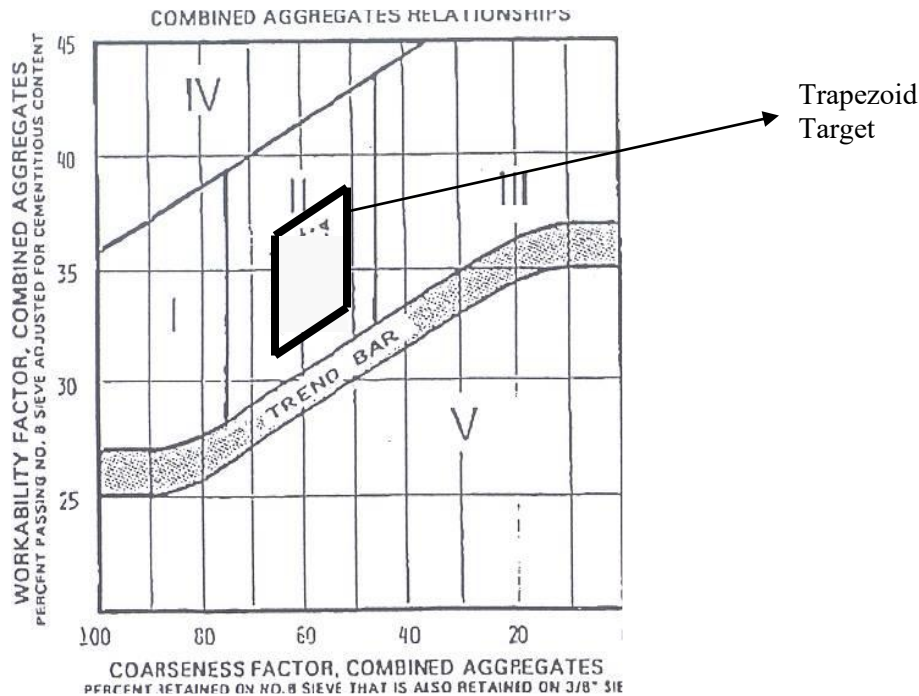


CHART NO. 1

CONCRETE MIX ANALYSIS Worksheet

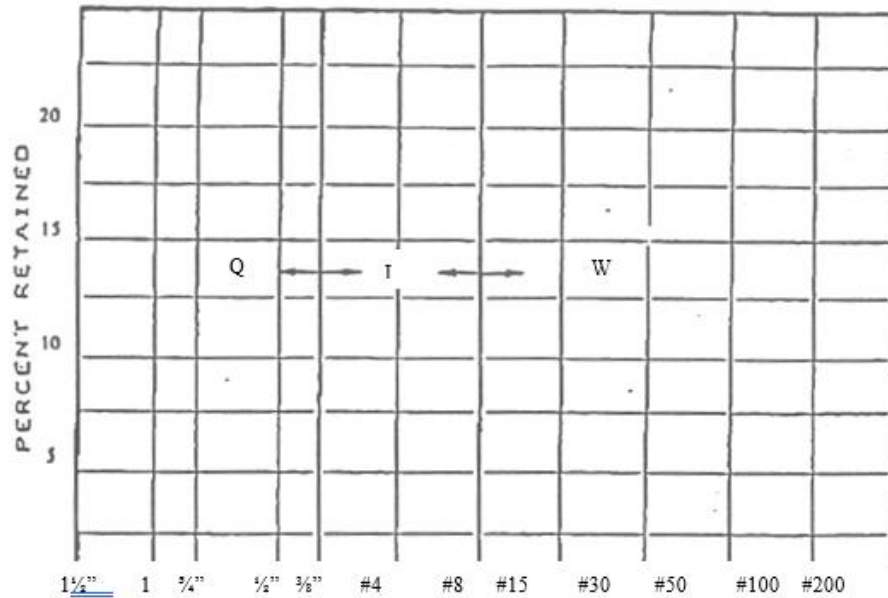
These charts help evaluate concrete mixture proportions. Instead of using the traditional division of “coarse” and “fine” aggregate at the #4 sieve, aggregates are classified in three sizes. The coarse particles (“Q”) are those retained on the 3/8” sieve. The “intermediate” particles (“I”) pass the 3/8” sieve but are retained on the #8 sieve. The fine aggregate (“W”) passes the #8 sieve.

The Percent Aggregate Retained Chart shows the particle distribution by sieve. Cubically crushed and gravel particles should be well distributed with a high incidence in the intermediate range. They reduce water demand and improve mobility. Avoid peaks (in “Q” & “W”) and valleys (in “I”) unless the intermediate particles are slivered. If slivers, the “I” becomes “Interference” and leads to mobility problems.

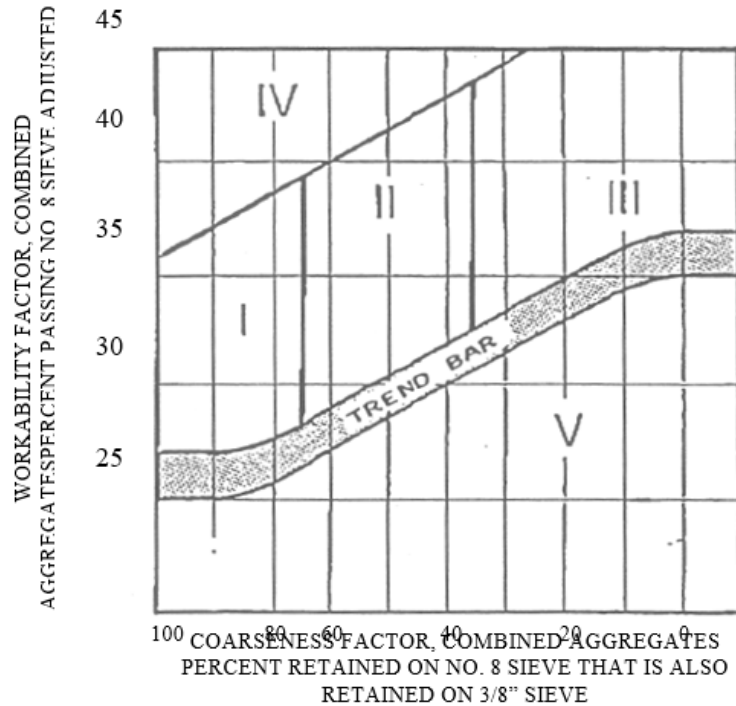
The Optimum Aggregate Chart shows the relationship between the two coarser fractions and the fine fraction. The Coarseness Factor is the percent of all aggregate retained on the #8 sieve (“Q” & “I”) that is also retained on the 3/8” sieve (“Q”). The Workability Factor is the percent of all aggregate passing the #8 sieve (“W”). It should be adjusted for cementitious materials at the rate of 2.5% per US bag (94#) more or less than 6 US bags of cement. Mixes plotted at the top of the trend bar are generally excellent for paving and those placed by chute or bottom-drop bucket in an open space. General use concrete should be 3 to 5 points above trend bar. Mixtures in the “Sandy” area generally have wide strength variations, are difficult to finish, and exhibit a high incidence of crazing and cracking.

The 0.45 Power Chart is an asphalt industry standard but an excellent tool to analyze the combined aggregate in concrete. An optimum asphalt grading should follow the line drawn from the first sieve on which aggregate is retained to “O”. Concrete aggregate gradation should drop below the optimum line bar at the No. 8 sieve. Wide swings across the “optimum” line can indicate potential problems.

MIX DESIGN FORM



CONCRETE MIXTURE DESIGN
COMBINED AGGREGATES RELATIONSHIPS



SP-114

MIXTURE ID _____

Compressive Strength, Min PSI _____

Cementitious Materials:

Portland Cement, ASTM C150, Lbs _____

Fly Ash Lbs _____

Total Water, Lbs/Gal _____

W/(C/P) Ratio Max _____

Aggregate:

_____ ASTM C33, Size _____, Lbs - SSD _____

_____ ASTM C33, Size _____, Lbs - SSD _____

_____ ASTM C33, Sand _____, Lbs - SSD _____

_____ ASTM C33, Sand _____, Lbs - SSD _____

Admixtures/Air Entrainment:

_____ ozs / cu yd _____

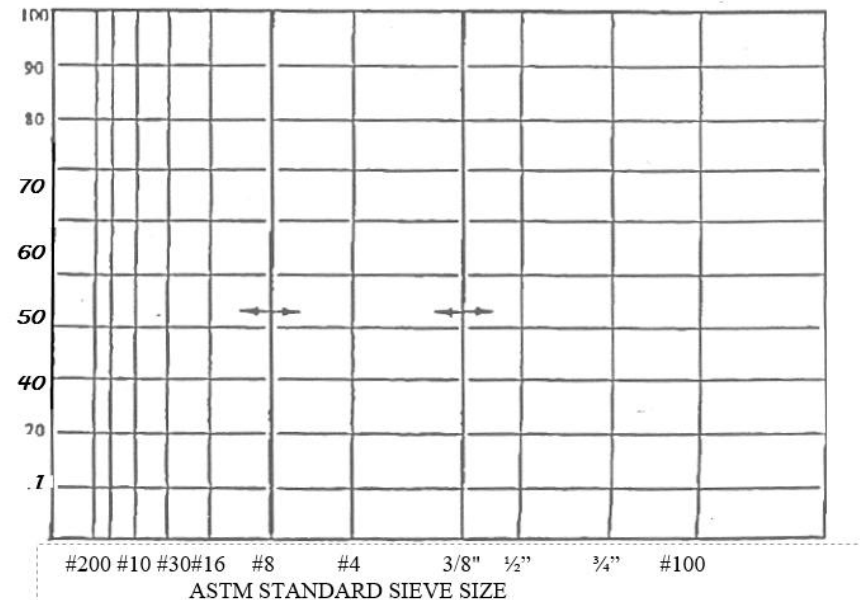
_____ ozs / cu yd _____

_____ ozs / cu yd _____

Slump:

Without/With HRWR, Inches _____

0.45 POWER GRADING CI-CART



(1007 REFSHEET, 1/19/18)

SECTION 1007 – RETROREFLECTIVE SHEETING

1007-2 MATERIAL TYPES of the Standard Specifications is revised to read:

The type of sheeting to be used for all sign type backgrounds shall be ASTM Type XI sheeting, or equivalent. This includes, but is not limited to, warning signs, regulatory signs, guide signs, and all overhead signs. Fluorescent retroreflective yellow sheeting shall be used for warning signs having yellow backgrounds. Fluorescent retroreflective yellow/green sheeting shall be used for all school signs.

The type of sheeting material to be used in other applications will be as specified herein.

For barricades, channelizers and other work zone devices, ASTM sheeting Types IV, VIII, IX, or X shall be used.

Sheeting for orange work zone signs (fluorescent) shall be ASTM Types VI, VIII, IX, or X. Roll-up orange work zone signs shall use ASTM Type VI sheeting. Work zone signs with orange backgrounds shall use fluorescent retroreflective orange sheeting, except that non-reflective sign materials may be used for temporary work zone signs where the signs will be clearly visible under available natural light.

For directly applied characters, demountable characters and shields on guide signs, ASTM sheeting Types VIII, IX, or X shall be used.

When more than one sheeting type is allowed, the contractor may use any of the types listed, provided that materials used for a particular application shall be of the same ASTM type, manufacturer, and product for all signs of the same type in the project.

Materials used for a particular application shall be of the same ASTM type, manufacturer, and product for all signs of the same type in the project.

Retroreflective sheeting of the same color, placed on the same sign panel or adjacent sign panels shall be color matched and be from the same manufacturing lot and run.

Opaque films used with sheeting shall be acrylic type films.

Direct-applied and demountable black characters shall be non-reflective.

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APPENDIX A
PIMA COUNTY NOISE ORDINANCE

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Pima County Noise Ordinance 1999-61 § 1 (part), 1999
Title 9 Pima County Code: Public Peace, Morals and Welfare

Chapter 9.30 - Regulation of Excessive, Unnecessary and Annoying Noises

9.30.010 Applicability.

This chapter shall not apply to any incorporated city, town or Indian reservation. It shall apply only within the unincorporated areas of the county.

9.30.020 Purpose.

It is hereby declared to be the policy of Pima County to prohibit excessive, unnecessary and annoying noises from all sources. At and above certain level, noises are detrimental to the health and welfare of the citizens of the county, and it is in the best interest of the citizens of Pima County that such noises be systematically eliminated. (Ord. 1999-61 § 1 (part), 1999)

9.30.030 Definitions.

The following definitions shall apply throughout this chapter unless a different meaning is clearly indicated by the context:

- A. Commercial property means any property occupied by business which sell, rent, trade or store goods, or which provide a service.
- B. Industrial property means any property occupied by land uses whose primary operation involves manufacturing, assembling, processing or otherwise treating raw materials, semi-finished products, or finished products for packaging and distribution to either wholesale or retail markets.
- C. Property line means the line which represents the legal limits of property (including an apartment, condominium, room or other dwelling unit) owned, leased or otherwise occupied by a person, business, corporation or institution. In cases involving sound from an activity on a public street or other public right-of-way, the property line shall be the nearest boundary of the public right-of-way.
- D. Residential property means any property, the dominant use of which is nontransient occupancy of residential dwelling units.
- E. Motor vehicle means any self-propelled vehicle operated within the county, including but not limited to licensed or unlicensed vehicles, automobiles, minibikes, go-carts, all-terrain vehicles, and motorcycles.
- F. Emergency work means any work performed to prevent or alleviate physical trauma or property damage threatened or caused by an emergency which has or may result in a disruption of service, and which is necessary to protect the health, safety and welfare of persons or property.
- G. Emergency vehicle means vehicles of the fire, police and public service departments and legally authorized ambulances and emergency vehicles of state departments or any political subdivisions thereof and vehicles of public service corporations.
- H. Person means a human being and, as the context requires, an enterprise, a public or private

Pima County Noise Ordinance 1999-61 § 1 (part), 1999
Title 9 Pima County Code: Public Peace, Morals and Welfare

Chapter 9.30 - Regulation of Excessive, Unnecessary and Annoying Noises

corporation, an unincorporated association, a partnership, a firm, a society, a government, a governmental authority or an individual or entity capable of holding a legal or beneficial interest in property.(Ord. 2001-127 § 1 (part), 2001; Ord. 1999-61 § 1 (part), 1999)

9.30.040 Impermissible sound levels.

In addition to the prohibited noises described in 9.30.050, 9.30.060 and 9.30.070, it shall be unlawful for any person to make or continue, or cause or permit to be made or continued, any excessive, unnecessary or offensive noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitivity residing in the area. (Ord. 2001-127 § 1 (part), 2001; Ord. 1999-61 § 1 (part), 1999)

9.30.050 Loud radios, sound sets, etc.

- A. It shall be unlawful for any person, including the owner or manager of a restaurant, bar, inn, or resort of any kind, to operate or permit to be operated any radio receiving set, phonograph, musical instrument, or sound producing or sound reproducing mechanism, at any time in such a manner as to permit the same to be heard at a distance of more than one hundred twenty-five (125) feet from the property line or motor vehicle where such radio receiving set, phonograph, or sound producing or sound reproducing mechanism is located, when the sound of such radio receiving set, phonograph, musical instrument, or sound producing or sound reproducing mechanism is operated in such a manner as to create an excessive, unnecessary or offensive noise that a reasonable person of normal sensitivity residing in the area is caused discomfort or annoyance.
- B. It shall be unlawful for any person, including the owner or manager of a restaurant, bar, inn, or resort of any kind, to operate or permit to be operated any radio receiving set, phonograph, musical instrument, or sound producing or sound reproducing mechanism, between the hours of 10:00 P.M. and 7:00 A.M. in such a manner that the sound from such radio set, phonograph, musical instrument, sound producing or sound reproducing mechanism may be heard beyond the property line from which it is operated or outside the motor vehicle in which it is operated in such a manner as to create an excessive, unnecessary or offensive noise that a reasonable person of normal sensitivity residing in the area is caused discomfort or annoyance. (Ord. 2001-127 § 1 (part), 2001; Ord. 1999-61 § 1 (part), 1999)

9.30.060 Vehicular noise.

- A. It shall be unlawful for any person within any residential area of this county to repair, rebuild or test any motor vehicle between the hours of 10:00 p.m. of one day and 7:00 a.m. of the next day in such a manner as to create an excessive, unnecessary or offensive noise that a reasonable person of normal sensitivity residing in the area is caused discomfort or annoyance.
- B. No person shall operate or cause to operate any motor vehicle unless the exhaust system of such vehicle:
 - 1. Is free from defects which may cause sound level magnification,

Pima County Noise Ordinance 1999-61 § 1 (part), 1999
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Chapter 9.30 - Regulation of Excessive, Unnecessary and Annoying Noises

2. Is equipped with a muffler,
 3. Has not been modified in such a manner which will amplify or increase the sound level emitted by the motor of such vehicle above that emitted by a muffler originally installed on the vehicle as manufactured for initial sale.
- C. No person shall operate a motor vehicle in such a manner which creates the squealing of tires in the roadway. (Ord. 1999-61 § 1 (part), 1999)

9.30.070 Construction of buildings and other projects.

- A. Noise limitations: Subject to the provisions of section 9.30.040, it shall be unlawful for any person to operate equipment or perform any outside construction or repair work on buildings, structures or projects, or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist or any other construction type device except within the time periods specified below unless an appropriate permit has been obtained beforehand from the county.
- B. Construction start/stop times:
1. Concrete work: From April fifteenth to October fifteenth, inclusive, concrete may be poured each day between the hours of 5:00 a.m. and 7:00 p.m. or at such other times as authorized by permit. From October sixteenth to April Fourteenth, inclusive, concrete may be poured each day between the hours of 6:00 a.m. to 7:00 p.m. or at such times as authorized by permit.
 2. Other type construction (residential zones): From April fifteenth to October fifteenth, inclusive, all other construction or repair work shall not begin prior to 6:00 a.m. and must stop by 7:00 p.m. each day in, or within five hundred (500) feet of, a residential zone or at such other times as authorized by permit. From October sixteenth to April fourteenth, inclusive, all other construction or repair work shall not begin prior to 7:00 a.m. and must be stopped by 7:00 p.m. each day in, or within five hundred (500) feet of, a residential property or at such other times as authorized by permit.
 3. Other type construction (commercial and industrial zones): Construction and repair work in commercial and industrial zones, not within five hundred (500) feet of a residential property, shall not begin prior to 5:00 a.m. and must stop by 7:00 p.m. or at such other times as authorized by permit.
 4. Weekends and holidays excluded: Notwithstanding anything to the contrary herein, construction or repair work shall not begin prior to 7:00 a.m. and must stop by 7:00 p.m., and concrete pouring should not begin prior to 6:00 a.m. and must stop by 7:00 p.m. on any Saturday, Sunday or state or federal holiday, unless such other times are authorized by permit.
- C. Permits: Construction and repair work may be conducted at different times and at higher noise levels than otherwise permitted, if upon written application, a permit is obtained beforehand from the county administrator or his designee. The permit shall be kept on the work site and shown to county officials on request. In granting such permit, the county administrator or his designee shall consider

Pima County Noise Ordinance 1999-61 § 1 (part), 1999
Title 9 Pima County Code: Public Peace, Morals and Welfare

Chapter 9.30 - Regulation of Excessive, Unnecessary and Annoying Noises

if construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population levels or different neighboring activities; if obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during the daytime; if the kind of work to be performed emits noises at such a low level as to not cause significant disturbance in the vicinity of the work site; if the neighborhood of the proposed work site is of such a character wherein sleep could be disturbed; if great economic hardship would occur if the work was spread over a longer time; if the work will abate or prevent hazards to life or property; if proposed early morning or night work is in the general public interest; and, he shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise emissions as he deems to be required in the public interest. No permit shall be required to perform emergency work as defined in section 9.30.030.

- D. Revocation of permits: The county administrator or his designee may revoke any permit granted hereunder upon complaint based upon substantial evidence that the construction activity caused significant disturbance in the vicinity of the work site. (Ord. 1999-61 § 1 (part), 1999)

9.30.080 Exemptions.

The following uses and activities shall be exempt from the provisions contained in this article:

- A. Heating and cooling equipment when it is functioning in accordance with manufacturer's specifications and is in proper operating condition provided that no unit may create an excessive, unnecessary or offensive noise causing annoyance or discomfort to a reasonable person of normal sensitivity within any sleeping or living area inside any dwelling unit;
- B. Landscape maintenance equipment when it is functioning in accordance with the manufacturer's specifications and with all mufflers and noise-reducing equipment in use and in proper operating condition;
- C. Nonamplified crowd noises resulting from activities such as those planned by school, governmental or community groups, or organized sports except for such noises generated at restaurants, bars, inns, or resorts of any kind;
- D. Noises of safety signals, warning devices and emergency pressure relief valves;
- E. Noises resulting from any authorized emergency vehicle when responding to an emergency call or acting in time of emergency;
- F. Noises resulting from emergency work as defined in section 9.30.030;
- G. Noises from the normal operation of railroad trains;
- H. Noises from church chimes;
- I. Power plant equipment during normal operation;

Pima County Noise Ordinance 1999-61 § 1 (part), 1999
Title 9 Pima County Code: Public Peace, Morals and Welfare

Chapter 9.30 - Regulation of Excessive, Unnecessary and Annoying Noises

- J. Noise created by any county vehicle, equipment or facility while being operated for official use;
- K. Operation of agricultural equipment in connection with farming operations;
- L. Any aircraft operated in conformity with, or pursuant to, federal law, federal air regulations or air traffic control instructions issued pursuant to or within duly adopted federal air regulations, together with any noise created by aircraft operated under, or pursuant to, declaration of an emergency under federal air regulations. (Ord. 2001-127 § 1 (part), 2001; Ord. 1999-61 § 1 (part), 1999)

9.30.090 Penalty.

A violation of any provision of this article shall be deemed and is declared to be a public nuisance and any person who violates any of the provisions of this article shall be guilty of a class 1 misdemeanor. Each day a violation continues or exists shall be a separate offense subject to punishment as a separate class 1 misdemeanor. (Ord. 1999-61 § 1 (part), 1999)

9.30.100 Severability.

If any provisions of this ordinance, or the application thereof to any person or circumstance, is invalid, that invalidity shall not affect other provisions or applications of this ordinance which can be given effect without the invalid provisions or applications, and to this end the provisions of this ordinance are severable. (Ord. 1999-61 § 1 (part), 1999)

9.30.110 Effective date.

This ordinance will be in full force and effective after thirty days from the date of enactment. (Ord. 1999-61 § 1 (part), 1999)

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APPENDIX B

ENVIRONMENTAL COMMITMENTS

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**0000 PM PPM T0540 01C; 0000 PM PPM T0541 01C
PPM-0(273)D, PPM-0(274)D
Florida Canyon Wash Bridge; Medium Wash Canyon Bridge**

ENVIRONMENTAL COMMITMENTS

The following shall be included in the project special provisions:

“The project mitigation measures are not subject to change without written approval from ADOT Environmental Planning. The Contractor shall follow all the requirements of the permits specified herein and comply with the project special provisions as well as the PAG Standard Specifications for Public Improvements, as well as all applicable local environmental requirements.”

The following contractor’s mitigation measures, permits and guidelines (as applicable) shall be included in the project special provisions:

I. Project Mitigation Measures:

Pima County Project Design and Construction Department Responsibilities:

- If active bird nests are identified within the project limits, construction activities will avoid disturbing any active nest. Avoidance areas, if necessary, will be marked in the field with temporary fencing or t-posts with flagging by the approved biologist. The engineer will confer with the approved biologist to determine the appropriate avoidance strategies until the nestlings have fledged from the nest and the nest is no longer active.
- If any active bird nests cannot be avoided by vegetation clearing or construction activities, the Engineer will contact the Pima County Project Design and Construction Department Project Manager (Josh Orth, 520.501.3835) to evaluate the situation.
- The Pima County Project Design and Construction Department will provide special provisions for the control of noxious and invasive plant species during construction that may require treatment and control within the project limits.
- Protected native plants within the project limits will be impacted by this project; therefore, Pima County Project Design and Construction Department will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the Pima County Project Design and Construction Department will send the notification at least 60 (sixty) calendar days prior to the start of construction.

Contractor Responsibilities:

- Trenches, pits, and other features that could trap wildlife will be covered at the end of each work day. Prior to moving vehicles or other equipment at the beginning of the work day, inspect underneath for desert tortoises and other reptiles and wildlife. Move any wildlife present in accordance with the attached handout.

Contractor Responsibilities (cont):

- Vegetation removal and native plant salvage shall follow the project landscape plans, which denotes which plants are to be preserved-in-place, removed from site, or transplanted on site. Additionally, the contractor shall salvage native plants in accordance with Section 809 of the Special Provisions.
- If clearing, grubbing, or tree/limb removal will occur between March 1 and August 31, the contractor shall employ a qualified biologist to conduct a migratory bird nest search of all vegetation within the 10 (ten) days prior to removal. Vegetation may be removed if it has been surveyed and no active bird nests are present. If active nests cannot be avoided, the contractor shall notify the Engineer to evaluate the situation. During the non-breeding season (September 1 – February 28), vegetation removal is not subject to this restriction.
- Prior to the start of construction and before ground disturbing or earthmoving activities occur, the contractor shall treat noxious and invasive vegetation in accordance with Section 201-3.04 of the Special Provisions. Invasive species eradication shall continue throughout the entire project from clearing and grubbing through final project acceptance.
- If any Sonoran Desert tortoises are encountered during construction, the contractor shall adhere to the attached Arizona Game and Fish Department “Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects”. If any tortoise is encountered during construction the contractor shall notify the Engineer to report the encounter.
- The contractor shall report encounters with any Sonoran Desert tortoises (live, injured, or dead) during construction to the Engineer and the Pima County Project Design and Construction Department Project Manager (Josh Orth, 520.501.3835) within 24 hours of the encounter. Photographs should be taken of tortoises encountered and sent to the Pima County Project Design and Construction Department Project Manager (Josh Orth, 520.501.3835) if possible.
- Prior to construction activity the contractor’s field personnel including the Project Manager, Assistant Project Manager, General Superintendent, and Project Superintendent shall review the attached Arizona Department of Transportation Environmental Planning “Sonoran Desert Tortoise Awareness Program Handout” flier, become familiar with the identification and avoidance of the Sonoran Desert tortoise, and notify the Engineer and the Pima County Project Design and Construction Department Project Manager (Josh Orth, 520.501.3835), as applicable.
- For milling activities, the roadway surface preceding the milling machine shall be kept sufficiently wet so as to prevent the generation of any visible fugitive dust particles, but not so wet as to cause excess runoff from the roadway surface onto the roadway shoulder.
- The contractor shall complete a National Standards for Hazardous Air Pollutants (NESHAP) notification for the work associated with work on Florida Wash Bridge (Structure No. 8301) and Medium Wash Bridge (Structure No. 8302) and submit to the Engineer, who shall submit it to the Arizona Department of Transportation environmental planning hazardous material coordinator (602.920.3882 or 602.712.7767) for a five (5) working day review and approval. Upon approval, the contractor shall file the notification with Pima County Department of Environmental Quality at least ten (10) working days prior to the commencement of work.

Contractor Responsibilities (cont):

- The contractor shall not utilize any abrasive tools or methods for the removal of the silver painted guardrails that would disturb the lead-based paint. This includes, but is not limited to: sawing, grinding, sanding, or heating. Woven straps (not linked chains) may be used for the removal of the silver painted metal posts. Additional sampling for disposal purposes is recommended. If the silver painted guardrails and silver painted metal posts are to be disposed of, it should be sampled in such a manner as to be representative and submitted for Toxicity Characteristic Leaching Procedure (TCLP) analysis.
- The contractor shall comply with all terms and conditions of the attached Clean Water Act Section 404/401 permit and certification.
- No activities shall occur within Waters of the United States until the appropriate Clean Water Act Section 404 Permit and 401 Water Quality Certification have been obtained/issued.

II. Permits and Required Specifications:

AZPDES 402 - ADEQ Construction General Permit (SP 104.09 SWDEQ)

Section 404 Nationwide Permit Number 14 with attachments (for NWP with PCN) with Section 401 Conditional ADEQ Water Quality Certification

III. Guidelines:

“Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects”

Why does ADOT protect tortoises?

ADOT, along with the Arizona Game and Fish Department (AGFD) and several federal agencies, are signatory members of a Candidate Conservation Agreement (CCA) for the Sonoran Desert Tortoise (SDT). The CCA was developed to help preclude the listing of SDT under the Endangered Species Act. It is a cooperative effort to provide effective conservation for the SDT in Arizona. Under the agreement, ADOT has committed to enact avoidance, minimization, and mitigation measures for projects occurring within and adjacent to suitable habitat for SDT. This includes surveying proactively for tortoise habitat ahead of projects, collecting information on sightings, and training staff and contractors on methods to protect the tortoise during construction and maintenance work.

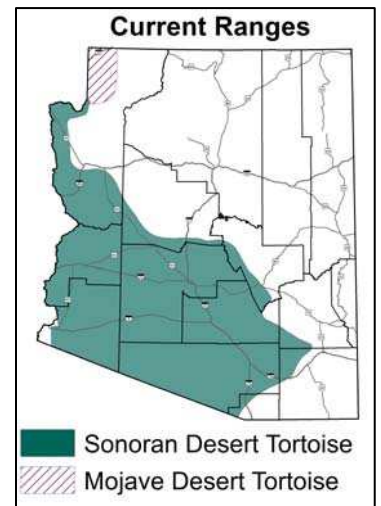


Legal Status

The SDT is protected under a CCA as described above. At the state level, wildlife are protected from collection and sale under Title 17 (ARS 17-309). AGFD classifies the SDT as a Tier 1A Species of Greatest Conservation Need and SDT are specifically restricted from collection under the AGFD Commission Rule R12-4-406.

Where are they found?

Two separate and distinct populations of desert tortoise occur in Arizona. The Mojave Desert Tortoise occurs west and north of the Colorado River within open, flat expanses of desert. The Sonoran Desert Tortoise occurs primarily in rocky and boulder strewn mountains and hills east of the Colorado River throughout western and central Arizona.



This handout applies ONLY to the Sonoran Desert Tortoise. Separate guidelines/measures are required for the Mojave Desert Tortoise due to its listing as Threatened under the Endangered Species Act.



THE GOAL IS TO AVOID NEGATIVE ENCOUNTERS!

How?

1. ALWAYS check under your vehicle and construction equipment **before** operating.
2. Drive slowly, especially on unpaved roads or off-road.
3. Cover any holes/pits/trenches at the end of each construction day.

If you encounter a tortoise:

1. Stop work immediately and turn off all equipment.
2. Notify your superintendent and the Resident Engineer.
3. Is the tortoise in imminent danger?
 - **No:** Stay back at least 10 feet from the animal. Allow the animal to leave. PLEASE BE PATIENT!
 - If the animal is located within your work area and is not leaving in a timely manner, then move your operation to a different location at least 1,000 feet away.
 - **Yes:** Move it out the way by following the attached AGFD "Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects" dated September 22, 2014.
 - Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim.
 - Tortoises should be moved quickly, kept in an upright position parallel to the ground at all times, and placed in the shade.
 - Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises.
 - Tortoises must not be moved if the ambient air temperature exceeds 40°C (105°F) unless an alternate burrow is available or the tortoise is in imminent danger.
 - A tortoise may be moved up to one-half mile, but no further than necessary from its original location.



---If you don't know or are unsure of what to do, ASK!---

4. Fill out the attached ADOT Sonoran Desert Tortoise Observation Form and submit to the ADOT Biology Team (bioteam@azdot.gov) within 24 hours of any encounter. Photograph the animal if possible.

If you encounter a **sick, dying, injured, or dead tortoise** or if the ambient air temperature exceeds 105° F, please contact the assigned ADOT Biologist and Coby Teal (928) 304-0487 immediately with the location of the animal. These animals will be collected either by trained ADOT personnel or by AGFD.

If you observe poaching, collecting, selling, or any other illegal activities, contact AGFD's OPERATION GAME THIEF at **1-800-352-0700**, 24 hours a day or on the internet at <http://www.azgfd.gov/ogt.shtml>

Additional information for SDT life history and habitat requirements is available at:

Arizona Game and Fish Department:

<https://www.azgfd.com/wildlife/nongamemanagement/tortoise/>

US Fish and Wildlife Service:

https://www.fws.gov/southwest/es/arizona/Sonoran_Tort.htm

ADOT



GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES
ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised September 22, 2014

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

The Sonoran desert tortoise occurs south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position parallel to the ground at all times, and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 40°Celsius (105°Fahrenheit) unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to one-half mile, but no further than necessary from its original location. If a release site or alternate burrow is unavailable within this distance, and ambient air temperature exceeds 40°Celsius (105°Fahrenheit), contact the Department for guidance. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, may be placed in the Department's tortoise adoption program. *Managers of projects likely to affect desert tortoises should obtain a [scientific collecting license](#) from the Department to facilitate handling or temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- ☐ Use the Department's [Environmental On-Line Review Tool Department](#) during the planning stages of any project that may affect desert tortoise habitat.
- ☐ Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.
- ☐ Take is prohibited by state law.
- ☐ These guidelines do not apply to Mojave desert tortoises (north and west of the Colorado River). Mojave desert tortoises are listed as threatened under the Endangered Species Act, administered by the U.S. Fish and Wildlife Service.
- ☐ These guidelines are subject to revision at the discretion of the Department.

Arizona Department of Transportation
Sonoran Desert Tortoise Observation Form



Date of Observation

Time

Observed By

Location- Route

Location- Milepost

ADOT District

Description of Encounter

Photo(s)

☐

GPS (if available)

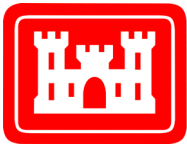
Email completed form
to: ADOT Biology Team
bioteam@azdot.gov

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APPENDIX C

404 NATIONWIDE PERMIT

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NATIONWIDE PERMIT NUMBER 14

Linear Transportation Projects

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT
State of Arizona Excluding Lands of the Navajo Nation

BUILDING STRONG®

A. General Information

This document provides the terms and conditions of the nationwide permit (NWP) by combining information from (1) the terms and conditions of the NWP (<https://www.federalregister.gov/documents/2026/01/08/2026-00121/reissuance-and-modification-of-nationwide-permits>), (2) Regional conditions, and (3) the Clean Water Act Section 401 water quality certification decisions (401 WQCs). The NWP is in effect from March 15, 2026 through March 15, 2031 unless modified, reissued, or revoked before that time. It is incumbent upon the permittee to remain informed of changes to the NWPs.

Links to documents related to the NWP program may be found at
<https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Nationwide-Permits/>

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H. 401 Water Quality Certification (401 WQC).....	17

B. Nationwide Permit Terms

14. Linear Transportation Projects. Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, driveways, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate. This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge of dredged or fill material in a special aquatic site, including wetlands. (See general condition 32.)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges of dredged or fill material for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23). (Sections 10 of the Rivers and Harbors Act of 1899 and 404 of the Clean Water Act)

C. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows, including tidal flows. The activity must not restrict or impede the passage of normal or high flows, including tidal flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance. If mats are used to minimize soil disturbance, the affected areas must be returned to pre-construction elevations, and revegetated as appropriate. In circumstances where the use of mats has caused significant soil compaction, efforts using techniques (e.g., soil reaeration techniques) to break up the compaction should be employed to return the soil to a pre-construction state prior to returning to pre-construction elevations.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Structures and Fills. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest

Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>.

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of “effects of the action” for the purposes of ESA section 7 consultation.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal permittee should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in

the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) No activity is authorized under any NWP which may have the potential to cause effects on properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects on any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects on historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate,

or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activities authorized by NWP, must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through

stream rehabilitation, enhancement, or preservation, because streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed activity which may result in any discharge from a point source into waters of the United States must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by the certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed activity which may result in any discharge from a point source into waters of the United States in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed activity which may result in any discharge from a point source into waters of the United States is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge into waters of the United States, the permittee must submit a copy of the certification to the district engineer. The discharge into waters of the United States is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied (i.e., by the issuance of a water quality certification or a waiver and completion of the Section 401(a)(2) process).

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) The total acreage loss of waters of the United States for a single and complete project cannot exceed the acreage limit of the NWP with the highest specified acreage limit when multiple NWPs are used to authorize an activity.

(b) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States for that single and complete project cannot exceed that specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14 (which has an acreage limit of 1/3 acre in tidal waters), with associated bank stabilization authorized by NWP 13 (which does not have a specified acreage limit), the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

(c) If two or more of the NWPs used to authorize the single and complete project have specified acreage limits, the acreage loss of waters of the United States authorized by each of those NWPs cannot exceed the specified acreage limits of each of those NWPs. For example, if a commercial development is constructed under NWP 39 (which has a 1/2-acre limit), and the single and complete project includes the filling of a ditch authorized by NWP 46 (which has a 1-acre limit), the maximum acreage loss of waters of the United States for the construction of the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States caused by the combination of the NWP 39 and NWP 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The successful completion of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) *Timing.* Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) *Contents of Pre-Construction Notification:* The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of waters, wetlands, and other special aquatic sites on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The

permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate. For NWP 27 activities that require PCNs because of other general conditions or regional conditions imposed by division engineers, see Note 2 of that NWP;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the compensatory mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification:* The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency Coordination:* (1) The district engineer will consider any comments from federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or email that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects

of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases where the prospective permittee is not a federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

D. District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add activity-specific conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed NWP activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. However, compensatory mitigation shall not be required for activities authorized by NWP 27 because those activities must result in net increases in aquatic resource functions and services (see the text of NWP 27). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal when determining whether the net adverse environmental effects of the proposed NWP activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the proposed activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district

engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed NWP activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN review period (unless additional time is required to comply with general conditions 16, 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

E. Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

F. Nationwide Permit Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic ecosystem restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on: (1) the structure, functions, and dynamics of an aquatic ecosystem type or a riparian area type that currently exists in the region; (2) the structure, functions, and dynamics of an aquatic ecosystem type or riparian area type that existed in the region in the past; and/or (3) indigenous and local ecological knowledge that apply to the aquatic ecosystem type or riparian area type

(i.e., a cultural ecosystem). Cultural ecosystems are ecosystems that have developed under the joint influence of natural processes and human management activities (e.g., fire stewardship). An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Nature-based solutions: Actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWP, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of

owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of “independent utility”). Single and complete non-linear projects may not be “piecemealed” to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. The substrate may also be comprised, in part, of organic matter, such as large or small wood fragments, leaves, algae, and other organic materials. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: (1) held in trust by the United States for the benefit of any Indian tribe or individual; or (2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a “water of the United States.” If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).

G. Nationwide Permit Regional Conditions (Arizona excluding lands of the Navajo Nation)

1. The permittee shall submit a pre-construction notification (PCN) for all 2026 NWPs, in accordance with General Condition 32, in the following circumstances:

- a. Activities that would result in a loss* of waters of the United States within any special aquatic site including wetlands, mudflats, vegetated shallows, riffle and pool complexes, and sanctuaries and refuges (See 40 CFR Part 230.40-45). Activities shall not result in a loss greater than 0.10 acre;
 - b. Regulated activities proposed by all permittees on Tribal Lands. This does not apply to the tribal government entity that has jurisdiction over the Tribal Lands. Documentation demonstrating coordination with the tribal government shall be provided with the PCN;
 - c. All waterbodies designated by the Arizona Department of Environmental Quality as Outstanding Arizona Waters (OAWs), within 1600 meters (or 1 mile) upstream and/or 800 meters (1/2 mile) downstream of a designated OAW, and on tributaries to OAWs within 1600 meters of the OAW (see <https://www.azdeq.gov/>).
2. For all NWP on **non-tribal lands within the State of Arizona**, the permittee shall comply with all terms and conditions of the December 16, 2025, 401 WQC granted by the Arizona Department of Environmental Quality.
 3. For NWPs 3, 7, 12-17, 21, 27, 29, 31, 33, 39, 40, 42-44, 49-53, 57, 58, and 60, on **tribal lands in the state of Arizona where the U.S. Environmental Protection Agency (EPA) Region 9** is the certifying authority, the permittee shall comply with all terms and conditions of the December 11, 2025, 401 WQC granted by the U.S. EPA.
 4. For NWPs 3-6, 13, 15-17, 21-23, 27, 29-34, 36-39, 42, 43, 45, and 48-53, on **tribal lands in the state of Arizona where the Gila River Indian Community** is the certifying authority, the permittee shall comply with all terms and conditions of the December 2, 2025, 401 WQC granted by the GRIC.
 5. The permittee shall apply for, receive, and comply with an individual 401 WQC for NWPs 7, 12, 14, 18, 19, 20, 25, 40, 41, 44, 46, 57, 58, and 59 within the lands of the **Gila River Indian Community** and for all NWPs within the lands of the **Salt River Pima-Maricopa Indian Community** and the **White Mountain Apache Tribe**.

* "Loss" means waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity.

** "Tribal Lands" refers to any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

NOTE: Regional Conditions applicable to the Navajo Nation may be found at <https://www.spa.usace.army.mil/Missions/Regulatory-Program-and-Permits/NWP/> under *Regional Conditions*.

H. 401 Water Quality Certification (401 WQC)

1. A 401 WQC is mandatory for any activity that requires a Clean Water Act Section 404 permit and must be obtained prior to discharging any dredged or fill material into a water of the United States. The geographical location of your project will determine which 401 WQC is applicable. The 401 WQCs issued for this NWP will remain in effect through March 15, 2031.
2. On all "Non-Tribal Lands", lands that are not part of federally recognized Indian Reservation, the Arizona Department of Environmental Quality (ADEQ) is the agency responsible for issuing the 401 WQC.
3. On all "Tribal Lands", lands that are part of a federally recognized Indian Reservation, the U.S. Environmental Protection Agency (EPA) is responsible for issuing the 401 WQC except where EPA has delegated the 401 WQC authority.
4. If certification of a NWP has been waived, there is no requirement to obtain project-specific water quality certification within that certifying authority's area of responsibility.
5. If a NWP is not certified, you must apply for, receive, and comply with the 401 WQC issued by ADEQ, EPA, or the appropriate Tribe. Contact information is listed at the end of this document.

The table below provides the 401 WQC status for each NWP. Copies of the 401 WQCs are available at <https://www.spl.usace.army.mil/Missions/Regulatory/NWP-Reissuance/WQC-Summary-AZ/>.

	State of Arizona	Gila River Indian Community	Havasupai, Hopi, Hualapai, San Carlos Apache Tribes	Salt River Pima-Maricopa Indian Community, White Mountain Apache Tribe	EPA (all other tribal lands in AZ)
NWP 1** Aids to Navigation	Certified subject to conditions	Waived	Waived	Not Certified	Certified
NWP 2** Structures in Artificial Canals	Certified subject to conditions	Waived	Waived	Not Certified	Certified
NWP 3 Maintenance	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 4 Fish & Wildlife Activities	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 5 Scientific Measuring Devices	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 6 Survey Activities	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 7 Outfall/Intake Structures	Certified subject to conditions	Not certified	Waived	Not Certified	Certified subject to conditions
NWP 8** Oil/Gas Structures on the OCS	Certified subject to conditions	Waived	Waived	Not Certified	Certified subject to conditions
NWP 9** Structures in Fleeting/Anchorage Areas	Certified subject to conditions	Waived	Waived	Not Certified	Certified
NWP 10** Mooring Buoys	Certified subject to conditions	Waived	Waived	Not Certified	Certified
NWP 11** Temporary Recreational Structures	Certified subject to conditions	Waived	Waived	Not Certified	Certified
NWP 12 Oil/Gas Utility Lines	Certified subject to conditions	Not certified	Waived	Not Certified	Certified subject to conditions
NWP 13 Bank Stabilization	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 14 Road Crossings	Certified subject to conditions	Not certified	Waived	Not Certified	Certified subject to conditions
NWP 15 USCG Approved Bridges	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 16 Return Water from Upland Disposal	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 17 Hydropower Projects	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 18 Minor Discharges	Certified subject to conditions	Not certified	Waived	Not Certified	Certified
NWP 19 Minor Dredging	Certified subject to conditions	Not certified	Waived	Not Certified	Certified
NWP 20 Oil/HazMat Response Activities	Certified subject to conditions	Not certified	Waived	Not Certified	Certified
NWP 21 Surface Coal Mining	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 22 Removal of Vessels	Certified subject to conditions	Certified	Waived	Not Certified	Certified

	State of Arizona	Gila River Indian Community	Havasupai, Hopi, Hualapai, San Carlos Apache Tribes	Salt River Pima-Maricopa Indian Community, White Mountain Apache Tribe	EPA (all other tribal lands in AZ)
NWP 23 Approved Categorical Exclusions	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 24** Tribal/State Admin. 404 Program	Certified subject to conditions	Waived	Waived	Not Certified	Waived
NWP 25 Structural Discharges	Certified subject to conditions	Not certified	Waived	Not Certified	Certified
NWP 27 Aquatic Habitat Restoration	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 28** Modification of Existing Marinas	Certified subject to conditions	Waived	Waived	Not Certified	Certified
NWP 29 Residential Developments	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 30 Moist Soil Management for Wildlife	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 31 Maintenance of Flood Control Facilities	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 32 Completed Enforcement Actions	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 33 Temporary Construction, Access, and Dewatering	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 34 Cranberry Production Activities	Certified subject to conditions	Certified	Waived	Not Certified	Waived
NWP 35** Maintenance Dredging of Existing Basins	Certified subject to conditions	Waived	Waived	Not Certified	Certified
NWP 36 Boat Ramps	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 37 Emergency Watershed Protection and Rehabilitation	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 38 Cleanup of Hazardous and Toxic Waste	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 39 Commercial and Industrial Developments	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 40 Agricultural Activities	Certified subject to conditions	Not certified	Waived	Not Certified	Certified subject to conditions
NWP 41 Reshaping Existing Drainage Ditches	Certified subject to conditions	Not certified	Waived	Not Certified	Certified
NWP 42 Recreational Facilities	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 43 Stormwater Management Facilities	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 44 Mining Activities	Certified subject to conditions	Not certified	Waived	Not Certified	Certified subject to conditions
NWP 45 Repair of Uplands Damaged by Discrete Events	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 46 Discharges in Ditches	Certified subject to conditions	Not certified	Waived	Not Certified	Certified

	State of Arizona	Gila River Indian Community	Havasupai, Hopi, Hualapai, San Carlos Apache Tribes	Salt River Pima-Maricopa Indian Community, White Mountain Apache Tribe	EPA (all other tribal lands in AZ)
NWP 48 Shellfish Mariculture	Certified subject to conditions	Certified	Waived	Not Certified	Certified
NWP 49 Coal Remining Activities	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 50 Underground Coal Mining	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 51 Land-Based Renewable Energy Generation Facilities	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 52 Water-Based Renewable Energy Generation Facilities	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 53 Removal of Low-Head Dams	Certified subject to conditions	Certified	Waived	Not Certified	Certified subject to conditions
NWP 54 Living Shorelines	Certified subject to conditions	Waived	Waived	Not Certified	Certified
NWP 55** Seaweed Mariculture Activities	Certified subject to conditions	Waived	Waived	Not Certified	Certified
NWP 57 Electric Utility and Telecommunication Activities	Certified subject to conditions	Not certified	Waived	Not Certified	Certified subject to conditions
NWP 58 Water/Other Substance Utility Lines	Certified subject to conditions	Not certified	Waived	Not Certified	Certified subject to conditions
NWP 59 Water Reclamation and Reuse Facilities	Certified subject to conditions	Not certified	Waived	Not Certified	Certified
NWP 60 Activities to Improve Passage of Fish and Other Aquatic Organisms	Certified subject to conditions	Waived	Waived	Not Certified	Certified subject to conditions

401 WQC Contact Information

Arizona Department of Environmental Quality
Water Quality Division
1110 West Washington Street Suite #160
Phoenix, Arizona 85007
Phone: (602) 771-4409
401WQC@azdeq.gov
<https://azdeq.gov/cwa401>

White Mountain Apache Tribe
(Fort Apache Indian Reservation)
Environmental Protection Office
P.O. Box 816
Fort Apache, AZ 85926
Phone: (928) 338-4325
http://www.wmat.us/EPO/epo_home.html

Gila River Indian Community
Department of Environmental Quality
P.O. Box 2139
Sacaton, AZ 85147
Phone: (520) 562-2234
www.gricdeq.org

Hopi Tribe
Water Resources Program
P.O. Box 123
Kykotsmovi, Arizona 86039
Phone: (928) 734-3712
<https://www.hopi-nsn.gov/tribal-services/department-natural-resources-2/water-resources/>

Hualapai Tribe
Hualapai Department of Natural Resources
P.O. Box 300
Peach Springs, AZ 86434
Phone: (928) 769-2254 x2255
https://hualapai-nsn.gov/services/natural_resources.php

Navajo Nation
Navajo Nation Environmental Protection Agency
PO Box 339
Window Rock, AZ 86515
Phone: (928) 871-7692
<https://navajoepa.org/water-qualitynnpdes-program>

Salt River Pima-Maricopa Indian Community
Environmental Protection and Natural Resources
Division
10005 East Osborn Road
Scottsdale, Arizona 85256
(480) 362-7500
epnr@srpmic-nsn.gov
<https://srpmic-nsn.gov/government/epnr/waterquality/>

San Carlos Apache Tribe.
P.O. Box 0
San Carlos, Arizona 85550
<https://www.scac-nsn.gov/natural-resources/departmentofenvironmentalprotection/>

U.S. Environmental Protection Agency
Pacific Southwest, Region IX
75 Hawthorne Street
San Francisco, California 94105
R9cwa401@epa.gov
<https://www.epa.gov/tribal-pacific-sw/cwa-water-quality-certifications>

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APPENDIX D

NOTICE OF INTENT TO CLEAR LAND PERMIT APPLICATION

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Arizona Department of Agriculture (AZDA)

Central Licensing

Physical Location: 1010 W Washington St., Phoenix, AZ 85007

Mailing Address: 1802 W Jackson St., #78 Phoenix, AZ 85007

Phone: (602) 542-6408 Fax: (602) 542-0466

Website: <https://agriculture.az.gov> Email: licensing@azda.gov

Notice of Intent to Clear Land

ARS § 3-904

Pursuant to A.R.S. § 3-904 the undersigned, as Owner of the Property described herein, gives this Notice of Intent to Clear Land of protected native plants.

1. **Owner/landowner's agent.** The owner or landowner's agent of the Property upon which protected native plants will be affected:

Owner's Name _____ Phone _____

Address _____

Agent's Name _____ Phone _____

Address _____

2. **Property.** The description and location of the Property upon which protected native plants will be affected:

County _____

Name of Property/Project _____

Address _____

Physical Location (attach map) _____

(Note: Map must also show surrounding land for 1/2 mile in each direction)

Tax Parcel ID Nos. _____

Legal Description (or attach copy) _____

Number of Acres to be Cleared _____

3. **Owner's Intent.** Landowner's intentions when clearing private land of protected native plants.

☐ Owner intends to allow salvage of the plants, and agrees to be contacted by native plant salvagers.

☐ Owner intends to transplant the plants onto the same property, or to another property he also owns.

☐ Owner has already arranged for salvage of the plants.

☐ Owner does not intend to allow salvage of the plants.

☐ Other _____

4. **Approximate starting date.** _____

(See notice period listed on reverse side)

The information contained in this application is true and accurate to the best of my knowledge. I understand that providing false information is a felony in Arizona

Signature _____ Date _____

Notice to salvagers: Consent of the landowner is required before entering any lands described in this notice.

Explanation Of This Form

1. Notice of Intent to Clear Land.

The majority of the desert plants fall into one of four groups specially protected from theft, vandalism or unnecessary destruction. They include all of the cacti, the unique plants like Ocotillo, and trees like Ironwood, Palo Verde and Mesquite. In most cases the destruction of these protected plants may be avoided if the private landowner gives prior notice to the Arizona Department of Agriculture.

2. Notice Period.

When properly completed, this form is to be sent to the Department within the time periods described below. Landowners/ developers are encouraged to salvage protected native plants whenever possible.

3. Information to Interested Parties.

The information in this notice will be posted in the applicable state office of the Department and mailed to those parties (salvage operators, revegetation experts) who have an interest in these plants and may approach the landowner with the possibility of saving the plant(s) from unnecessary destruction.

Notice to Landowner:

1. The owner may not begin destruction of protected native plants until he receives confirmation from the Arizona Department of Agriculture and the time prescribed below has elapsed. The "Confirmed" stamp only verifies that the Notice has been filed.

Size of area over which the Destruction of Plants will occur

Length of Notice Period

Less than one acre

20 days, oral or written

One acre or more, but less than 40 acres

30 days, written

40 acres or more

60 days, written

2. If you are clearing land over an area of less than one acre, oral notice may be given by calling the applicable state office at the telephone number given below.
3. If the land clearing or plant salvage does not occur within one year, a new Notice is required.

This Notice must be sent to the applicable state office of the Department of Agriculture at the address given below:

Central Licensing

Physical Location: 1010 W Washington St., Phoenix, AZ 85007

Mailing Address: 1802 W Jackson St., #78 Phoenix, AZ 85007

Email: licensing@azda.gov

Notice to salvagers: Consent of the landowner is required before entering any lands described in this notice.

APPENDIX E
STOCKPILE GRADING EXHIBIT

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APPENDIX E - STOCKPILE EXHIBIT

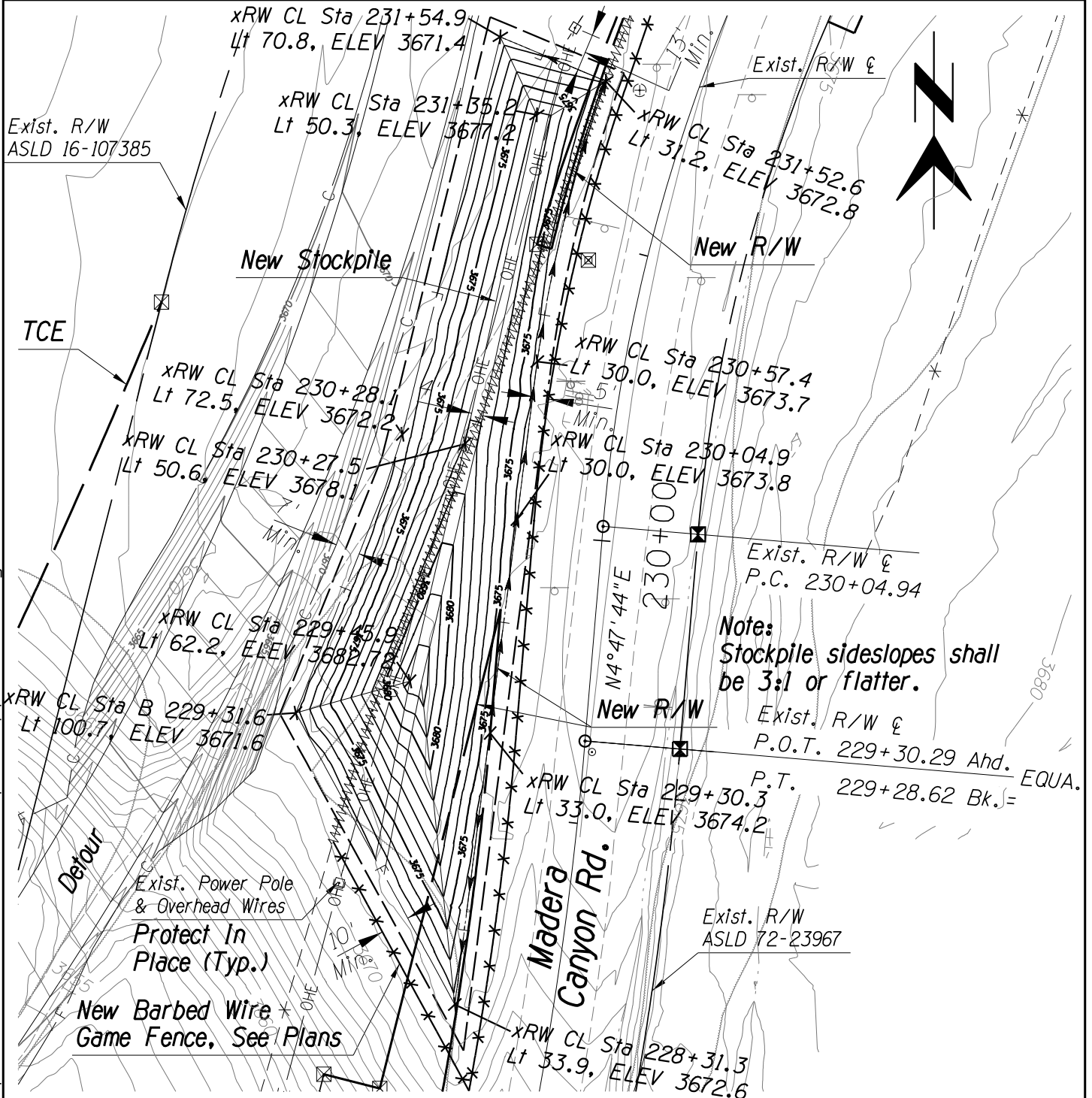
ADOT TRACS NUMBER:
T0540 OIC & T0541 OIC
PIMA COUNTY PROJECT NUMBER:
24041PJ & 24043PJ
FEDERAL PROJECT NUMBER:
PPM-0(273)D
ROAD NAME:
MADERA CANYON ROAD
SECTION:
FLORIDA CANYON & MEDIUM

STOCKPILE

CY
1,600

SW1/4 SEC. 11
T19S, R14E, G&SRM, PIMA COUNTY, AZ

0 25' 50'
Scale



...\\Special Provisions_Stockpile_Appendix E.dgn



1 South Church Avenue, Suite 1400
Tucson, AZ 85701-1612 (520) 584-3600

4/26/2026
10:44:53 PM

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APPENDIX F

PIMA COUNTY DEPARTMENT OF TRANSPORTATION SAMPLING GUIDE SCHEDULE

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APPENDIX F

PIMA COUNTY TRANSPORTATION SAMPLING GUIDE SCHEDULE

Tables 1 through 8 Acceptance Sampling Guide. (Pages 1-53)

Table 1	Soils	(Pages 1-3)
Table 2	Aggregates	(Pages 4-19)
Table 3	Bituminous Materials	(Pages 20-25)
Table 4	Portland Cement Concrete	(Pages 26-29)
Table 5	Materials Used With Portland Cement Concrete	(Pages 30-33)
Table 6	Stabilized Soils and Bases	(Pages 34-35)
Table 7	Bituminous Mixtures	(Pages 36-39)
Table 8	Miscellaneous Materials	(Pages 40-48)

Table 9	Illustration of Sampling Ticket and Listing of Codes for Purpose, Testing Lab, Size and Roadway.	(Page 49)
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Table 11	Index of Materials	(Pages 50-53)
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TABLE 1 ASSURANCE SAMPLING GUIDE FOR SOILS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
203	Borrow (within 3 ft. of finished subgrade elevation)	Gradation ⁽¹⁾ ----- PI ⁽¹⁾	In-Place	One per source, and as needed
203	Embankment	Proctor Density ----- Optimum Moisture	In-Place	One per soil type, and as needed.
		Compaction	In-Place	Minimum, one per 1000 ft. of lane width, per lift (subject to contractor sequencing)
	Embankment for Metal Pile Location only	pH ----- Resistivity	In-Place or Source	One per source.
203	Natural Ground for Embankment 5 ft. or less in height	Proctor Density ----- Optimum Moisture	In-Place	One per soil type, and as needed.
		Compaction	In-Place	One per 1500 ft.
⁽¹⁾ Independent Assurance Sampling and Testing required.				

TABLE 1 (continued) ACCEPTANCE SAMPLING GUIDE FOR SOILS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
203 205	Subgrade	Proctor Density	Roadway	One per soil type, and as needed.
		Optimum Moisture		
		Compaction	Roadway	Minimum, one per 1000 ft. of lane width, per lift (subject to contractor sequencing)
		Gradation PI ⁽¹⁾	Roadway	One per 1500 ft. or Change in material
203	Soil for Shoulder Build-up	Gradation PI pH	In-Place or Source	One per soil type.
		Soluble Salts Compaction	In-Place	One per 1500 ft. or as directed by the Engineer.
501	Trench Backfill	Proctor Density	In-Place	One per soil type, and as needed.
		Optimum Moisture		
		Compaction	In-Place	One per 100 CY.
⁽¹⁾ Independent Assurance Sampling and Testing required.				

TABLE 1 (continued) ACCEPTANCE SAMPLING GUIDE FOR SOILS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
803	Granite Mulch or Decomposed Granite	Gradation	In-Place or Source	One per 10,000 CY.
804	Top Soil	Gradation ⁽¹⁾ ----- PI ⁽¹⁾ ----- pH ⁽¹⁾ ----- Soluble Salts ----- Calcium Carbonate ----- Exchange- able Sodium in percent and parts per million	In-place	Written soil analysis per source and six samples per lot [considering a lot is approximately 20,000 CY per source].
⁽¹⁾ Independent Assurance Sampling and Testing required.				

TABLE 2 ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
203 501 (When Contractor Quality Control Is not a bid item.)	Structure Backfill or Pipe Backfill	Proctor Density	Stockpile	One per source, and as needed.
		----- Optimum Moisture		
		----- Compaction	In-Place	One per 75 CY.
		----- Resistivity	Source or Stockpile	One per source.
		----- pH		
		----- Gradation ⁽¹⁾	On Project Site	One per 500 CY per source.
----- PI ⁽¹⁾				
203 501 (When Contractor Quality Control is a bid item.)	Structure Backfill or Pipe Backfill	Proctor Density	Stockpile	One per source, and as needed.
		----- Optimum Moisture		
		----- Compaction	In-Place	One per 100 CY
		----- Resistivity	Source or Stockpile	One per source.
		----- pH		
		----- Gradation ⁽¹⁾	On Job Site	One per 1500 CY per source.
----- PI ⁽¹⁾				
⁽¹⁾ Independent Assurance Sampling and Testing required.				

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
303 (When Contractor Quality Control <u>is not</u> a bid item)	Aggregate Base	Abrasion ⁽²⁾	Source	One per source.
		Proctor Density	Crusher Belt or Stockpile	At start of production, and as material changes
		Optimum Moisture		
		Compaction	Roadway	Minimum, one per 1000 ft. of lane width,per lift (subject to contractor sequencing)
		Fractured Coarse Aggregate Particles ⁽¹⁾	Stockpile	One per 10,000 tons.
		Gradation ⁽¹⁾	Windrow	One per 2000 tons, minimum one per shift.
		PI ⁽¹⁾		
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽²⁾ Provided Materials Group concurs, historical abrasion values allowed.				

TABLE 2 (continued)
ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES

SPECIFICATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
303 (When Contractor Quality Control IS a bid item.)	Aggregate Base	Abrasion ⁽²⁾	Source	One per source.
		Proctor Density	Crusher Belt or Stockpile	At start of production, then as material changes.
		Optimum Moisture		
		Compaction	Roadway	One per lift per 1500 ft. of lane width (subject to contractor sequencing)
		Fractured Coarse Aggregate Particles ⁽¹⁾	Stockpile	One per 10,000 tons.
		Gradation ⁽¹⁾	Windrow	One per 2000 tons, minimum one per shift.
		PI ⁽¹⁾		

⁽¹⁾ Independent Assurance Sampling and Testing required.

⁽²⁾ Provided Materials Group concurs, historical abrasion values allowed.

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
303 (When Contractor Quality Control is not a bid item.)	Aggregate base	Proctor Density	Crusher Belt or Stockpile	At start of production, then as material changes.
		Optimum Moisture		
		Compaction	Roadway	Minimum one,per lift, per 1000 ft. of lane width (subject to contractor sequencing)
		Fractured Coarse Aggregate Particles ⁽¹⁾	Stockpile	One per 10,000 tons.
		Gradation ⁽¹⁾	Windrow	One per 2000 tons, minimum one per shift.
		PI ⁽¹⁾		
		Abrasion ⁽²⁾	Source	One per source.
⁽¹⁾ Independent Assurance Sampling and Testing required.				
⁽²⁾ Provided Materials Group concurs, historical abrasion values allowed.				

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
303 (When Contractor Quality Control is a bid item.)	Aggregate Subbase	Proctor Density	Crusher Belt or Stockpile	At start of production, then as material changes.
		Optimum Moisture		
		Compaction	Roadway	One per lift per 1500 ft.of lane width (subject to contractor sequencing)
		Fractured Coarse Aggregate Particles ⁽¹⁾	Stockpile	One per 10,000 tons.
		Gradation ⁽¹⁾	Windrow	One per 2000 tons, minimum one per shift.
		PI ⁽¹⁾		
		Abrasion ⁽²⁾	Source	One per source.
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽²⁾ Provided Materials Group concurs, historical abrasion values allowed.				

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
304	Aggregate for Cement Treated Base or Lean Concrete Base	Gradation ⁽¹⁾	Stockpile	One per 2000 tons, minimum one per shift. One per 10,000 tons.
		Fractured Coarse Aggregate Particles ⁽¹⁾	Stockpile	
		Abrasion ⁽²⁾	Source	One per source.
		PI ⁽¹⁾	Stockpile	One per 2000 tons, minimum one per shift.
	for Lean Concrete Base	Sand Equivalent ⁽¹⁾	Stockpile	One every other day of Lean Concrete Base production.
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽²⁾ Provided Materials Group concurs, historical abrasion values allowed.				

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
404	Cover Material	Abrasion ⁽²⁾	Source or Stockpile	One per source.
		Bulk O.D. Specific Gravity	Stockpile	One per source.
		Percent Carbonates ⁽²⁾		
		Dry Unit Weight		
		Fractured Coarse Aggregate Particles	Stockpile	One per 600 tons.
		Flakiness Index		
		Gradation ⁽¹⁾	Final Stockpile	One per 300 tons.
		Moisture Content	Trucks at Scale	One per 300 tons.
404 412 413	Blotter Material	Gradation ⁽¹⁾	Final Stockpile	One per stockpile.
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽²⁾ Provided Materials Group concurs, historical abrasion values allowed.				

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
Refer to Special Provisions	Mineral Aggregate for Micro- Surfacing	Abrasion ⁽²⁾	Source or Stockpile	One per source.
		Percent Carbonates	Stockpile	One per source.
		Gradation ⁽¹⁾	Final Stockpile	One prior to start of Micro-Surfacing production and one per 300 tons
		Sand Equivalent	Stockpile	One prior to start of Micro-surfacing production and one per 600 tons
		Fractured Coarse Aggregate Particles		
		Uncompacted Void Content		
		Moisture Content	Trucks at Scale	One per 300 tons.
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽²⁾ Provided Materials Group concurs, historical abrasion values allowed.				

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
406	Mineral Aggregate for Asphaltic Concrete [without reclaimed asphalt pavement (RAP)] See PPD ⁽³⁾ . (See Page 13 for mixes with RAP.)	Abrasion ⁽²⁾	Source or Stockpile	One per source.
		Percent Carbonates (if required)		
		Sand Equivalent	Stockpile	One at least five days prior to start of asphaltic concrete production.
		Fractured Coarse Aggregate Particles		
		Uncompacted Void Content		
		Ignition Furnace Calibration	Cold Feed or Stockpile	One per days asphaltic concrete production, minimum of two per project.
		Sand Equivalent		
		Fractured Coarse Aggregate Particles		
		Uncompacted Void Content		
Gradation	(See Bituminous Mixture requirements for Asphaltic Concrete - Page 47.)			

⁽¹⁾ Independent Assurance Sampling and Testing required.

⁽²⁾ Historical abrasion values allowed, provided testing conducted within the past two years.

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
406	Mineral Aggregate for Asphaltic Concrete [with reclaimed asphalt Pavement (RAP)] See PPD ⁽³⁾ . (See Page 12 for mixes without RAP.)	Abrasion ⁽²⁾ (Virgin Agg. & RAP Agg. separately)	Source or Stockpile	One per source.
		Percent Carbonates (if required) (Composite of Virgin Agg. and RAP Agg.)		
		Sand Equivalent (Virgin Agg. only)	Stockpile	One at least five days prior to start of asphaltic concrete production.
		Fractured Coarse Aggregate Particles (Composite of Virgin and RAP Agg.)		
		Uncompacted Void Content (Virgin Agg. only)		
		Ignition Furnace Calibration (Virgin Agg., RAP Agg., and RAP material)		
		Gradation, Binder Content ⁽¹⁾ , and Moisture Content of RAP material	Individual stockpiles (belt cut allowed for single stockpile) Cold Feed or Stockpile	One per each lot of asphaltic concrete production. Sand Equivalent: One per each days, Asphaltic Concrete production
		Sand Equivalent ⁽¹⁾ (Virgin Agg. only)		
		Fractured Coarse Aggregate Particles ⁽¹⁾ (Composite of Virgin Agg. and RAP Agg. obtained from Arizona Test Method 428, Uncompacted Void Content ⁽¹⁾)		
		(Special Mix only) (Virgin Agg. only)		
Gradation	(See Bituminous Mixture requirements for Asphaltic Concrete - End Product on Page 47.)			
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽²⁾ Historical abrasion values allowed, provided testing conducted within the past two years. ⁽³⁾ ADOT Materials Policy and Procedure Directive.				

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
Refer to Special Provisions	Mineral Aggregate for	Abrasion ⁽²⁾	Source or Stockpile	One per source.
	Asphaltic Concrete - Miscellaneous Paving	Sand Equivalent	Stockpile	One per source. At discretion of the Engineer.
		Gradation	Cold Feed or Hot Bins	
501	Bedding Material for Pipe	Gradation ⁽¹⁾	Source or Stockpile	One per 300 CY per source.
		PI ⁽¹⁾		One per source.
		pH ⁽¹⁾	One per source.	
		Resistivity ⁽¹⁾		
		Proctor Density	Source or Stockpile	
		Optimum Moisture		
	Compaction	In-Place	One every 50 CY.	
501	Filter Material for Perforated Pipe	Gradation ⁽¹⁾	Source or Stockpile	One per 300 CY per source.
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽²⁾ Provided Materials Group concurs, historical abrasion values allowed.				

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
501	Plating Material for Pipe Ends	Gradation	Source or Stockpile	One per source, and as needed.
		PI		
		Proctor Density		
		Optimum Moisture		
		Compaction	In-Place	One every 50 CY.
702	Crash Barrel Sand	Gradation	Plant or Site	One per each attenuator system location.
		Dry Unit Weight per cubic foot		
		Moisture Content		
	Sand and Rock Salt Mixture (when Sand Barrel Crash Cushions are installed at elevations above 3,000 feet)	Percent Rock Salt		
808	Bedding Material for Polyvinyl Chloride (PVC) Irrigation Pipe	Gradation	Source or Stockpile	One per source.

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
913	Rock for Wire Tied Rip-rap, Gabions, Rip-rap (Slope Mattress), Grouted, Dumped and Rail Bank Protection	Specific Gravity	Source	One per source.
		Gradation (visual)	Project	One per 1/2 shift.
		Specific Gravity	Source	One per source.
		Gradation (visual)	Project	One per 1/2 shift.

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1006	Fine Aggregate for Portland Cement Concrete (PCC) Classes P, S, and B	Gradation ⁽¹⁾	Batch Plant Conveyer Belt or Stockpile	One every 200 cu. yds. of PCC production or at engineers discretion
		Sand Equivalent ⁽¹⁾		
		Soundness [when used in concrete over 4500 ft. elevation]	Stockpile	One per source. For evaluation of concrete aggregate sources, see PPD ⁽³⁾ .
		Organic Impurities		
		Mortar Strength		
		Deleterious Substances [Clay Lumps and Friable Particles; Lightweight Particles]	Stockpile	At the discretion of Materials Engineering Group. For evaluation of concrete aggregate sources, see PPD ⁽³⁾ .

⁽¹⁾ Independent Assurance Sampling and Testing required.

⁽³⁾ ADOT Materials Policy and Procedure Directive.

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1006	Coarse Aggregate for Portland Cement Concrete (PCC) Classes P, S, and B	Gradation ⁽¹⁾	Batch Plant Conveyer Belt or Stockpile	One every 200 cu. yds. of PCC production or at engineers discretion
		Soundness [when used in concrete over 4500 ft. elevation]	Stockpile	One per source. For evaluation of concrete aggregate sources, See PPD ⁽³⁾ .
		Abrasion ⁽²⁾		
		Deleterious Substances [Clay Lumps and Friable Particles; Lightweight Particles; Material Passing No. 200 Sieve]	Stockpile	With the exception of “Material Passing No. 200 Sieve”, at the discretion of Materials Group. For evaluation of concrete aggregate sources, see PPD ⁽³⁾ .
		Fractured Coarse Aggregate Particles	Stockpile	One per source.
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽²⁾ Provided Materials Group concurs, historical abrasion values allowed. ⁽³⁾ ADOT Materials Policy and Procedure Directive.				

TABLE 2 (continued) ACCEPTANCE SAMPLING GUIDE FOR AGGREGATES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
Refer to Special Provisions	Aggregate for Arrestor Bed	Abrasion ⁽²⁾	Screen Belt or Stockpile	One per source.
		Specific Gravity		
		Gradation ⁽¹⁾	Screen Belt or Stockpile	One per shift.
		Fractured Coarse Aggregate Particles ⁽¹⁾		
		Flakiness Index ⁽¹⁾		
Refer to Special Provisions	Aggregate for Soil-Cement Bank Protection or Cement Stabilized Alluvium	Gradation ⁽¹⁾ PI ⁽¹⁾	Source or Stockpile	One per 2000 tons, minimum of one per day.
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽²⁾ Provided Materials Group concurs, historical abrasion values allowed.				

TABLE 3 ACCEPTANCE SAMPLING GUIDE FOR BITUMINOUS MATERIAL				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1005	Recycling Agent RA-1 RA-5 RA-25 RA-75	Per Specifications	Circulation Line Recommended (4)	Certificate of Compliance required and duplicate samples (each one gallon in a metal can) per 1/2 shift.
1005 404	Liquid Asphalt [Cutback Asphalt - (Medium Curing Type)] MC-70 MC-250 MC-800 MC-3000, for Prime Coat	Per Specifications	Distributor Recommended (4)	Certificate of Compliance required and duplicate samples (each one gallon in a metal can) per delivery unit.
⁽⁴⁾ Point of sampling specified by Engineer. Note: During production, samples of bituminous material shall be taken by the contractor and may be witnessed by the Engineer or Engineers' representative.				

TABLE 3 (continued) ACCEPTANCE SAMPLING GUIDE FOR BITUMINOUS MATERIAL				
SPECIFICATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1005	Emulsified Asphalt RS-1 CRS-1 RS-2 CRS-2 SS-1 CSS-1 CRS-2P	Per Specifications	Supplier (For pre-approval of material)	See PPD ⁽³⁾ .
		Residue	Distributor Recommended (4)	See PPD ⁽³⁾ .
				For preapproved emulsions, Certificate of Compliance required and duplicate samples (each 1/2 gallon in a plastic container) per delivery unit.
404	for Chip Seal Coat, Tack Coat, and Fog Coat	Residue	Distributor Recommended (4)	For emulsions not preapproved, Certificate of Analysis required and duplicate samples (each 1/2 gallon in a plastic container) per delivery unit.
⁽³⁾ ADOT Materials Policy and Procedure Directive. ⁽⁴⁾ Point of sampling specified by Engineer. Note: During production, samples of bituminous material shall be taken by the contractor and may be witnessed by the Engineer or Engineers' representative.				

TABLE 3 (continued) ACCEPTANCE SAMPLING GUIDE FOR BITUMINOUS MATERIAL				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1005	Emulsified Asphalt Special Type (Diluted SS-1 or CSS-1)	Residue	Distributor Recommended (4)	See PPD ⁽³⁾ . For preapproved undiluted emulsions, Certificate of Compliance required and duplicate samples (each 1/2 gallon in a plastic container) per delivery unit.
404	for Tack Coat and Fog Coat			For undiluted emulsions not preapproved, Certificate of Analysis required and duplicate samples (each 1/2 gallon in a plastic container) per delivery unit.
⁽³⁾ ADOT Materials Policy and Procedure Directive. ⁽⁴⁾ Point of sampling specified by Engineer. Note: During production, samples of bituminous material shall be taken by the contractor and may be witnessed by the Engineer or Engineers' representative.				

TABLE 3 (continued) ACCEPTANCE SAMPLING GUIDE FOR BITUMINOUS MATERIAL				
SPECIFICATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1005	Asphalt Cement (PG XX-XX)	Per Specifications		Certificate of Compliance required.
404	for Tack Coat			
406 410	for Asphaltic Concrete		Supplier or Project	A two gallon sample (two $\frac{3}{4}$ full one-gallon metal cans) at least five days prior to start of Asphaltic concrete production (for calibration of ignition furnace).
			Circulation Line Recommended ⁽⁴⁾	
			Circulation Line Recommended ⁽⁴⁾	Certificate of Analysis and a one-gallon sample in a metal can required at least seven days prior to start of asphaltic concrete production.
			Circulation Line Recommended ⁽⁴⁾	Certificate of Compliance required and duplicate samples (each one gallon in a metal can) per 1/2 shift.
⁽⁴⁾ Point of sampling specified by Engineer. Note: During production, samples of bituminous material shall be taken by the contractor and may be witnessed by the Engineer or Engineers' representative.				

TABLE 3 (continued) ACCEPTANCE SAMPLING GUIDE FOR BITUMINOUS MATERIAL				
SPECIFICATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1005	Emulsified Recycling Agent (ERA) ERA-1 ERA-5 ERA-25 ERA-75	Per Specifications	Supplier (For pre-approval of material)	See PPD ⁽³⁾ .
		Residue	Distributor Recommended ⁽⁴⁾	See PPD ⁽³⁾ . For preapproved ERA, Certificate of Compliance required and duplicate samples (each 1/2 gallon in a plastic container) per delivery unit. For ERA not preapproved, Certificate of Analysis required and duplicate samples (each 1/2 gallon in a plastic container) per delivery unit.
	ERA (Diluted)	Residue	Distributor Recommended ⁽⁴⁾	See PPD ⁽³⁾ . For preapproved undiluted ERA, Certificate of Compliance required and duplicate samples (each 1/2 gallon in a plastic container) per delivery unit.
404	for Fog Coat			For undiluted ERA not preapproved, Certificate of Analysis required and duplicate samples (each 1/2 gallon in a plastic container) per delivery unit.
⁽³⁾ ADOT Materials Policy and Procedure Directive. ⁽⁴⁾ Point of sampling specified by Engineer. Note: During production, samples of bituminous material shall be taken by the contractor and may be witnessed by the Engineer or Engineers' representative.				

TABLE 3 (continued) ACCEPTANCE SAMPLING GUIDE FOR BITUMINOUS MATERIAL				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1005 1009 410	Asphalt Cement (PG XX-XX) for Asphalt - Rubber (Sprayed Applications)	Per Specifications	Circulation Line - Delivery Unit	Certificate of Compliance required and duplicate samples (each one gallon in a metal can) for each shipment - not less than one set of duplicate samples for each 40 tons.
1009 410	Asphalt - Rubber [CRA ⁽⁵⁾] Type 1, Type 2, or Type 3 (Sprayed Applications)	Per Special Provisions.	Distributor Recommended (4)	Certificate of Compliance required and a one gallon sample in a metal can per delivery unit.
Refer to Special Provisions	Emulsified Asphalt for Cold Recycled Asphaltic Concrete HFE- 150P	Per Special Provisions. Residue	Supplier (for preapproval of material.) Distributor Recommended (4)	See PPD ⁽³⁾ . See PPD ⁽³⁾ .
				For preapproved emulsions, Certificate of Compliance required and duplicate samples (each 1/2 gallon in a plastic container) per delivery unit. For emulsions not preapproved, Certificate of Analysis required and duplicate samples (each 1/2 gallon in a plastic container) per delivery unit.
⁽⁴⁾ Point of sampling specified by Engineer. ⁽⁵⁾ CRA = Crumb Rubber Asphalt Note: During production, samples of bituminous material shall be taken by the contractor and may be witnessed by Engineer or Engineers' representative.				

ABLE 4 ACCEPTANCE SAMPLING GUIDE FOR PORTLAND CEMENT CONCRETE				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1006	Portland Cement Concrete (PCC) Class P	Compressive Strength ⁽¹⁾	Immediately before going into paver, forms or as otherwise directed by Engineer.	Five samples per lot.
		Slump		(For compressive strength, one set of three cylinders per sample.)
		Air Content (when Required)		
		Temperature		
		Thickness	Roadway	At discretion of the Engineer.
1006	Portland Cement Concrete (PCC) Class S (with a compressive strength requirement less than 4,000 psi)	Compressive Strength ⁽¹⁾	At Discharge ⁽⁶⁾	One sample for each 100 CY, or fraction thereof, of continuously placed concrete per day from each batch plant. For daily placements of 10 CY or less, at the Engineer's discretion.
		Slump	At Discharge ⁽⁶⁾	(For compressive strength, one set of two cylinders per sample.)
		Temperature		Sample for air content every 50 CY when elevation is above 3000 ft. For daily placements of 10 CY or less, at Engineer's discretion
		Air Content (when Required)		
		(1) Independent Assurance Sampling and Testing required. (6) At the discretion of the Engineer, if pumping concrete to facilitate placement, samples may be taken from the truck and pump hose discharge to determine that the compressive strength specifications are met in the structure, and to correlate temperature, slump, and air content results. If the correlation is satisfactory and meets with the approval of the Engineer, sampling may continue from the most convenient location with occasional retesting for correlation. Rejection of concrete due to improper temperature or slump may either occur at the truck or pump hose discharge; however, rejection of concrete due to improper air content will only occur due to a failing test for a sample obtained at the final point of discharge.		

TABLE 4 (continued) ACCEPTANCE SAMPLING GUIDE FOR PORTLAND CEMENT CONCRETE				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1006	Portland Cement Concrete (PCC) Class S (with a compressive strength requirement equal to or greater than 4,000 psi)	Compressive Strength ⁽¹⁾	At Discharge ⁽⁶⁾	One sample for each 50 CY, or fraction thereof, of continuously placed concrete per day from each batch plant. For daily placements less than 10CY, at Engineer's discretion. (For compressive strength, one set of three cylinders per sample.)
		Slump Temperature		
		Air Content (when Required)	At Discharge ⁽⁶⁾	Sample for air content every 50 CY when elevation is above 3000 ft. For daily placements of 10 CY or less at Engineer's discretion.
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽⁶⁾ At the discretion of the Engineer, if pumping concrete to facilitate placement, samples may be taken from the truck and pump hose discharge to determine that the compressive strength specifications are met in the structure, and to correlate temperature, slump, and air content results. If the correlation is satisfactory and meets with the approval of the Engineer, sampling may continue from the most convenient location with occasional retesting for correlation. Rejection of concrete due to improper temperature or slump may either occur at the truck or pump hose discharge; however, rejection of concrete due to improper air content will only occur due to a failing test for a sample obtained at the final point of discharge.				

TABLE 4 (continued) ACCEPTANCE SAMPLING GUIDE FOR PORTLAND CEMENT CONCRETE				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1006	Portland Cement Concrete (PCC) Class B	Compressive Strength ⁽¹⁾	At Discharge ⁽⁶⁾	One sample for each 100 CY of concrete placed from each batch plant. For daily placements of 10 CY or less, at the Engineer's discretion.
		Slump		(For compressive strength, one set of two cylinders per sample.)
		Temperature		
		Air Content (when Required)	At Discharge ⁽⁶⁾	Sample for air content every 50 CY when elevation is above 3000 ft. For daily placements of 10 CY or less, at the Engineer's discretion.
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽⁶⁾ At the discretion of the Engineer, if pumping concrete to facilitate placement, samples may be taken from the truck and pump hose discharge to determine that the compressive strength specifications are met in the structure, and to correlate temperature, slump, and air content results. If the correlation is satisfactory and meets with the approval of the Engineer, sampling may continue from the most convenient location with occasional retesting for correlation. Rejection of concrete due to improper temperature or slump may either occur at the truck or pump hose discharge; however, rejection of concrete due to improper air content will only occur due to a failing test for a sample obtained at the final point of discharge.				

TABLE 4 (continued) ACCEPTANCE SAMPLING GUIDE FOR PORTLAND CEMENT CONCRETE				
SPECIFICATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
601 1006	Portland Cement Structural Concrete for Minor Precast Structures (Manholes, Cattle Guards, Utility Vaults, Catch Basins, Flared Ends, Etc.)	Rebound Hammer	At Fabrication Yard	One set of readings per precast unit.
601 1006	Pre-stressed Concrete	Compressive Strength ----- Slump ----- Temperature	At Discharge ⁽⁶⁾	One sample per member or for each day's production. (For compressive strength, a minimum of two sets of 3 cylinders for de-tensioning, and one set of 3 cylinders for 28-day breaks.)
912	Shotcrete	Compressive Strength ----- Slump ----- Air Content (For Shotcrete placed at elevations of 3,000 feet and above)	Test Panels ----- At Mixer Discharge ----- From In-Place Material	Three cores from a test panel every 100 CY or fraction thereof, per day. ----- One per 50 CY or fraction thereof, per day.
922 1006	Utility Concrete	None		

(6) At the discretion of the Engineer, if pumping concrete to facilitate placement, samples may be taken from the truck and pump hose discharge to determine that the compressive strength specifications are met in the structure, and to correlate temperature, slump, and air content results. If the correlation is satisfactory and meets with the approval of the Engineer, sampling may continue from the most convenient location with occasional retesting for correlation. Rejection of concrete due to improper temperature or slump may either occur at the truck or pump hose discharge; however, rejection of concrete due to improper air content will only occur due to a failing test for a sample obtained at the final point of discharge.

TABLE 5
ACCEPTANCE SAMPLING GUIDE FOR MATERIALS USED WITH
PORTLAND CEMENT CONCRETE

SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
602 1003	Pre-stressing Steel (Spiral, Bars, Strand Wire, or Wire)	Tensile Strength	Project or Fabrication Plant	Certificate of Compliance required and one 6 ft. piece from each bar size, heat, reel, or coil.
602 1003	Post- Tensioning Steel	Tensile Strength	Project	Certificate of Compliance required and one 6 ft. piece from each bar size, heat, reel, or coil.
605 1003	Reinforcement Bars (Epoxy Coated or Uncoated)	Yield Strength, Tensile Strength, Bend Test, Elongation, Weight/Foot,		
	Phoenix and Tucson Sources	Coating Thickness (if applicable)	Fabrication Plant or Supplier's Yard	Certificate of Compliance required and samples as per PPD ⁽³⁾ .
			Project	Certificate of Compliance required and one 6 ft. bar per shipment. See PPD ⁽³⁾ .
	Other sources		Project	Certificate of Compliance required and samples as per PPD ⁽³⁾ .
1003	Welded Wire Fabric (Smooth)	Tensile Strength, Diameter, Spelter, Weld Shear, Reduction in Area	Supplier's Yard or Project	Certificate of Compliance required and at Engineer's discretion.

⁽³⁾ ADOT Materials Policy and Procedure Directive.

TABLE 5 (continued) ACCEPTANCE SAMPLING GUIDE FOR MATERIALS USED WITH PORTLAND CEMENT CONCRETE				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1003	Welded Wire Fabric (Deformed)	Tensile Strength, Weld Shear, Weight/Foot	Supplier's Yard or Project	Certificate of Compliance required and one 4 ft. x 4 ft. sample per 25 sheets.
1006	Admixtures			Certificate of Compliance is required and must be on ADOT's Approved Products List. See PPD (3).
1006	Curing Compound	Water Loss ----- % Solids	Supplier's Yard or Project	Certificate of Compliance and Must be on ADOT Approved Products List, for approval prior to use.
1006	Fly Ash and Natural Pozzolan	Chemical and Physical		Material supplied from an Approved Material Source. See PPD (3).
1006	Silica Fume			Certificate of Compliance required with each delivery. See PPD (3).
(3) ADOT Materials Policy and Procedure Directive.				

TABLE 5 (continued) ACCEPTANCE SAMPLING GUIDE FOR MATERIALS USED WITH PORTLAND CEMENT CONCRETE				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1006	Water	Soluble Salts ----- pH	Source	One sample (1 pint in glass container) per source ⁽⁷⁾ .
1006	Hydraulic Cement (All Types)	Chemical and Physical		Material supplied from an Approved Material Source. See PPD ⁽³⁾ .
1011	Joint Materials	Per Specifications		Silicone joint sealant must be on the ADOT Approved Product List. In addition, a Certificate of Analysis shall accompany each lot or batch of sealant. ----- For joint materials other than silicone joint sealant, only a Certificate of Compliance is required.
⁽³⁾ ADOT Materials Policy and Procedure Directive. ⁽⁷⁾ No sample is necessary if water is potable and comes from a proven source.				

TABLE 5 (continued) ACCEPTANCE SAMPLING GUIDE FOR MATERIALS USED WITH PORTLAND CEMENT CONCRETE				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1013 604	Bearing Pads (Preformed Fabric)	Thickness ----- Compression Load	Project	Certificate of Analysis required and two sample pads from every 100, or fraction thereof, with a minimum of one sample pad per lot for each type of pad. [Tested by an Engineer approved testing laboratory. See PPD (3).]
1013 604	Bearing Pads (Plain and Fabric Reinforced Elastomeric)	Per Specification Subsection 1013-2	Project	Certificate of Analysis required and two sample pads from every 100, or fraction thereof, with a minimum of one sample pad per lot for each type of pad. [Tested by an Engineer approved testing laboratory. See PPD (3).]
1013 604	Bearing Pads (Steel Reinforced Elastomeric)	Per Specification Subsection 1013-2	Project	Certificate of Analysis required and two sample pads from every 100, or fraction thereof, with a minimum of one sample pad from each lot for each type of pad. [Tested by an Engineer approved testing laboratory. See PPD ⁽³⁾ .]
⁽³⁾ ADOT Materials Policy and Procedure Directive.				

TABLE 6 ACCEPTANCE SAMPLING GUIDE FOR STABILIZED SOILS AND BASES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
301	Lime Treated Subgrade	Proctor Density	Roadway	One per soil type, and as needed.
		Optimum Moisture		
		Compaction	Roadway	One per lift per 1000 ft.
302	Cement Treated Subgrade	Proctor Density	Roadway	One per soil type, and as needed.
		Optimum Moisture		
		Compaction	Roadway	One per lift per 1000 ft.
304	Cement Treated Base	Proctor Density	Roadway	At start of production then one per week, and as needed
		Optimum Moisture		
		Compaction	Roadway or Point of Placement	One per lift per 1000 ft.
		Compressive Strength ⁽¹⁾		Three random samples per shift. (Three specimens from each sample.)
⁽¹⁾ Independent Assurance Sampling and Testing required.				

TABLE 6 (continued) ACCEPTANCE SAMPLING GUIDE FOR STABILIZED SOILS AND BASES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
305	Lean Concrete Base	Compressive Strength ⁽¹⁾	At Discharge	Four random samples per 4000 SY, minimum four samples per shift.
		Slump		
		Air Content (when required)		
		Thickness	Roadway	Per Specifications.
Refer to Special Provisions	Bituminous Treated Base	See Special Provisions	Roadway	Engineer's discretion.
Refer to Special Provisions	Cement Stabilized Alluvium	Compressive Strength ⁽¹⁾	Roadway or Point of Placement	One set of three per 1500 CY, minimum one set of three per 1/2 shift.
Refer to Special Provisions	Soil-Cement Bank Protection	Compressive Strength ⁽¹⁾	Roadway or Point of Placement	One set of three per 1500 CY, minimum one set of three per 1/2 shift.
⁽¹⁾ Independent Assurance Sampling and Testing required.				

TABLE 7 ACCEPTANCE SAMPLING GUIDE FOR BITUMINOUS MIXTURES				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRE	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
406	Asphaltic Concrete	% Asphalt ⁽¹⁾	Roadway or point of placement	One sample per 500 tons. For placements of 100 Tons or less, Engineer's discretion.
		Moisture Content ⁽¹⁾		
		Rice ⁽¹⁾		
		Marshall Density ⁽¹⁾		
		Gradation ⁽¹⁾		
		Stability and Flow		One per days asphaltic concrete production, minimum of two per project.
406	Asphaltic Concrete - Miscellaneous Paving			Tested Engineer's discretion.
⁽¹⁾ Independent Assurance Sampling and Testing required. ⁽³⁾ ADOT Materials Policy and Procedure Directive.				

TABLE 8 ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
301 503 913 1010	Lime (for use in soil stabilization, mortar, and grout)	Chemical and Physical		See PPD ⁽³⁾ .
404 406 410	Hydrated Lime (for use as mineral admixture in asphaltic concrete mixes)			Material supplied from an Approved Material Source. See PPD ⁽³⁾ .
302 304 501 503 505 601 602 912 913 1010	Hydraulic Cement (for use in soil stabilization, mortar, and grout)	Chemical and Physical		See PPD ⁽³⁾ .
404 406 410	Portland Cement and Blended Hydraulic Cement (for use as mineral admixture in asphaltic concrete mixes)			Material supplied from an Approved Material Source. See PPD ⁽³⁾ .

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFICATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
501	Corrugated Metal Pipe (CMP) [Coated or Non-coated]	Yearly check by ADOT Central Lab	Supplier's Yard	Certificate of Compliance required.
501 1006	Non-Reinforced, Cast-in-Place Concrete Pipe	Compressive Strength ----- Slump ----- Air Content (when required) ----- Temperature ----- Wall Thickness	At Discharge ⁽⁶⁾ Site	Per Specifications.
501 1010	Precast Reinforced or Non-Reinforced Concrete Pipe	Compression (D-Load) ----- Wall Thickness	Supplier's Yard	Certificate of Compliance required and one sample for each 100 sections per size per type.
Refer to Special Provisions	Vitrified Clay Pipe	Compression	Project	One sample for each 100 sections per size per type.
505	Brick for Manholes	Compression	Project	One sample (3 bricks) per project.
⁽⁶⁾ If pumping concrete to facilitate placement, at the discretion of the Engineer, samples may be taken from the truck and pump hose discharge to determine that the compressive strength specifications are met in the structure, and to correlate temperature, slump, and air content results. If the correlation is satisfactory and meets with the approval of the Engineer, sampling may continue from the most convenient location with occasional retesting for correlation. Rejection of concrete due to improper temperature or slump may either occur at the truck or pump hose discharge; however, rejection of concrete due to improper air content will only occur due to a failing test for a sample obtained at the final point of discharge.				

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFICATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
Refer to Special Provisions	Paving Brick	Compression ----- Absorption	Project	One sample (3 paving bricks) per project. Certificate of Compliance required.
Refer to Special Provisions	Cinder Block	Compression ----- Absorption	Project	One sample (3 cinder blocks) per project.
Refer to Special Provisions	Slump Block	Compression ----- Absorption	Project	One sample (3 slump blocks) per project.
604 731 1004 1012	High Strength Bolts, Nuts, Washers, or Anchor Bolts	Rockwell Hardness ----- Wedge Tensile Strength	Project	Certificate of Analysis required and three samples per lot, or 0.1% of lots in excess of 3000, for each bolt diameter, including nuts and washers.
608 1007	Retroreflective Sheeting	Per Specifications		Certificate of Compliance required and also must be on the Department's Approved Products List
608	Sign Panel Silk-Screened Characters			Certificate of Compliance required.

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFICATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
704 708	Glass Beads	Roundness	Supplier's Yard (Recommended) or Project	See PPD ⁽³⁾ .
		Gradation		For other than Dual Component Pavement Markings:
		Refractive Index		Certificate of Compliance required, and if preapproved, copy of Lab test results
		Moisture Resistance		If <u>not</u> preapproved by Central Lab, Certificate of Compliance required*, and a one gallon sample when material is supplied in a "super sack", or one full bag when material is supplied in a 50 pound bag.
		Heavy Metal Concentration (if required)		*If required, a Certificate of Analysis must also be submitted (certifying that the Heavy Metal Concentration meets the specifications).
				=====
				For Dual Component Pavement Markings:
				Certificate of Analysis required**, and if preapproved, a copy of the Central Lab test results.
				If <u>not</u> preapproved by Central Lab, Certificate of Analysis required**, and a one gallon sample when material is supplied in a "super sack", or one full bag when material is supplied in a 50 pound bag.
				**The Certificate of Analysis shall also include a Material Safety Data Sheet (MSDS).
⁽³⁾ ADOT Materials Policy and Procedure Directive.				

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
705	Preformed Plastic Pavement Marking			Certificate of Compliance required*, and must be on the Department's Approved Products List. *A Certificate of Analysis is also required (certifying that the Heavy Metal Concentration of the glass beads meets the specifications).
704	Thermoplastic Pavement Markings	Per Specifications	Supplier or Contractor Project	At the discretion of the Engineer, a sample (one gallon in a metal can) of the material from each batch or, alternatively, sufficient material from one or more bags of material to make a representative one gallon sample, may be submitted to ADOT Central Lab for testing prior to use. Certificate of Compliance and must be on ADOT Approved Products List. (APL) Random spot checks for thickness of thermoplastic material during application process.

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
706	Raised Pavement Markers	Per Specifications	Project	Certificate of Compliance required for markers and adhesive.
				Adhesive must be on the Department's Approved Products List.
				For non-reflective pavement markers, one sample (one marker) per lot per type.
				For reflective pavement markers, one sample (three markers) per lot per type.
708	Permanent Pavement Markings (Painted)	Per Specifications	Supplier or Contractor	Must be on ADOT's Approved Products List. prior to use.
			Project	Certificate of Compliance and a copy of the Central Materials Chemistry Lab test results are required.
				Check-samples of finished paint while being applied, at intervals determined by the Engineer.

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFICATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
732	Polyvinyl Chloride (PVC) Pipe for Electrical Conduit	Resistance to Crushing	Project	Certificate of Analysis
808	Polyvinyl Chloride (PVC) Pipe for Water	Wall Thickness ----- Burst Pressure ----- Diameter	Project	Certificate of Analysis
902	Chain Link Fabric			Certificate of Compliance required.
902	Fence Post and Rails			Certificate of Compliance required.
902 903	Miscellaneous Fence Hardware			Certificate of Compliance required.
902 903	Post Clips, Hog Rings, Tie Wire, or Tension Wire			Certificate of Compliance required.

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
903	Barbed Wire or Barbless Wire	Tensile Strength Spelter Diameter	Supplier's Yard or Project	Certificate of Compliance ⁽⁸⁾ required.
903	Fence Stays			Certificate of Compliance ⁽⁸⁾ required.
903	T-Post	Weight/Foot Length	Supplier's Yard or Project	Certificate of Compliance ⁽⁸⁾ required.
903	Woven Wire Fabric	Spelter Diameter ----- Tensile Strength	Supplier's Yard or Project	Certificate of Compliance ⁽⁸⁾ required.
904 913	Wire Rope			Certificate of Compliance required.
⁽⁸⁾ Certifying that manufacturing processes and application of coating occurred in the United States. (This certification required for Federal-Aid projects only. See Special Provisions for exception based on quantity used.)				

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1002	Paint	Per Specifications	Project	Paint for use on structural steel and other metallic surfaces: ----- Certificate of Compliance required and system equivalent must be on ADOT Approved Products List. =====
				Paint for use on concrete or masonry surfaces: -----
			Supplier or Contractor	One Quart metal can of the material from each batch must be submitted to Central Lab for testing prior to use. -----
			Project	Certificate of Compliance and must be on the Department's Approved Products List. =====
			=====	
			Project	Paint for use on other than structural steel and other metallic surfaces, concrete surfaces, or masonry surfaces: ----- Certificate of Compliance required and system must be on ADOT Approved Products List.

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1012	Guardrail Elements			Certificate of Compliance required.
1012	Guardrail Fasteners	Rockwell Hardness ----- Tensile Strength	Project	For other than High Strength Anchor Bolts, Certificate of Compliance required and three samples per lot, or 0.1% of lots in excess of 3000, for each bolt diameter, including nuts and washers. For High Strength Anchor Bolts, see Page 51.
1012	Guardrail Posts and Blocks	None		Certificate of Compliance required. ----- For timber guardrail posts and blocks, see PPD ⁽³⁾ .
⁽³⁾ ADOT Materials Policy and Procedure Directive.				

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
1014	Geo-synthetics		Supplier and Project	If material has been preapproved, Certificate of Compliance required and one sample for every 10 rolls per lot. (Minimum of one sample per lot.) Samples shall not be taken within 5 feet from either end of the roll, and shall be at least 6 feet long by the full width of the roll.
			Project	If material has <u>not</u> been preapproved, Certificate of Analysis required and one sample for every 10 rolls per lot. (Minimum of one sample per lot.) Samples shall not be taken within 5 feet from either end of the roll, and shall be at least 6 feet long by the full width of the roll.
NOTE: Information on Geo-synthetics continued on next page.				

TABLE 8 (continued) ACCEPTANCE SAMPLING GUIDE FOR MISCELLANEOUS MATERIALS				
SPECIFI- CATION SECTION	MATERIAL	TYPE OF TEST(S) REQUIRED	SAMPLING POINT	MINIMUM SAMPLING FREQUENCY
NOTE: Information on Geo-synthetics continued from previous				
1014 412	Pavement Fabric	Per Specification Subsection 1014-2		
1014 306	Geo-grid	Per Specification Subsection 1014-3		
1014 208	Separation Geotextile Fabric	Per Specification Subsection 1014-4		
1014 913	Bank Protection Fabric	Per Specification Subsection 1014-5		
1014 203	Geo-composite Wall Drain System	Per Specification Subsection 1014-6		
1014 307	Geo-composite Edge Drain System	Per Specification Subsection 1014-7		
208	Geo-membrane	See Special Provisions.		

Sample Ticket

Purpose Codes

Testing Lab Codes

C Central Lab
R Regional Lab
P Project Lab

Size Codes

B Blend
F Fine
I Intermediate
C Coarse
K Coarsest

Roadway Codes

NB	Northbound
SB	Southbound, etc.
RA	Ramp A
RB	Ramp B, etc.
FR	Frontage Road
XR	Crossroad

9 Composite of Bins
1 Bin #1
2 Bin #2, etc.

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