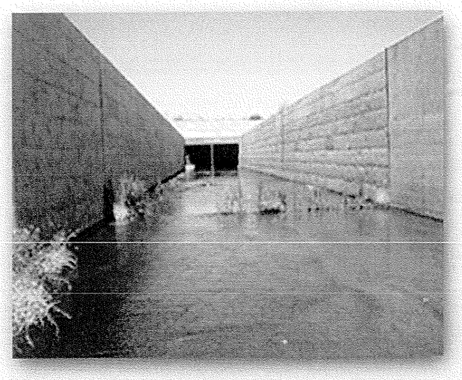

Storm Water Management Plan

2005 Annual Report

MS4 Permit No. AZS000018

Prepared for

ADOT

Maintenance Planning and Operations
Arizona Department of Transportation
206 South 17th Avenue
Phoenix, Arizona, 85007

Prepared by

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201075.09

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DEFINITIONS

Arizona Administrative Code (AAC) - Arizona Administrative Code.

ADEQ - Arizona Department of Environmental Quality.

AZPDES - Arizona Pollution Discharge Elimination System.

Best Management Practice (BMP) - Permit condition used in place of or in conjunction with effluent limitations to prevent or control the discharge of pollutants. May include schedule of activities, prohibition of practices, maintenance procedure, or other management practice. BMPs may include, but are not limited to, treatment requirements, operating procedures, or practices to control plant site runoff, spillage, leaks, sludge or waste disposal, or drainage from raw material storage.

Clean Water Act (CWA) - The Clean Water Act is an act passed by the U.S. Congress to control water pollution. It was formerly referred to as the Federal Water Pollution Control Act of 1972 or Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500), 33 U.S.C. 1251 et. seq., as amended by: Public Law 96-483; Public Law 97-117; Public Laws 95-217, 97-117, 97-440, and 100-04.

Code of Federal Regulations (CFR) - A codification of the final rules published daily in the Federal Register. Title 40 of the CFR contains the environmental regulations.

Composite Sample - Sample composed of two or more discrete samples. The aggregate sample will reflect the average water quality covering the compositing or sample period.

Discharge Monitoring Report (DMR) - The form used (including any subsequent additions, revisions, or modifications) to report self-monitoring results by AZPDES permittees. DMRs must be used by approved states as well as by EPA.

EPA - Environmental Protection Agency.

Grab Sample - A sample that is taken from a waste stream on a one-time basis without consideration of the flow rate of the waste stream and without consideration of time.

Municipal Separate Storm Sewer System (MS4) - A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a state, city, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works. Commonly referred to as an "MS4" [40 CFR 122.26(b)(8)].

Arizona Pollutant Discharge Elimination System (AZPDES) - The state program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of CWA.

Permittee - means the Arizona Department of Transportation.

Storm Water - Storm water runoff, snowmelt runoff, and surface runoff and drainage [40 CFR 122.26(b)(13)].

Storm Water Management Plan (SWMP) - A comprehensive plan for implementation of AZPDES permit requirements.

Waters of the United States - All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Waters of the United States include but are not limited to all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, play lakes, or natural ponds. [See 40 CFR 122.2 for the complete definition.]

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APPENDIX D: ADOT Major Outfalls Table

ATTACHMENT: Phase I and Phase II Storm Water System Maps

EXECUTIVE SUMMARY

The Arizona Department of Transportation (ADOT) is submitting this 2005 Storm Water Management Plan (SWMP) Annual Report, which describes the activities and programs implemented by ADOT from July 1, 2004 through June 30, 2005, as part of its Municipal Storm Sewer System (MS4) Phase I Permit. This annual report is prepared pursuant to the requirements of the Arizona Pollutant Discharge Elimination System (AZPDES) Permit Number AZS000018. The Permit stipulates that an annual report be prepared and submitted to the permitting authority. This annual report addresses the stipulations established in the following documents:

- Title 40 Code of Federal Regulations (CFR) 122.26 and 122.42 26 as incorporated into reference by Arizona Administrative Code (AAC) R18-9-A905
- AZPDES permit No. AZS000018, effective October 1, 1999
- AAC Title 18, Chapter 9, Article 9, effective December 7, 2001
- ADOT Part 1 Permit Application dated November, 1991
- ADOT Part 2 Permit Application dated November, 1992
- Certification Statement.

The annual report complies with the above-referenced documents by discussing components of the SWMP implemented by ADOT, proposed changes to the SWMP, summary of data collected throughout the reporting year, annual expenditures, enforcement actions, inspections, public education programs, and water-quality improvements or degradation. These practices are continuously being reviewed and improved as new data, research, and technology becomes available. The annual report is divided into eleven categories: (1) Maintenance, (2) Construction, (3) Design, (4) Transportation Control Measures, (5) Storm Water Monitoring, (6) Dry Weather Screening, (7) Assessment of Best Management Practices (BMPs), (8) Proposed Changes, (9) Assessment of Water Quality Improvement or Degradation, (10) Statewide Permit Application, and (11) Annual Expenditures. This annual report will be utilized by ADOT to assess the performance of its storm water management program and to establish long term assessment strategies.

CERTIFICATION STATEMENT

MUNICIPAL SEPARATE STORM SEWER SYSTEM
ANNUAL REPORT
FOR THE REPORTING YEAR ENDING SEPTEMBER 30, 2005

AZPDES Permit Holder: Arizona Department of Transportation

Period Covered by This Report: July 1, 2004 through June 30, 2005

AZPDES Permit Number: AZS000018

Person to contact concerning information contained in the report:

Bob Gustafson
State Engineers Office
Arizona Department of Transportation
206 S. 17th Avenue, MD 102A
Phoenix, Arizona 85007
602-712-7540

As required by Title 40 CFR Section 122.22(b)(2) and incorporated into reference by AAC R18-9-A905:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering this information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

As required by AZPDES Permit Number AZS000018:

I certify that storm water management program revisions previously approved by EPA, after consultation with the Arizona Department of Environmental Quality (ADEQ), were implemented on schedule.

Douglas A. Forstie

Douglas A. Forstie, PE
Deputy State Engineer, Operations
Arizona Department of Transportation

September 30, 2005
Date

1 MAINTENANCE

1.1 Street Sweeping and Litter Pick-Up – Phoenix and Tucson

1.1.1 Street Sweeping

Street sweeping within ADOT's Phoenix District occurs on a weekly basis by contractors. Sweeping is normally completed between the hours of 5 PM to 5 AM. Contractors also respond to emergency situations within 30 minutes of being contacted by ADOT. The sweeping contractors are required to document and inform ADOT of any unusual spills or dumping observed during sweeping.

Street sweeping within the Tucson District is performed on a yearly, quarterly, monthly or bi-weekly basis depending upon the area.

1.1.2 Mechanized Litter Pick-up

ADOT no longer contracts for mechanized litter pick-up. Debris is currently removed manually by ADOT personnel and prison work crews coinciding with the street sweeping schedule, or on a weekly or as-needed basis. Debris removed includes litter, dead animals, car parts, and other discarded materials. ADOT does not maintain records of the amount of debris removed by its personnel.

ADOT's Tucson District no longer utilizes mechanized litter pick-up by a private firm. This activity is now being performed manually by ADOT personnel and prison work crews. Litter pick-up is performed two times per week and records are maintained by the Tucson District Office.

1.1.3 Manual Litter Pick-up

Manual litter pick-up occurs within the Phoenix and Tucson Districts as per the procedures described in the mechanized litter pick-up description above. Additionally, ADOT maintains an on-call contractor in both Phoenix and Tucson to manually remove debris on an as-needed basis. This activity includes the removal of litter and debris at the roadway edge and within the right-of-way. Locations with higher traffic volumes require more frequent cleaning.

In the event that hazardous containers or other materials are found during litter pick-up by ADOT personnel or the on-call firm, crews are instructed to leave them in place so materials can be tested. Staff members are instructed to contact the ADOT HazMat office. ADOT maintains a contract with a hazardous materials handler to test and properly dispose of such materials. Wastes determined to be hazardous are properly disposed of by the contracted company. Both the Phoenix and Tucson Districts report that no hazardous materials have been found during the past year.

1.1.4 Adopt-A-Highway Program

The ADOT Adopt-A-Highway Program (AAH) helps reduce litter on Arizona highways by encouraging volunteers to clean up litter and by heightening public awareness of the need to keep the highways clean. The program includes sponsors of highway clean-up and volunteers. The program allows organizations to adopt designated sections of highway for which they are responsible to pick up litter at least three times a year. ADOT erects signs,

which call the motorist's attention to the litter control program. The signs also credit the adoptive organization for its effort in keeping the highway clean. The following is the amount of waste removed within the Phase I areas and the number of miles adopted within each area:

- The Phoenix District AAH removed 69,326 bags of litter during Fiscal Year 2004/2005. Litter was removed by three paid litter removal contractors and two prison crews from Perryville Prison. There were 208 miles adopted within the Phoenix area.
- The Tucson District AAH removed 2,800 bags of litter during Fiscal Year 2004/2005. A total of 107 miles were serviced.

1.2 Storm Sewer System Maintenance – Phoenix and Tucson

1.2.1 Pump Station Maintenance – Phoenix Only

All pump stations within the Phoenix drainage system have been inspected once per week within the past year. If ADOT personnel determine that a pump station requires cleaning, the wells are dewatered with a hydro-vac and sediment and debris are removed. No discernable pollutants have been noted for any Phoenix pump stations during the past year.

1.2.2 Tunnel Maintenance – Phoenix Only

ADOT owns and operates three large drainage tunnels (18' to 21' diameter) in the Phoenix area. The profiles of the tunnels have sag points (that tend to trap sediment during low velocity flows) upstream from their outlet structures. All three tunnels discharge into the Salt River. One tunnel is currently being dewatered, a second tunnel has been partially inspected due to mechanical failure, and the third tunnel was not inspected due to construction of the Rio Salado Project.

1.2.3 Storm Sewer Maintenance – Phoenix and Tucson

ADOT maintains large diameter storm sewers (those large enough to walk through) within the Phoenix and Tucson Districts. These storm sewers have been inspected yearly and cleaned on an as-needed basis. The smaller storm sewers are self-cleaning and therefore do not require scheduled inspections and cleaning. No pollutants have been detected.

1.2.4 Storm Sewer Inlet/Catch Basin Maintenance – Phoenix and Tucson

Inlets and catch basins within the Phoenix District have been inspected and cleaned on an as-needed basis within the past year. Additionally, storm sewer inlets and catch basins within landscaped areas are maintained by ADOT's District Maintenance Organizations. There has been no serious or unusual clogging of storm sewer inlets or catch basins during the past year.

The ADOT Tucson District inspects all of its storm sewer inlets and catch basins on a yearly basis. There has been no serious or unusual clogging of storm sewer inlets or catch basins during the past year.

1.2.5 Open Channel Maintenance – Phoenix and Tucson

Open channels within Phoenix's drainage system are inspected annually and cleaned at least once every three years. There is an on-call clean-out service available on an as-needed basis. Within the past year, there has been no unusual clogging reported.

The Tucson District conducts open channel inspections yearly. Tucson also maintains an on-call clean-out service. There is no unusual clogging or cleaning to report for the Tucson District.

1.2.6 Culvert Maintenance – Tucson Only

Each of the cross-drainage culverts under ADOT highways has undergone a formal inspection once within the past year. Inspection of these culverts has coincided with storm events. There has been no serious clogging or maintenance to report for culverts within the Tucson area.

1.3 Control of Illicit Discharges

1.3.1 Permit System – Phoenix and Tucson

Storm sewers that connect and drain into ADOT's MS4 are controlled by one of two means: an Intergovernmental Agreement (IGA) or a connection permit. If the connection is made during construction of the ADOT storm sewer, an IGA is formed between ADOT and the city/agency that is discharging to ADOT's system. If the connection is made subsequent to construction, the discharger is required to obtain a connection (encroachment) permit. If a non-permitted connection is made to ADOT's storm sewers, enforcement actions may be taken. These illegal connections may be removed or an encroachment permit required. ADOT is currently working on a storm water management guidance document for external parties. The Phoenix and Tucson Districts report that they have not issued connection permits.

1.3.2 Inspection – Phoenix and Tucson

Inspections for illicit discharges to ADOT's storm sewer system within the Phoenix and Tucson Districts have occurred within the past year. Report of any illegal discharges is submitted by ADOT Road Maintenance crews who may observe them while performing normal activities. Illicit discharges may also be identified as a result of complaint calls. No illicit discharges have been identified during the past year.

1.3.3 Dry-weather Screening – Phoenix and Tucson

During the past year, dry weather screening was conducted on at least 20% of the storm water outfall discharge sites in the Phoenix and Tucson metropolitan areas. Ten outfalls within the Phoenix area were inspected and three outfalls within the Tucson area were inspected. **Section 6** contains further details concerning dry weather screening.

1.3.4 Pump Station Gas Detection – Phoenix Only

ADOT storm sewer pump stations are constructed with gas detection systems, which send an alarm signal to the Phoenix District Office in the event combustible gasses are detected in the

wet well. The alarm is monitored on a 24-hour basis. If the alarm is sounded, pump maintenance personnel can respond in 15 to 20 minutes to shut off the pump if necessary. ADOT reports no detection of combustible gas in the pump stations within the past year.

1.3.5 Discharges to ADOT's System

On January 10, 2005, approximately 100 gallons of sewage was released to an ADOT retention basin located near 400 West Baseline Road, Tempe, Arizona. This release occurred from a neighboring mobile home park that was performing mechanical clean-out of a four-inch sewage line that failed. The sewage line overflowed and entered an ADOT storm water inlet that drains to the retention basin located west of the mobile home park. The release was investigated and reported to ADEQ. The storm sewer line was flushed with 3,000 gallons of water containing a 10% sodium hypochlorite mixture to kill any bacteria resulting from the sewage release. Supporting documenting concerning the spill is included in Appendix A.

1.4 Emergency Response Program – Phoenix and Tucson

The State of Arizona has a plan to respond to accidental spills of hazardous materials called the State of Arizona Hazardous Materials Response and Recovery Plan. This plan defines authority and responsibility for individual State agencies in response to accidental spills. It also establishes an emergency management framework for joint state agency operations. ADOT signed a memorandum of understanding along with other State agencies, committees, and commissions that indicated their concurrence with the plan. Since then, ADOT has been actively carrying out its responsibilities under the plan.

The Phoenix District has created its own response team called ALERT (an acronym for ADOT Local Emergency Response Team) that responds to all types of emergencies on ADOT's roadways including spills of hazardous material. The ALERT members are on-call 24 hours a day, 7 days a week. Their duty in the event of a hazardous material spill is to contain the spill, manage traffic problems, and manage the spill clean-up.

ADOT has prepared an ALERT Manual, which designates individual responsibilities and lists key emergency personnel within ADOT and local communities. The Phoenix District Traffic Operation Control Center is manned 24 hours a day, 7 days a week for emergency calls and equipment monitoring. Eight employees of the District ALERT Team are on call 24 hours a day, 7 days a week to respond to emergencies.

ADOT has recently adopted a Call Back policy to ensure that adequate staff is available to meet unexpected contingencies and emergencies. Procedures are in place to call any employee back to work to perform unanticipated services outside of their regularly scheduled hours. In addition, ADOT's Safety and Health Section employs a statewide emergency response specialist (Courtney Perrier-Bear, 520-628-5033) who responds to emergencies for all districts.

The Tucson District has three separate maintenance groups that respond to all types of emergencies on ADOT's roadways including spills of hazardous material. Each maintenance group has three members who are available to the Department of Public Safety (DPS, Highway Patrol) 24 hours a day, 7 days a week. The duty of these members is to contain the spill, manage traffic problems, and manage the spill clean-up.

In the event of an accidental spill, the DPS (Highway Patrol) contacts the ADOT on-call ALERT members directly. DPS, ADEQ, and ADOT district maintenance crews all respond to the spill. ADOT's responsibilities include:

1. Coordinate with local fire and police departments
2. Contain spill by blocking storm drains, building dikes, etc.
3. Take care of traffic problems
4. Manage the cleanup of the hazardous materials.

In most cases, the individual or company that is guilty of the spill is held responsible for contracting with a waste management company to clean it up. However, in the event that the guilty party either cannot be identified or does not have the necessary resources, ADOT has risk management funds in place to have the spill properly cleaned up.

1.5 Erosion Control Practices – Phoenix and Tucson

1.5.1 Erosion Control Maintenance – Phoenix and Tucson

The Phoenix and Tucson Districts have ongoing maintenance programs to provide permanent erosion control in areas of erodible soils. These maintenance programs include soil stabilization, reseeding bare ground, turf renovation, landscape irrigation maintenance, granite erosion control, and landscaping. Inspection of these areas has occurred on an as-needed basis within the past year and routine maintenance has been performed as conditions require.

1.5.2 Irrigation System Pressure Detection – Phoenix and Tucson

ADOT's landscape irrigation system is continuously monitored for water pressure and flow through the use of telemetry. Malfunctions or leaks in the irrigation system are detected by pressure sensors automatically and are directed to a computer terminal at the maintenance district offices.

The irrigation system provides immediate detection of broken sprinklers and water pipes, which allows repair crews to respond immediately. A side benefit of this system is control of erosion. Since ADOT repair crews can respond almost immediately to water system failures, there is less chance of soil erosion as a result of broken water pipes. Normal upkeep and maintenance of the irrigation system has occurred within the past year with no significant system failures to report.

1.6 Roadside Vegetation Management Program – Phoenix and Tucson

ADOT maintains a statewide roadside vegetation management program to control annual weeds that tend to choke out more desirable perennial grasses. The annual weeds provide little if any erosion control since they do not have extensive root systems and since they die out or blow away each year. On the other hand, grasses and other perennial specials have extensive root systems that hold the soil in place. The vegetation management activities include chemical spraying, mowing, blading, reseeding/planting, fertilizing, and brush removal. In the case of chemical spraying, ADOT commissioned a study to determine environmentally acceptable methods of

applying herbicides. The ADOT Roadside Vegetation Management Program has been carried out during the past year with no significant difficulty.

1.7 Storm Water Pollution Prevention Plan (SWPPP) for Maintenance Yards – Phoenix and Tucson

Maintenance yards within the Phase I area are regulated as part of ADOT's MS4 permit. These yards include facilities for roadway and landscape equipment storage and maintenance, chemical storage, sign manufacturing, and bulk paint storage for roadway striping. The ADOT permit requires the preparation of a SWPPP for each maintenance yard in the Phoenix and Tucson MS4 areas.

SWPPPs are in place for six maintenance yards in Phoenix and one maintenance yard in Tucson. The EPA document entitled "Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans" was used to develop the SWPPPs. Each SWPPP includes the following elements: (1) Identification of a pollution prevention team, (2) maps detailing drainage patterns, (3) materials inventory, (4) description of exposed significant material, (5) pollutant source identification, (6) BMP identification, (7) implementation, and (8) worksheets for documenting discharges. The SWPPPs are on file at the maintenance yards and are implemented by the pollution prevention team.

Two additional maintenance yards have come into the Phoenix Phase I area due to highway expansion and the extension of ADOT's Phase I boundaries. These two yards are the Avondale Maintenance Yard and the North Phoenix Maintenance Yard. Both facilities will have a SWPPP developed and implemented within the next six months. Additionally, SWPPPs are being developed for maintenance yards located within Phase II communities.

2 CONSTRUCTION – STATEWIDE

Except where noted below, the procedures followed for construction projects have not been changed from the previous year. These procedures for complying with the AZPDES general permit for construction are outlined in the *ADOT Erosion and Pollution Control Manual for Highway Design and Construction* dated June 1995 and updated in 2004.

2.1 Develop Standards for BMPs – Erosion and Pollution Control Manual

ADOT developed standard details and special provisions for BMPs to be used on ADOT construction projects. These are outlined in the *ADOT Erosion and Pollution Control Manual*. This document includes several typical BMPs such as silt fences, mulching, and temporary dikes.

The design engineer, project manager, and the ADOT Roadside Development Section select structural BMPs from this standard manual for use in the Special Provisions for each project. Special Provisions also include standard contract language on the "good housekeeping" procedures such as proper solid waste management and chemical storage. The updated manual has incorporated AZPDES construction permit requirements and is available to ADOT contractors.

2.2 Training for SWPPPs

The resident engineers and their staff within each district office of ADOT are trained in the area of storm water erosion control and "good housekeeping" procedures on construction sites. Many ADOT personnel have been attending the new Erosion Control Coordinator (ECC) certification training recently implemented for contractor personnel. The Contractor's ECC is responsible for preparation of the SWPPP. ADOT project engineers are responsible for review of the SWPPP and to oversee the implementation of the plan. Contractors hired by ADOT to perform work on construction sites are also invited to attend ADOT training sessions. New training sessions for AZPDES requirements are being developed and will be proposed to management to raise the awareness of ADOT personnel as to individual and collective responsibilities to the AZPDES program.

2.3 Construction Storm Water Pollution Prevention Plans

2.3.1 Plan Review at 60% Submittal Stage

The design engineers, project manager, and Roadside Development Section review the construction plans at the 60% submittal stage to determine if there are any erosion control measures that need to be incorporated into the plans. The design of temporary and permanent sediment and erosion control measures is an integral part of the design process.

2.3.2 Plan Review at 95% Submittal Stage

The District Engineers' office, the roadway designers and the erosion control specialists review the construction plans at the 95% submittal stage with the following objectives:

- Review Permanent Erosion Controls – The proposed permanent erosion control measures are reviewed and any necessary changes are incorporated.
- Prepare Temporary Erosion Control Plan for construction activities – The resident engineer and the Roadside Development Section designers and erosion control specialists mark up the roadway plan and profile sheets with the BMPs that they anticipate will be required to control erosion during the different stages of construction.

2.3.3 Preparation of SWPPP

A SWPPP is prepared for each construction project that exceeds one acre of disturbance and is incorporated into the construction plans and specifications. ADOT is currently working on a construction SWPPP template to be used on all construction projects. The template will include a revised construction inspection log that will replace the inspection checklist currently located in the ADOT *Erosion and Pollution Control Manual.* ADOT intends to circulate the draft construction SWPPP template to stakeholders in the latter half of October for comment.

2.4 Procedures following Award of Contract

2.4.1 Critique Erosion Control Plan

After the award of the construction contract, the resident engineers attend the partnering session or pre-construction meeting and go over the SWPPP with the contractor. At this

meeting the proposed temporary control measures are adjusted and revised, if necessary, to accommodate field conditions and the contractor's scheduling and phasing of the project.

2.4.2 Prepare Revised Plan

Any changes as a result of the discussion at the above meeting are incorporated into the SWPPP. The resident engineer keeps the original and a copy remains with the contractor on the job site.

2.4.3 Certification of SWPPP

The ADOT resident engineer signs the SWPPP and the local municipality also signs in the case of a project with local government participation.

2.4.4 Prepare Notice of Intent (NOI)

The ADOT resident engineer and the contractor each prepare separate NOIs and submit them to ADEQ at least 48 hours before any construction begins. In accordance with the general permit, ADOT is required to submit an NOI because of its control over the job specifications; the contractor is required to submit an NOI because he has day-to-day control over the job.

The NOIs submitted by ADOT are signed by the District Engineer or his representative. The NOI is then delivered by means of certified mail to: Storm Water Notice of Intent, Arizona Department of Environmental Quality, 1110 West Washington, 5415B-3, Phoenix Arizona 85007.

2.5 Installation of Erosion Control

The resident engineer works closely with the contractor on the installation of the erosion control measures. Revisions that occur as a result of changing field conditions or construction phasing and scheduling are noted on each copy of the SWPPP.

2.6 Inspections

The Engineer and the erosion control coordinator inspects the project at least every 14 calendar days, and also within 24 hours after any storm event of 0.50 inches or more. The ADOT AZPDES construction inspection checklist utilized for this purpose is included in Appendix B.

2.7 Notice of Termination (NOT)

ADOT and the contractor each submit a NOT after all the bare ground has been seeded and mulched and the permanent erosion and sediment control measures are in place.

The ADOT NOT is signed by the District Engineer or his representative and mailed by means of certified mail to ADEQ at the following address: Storm Water Notice of Termination, Arizona Department of Environmental Quality, 1110 West Washington, 5415B-3, Phoenix Arizona 85007.

In the case of an urban highway project, where the landscaping contract comes after the paving project, the following rule is followed for submittal of a NOT:

- If the bare ground is seeded and mulched as part of the paving project, ADOT and the contractor submit NOTs when the construction contract is complete. Then, at the start of the subsequent landscaping contract, both ADOT and the landscaping contractor submit NOIs to obtain a new permit to cover the landscaping activities.
- If seeding and mulching are not part of the paving project, ADOT cannot submit a NOT until after the completion of the landscaping project. Therefore, under this condition ADOT maintains temporary erosion controls in the area and performs regular inspections (in accordance with the ADEQ general construction permit) during the interim period after the paving project is complete and before the landscape contract begins. In this case the paving contractor submits a NOT at the end of the paving contract and the landscape contractor submits a NOI before he begins work. In the interim, ADOT has sole responsibility.

2.8 Retention of Records

All records are maintained for a minimum of 3 years after the submittal of the NOT.

2.9 Other AZPDES Permit Requirements

2.9.1 Asphalt and Concrete Plants

Asphalt and concrete plants are not covered by the ADEQ general permit for construction sites. ADEQ considers these facilities to be an industrial activity, which requires separate coverage under ADEQ's Multi Sector General Permit (MSGP) for industrial activities. This is true in all cases, including the case where the plants are portable and located within ADOT's right-of-way. The contractor or subcontractor is held responsible for filing the necessary documents with ADEQ to obtain an AZPDES permit for industrial activities. ADOT cannot file the documents because ADOT does not own and operate the plants.

2.9.2 ADOT Materials Sources

As is the case with asphalt and concrete plants, materials sources are not covered by ADEQ's general permit for construction sites. The ADEQ considers these facilities to be an industrial activity, which requires separate coverage under ADEQ's MSGP for industrial activities.

In the case of commercial materials sources or contractor-owned sources, the owner and/or operator are required to obtain permit coverage. In the case of ADOT-owned materials sources, ADOT obtains a permit and requires each contractor that works the source area to obtain a permit (much like permits for construction sites). The contractor is required to leave the source area in a reclaimed state by finish-grading the site and seeding the bare ground in a manner acceptable to ADOT.

3 DESIGN

Except as noted, the design procedures described below have not been changed from previous years.

3.1 Landscaping

The design of ADOT highways includes landscaping to provide permanent erosion control on finish-graded construction slopes. The type of the landscape design depends on the

character of the adjacent land. For example, in urban areas, bare ground is covered with decomposed granite, and trees and shrubs are planted to provide an aesthetically pleasing appearance and help to further stabilize the ground. Landscape irrigation systems are designed into these projects to foster plant growth and insure plant life in the arid environment. In the rural areas, the construction slopes are seeded with native seed mixes and treated with straw mulches. In both cases, bare ground is stabilized to provide permanent erosion control.

Reclaimed water is used for irrigating vegetative areas within some medians, rights-of-way and landscaped areas. Areas using reclaimed water are indicated by purple water valve boxes and are maintained as per ADOT requirements.

3.2 Retention/Detention Basins

Currently, ADOT's storm sewer system includes several retention and detention basins. The old detention basins were designed to control storm water quantity rather than quality, and therefore, they were typically designed as offline-type basins which store the peak of the flood and provide little in terms of reducing storm water pollutants. There are, however, several retention basins, which drain by infiltration and thereby reduce the amount of pollutants discharged to the receiving waters.

ADOT recognizes that detention basins that are designed for the dual purpose of managing storm water quantity and quality can be quite effective in reducing pollutant loads. Therefore, where appropriate, new detention basins are designed to capture storm water and help remove pollutants.

3.3 Erosion Control

The design of ADOT's highways includes many permanent erosion control features to protect areas subject to erosion. Examples of the features include channel linings, culvert outlet protection, slope drains, check dams, etc. These erosion control features are reviewed by ADOT on an on-going basis to determine their effectiveness and to consider new alternatives.

3.4 Other Structural Controls

ADOT was required to consider the use of other structural controls as part of their AZPDES MS4 permit. Examples of these other controls include grassy swales or filter strips, media filtration, and oil/water separators. The design engineers of ADOT's Roadway Design Group have been notified of this permit requirement and are developing a methodology for determining structural BMPs. Roadway Design has recently updated the ADOT drainage report requirements for external party connections to the ADOT conveyance system (see Consent Order 90-day Status Report dated October 1, 2005). ADOT has also recently retained AMEC Engineering to begin work on water quality control BMPs. A scope of work for the methodology study and BMP menu is currently being prepared.

4 TRANSPORTATION CONTROL MEASURES

Except as noted below, there is no significant change to report in these control measures.

4.1 Vehicle Emissions Testing

ADEQ requires annual emissions testing of all vehicles registered in Maricopa (Phoenix Area) and Pima (Tucson Area) Counties. Vehicles that do not meet minimum requirements are not registered until appropriate repairs have been made and the vehicles are re-tested to ensure compliance with emission standards.

4.2 High Occupancy Vehicle (HOV) Lanes

ADOT is incorporating HOV lanes into the design and construction of the urban highway system. These lanes are restricted to use by buses and carpools. ADOT also funds advertising campaigns to promote the use of the HOV lanes. The intent of providing these lanes is to encourage mass transit and thereby reduce traffic volume.

4.3 Intelligent Vehicle Highway System

IVHS is an electronic system of metering highway on-ramp traffic, coordinating traffic signals, controlling electronic billboards and monitoring traffic volumes. The system is monitored 24 hours per day at the Traffic Operation Control Center. This system helps to minimize stop-and-go traffic, which reduces pollutant generation and deposition. Idling vehicles in traffic generate more pollutants because of incomplete fuel combustion.

4.4 Clean Air Campaign

ADOT is an official sponsor of the Clean Air Campaign. This is the "Don't Drive One in Five" Campaign, which encourages commuters to use an alternative means of transportation one day out of the week.

4.5 Capitol Ride Share Program

ADOT provides promotional materials to encourage State employees to reduce travel. This includes telecommuting, flexible work schedules, assisting in carpooling, and providing mass transit information.

5 STORM WATER MONITORING

Storm water monitoring is currently being conducted within the Phoenix area; the data is being used to monitor BMP effectiveness.

Storm water monitoring has also occurred for portions of ADOT highways within the Tucson area. Monitoring data is used to evaluate BMP effectiveness and to modify the BMPs if needed. A summary of the storm water sampling results is provided in Appendix B.

6 DRY WEATHER SCREENING – PHOENIX AND TUCSON

During the past year, ADOT completed dry weather screening for storm water outfalls. A minimum of 20% of ADOT outfalls were screened during this reporting year. There are a

total of 48 major outfalls in the Phoenix area and 14 major outfalls in the Tucson area. ADOT has integrated the existing storm water system, including major outfalls, into a geographic information system (GIS). ADOT continuously updates the dataset to include future storm water infrastructure along ADOT roadways. ADOT's Phase I and Phase II drainage maps are provided as an attachment to this report.

To fulfill the requirements for 2004-2005 reporting year, ADOT's list of major outfalls was used to select sites for dry weather screening activities. Visual inspections were performed for 10 outfalls in Phoenix and 3 outfalls in the Tucson metropolitan area. The purpose of the dry weather screening is to identify illicit connections and/or illegal dumping within ADOT's storm water system. The discharge points were observed during dry weather. Forms were developed for dry weather field screening; these were used for record keeping purposes. Results of the dry weather screening and photos for this reporting period are provided in Appendix C.

Given the local climatic conditions, the storm water facilities only exhibit flow immediately following a precipitation event. Dry weather flow is a local phenomenon that is typically linked to tailwater discharge from agricultural irrigation. All agriculture in the region is irrigated, much of it using flood irrigation techniques. Tailwater is often discharged to local storm drain facilities.

In those cases where dry weather discharges are found and an illicit discharge identified, the procedure is to report them to the local municipality. The local municipality is charged with identifying the source of the discharge, determining whether it is an illicit discharge, and following up with the entity that is the source of the discharge. ADOT has no land use authority beyond the roadway right-of-way. The local municipalities, with different enabling legislation, do have zoning and land use authority, along with enforcement authority. An updated list of ADOT's major outfalls is provided in Appendix D.

7 ASSESSMENT OF BEST MANAGEMENT PRACTICES

7.1 Enforcement Actions; Inspections; Public Education Programs

7.1.1 Enforcement Actions

ADOT maintains a hazardous materials response unit trained and equipped to deal with any type of materials. It is standard operating procedure for ADOT staff who come upon any substance or unidentified items on the roadway to call the HazMat unit. Likewise, if there are any spills at the maintenance yards, staff is to call the HazMat unit and not attempt to clean up the spill.

Having a unit with staff and equipment specifically trained to deal with hazardous materials guarantees a high level of expertise will be focused on the hazardous material spill. This results in a higher level of effectiveness in cleaning up the spill in a timely manner with minimal impact to the environment, other people, and the staff themselves.

ADOT's emergency response team is one of three state agencies (DPS, ADEQ) that respond to spills on ADOT roadways involving both known and unknown pollutant generators. Once a call is received by ADOT, staff is sent to the scene of the spill for traffic control and light

clean-up activity. In the case of a large spill, the fire department is called for immediate containment of the substance. Following the containment and initial assessment, an emergency response contractor is contacted for final containment and clean-up.

If the source of the spill is known, ADOT pursues recovery of clean-up costs through ADOT's Risk Management and the Arizona Attorney General's Office. If the source of the spill is unknown, funds are allocated through ADOT's Risk Management Department and the Arizona Department of Administration.

7.1.2 *Inspections*

During the past year, ADOT road maintenance personnel performed inspections of ADOT's storm water system. These activities occur on an as-needed basis and include the following:

- Storm Sewer System Maintenance
- Control of Illicit Discharges
- Erosion Control Practices
- Roadside Vegetation Management Program

7.1.3 *Public Education Programs*

ADOT is an official sponsor of the Clean Air Campaign. This is the "Don't Drive One in Five" Campaign, which encourages commuters to use an alternative means of transportation one day out of the week.

ADOT provides promotional materials to encourage State employees to reduce travel. This includes telecommuting, flexible work schedules, assisting in carpooling, and providing mass transit information.

The AAH Program is another public education program that helps to reduce litter on Arizona's highways. This program allows organizations to adopt designated sections of highways for which they are responsible to remove litter at least three times per year. ADOT erects signs, which indicate which organization sponsors clean-up for that section of highway.

Additionally, ADOT has joined Storm Water Outreach for Regional Municipalities (STORM), a regional group that was established to help promote storm water public education efforts within the greater Maricopa County area.

8 PROPOSED CHANGES TO THE SWMP

There are no proposed changes to ADOT's SWMP. However, as data and situations dictate a necessary change, it will be implemented and ADEQ will be notified.

9 ASSESSMENT OF WATER QUALITY IMPROVEMENT OR DEGRADATION

ADOT has adopted many BMPs that are effective in maintaining acceptable water quality. This includes removal of significant amounts of debris from roadways, street sweeping,

implementation of measures to ensure its contractors maintain compliance with AZPDES, dry weather screening, personnel training, periodic inspection and cleaning of its storm sewers and drains, and incorporating "first flush" storage capacity in some of its new detention basins. Additionally, monitoring of storm water and dry weather flows have not identified pollutants above Arizona Surface Water Quality Standards. ADOT's implementation of these BMPs has been a factor in improving water quality.

10 STATEWIDE PERMIT APPLICATION

ADOT submitted a Statewide Storm Water Permit Application to ADEQ on March 1, 2005. In developing the permit application, ADOT considered all activities that are likely to occur between March 2005 and March 2008. The application included general information, as well as information concerning non-storm water discharges, municipal discharges, industrial discharges, and construction projects.

11 ANNUAL EXPENDITURES

11.1 Fiscal Resources

ADOT does not have a specific fund dedicated solely for its storm water programs. There are, however, several sources available for adequate funding of this program, which include: the Arizona Department of Transportation Five-Year Construction Program, the Highway Maintenance Program, and the Administrative Budget.

11.2 Five Year Construction Program

ADOT's Five-Year Construction Program is a source of funding that will be used when a storm water issue or concern is related to a construction project that is in the existing program. The Program is reviewed on an annual basis, and at that time, new projects are added and modifications to existing projects are made. There are several sources of funds that are identified to fund the Program. These include federal, state, local, and private sources. The approval process required for incorporation of the storm water issues into the program is the identification of the project and funding requirements and submittal to the Priority Planning Committee, and then in turn, to the Transportation Board for final approval. The program is adopted July 1st of each year.

11.3 Highway Maintenance Program

Storm water issues related to maintenance will be covered under the Highway Maintenance Program, which is funded by the state. Issues and costs are identified and submitted for approval to the legislature in August of each year. Funds for new issues are received on July 1st of the following year. Currently, there is a total of approximately $ 95,700,000 in this program.

11.4 Administrative Budget

An additional source of funding for ADOT storm water programs is the Administrative Budget, which again, is state-funded and appropriated by the Arizona Legislature. The process is identical to the Highway Maintenance Program. As part of the Administrative

Budget, ADOT receives a total of approximately $51,900,000.00 in state funds for administrative purposes.

Table 11-4 below provides the actual and estimated expenditures for implemented activities covered by the Phase I, MS4 Permit AZS000018 program requirements.

Table 11-4. ADOT's ESTIMATED STORM WATER MANAGEMENT PROGRAM COMPREHENSIVE ANNUAL BUDGET

PROGRAM/ACTIVITY	FY 2004/2005 Actual	FY 2005/2006 Estimated
Street Sweeping – Phoenix and Tucson Area	$900,000.00	$1,000,000.00
Litter Pick-up and Removal – Phoenix and Tucson Area	$850,000.00	$900,000.00
Preperation and Implementation of Statewide Permit	$150,000.00	$250,000.00
Implement/ Update of SWPPPs for ADOT yards	$5,000.00	$7,000.00
Maintain and Update Storm Water Outfall Map to ADOT's GIS	$50,000.00	$10,000.00
Compliance Audit of ADOT Maintenance Yards	$5,0000	$5,0000
Dry Weather Sampling – 20% of Outfalls (includes training)	$6,000.00	$4,000.00
Storm Water Monitoring	$15,000.00	$25,000.00
Preparation of Annual Report	$5,500.00	$4,500.00
ANNUAL TOTALS	$2,031,500.00	$2,250,500

APPENDIX A
Spill Documentation

Discharge Report for Release of Sewage to ADOT Retention Basin

Date and Time Spill Began: January 12th, 2005 at 4:30 PM

Date and Time Spill Ended: January 12th, 2005 at 6:30 PM

Type of Spill: Sewage from residence at Chaparral Mobile Home Village located at 400 W. Baseline Rd., unit # 198, Tempe, 85283. (See Site Map)

Cause of Discharge: During mechanical clean-out of a four inch sewage line near unit #198 a clean out valve cover was opened and residential sewage was released to an ADOT storm water inlet grate. Estimate of release is less than 100 gallons.

Description of Discharge (location, water body involved, substance spilled): Chaparral Mobile Home Village (Donna Peck, Manager 480-839-3050) contacted Sun Devil Plumbing (Jeremy Stevens 480-926-8880) and requested repair of a sewage line blockage near unit #198. Sun Devil Plumbing was on-site at approximately 4:30 PM on Wednesday January 12th, 2005. Sun Devil Plumbing used a sewer machine (mechanical snake) to unblock the drains at unit 198 by accessing clean-out drains approximately 50 feet to the south. During the mechanical clean-out process a Sun Devil Plumbing employee removed a clean-out valve cover next to unit #198 which began to overflow with sewage. The sewage overflow traversed south approximately 25 feet to a storm water inlet located along the street next to unit #198 (See Site Photos). This storm sewer inlet directs storm water to an ADOT retention basin adjacent to the west side of the Chaparral Mobile Home Village. Sun Devil Plumbing estimated the release to be less than 100 gallons.

Steps being taken to reduce, eliminate, and prevent recurrence: Sun Devil Plumbing immediately placed lime on the sewage that was remaining on the surface and notified the Chaparral Mobile Home Village. The mobile home park contacted ADOT and reported the sewage release to the storm water inlet.

ADOT, assisted by Engineering and Environmental Consultants (EEC), performed a site visit on Monday, January 17th, 2005 to assess the release to the retention basin. An inspection of unit #198 identified the release point near a clean out valve and lime was noted on the surface of the spill area leading to the storm water inlet. The storm water inlet is approximately 2 feet wide, 18 feet in length, and approximately 3.5 feet deep. One 36-inch CMP was noted to be the discharge point within the storm water inlet. The storm water inlet was dry and no sewage odor was present.

ADOT and EEC inspected the retention basin west of the mobile home park where storm water is discharged. The retention basin is located on a 35 acre parcel and receives storm water from U.S. 60, portions of the mobile home park, and the surrounding area. The retention basin has a pump station located on the southwest corner that pumps storm water to the City of Tempe storm water system when required. An inspection of the discharge point into the retention basin did not identify any sewage odors or evidence of a sewage discharge to the retention basin. ADOT is currently reviewing options to flush the storm sewer line with 3,000 gallons of water containing 10% sodium hypochlorite mixture to kill any bacteria resulting from the sewage release.

APPENDIX B
Storm Water Sampling Results

Tucson Storm Water Sampling for 77-71.74 Conducted August 12, 2004

Sample ID: 77-71.74 — Aqua Tech Envronmental Laboratories (ATEL)

Category	Method	Parameter	Result	Units
Conventionals	SM 2540 C	Total Dissolved Solids (TDS)	188	mg/l
	160.2	Total suspended solids	112	mg/l
	SM 2510 B	Conductivity	165	umhos/cm
	SM 2340 B	Hardness, Total (as CaCO3)	71	mg/l as CaCO3
	405.1	BOD	61	mg/l
	EPA 410.4	COD	253	mg/l
	EPA 150.1	pH	9.6	s.u.
Nutrients	SM 4500-NO2 B	Nitrite	0.04	mg/l
	SM 4500-NO2 F	Nitrogen, Nitrate, Nitrite	1.83	
	EPA 351.3	Nitrogen, Kjeldahl, total (as N)	4.6	mg/l
	Calculation	Total Nitrogen	6.43	mg/l
Biological/Chlorine	SM9222B	Fecal Coliform (by mem. Filtration)	54000	CFU/100ml
	330.5	Total Chlorine	0.09	mg/l
Pesticides, Organochlorine	EPA 608	Aroclor 1016	<0.10	ug/l
		Aroclor 1221	<0.10	ug/l
		Aroclor 1232	<0.10	ug/l
		Aroclor 1242	<0.10	ug/l
		Aroclor 1248	<0.10	ug/l
		Aroclor 1254	<0.10	ug/l
		Aroclor 1260	<0.10	ug/l
		Aldrin	<0.02	ug/l
		alpha-BHC	<0.02	ug/l
		beta-BHC	<0.02	ug/l
		delta-BHC	<0.02	ug/l
		gamma-BHC (Lindane)	<0.02	ug/l
		Chlordane	<0.10	ug/l
		4,4-DDD	<0.03	ug/l
		4,4-DDE	<0.02	ug/l
		4,4-DDT	<3.0	ug/l
		Dieldrin	<0.02	ug/l
		Endosulfan I	<0.03	ug/l
		Endosulfan II	<0.03	ug/l
		Endosulfan Sulfate	<0.03	ug/l
		Endrin	<0.05	ug/l
		Endrin Aldehyde	<0.50	ug/l
		Heptachlor	<0.30	ug/l
		Heptachlor Epoxide	<0.03	ug/l
		Methoxychlor	<3.0	ug/l
		Toxaphene	<1.0	ug/l
Metals, Total	EPA 200.8/6020	Antimony	5.5	ug/l
		Arsenic	<3.0	ug/l
		Beryllium	<0.5	ug/l
		Cadmium	<0.5	ug/l
		Chromium	<20	ug/l
		Copper	73	ug/l
		Cyanide (method 335.3)	<0.005	ug/l
		Lead	14	ug/l
		Mercury	<0.2	ug/l
		Nickel	<10	ug/l
		Selenium	3.9	ug/l
		Silver	<10	ug/l
		Thallium	<1.0	ug/l
		Zinc	310	ug/l
Metals, Dissolved	EPA 200.7/6010	Dissolved Cadmium[4]	<0.5	mg/l
		Dissolved Chromium[5]	<20	mg/l
		Dissolved Copper	24	mg/l
		Dissolved Zinc	151	mg/l

Volalitale Organic Compounds	EPA 624	Benzene	<5.0	ug/l
		Bromodichloromethane	<5.0	ug/l
		Bromoform	<5.0	ug/l
		Bromomethane	<10	ug/l
		Carbon tetrachloride	<5.0	ug/l
		Chlorobenzene	<5.0	ug/l
		Chloroethane	<10	ug/l
		2-Chloroethylvinyl ether	<10	ug/l
		Chloroform	<5.0	ug/l
		Chloromethane	<10	ug/l
		Dibromochloromethane	<5.0	ug/l
		Dichlorodifluromehane	<10	ug/l
		1,2-Dichlorobenzene	<5.0	ug/l
		1,3-Dichlorobenzene	<5.0	ug/l
		1,4-Dichlorobenzene	<5.0	ug/l
		1,1-Dichloroethane	<5.0	ug/l
		1,2-Dichloroethane	<5.0	ug/l
		1,1-Dichloroethene	<5.0	ug/l
		cis-1,2-Dichloroethene	<5.0	ug/l
		trans-1,2-Dichloroethene	<5.0	ug/l
		1,2-Dichloropropane		ug/l
		cis-1,3-Dichloropropene	<5.0	ug/l
		trans-1,3-Dichloropropene	<5.0	ug/l
		Ethylbenzene	<5.0	ug/l
		Methylene chloride	<5.0	ug/l
		Tetrachloroethene	<5.0	ug/l
		Styrene	<5.0	ug/l
		Toluene	<5.0	ug/l
		1,1,1 -Trichloroethane	<5.0	ug/l
		1,1,2,2-Tetrachloroethane	<5.0	ug/l
		1,1,2-Trichloroethane	<5.0	ug/l
		Trichloroethene	<5.0	ug/l
		Trichlorofluoromethane	<5.0	ug/l
		Vinyl chloride	<10	ug/l
		Xylene, Total	<10	ug/l
Semi-Volatile Organic Compounds	EPA 625	Acenaphthene	ND	ug/l
		Acenaphthylene	ND	ug/l
		Anthracene	ND	ug/l
		Benzidine	ND	ug/l
		Benz(a)anthracene	ND	ug/l
		Benzo(a)pyrene	ND	ug/l
		Benzo(b)fluoranthene	ND	ug/l
		Benzo(ghi) perylene	ND	ug/l
		Benzo(k)fluoranthene	ND	ug/l
		4-Bromophenyl phenyl ether	ND	ug/l
		Butyl benzyl phthalate	ND	ug/l
		Bis(2-chloroethoxy)methane	ND	ug/l
		Bis(2-chloroethyl) ether	ND	ug/l
		Bis(2-chloroisopropyl) ether	ND	ug/l
		p-Chloro-m-cresol	ND	ug/l
		2-Chloronaphthalene	ND	ug/l
		2-Chlorophenol	ND	ug/l
		4-Chlorophenyl phenyl ether	ND	ug/l
		Chrysene	ND	ug/l
		Dibenz(a,h)anthracene	ND	ug/l
		Di-n-butyl phthalate	ND	ug/l
		1,2-Dichlorobenzene	ND	ug/l
		1,3-Dichlorobenzene	ND	ug/l
		1,4-Dichlorobenzene	ND	ug/l
		3,3'-Dichlorobenzidine	ND	ug/l
		2,4-Dichlorophenol	ND	ug/l
		Diethyl phthalate	ND	ug/l
		2,4-Dimethylphenol	ND	ug/l
		Dimethyl phthalate	ND	ug/l
		4,6-Dinitro-o-cresol	ND	ug/l
		2,4-Dinitrophenol	ND	ug/l
		2,4-Dinitrotoluene	ND	ug/l
		2,6-Dinitrotoluene	ND	ug/l

		Di-n-octyl phthalate	ND	ug/l
		1,2-Diphenylhydrazine	ND	ug/l
		bis (2-Ethylhexyl) phthalate	ND	ug/l
		Fluoranthene	ND	ug/l
		Fluorene	ND	ug/l
		Hexachlorobenzene	ND	ug/l
		Hexachlorobutadiene	ND	ug/l
		Hexachlorocyclopentadiene	ND	ug/l
		Hexachloroethane	ND	ug/l
		Ideno(1,2,3-cd)pyrene	ND	ug/l
		Isophorone	ND	ug/l
		Naphthalene	ND	ug/l
		Nitrobenzene	ND	ug/l
		2-Nitrophenol	ND	ug/l
		4-Nitrophenol	ND	ug/l
		N-Nitrosodimethylamine	ND	ug/l
		N-Nitrosodiphenylamine	ND	ug/l
		N-Nitrosodi-n-propylamine	ND	ug/l
		Pentachlorophenol	ND	ug/l
		Phenanthrene	ND	ug/l
		Phenol	ND	ug/l
		Pyrene	ND	ug/l
		1,2,4-Trichlorobenzene	ND	ug/l
		2,4,6-Trichlorophenol	ND	ug/l
Total Petroleum Hydrocarbons[8]	8015 Mod	Total Petroleum Hudrocarbons	6,100.00	ug/l
		TPH in mg/l is 6.1 (6.1 PPM)		
Phenolics	EPA 420.2	Phenols	0.01	mg/l

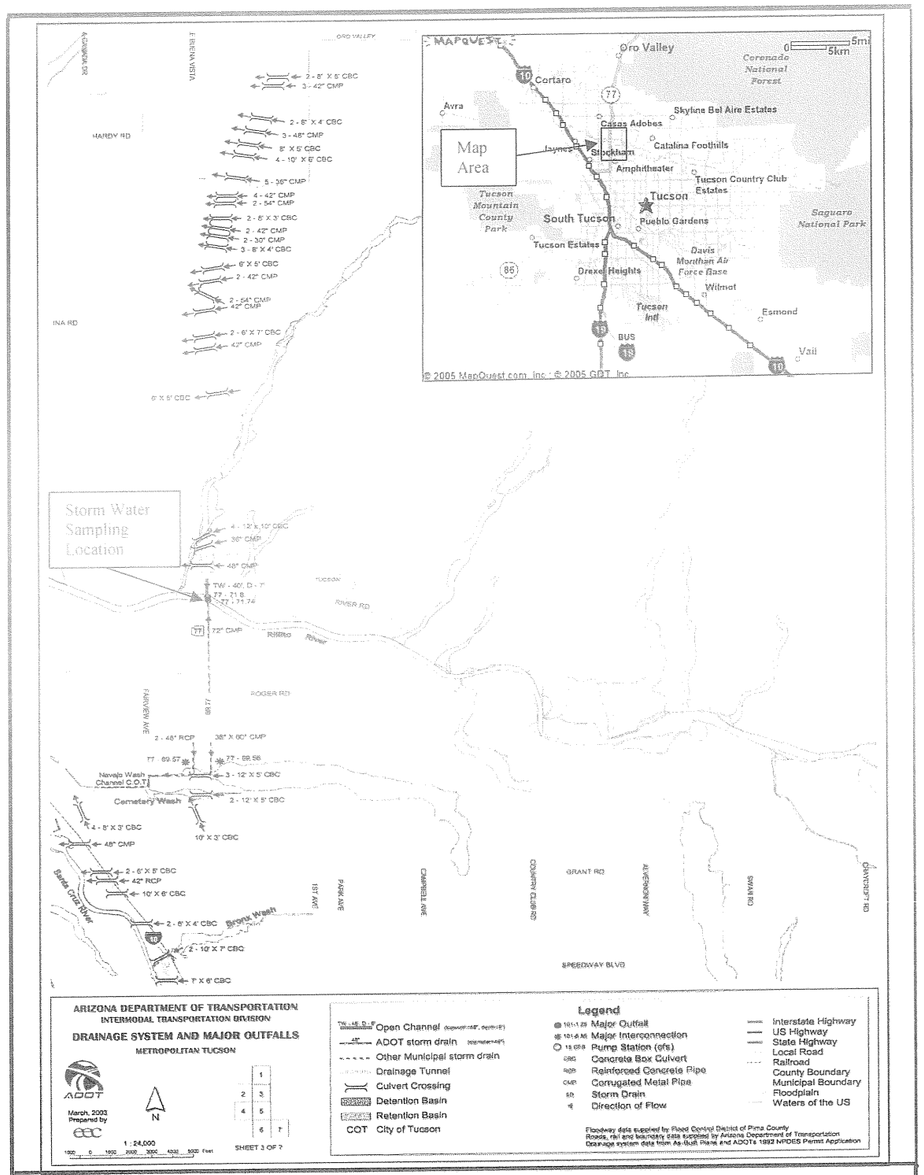
Detections in boldface type

Tucson Storm Water Sampling for 77-71.74 Conducted December 6, 2004

Sample ID	77-71.74	Aqua Tech Envronmental Laboratories (ATEL)		
Category	**Method**	**Parameter**	**Result**	**Units**
Conventionals	SM 2540 C	Total Dissolved Solids (TDS)	**116**	mg/l
	160.2	Total suspended solids	**54**	mg/l
	SM 2510 B	Conductivity	**95**	umhos/cm
	SM 2340 B	Hardness, Total (as CaCO3)	**40**	mg/l as CaCO3
	405.1	BOD	**43**	mg/l
	EPA 410.4	COD	**223**	mg/l
	EPA 150.1	pH	**9.8**	s.u.
Nutrients	SM 4500-NO2 B	Nitrite	**0.143**	mg/l
	SM 4500-NO2 F	Nitrogen, Nitrate, + Nitrite	**0.87**	mg/l
	EPA 351.3	Nitrogen, Kjeldahl, total (TKN)	**4.33**	mg/l
	Calculation	Total Nitrogen	not analyzed	mg/l
Biological/Chlorine	SM9222B	Fecal Coliform (by mem. Filtration)	not analyzed	CFU/100ml
	330.5	Total Chlorine	<.02	mg/l
Pesticides, Organochlorine	EPA 608	Aroclor 1016	<0.10	ug/l
		Aroclor 1221	<0.10	ug/l
		Aroclor 1232	<0.10	ug/l
		Aroclor 1242	<0.10	ug/l
		Aroclor 1248	<0.10	ug/l
		Aroclor 1254	<0.10	ug/l
		Aroclor 1260	<0.10	ug/l
		Aldrin	<2.0	ug/l
		alpha-BHC	<2.0	ug/l
		beta-BHC	<2.0	ug/l
		delta-BHC	<2.0	ug/l
		gamma-BHC (Lindane)	<2.0	ug/l
		Chlordane	<0.10	ug/l
		4,4'-DDD	<3.0	ug/l
		4,4'-DDE	<2.0	ug/l
		4,4'-DDT	<3.0	ug/l
		Dieldrin	<2.0	ug/l
		Endosulfan I	<3.0	ug/l
		Endosulfan II	<3.0	ug/l
		Endosulfan Sulfate	<3.0	ug/l
		Endrin	<5.0	ug/l
		Endrin Aldehyde	<5.0	ug/l
		Heptachlor	<3.0	ug/l
		Heptachlor Epoxide	<3.0	ug/l
		Methoxychlor	<3.0	ug/l
		Toxaphene	<10.0	ug/l
Metals, Total	EPA 200.8/6020	Antimony	**3.5**	ug/l
		Arsenic	<3.0	ug/l
		Beryllium	<0.5	ug/l
		Cyanide (method 335.3)	<0.005	mg/l
		Lead	**18**	ug/l
		Mercury	<0.2	ug/l
		Nickel	<10	ug/l
		Phosphorus	**0.52**	
		Selenium	<3.0	ug/l
		Silver	<10	ug/l
		Thallium	<1.0	ug/l
Metals, Dissolved	EPA 200.7/6010	Dissolved Cadmium[4]	<0.5	ug/l
		Dissolved Chromium[5]	<20	ug/l
		Dissolved Copper	**32**	ug/l
		Dissolved Lead	**16**	ug/l
		Dissolved Zinc	**194**	ug/l

Volatitale Organic Compounds	EPA 624	Benzene	<5.0	ug/l
		Bromodichloromethane	<5.0	ug/l
		Bromoform	<5.0	ug/l
		Bromomethane	<10	ug/l
		Carbon tetrachloride	<5.0	ug/l
		Chlorobenzene	<5.0	ug/l
		Chloroethane	<10	ug/l
		2-Chloroethyl vinyl ether	<10	ug/l
		Chloroform	<5.0	ug/l
		Chloromethane	<10	ug/l
		Dibromochloromethane	<5.0	ug/l
		Dichlorodifluromehane	<10	ug/l
		1,2-Dichlorobenzene	<5.0	ug/l
		1,3-Dichlorobenzene	<5.0	ug/l
		1,4-Dichlorobenzene	<5.0	ug/l
		1,1-Dichloroethane	<5.0	ug/l
		1,2-Dichloroethane	<5.0	ug/l
		1,1-Dichloroethene	<5.0	ug/l
		cis-1,2-Dichloroethene	<5.0	ug/l
		trans-1,2-Dichloroethene	<5.0	ug/l
		1,2-Dichloropropane	<5.0	ug/l
		cis-1,3-Dichloropropene	<5.0	ug/l
		trans-1,3-Dichloropropene	<5.0	ug/l
		Ethylbenzene	<5.0	ug/l
		Methylene chloride	<5.0	ug/l
		Tetrachloroethene	<5.0	ug/l
		Styrene	<5.0	ug/l
		Toluene	<5.0	ug/l
		1,1,1 -Trichloroethane	<5.0	ug/l
		1,1,2,2-Tetrachloroethane	<5.0	ug/l
		1,1,2-Trichloroethane	<5.0	ug/l
		Trichloroethene	<5.0	ug/l
		Trichlorofluoromethane	<5.0	ug/l
		Vinyl chloride	<10	ug/l
		Xylene, Total	<10	ug/l
Semi-Volatile Organic Compounds	EPA 625	Acenaphthene	<10	ug/l
		Acenaphthylene	<10	ug/l
		Anthracene	<10	ug/l
		Benzidine	<50	ug/l
		Benz(a)anthracene	<10	ug/l
		Benzo(a)pyrene	<10	ug/l
		Benzo(b)fluoranthene	<10	ug/l
		Benzo(ghi) perylene	<10	ug/l
		Benzo(k)fluoranthene	<10	ug/l
		4-Bromophenyl phenyl ether	<10	ug/l
		Butyl benzyl phthalate	<10	ug/l
		4-Chloro-3-methylphenol	<10	ug/l
		Bis(2-chloroethoxy)methane	<10	ug/l
		Bis(2-chloroethyl) ether	<10	ug/l
		Bis(2-chloroisopropyl) ether	<10	ug/l
		2-Chloronaphthalene	<10	ug/l
		2-Chlorophenol	<10	ug/l
		4-Chlorophenyl phenyl ether	<10	ug/l
		Chrysene	<10	ug/l
		Di-n-butyl phthalate	<10	ug/l
		Di-n-octylphthalate	<10	ug/l
		Dibenzo(a,h)anthracene	<10	ug/l
		1,2-Dichlorobenzene	<10	ug/l
		1,3-Dichlorobenzene	<10	ug/l
		1,4-Dichlorobenzene	<10	ug/l
		3,3'-Dichlorobenzidine	<50	ug/l
		2,4-Dichlorophenol	<20	ug/l
		Diethyl phthalate	<10	ug/l
		2,4-Dimethylphenol	<10	ug/l
		4,6-Dinitro-o-cresol	<10	ug/l
		2,4-Dinitrophenol	<10	ug/l
		2,4-Dinitrotoluene	<10	ug/l
		2,6-Dinitrotoluene	<10	ug/l
		bis (2-Ethylhexyl) phthalate	15	ug/l
		Fluoranthene	<10	ug/l
		Fluorene	<10	ug/l
		Hexachlorobenzene	<10	ug/l
		Hexachlorobutadiene	<10	ug/l

		Hexachlorocyclopentadiene	<10	ug/l
		Hexachloroethane	<10	ug/l
		Ideno(1,2,3-cd)pyrene	<10	ug/l
		Isophorone	<10	ug/l
		Naphthalene	<10	ug/l
		Nitrobenzene	<10	ug/l
		2-Nitrophenol	<10	ug/l
		4-Nitrophenol	<10	ug/l
		N-Nitrosodimethylamine	<10	ug/l
		N-Nitrosodiphenylamine	<10	ug/l
		N-Nitrosodi-n-propylamine	<10	ug/l
		Pentachlorophenol	<20	ug/l
		Phenanthrene	<10	ug/l
		Phenol	<10	ug/l
		Pyrene	<10	ug/l
		1,2,4-Trichlorobenzene	<10	ug/l
		2,4,6-Trichlorophenol	<10	ug/l
Total Petroleum Hydrocarbons[8]	418.1	Total Petroleum Hudrocarbons	**5.10**	mg/l
		TPH in mg/l is 6.1 (6.1 PPM)		
Phenolics	EPA 420.2	Phenols	0.02	mg/l
Detections in boldface type				



ADOT Storm Water Sampling Location
Outfall ID # 77- 71.74
Rillito River at South Bank
72" CMP
Tucson, AZ

N

3003 N. Central Avenue, Suite 600
Phoenix, AZ 85012 - 2905

APPENDIX C
Dry Weather Screening Forms and Photos

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 10-145.17

Outfall Location Code: Salt River - North bank along Central Ave. (west Tunnel) **L.U.Type** open channel - Tunnel
(see manual, pp FCD-1-5) (see reverse)

Receiving Water: Salt River
(water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: Central Ave. at North bank Salt River - ADOT access gate.
(nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): open channel · Circular Tunnel 21' Diameter - WEST Tunnel

Vegetative Growth (circle one): none (normal) excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit).

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: 6-29-05 / 11:36 AM		Date/Time: 6-30-05 / 9:35 AM	
Precipitation <96 hours? Yes / (No)		Precipitation <96 hours? Yes / (No)	
Flow? (Yes) / No		Flow? (Yes) / No	
pH: : 7.69 su	Color: # No unusual color	pH: : 7.34 su	Color: # No unusual color
Cl2: – ppm	Ammonia: ND ppm	Cl2: – ppm	Ammonia: ND ppm
Cu: ND ppm	Oil sheen: Y / (N)	Cu: 0.0034 ppm	Oil sheen: Y / (N)
Phenols: ND ppm	Surface scum: (Y) / N Minimal - slow moving water	Phenols: ND ppm	Surface scum: (Y) / N Min. in slow moving water
Deterg: BDL ppm	Air Temp: 98 °F	Deterg: BDL ppm	Air Temp: 89 °F
Turbidity: – NTU	Water Temp: 74 °F	Turbidity: – NTU	Water Temp: 72 °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

Physical Observations (1st Visit):
(circle appropriate descriptors,
for "other" write in description)

Deposits: none (sediments) oily other

Odor: (none) musty sewage rotten eggs
solvent chlorine other

Biological: none fish (algae) other

Signature: John Burton

Physical Observations (2nd Visit):
(circle appropriate descriptors,
for "other" write in description)

Deposits: none (sediments) oily other

Odor: (none) musty sewage rotten eggs
solvent chlorine other

Biological: none fish (algae) other

Signature: John Burton

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 10 - 149 . 18

Outfall Location Code: East Tunnel (see manual, pp FCD-1-5) **L.U.Type** 21' diameter/Concrete (see reverse)

Receiving Water: Salt River (water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: University & 10th St. - Access through Vulcan Materials yard (nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): 21' dia - Concrete - w/channel

Vegetative Growth (circle one): none (normal) excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit).

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: 6-29-05 / 12:35 PM		Date/Time: 6-30-05 / 10:10 AM	
Precipitation <96 hours? Yes / (No)		Precipitation <96 hours? Yes / (No)	
Flow? (Yes) / No		Flow? (Yes) / No	
pH: : 8.26 su	Color: # no unusual color	pH: : 7.84 su	Color: # no unusual color
Cl2: — ppm	Ammonia: ND ppm	Cl2: — ppm	Ammonia: ND ppm
copper Cu: ND ppm	Oil sheen: Y / (N)	copper Cu: ~~0.0026~~ 0.0026 ppm	Oil sheen: Y / (N)
Phenols: ND ppm	Surface scum: Y / (N)	Phenols: ND ppm	Surface scum: Y / (N)
Deterg: BDL ppm	Air Temp: 100 °F	Deterg: BDL ppm	Air Temp: 92 °F
Turbidity: — NTU	Water Temp: 68 °F	Turbidity: — NTU	Water Temp: 70 °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

Physical Observations (1st Visit):
(circle appropriate descriptors, for "other" write in description)

Deposits: (none) sediments oily other

Odor: (none) musty sewage rotten eggs solvent chlorine other

Biological: none fish algae (other) - some cattails

Signature: John Bunter

Physical Observations (2nd Visit):
(circle appropriate descriptors, for "other" write in description)

Deposits: (none) sediments oily other

Odor: (none) musty sewage rotten eggs solvent chlorine other

Biological: none fish algae (other) - some cattails

Signature: John Bunter

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 101 - 51. 07

Outfall Location Code: Salt River at 101/202 Interchange **L.U.Type** 3 buried Box culvert
(see manual, pp FCD-1-5) (see reverse)

Receiving Water: Salt River
(water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: 202 to Dobins - head South to Salt River - ADOT Access gate
(nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): 3 - 12'x12' Concrete Box culvert

Vegetative Growth (circle one): none normal excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit).

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: 6-29-05 / 1:35 PM		Date/Time: 6-30-05 / 11:07 AM	
Precipitation <96 hours? Yes / No		Precipitation <96 hours? Yes / No	
Flow? Yes / No		Flow? Yes / No	
pH: : 8.43 su	Color: # No unusual color	pH: : 8.46 su	Color: # No unusual color
Cl2: — ppm	Ammonia: ND ppm	Cl2: — ppm	Ammonia: ND ppm
Cu: ND ppm	Oil sheen: Y / N	Cu: 0.0032 ppm	Oil sheen: Y / N
Phenols: 0.0870 ppm	Surface scum: Y / N	Phenols: ND ppm	Surface scum: Y / N
Deterg: BDL ppm	Air Temp: 102 °F	Deterg: BDL ppm	Air Temp: 95 °F
Turbidity: None - min. — NTU	Water Temp: 67 °F	Turbidity: None - min — NTU	Water Temp: 70 °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

Physical Observations (1st Visit):
(circle appropriate descriptors, for "other" write in description)

Deposits: none sediments oily other

Odor: none musty sewage rotten eggs solvent chlorine other

Biological: none fish algae other - Plants/Trees

Signature: John Buten

Physical Observations (2nd Visit):
(circle appropriate descriptors, for "other" write in description)

Deposits: none sediments oily other

Odor: none musty sewage rotten eggs solvent chlorine other

Biological: none fish algae other Plants/Trees

Signature: John Buten

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 153 - 1.64

Outfall Location Code: Salt River at South Bank - 153 **L.U.Type** 72" Circular pipe
(see manual, pp FCD-1-5) (see reverse)

Receiving Water: Salt River
(water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: Access from University & 153 - North to Salt River - west to outfall
(nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): 72" concrete Circular pipe

Vegetative Growth (circle one): none normal excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit).

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: 6-29-05/ 2:25 PM		Date/Time: 6-30-05/ 11:55 AM	
Precipitation <96 hours? Yes / No		Precipitation <96 hours? Yes / No	
Flow? Yes / No		Flow? Yes / No	
pH: : 7.51 su	Color: # No unusual color	pH: : 7.78 su	Color: # No unusual color
Cl2: — ppm	Ammonia: ND ppm	Cl2: — ppm	Ammonia: ND ppm
Cu: 0.0118 ppm	Oil sheen: Y / N	Cu: 0.0108 ppm	Oil sheen: Y / N
Phenols: .0650 ppm	Surface scum: Y / N	Phenols: .0870 ppm	Surface scum: Y / N
Deterg: BDL ppm	Air Temp: 103 °F	Deterg: BDL ppm	Air Temp: 95 °F
Turbidity: min. ~~NTU~~	Water Temp: 76 °F	Turbidity: min ~~NTU~~	Water Temp: 75 °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

Physical Observations (1st Visit):
(circle appropriate descriptors, for "other" write in description)

Deposits: none sediments oily other

Odor: none musty sewage rotten eggs solvent chlorine other Green waste

Biological: none fish algae other Trees/ cattails

Signature: John Bunter

Physical Observations (2nd Visit):
(circle appropriate descriptors, for "other" write in description)

Deposits: none sediments oily other

Odor: none musty sewage rotten eggs solvent chlorine other Green waste

Biological: none fish algae other Trees/ cattails

Signature: John Bunter

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 202-3.57

Outfall Location Code: old cross-cut canal **L.U.Type** Dual Box Culverts
(see manual, pp FCD-1-5) (see reverse)

Receiving Water: old cross-cut canal
(water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: 48 ST at 202 overpass - Access Gate on South Side
(nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): 2 - 3' x 4' Box Culverts

Vegetative Growth (circle one): none normal excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit).

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: 6-30-05 / 1:10 PM		Date/Time: 7-01-05 / 9:05 AM	
Precipitation <96 hours? Yes / No		Precipitation <96 hours? Yes / No	
Flow? Yes / No		Flow? Yes / No	
pH: : — su	Color: # —	pH: : — su	Color: # —
Cl2: — ppm	Ammonia: — ppm	Cl2: — ppm	Ammonia: — ppm
Cu: — ppm	Oil sheen: Y / N	Cu: — ppm	Oil sheen: Y / N
Phenols: — ppm	Surface scum: Y / N	Phenols: — ppm	Surface scum: Y / N
Deterg: — ppm	Air Temp: 96 °F	Deterg: — ppm	Air Temp: 90 °F
Turbility: — NTU	Water Temp: ___ °F	Turbility: — NTU	Water Temp: — °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

Physical Observations (1st Visit):
(circle appropriate descriptors, for "other" write in description)

Deposits: none sediments oily other

Odor: none musty sewage rotten eggs solvent chlorine other

Biological: none fish algae other

Signature: John Burton

Physical Observations (2nd Visit):
(circle appropriate descriptors, for "other" write in description)

Deposits: none sediments oily other

Odor: none musty sewage rotten eggs solvent chlorine other

Biological: none fish algae other

Signature: John Burton

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 10 - 130.30

Outfall Location Code: Papago Channel - I-10 & Agua Fria **L.U.Type** Trapezoidal open channel
(see manual, pp FCD-1-5) (see reverse)

Receiving Water: Agua Fria
(water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: 115th Ave to ADOT Access Gate – to outfall at Agua Fria
(nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): open channel - Trapezoidal Approx 80' width

Vegetative Growth (circle one): none (normal) excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit).

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: 6-30-05 / 2:05 PM		Date/Time: 7-01-05 / 9:45 AM	
Precipitation <96 hours? Yes / (No)		Precipitation <96 hours? Yes / (No)	
Flow? (Yes) / No		Flow? (Yes) / No	
pH: : 8.02 su	Color: # No unusual color	pH: : 7.37 su	Color: # No unusual color
Cl2: — ppm	Ammonia: ND ppm	Cl2: — ppm	Ammonia: ND ppm
Cu: 0.0034 ppm	Oil sheen: Y / (N)	Cu: ND ppm	Oil sheen: Y / (N)
Phenols: ND ppm	Surface scum: Y / (N)	Phenols: ND ppm	Surface scum: Y / (N)
Deterg: BDL ppm	Air Temp: 104 °F	Deterg: BDL ppm	Air Temp: 90 °F
Turbidity: Min. — NTU	Water Temp: 78 °F	Turbidity: Min. — NTU	Water Temp: 76 °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

Physical Observations (1st Visit): (circle appropriate descriptors, for "other" write in description)	**Physical Observations** (2nd Visit): (circle appropriate descriptors, for "other" write in description)
Deposits: (none) sediments oily other	Deposits: (none) sediments oily other
Odor: (none) musty sewage rotten eggs solvent chlorine other	Odor: (none) musty sewage rotten eggs solvent chlorine other
Biological: none fish (algae) other	Biological: none fish (algae) other
Signature: John Bunter	Signature: John Bunter

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 101 - 7.76

Outfall Location Code: 99th Ave / North / New River **L.U.Type** AG / Trapezoidal open channel
(see manual, pp FCD-1-5) (see reverse)

Receiving Water: New River
(water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: Northern Ave & 99th Ave → South to ADOT Access gate
(nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): 82' Trapezoidal Channel

Vegetative Growth (circle one): none (normal) excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit).

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: 6 - 30 - 05 / 2:53 PM		Date/Time: 7 - 01 - 05 / 10:40 AM	
Precipitation <96 hours? Yes / (No)		Precipitation <96 hours? Yes / (No)	
Flow? (Yes) / No		Flow? (Yes) / No	
pH: : 8.21 su	Color: # No unusual color	pH: : 8.45 su	Color: # No unusual color
Cl2: — ppm	Ammonia: ND ppm	Cl2: — ppm	Ammonia: ND ppm
Cu: .0075 ppm	Oil sheen: Y / (N)	Cu: ND ppm	Oil sheen: Y / (N)
Phenols: ND ppm	Surface scum: Y / (N)	Phenols: ND ppm	Surface scum: Y / (N)
Deterg: 0.12 ppm	Air Temp: 106 °F	Deterg: ____ ppm	Air Temp: 94 °F
Turbility: ____ NTU	Water Temp: 76 °F	Turbility: ____ NTU	Water Temp: 74 °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

Physical Observations (1st Visit):
(circle appropriate descriptors, for "other" write in description)

Deposits: none (sediments) oily other

Odor: (none) musty sewage rotten eggs solvent chlorine other

Biological: none fish (algae) (other) Plants/ Cattails

Signature: John Benton

Physical Observations (2nd Visit):
(circle appropriate descriptors, for "other" write in description)

Deposits: none (sediments) oily other

Odor: (none) musty sewage rotten eggs solvent chlorine other

Biological: none fish (algae) (other) Plants/ Cattails

Signature: John Benton

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 101 -10. 84

Outfall Location Code: 1/2 Mile N. of Peoria, Along East Bank (see manual, pp FCD-1-5) **L.U.Type** Roadway/Residential (see reverse)

Receiving Water: New River (water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: 101 west Side Between Cactus and Peoria (nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): open channel - Concrete

Vegetative Growth (circle one): none normal excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit). No Flow

1st Visit	2nd Visit (>4 hours and <24 hours later)
Date/Time: 8-16-05 / 11:20 AM	Date/Time:
Precipitation <96 hours? Yes / No	Precipitation <96 hours? Yes / No
Flow? Yes / No	Flow? Yes / No
pH: : _____ su	pH: : _____ su
Cl2: _____ ppm	Cl2: _____ ppm
Cu: _____ ppm	Cu: _____ ppm
Phenols: _____ ppm	Phenols: _____ ppm
Deterg: _____ ppm	Deterg: _____ ppm
Turbility: _____ NTU	Turbility: _____ NTU
Color: # _____	Color: # _____
Ammonia: _____ ppm	Ammonia: _____ ppm
Oil sheen: Y / N	Oil sheen: Y / N
Surface scum: Y / N	Surface scum: Y / N
Air Temp: 101 °F	Air Temp: _____ °F
Water Temp: _____ °F	Water Temp: _____ °F
Attach copy of Chain of Custody Record (see manual for example form)	Attach copy of Chain of Custody Record (see manual for example form)
Physical Observations (1st Visit): (circle appropriate descriptors, for "other" write in description)	**Physical Observations** (2nd Visit): (circle appropriate descriptors, for "other" write in description)
Deposits: none sediments oily other	Deposits: none sediments oily other
Odor: none musty sewage rotten eggs solvent chlorine other	Odor: none musty sewage rotten eggs solvent chlorine other
Biological: none fish algae other	Biological: none fish algae other
Signature: John Burton	Signature:

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 101-13-L08

Outfall Location Code: 30' North of Northern - 80' east **L.U.Type** Residential/ Roadway
(see manual, pp FCD-1-5) (see reverse)

Receiving Water: Skunk Creek
(water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: North Side of 101, east of Bridge over Skunk Creek
(nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): open channel

Vegetative Growth (circle one): none normal excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit). No Flow

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: 8-16-05 / 9:15AM		Date/Time:	
Precipitation <96 hours? Yes / No		Precipitation <96 hours? Yes / No	
Flow? Yes / No		Flow? Yes / No	
pH: : _____ su	Color: # N/A	pH: : _____ su	Color: # _____
Cl2: _____ ppm	Ammonia: N/A ppm	Cl2: _____ ppm	Ammonia: _____ ppm
Cu: _____ ppm	~~Oil sheen~~: Y / N	Cu: _____ ppm	Oil sheen: Y / N
Phenols: _____ ppm	~~Surface~~ scum: Y / N	Phenols: _____ ppm	Surface scum: Y / N
Deterg: _____ ppm	Air Temp: 96 °F	Deterg: _____ ppm	Air Temp: _____ °F
Turbility: _____ NTU	~~Water Temp~~: N/A °F	Turbility: _____ NTU	Water Temp: _____ °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

Physical Observations (1st Visit):
(circle appropriate descriptors,
for "other" write in description)

Deposits: none sediments oily other

Odor: none musty sewage rotten eggs
solvent chlorine other

Biological: none fish algae other

Signature: John Barter

Physical Observations (2nd Visit):
(circle appropriate descriptors,
for "other" write in description)

Deposits: none sediments oily other

Odor: none musty sewage rotten eggs
solvent chlorine other

Biological: none fish algae other

Signature: _____

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 101-11.85

Outfall Location Code: 1/2 mile South of Thunderbird (see manual, pp FCD-1-5) & 300' west **L.U.Type** Residential/Roadway (see reverse)

Receiving Water: New River (water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: Access Along 101 on west side near Thunderbird TI, 300' west (nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): 30', 6' deep open channel - concrete

Vegetative Growth (circle one): none normal excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit). No flow

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: 8-16-05 / 10:35 AM		Date/Time:	
Precipitation <96 hours? Yes / No		Precipitation <96 hours? Yes / No	
Flow? Yes / No		Flow? Yes / No	
pH: : ____ su	Color: # ____	pH: : ____ su	Color: # ____
Cl2: ____ ppm	Ammonia: ____ ppm	Cl2: ____ ppm	Ammonia: ____ ppm
Cu: ____ ppm	Oil sheen: Y / N	Cu: ____ ppm	Oil sheen: Y / N
Phenols: ____ ppm	Surface scum: Y / N	Phenols: ____ ppm	Surface scum: Y / N
Deterg: ____ ppm	Air Temp: 98 °F	Deterg: ____ ppm	Air Temp: ____ °F
Turbility: ____ NTU	Water Temp: ____ °F	Turbility: ____ NTU	Water Temp: ____ °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

Physical Observations (1st Visit): (circle appropriate descriptors, for "other" write in description)	**Physical Observations** (2nd Visit): (circle appropriate descriptors, for "other" write in description)
Deposits: none sediments oily other	Deposits: none sediments oily other
Odor: none musty sewage rotten eggs solvent chlorine other	Odor: none musty sewage rotten eggs solvent chlorine other
Biological: none fish algae other	Biological: none fish algae other
Signature: John Butler	Signature:

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 10 - 260.7

Outfall Location Code: I-10 & 10th Ave (see manual, pp FCD-1-5) **L.U.Type** Roadway/Residential (see reverse)

Receiving Water: Julian Wash (water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: I-10 & 10th Ave. Exit I-10 at 4th/6th Ave Exit - South to 1st Right - to 10th Ave. (nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): Circular Pipe 72" RCP

Vegetative Growth (circle one): none normal excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit).

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: Aug 22, 2005 / 2:50 PM		Date/Time:	
Precipitation <96 hours? Yes / No		Precipitation <96 hours? Yes / No	
Flow? Just started to Rain Yes / No Prior to site visit Minimal Flow		Flow? Yes / No	
pH: : _____ su	Color: # _____	pH: : _____ su	Color: # _____
Cl2: _____ ppm	Ammonia: _____ ppm	Cl2: _____ ppm	Ammonia: _____ ppm
Cu: _____ ppm	Oil sheen: Y / N	Cu: _____ ppm	Oil sheen: Y / N
Phenols: _____ ppm	Surface scum: Y / N	Phenols: _____ ppm	Surface scum: Y / N
Deterg: _____ ppm	Air Temp: _____ °F	Deterg: _____ ppm	Air Temp: _____ °F
Turbility: _____ NTU	Water Temp: _____ °F	Turbility: _____ NTU	Water Temp: _____ °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

No Access to Outfall

Physical Observations (1st Visit): (circle appropriate descriptors, for "other" write in description)	**Physical Observations** (2nd Visit): (circle appropriate descriptors, for "other" write in description)
Deposits: none sediments oily other	Deposits: none sediments oily other
Odor: none musty sewage rotten eggs solvent chlorine other	Odor: none musty sewage rotten eggs solvent chlorine other
Biological: none fish algae other	Biological: none fish algae other
Signature: John Buntin - EEC	Signature:

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 10 - 261.5

Outfall Location Code: I-10 / Park & AJO - At Railroad tracks **L.U.Type** Roadway - Industrial
(see manual, pp FCD-1-5) (see reverse)

Receiving Water: Julian Wash
(water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: _____
(nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): RCP - Reinforced Concrete Pipe

Vegetative Growth (circle one): none normal excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit).

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: Aug 22, 2005 / 3:40 PM		Date/Time:	
Precipitation <96 hours? Yes / No		Precipitation <96 hours? Yes / No	
Flow? Slight Rainfall during site visit - No Flow Yes / No		Flow? Yes / No	
pH: : _____ su	Color: # _____	pH: : _____ su	Color: # _____
Cl2: _____ ppm	Ammonia: _____ ppm	Cl2: _____ ppm	Ammonia: _____ ppm
Cu: _____ ppm	Oil sheen: Y / N	Cu: _____ ppm	Oil sheen: Y / N
Phenols: _____ ppm	Surface scum: Y / N	Phenols: _____ ppm	Surface scum: Y / N
Deterg: _____ ppm	Air Temp: _____ °F	Deterg: _____ ppm	Air Temp: _____ °F
Turbility: _____ NTU	Water Temp: _____ °F	Turbility: _____ NTU	Water Temp: _____ °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

N/A

Physical Observations (1st Visit): (circle appropriate descriptors, for "other" write in description)	**Physical Observations** (2nd Visit): (circle appropriate descriptors, for "other" write in description)
Deposits: none sediments oily other	Deposits: none sediments oily other
Odor: none musty sewage rotten eggs solvent chlorine other	Odor: none musty sewage rotten eggs solvent chlorine other
Biological: none fish algae other	Biological: none fish algae other
Signature: John Burton - EEC	Signature: _____

SITE REPORT
DRY WEATHER FIELD SCREEN

Structure Name: 10 - 264.6

Outfall Location Code: I-10 & Palo verde (see manual, pp FCD-1-5) **L.U.Type** Roadway - Industrial (see reverse)

Receiving Water: Julian Wash (water of the U.S., USGS map waters, or ADEQ designated waters)

Access Instructions: I-10 to Palo verde, Palo verde South 200 yds to Julian Wash NW Bank (nearest intersection or landmark)

For discrepancies or omissions only:
Outfall type, shape, material, and dimensions (see manual for codes): 42" CMP

Vegetative Growth (circle one): none normal excessive growth inhibited growth

(If no flow but excessive or inhibited growth, schedule additional site visit).

1st Visit		2nd Visit (>4 hours and <24 hours later)	
Date/Time: Aug 23, 2005 / 3:10 PM		Date/Time:	
Precipitation <96 hours? Yes / No		Precipitation <96 hours? Yes / No	
Flow? Yes / No		Flow? Yes / No	
pH: : _____ su	Color: # _____	pH: : _____ su	Color: # _____
Cl2: _____ ppm	Ammonia: _____ ppm	Cl2: _____ ppm	Ammonia: _____ ppm
Cu: _____ ppm	Oil sheen: Y / N	Cu: _____ ppm	Oil sheen: Y / N
Phenols: _____ ppm	Surface scum: Y / N	Phenols: _____ ppm	Surface scum: Y / N
Deterg: _____ ppm	Air Temp: _____ °F	Deterg: _____ ppm	Air Temp: _____ °F
Turbility: _____ NTU	Water Temp: _____ °F	Turbility: _____ NTU	Water Temp: _____ °F
Attach copy of Chain of Custody Record (see manual for example form)		Attach copy of Chain of Custody Record (see manual for example form)	

Physical Observations (1st Visit): (circle appropriate descriptors, for "other" write in description)	**Physical Observations** (2nd Visit): (circle appropriate descriptors, for "other" write in description)
Deposits: none sediments oily other	Deposits: none sediments oily other
Odor: none musty sewage rotten eggs solvent chlorine other	Odor: none musty sewage rotten eggs solvent chlorine other
Biological: none fish algae other	Biological: none fish algae other
Signature: John Butler	Signature: _____

PHOENIX OUTFALLS

Photo No. C-1

Description: ADOT Outfall 10-145.17 into the Salt River. Note - pedestrian bridge is for Rio Salado Restoration Project.

View: Southwest

Date: June 29, 2005

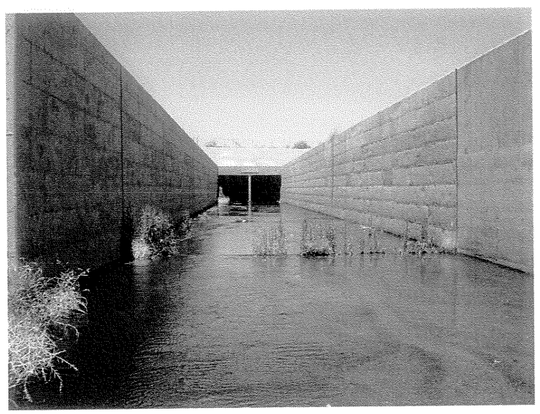


Photo No. C-2

Description: ADOT Outfall 10-149.18 into Salt River. Width of outfall is 21 feet.

View: North

Date: June 29, 2005

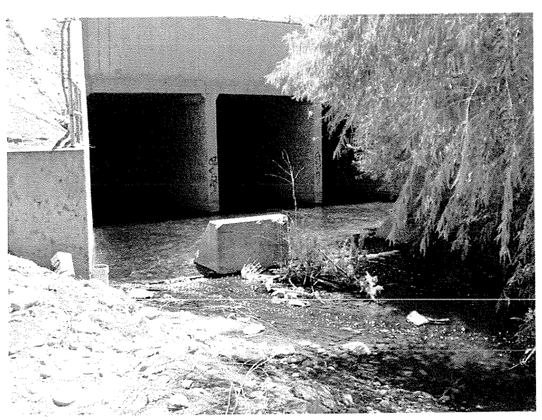


Photo No. C-3

Description: ADOT Outfall 101-51.07 into Salt River. Outfall is underneath Loop 101 & 202 Interchange.

View: Northwest

Date: June 29, 2005

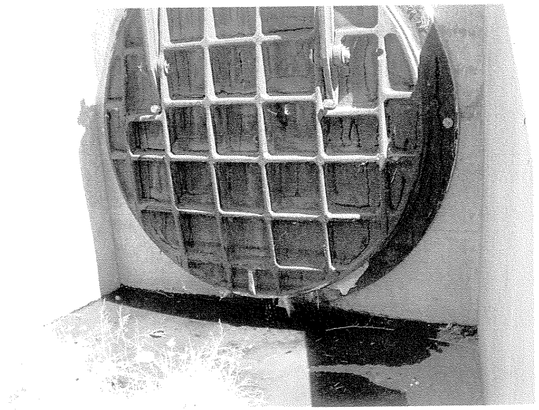


Photo No. C-4

Description: ADOT Outfall 153-1.64 into Salt River.

View: North

Date: June 29, 2005

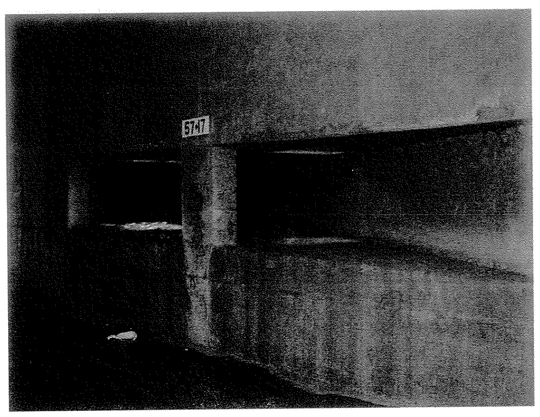


Photo No. C-5

Description: ADOT Outfall 202-3.57 into Old Cross-Cut Canal which drains into Salt River.

View: Northeast

Date: June 30, 2005

Photo No. C-6

Description: ADOT Outfall 10-130.30 into the Agua Fria.

View: East

Date: July 1, 2005

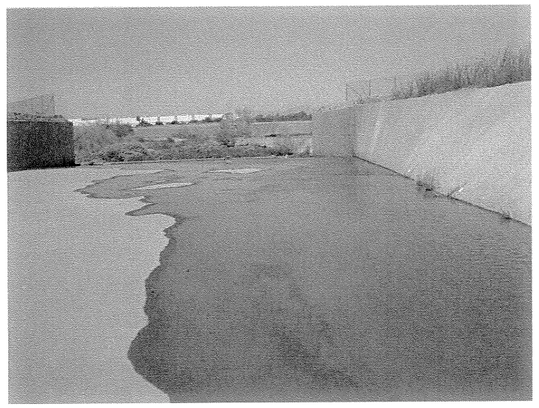


Photo No. C-7

Description: ADOT Outfall 101-7.76 into New River.

View: West

Date: July 1, 2005

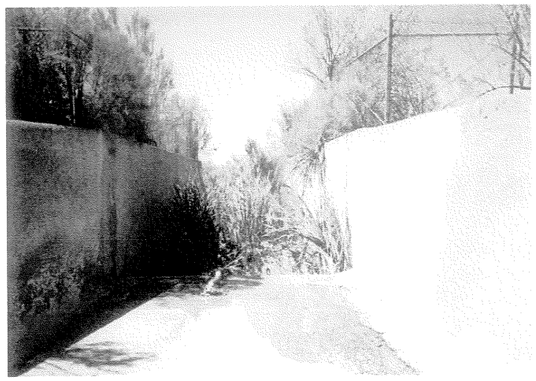


Photo No. C-8

Description: ADOT Outfall 101-11.85 into New River

View:

Date: August 16, 2005

Photo No. C-9

Description: ADOT Outfall 101-13.68 into Skunk Creek

View: North

Date: August 16, 2005

Photo No. C-10

Description: ADOT Outfall 101-10.84 into New River.

View: Northwest

Date: August 16, 2005

TUCSON OUTFALLS

Photo No. C-11

Description: ADOT Outfall 10-260.7 into Julian Wash.

View: North

Date: August 22, 2005

Photo No. C-12

Description: ADOT Outfall 10-261.5 into Julian Wash.

View: Northwest

Date: August 22, 2005

Photo No. C-13

Description: ADOT Outfall 10-264.6 into Julian Wash. Storm event occurred just prior to site visit.
View: Southeast

Date: August 23, 2005

APPENDIX D
ADOT Major Outfalls Table

Outfall Identifier	Storm Sewer Data			Location Data						Construction Plan Data		
Route No -- Mile Post	Type	Size / Depth	Material	Route No. Route Name	Receiving Water	Location	East	North	City	Project ID No	Project Station	Offset L/R
101-6.05	Trapezoidal Open Channel	TW=102' D=12'	Concrete	Loop 101 Agua Fria Freeway	New River	300' W of 107th Ave.	586,000	917,800	Glendale	101L MA 005	357+00	L
101-7.76	Trapezoidal Open Channel	TW=82' D=8'	Concrete	Loop 101 Agua Fria Freeway	New River	¼ mile S. of Northern Ave. and 1000' W. of 99th Ave.	590,450	927,350	Glendale	M-600-0-501	440+83	L 1650
101-10.84	Trapezoidal Open Channel	TW=65' D=12'	Concrete & Soil Cement	Loop 101 Agua Fria Freeway	New River	½ mile N. of Peoria Ave. along E. Bank of New River	594,450	941,650	Peoria	M-600-0-502	603+68	L 920
101-11.85	Trapezoidal Open Channel	TW=45' D=8'	Concrete	Loop 101 Agua Fria Freeway	New River	½ Mile S. of Thunderbird Rd. and 300' West	596,400	946,600	Peoria	M-600-0-502	658+30	L 715
101-13.44	Dual Circular Pipe	DIA=42"	Concrete	Loop 101 Agua Fria Freeway	Skunk Creek	200' S. of S.B. Bridge over Skunk Creek and 80' East	601,500	953,100	Peoria	M-600-0-502	742+10	L 260
101-13.68	Trapezoidal Open Channel	TW=22' D=4'	Concrete	Loop 101 Agua Fria Freeway	Skunk Creek	30 ' N of NB Bridge over Skunk Creek and 80' E	601,900	953,650	Peoria	M-600-0-502	750+84	L 135
101-14.38	Open Channel	TW=28' D=10'	Concrete	Loop 101 Agua Fria Freeway	New River	1200' S. of Bell Road Traffic Interchange & 300' West	601,650	958,750	Peoria	M-600-0-502	800+00	L 300
101-15.18	Circular Pipe	DIA=48"	Concrete	Loop 101 Agua Fria Freeway	New River	4/10 Mile N of Bell Rd. & 500' West	602,550	962,150	Glendale	M-600-0-502	834+00	L 560
101-16.31	Circular Pipe	DIA=48"	Concrete	Loop 101 Agua Fria Freeway	New River	4/10 of a mile S. of Beardsley Rd. and 300' W.	603,650	968,000	Glendale	M-600-0-503	895+00	L 340
101-16.62	Circular Pipe	DIA=48"	Concrete	Loop 101 Agua Fria Freeway	New River	2/10 of a mile S. of Beardsley Rd. and 500' W	604,150	969,550	Glendale	M-600-0-503	908+25	L 560
101-16.74	Trapezoidal Open Channel	TW=56' D=11'	Concrete	Loop 101 Agua Fria Freeway	New River	150' S of Beardsley Rd. & 2800' W. of 75 Ave	604,850	970,300	Glendale	M-600-0-503	917+50	L 550
101-20.19	Circular Pipe	DIA=36"	Concrete	Loop 101 Agua Fria Freeway	Skunk Creek	½ Mile S. of Beardsley Rd. at 51st Ave	623,150	968,650	Glendale	RBA-600-0-505	1098+50	
101-21.23 B	Circular Pipe	DIA=42"	Concrete	Loop 101 Agua Fria Freeway	Skunk Creek	245' E of 43rd Ave & N. Side of Beardsley	628,650	971,400	Phoenix	RBA-600-0-505	1154+50	
101-21.23 A	Trapezoidal Open Channel	TW=20' D=2'	Concrete	Loop 101 Agua Fria Freeway	Skunk Creek	260' E of 43rd Ave & N side of N Frontage Rd.	628,650	971,450	Phoenix	RBA-600-0-505	1154+65	
101-21.83	Circular Pipe	DIA=96"	Concrete	Loop 101 Agua Fria Freeway	Scatter Wash	2000' W. of 35th Ave. & S. side of S. Frontage Rd.	631,750	971,050	Phoenix	RBA-600-0-505	1186+00	
101-21.87A	Trapezoidal Open Channel	TW=32' D=8'	Concrete	Loop 101 Agua Fria Freeway	Scatter Wash	1500' W of 35th Ave & N side of N Frontage Rd.	632,000	971,500	Phoenix	RBA-600-0-505	1188+00	
101-21.87B	Circular Pipe	DIA=42"	Concrete	Loop 101 Agua Fria Freeway	Scatter Wash	1600' W. of 35th Ave & N side of N. Frontage Rd.	632,000	971,450	Phoenix	RBA-600-0-505	1187+00	
101 - 25.92	2 Barrel Box Culvert	2 - 8' x 6'	Concrete	Loop 101 Pima Freeway	Cave Creek	S. of 101, 1/4 mile west of 7th St into east bank of Cave Creek	653,200	970,600	Phoenix	AC-STP-600-1-(13)B	42+778 (m.)	L 232 (ft.)
101 - 50.87	2 Barrel Box Culvert	2 - 10' x 10'	Concrete	Loop 101 Pima Freeway	Salt River	N bank of Salt River in NE quadrant of 101 / 202 interchange	708,150	887,350	Mesa			
101-51.07	3 Barrel Box Culvert	3 - 12' x 12'	Concrete	Loop 101 Price Freeway	Salt River	S bank of Salt River, E of 101 under 202 interchange	707,900	886,850	Mesa	RAM-600-1-512	203+00	
10-130.2	Circular Pipe	DIA=48"	Concrete	I-10 Papago Freeway	Salt River	W. bank of Agua Fria River under Van Buren St.	572,634	890,899	Avondale	I-10-2 (75)	6868+90	R
10-130.3 Papago Channel	Trapezoidal Open Channel	TW=80' D=10'	Concrete	I-10 Papago Freeway	Agua Fria River	½ Mile W. of El Mirage Rd. & 100' N. of I-10	573,800	894,850	Avondale	I-10-2 (75)	6869+10	L
10-145.17 West Tunnel	Circular Tunnel	DIA=21"	Concrete	I-10 Papago Freeway	Salt River	Central Ave. W side @ N. Bank of Salt River	652,050	881,600	Phoenix	I-10-3(223)	7677+00	R
10-149.18 East Tunnel	Circular Tunnel	DIA=21"	Concrete	I-10 Papago Freeway	Salt River	20th St. E. side@ N. Bank of Salt River	662,550	879,500	Phoenix	I-10-3(225)	7866+00	R
10-150.44	Circular Pipe	D=36"	Concrete	I-10 Maricopa Freeway	Salt River	N. Bank of Salt River @ W side of I-10	668,550	880,250	Phoenix	I-10-3(206)	7936+00	R
10-150.45	Dual Circular Pipe	D=72"	Concrete	I-10 Maricopa Freeway	Salt River	N. Bank of Salt River @ E. side of I-10	668,900	880,450	Phoenix	I-10-3(206)	7936+00	L
10-151.06	Circular Pipe	D=66"	Concrete	I-10 Maricopa Freeway	Tempe Drain	NW Quadrant of I-10 & University Traffic Interchange	671,200	878,150	Phoenix	I-10-3(206)	7945+00	L

Outfall Identifier	Storm Sewer Data			Location Data						Construction Plan Data		
Route No – Mile Post	Type	Size / Depth	Material	Route No. Route Name	Receiving Water	Location	East	North	City	Project ID No	Project Station	Offset L/R
10 - 162.44	Dual Box Culverts	2 - 10' x 8'	Concrete	I-10 Maricopa Freeway	Gila Floodway	NW quadrant of I-10 / Maricopa Road Interchange	683,750	829,700	Phoenix			
143-2.90	Circular Pipe	D=66"	Concrete	S.R. 143 Hohokam Expressway	Old Cross Cut Canal	600' N. of Van Buren & 350' E of S.R. 143 at west bank of Old Cross Cut Canal	680,250	892,250	Phoenix	143-MA-H-0843-01D	166+71	R350
153 - 1.64	Circular Pipe	D=72"	Concrete	S.R. 153 Sky Harbor Expressway	Salt River	S. bank of Salt River west of expressway	680,200	883,950	Phoenix	153 MA 003	50+88.05	L
17 - 198.48	Circular Pipe	D=102"	Concrete	I-17 Black Canyon Freeway	Salt River	2200' S. of Buckeye Rd. & 1700' E. of 27th Ave.	638,850	879,550	Phoenix	I-17-1(9)	69+60	L 6000
17-208.2	Circular Pipe	D=36"	Concrete	I-17 Black Canyon Freeway	Arizona Canal Diversion Channel	¼ mile north of Dunlap, west of I-17 into Az Canal	638,550	935,400	Phoenix	I-17-3-912	582+45	L 153
202-3.57	Dual Box Culverts	2 - 3' x 4'	Concrete	Loop 202 East Papago Freeway	Old Cross Cut Canal	Directly under Loop 202/SR143 Interchange at E. bank of Relocated Old Cross Cut Canal	679,900	894,200	Phoenix	202L-MA-H-0858-01D	34+60	L163
202-5.14	Open Channel	TW=60' D=5'	Earthen	Loop 202 East Papago Freeway	Salt River	N of north side levee on Salt River ¼ mile west of 202 and E of 143	683,300	887,700	Phoenix	202L-MA-H-0858-01D	112+00	R290
202-5.90	Circular Pipe	DIA=36"	Concrete	Loop 202 East Papago Freeway	Salt River	1000' E. of Priest Dr. and 2200' N. of 1st St.	687,400	886,250	Tempe	202L-MA-H-0858-01D	148+80	R 280
202-7.44	Circular Pipe	DIA=48"	Concrete	Loop 202 East Papago Freeway	Salt River	1100' W. of Rural Rd. @ N Bank of Salt River	695,700	885,150	Tempe	202L-MA-H-0858-01D	230+10	R 850
202-7.98	Dual Box Culvert	2 - 8' x 8'	Concrete	Loop 202 East Papago Freeway	Salt River	1100' E. of Rural Rd. @ N. Bank of Salt River	698,400	885,350	Tempe	202L-MA-H-0858-01D	258+60	R865
202-8.26	Circular Pipe	D=48"	Concrete	Loop 202 East Papago Freeway	Salt River	2300' E. of Rural Rd. @ N. Bank of Salt River	699,950	886,050	Tempe	H-0861-04C	247+90	R 20
202-8.65	Circular Pipe	D=36"	Concrete	Loop 202 East Papago Freeway	Salt River	4000' E. of Rural Rd. @ N. Bank of Salt River	700,800	885,850	Tempe	H-0861-04C	289+20	R 150
202 - 14.22	Trapezoidal Open Channel	TW=43' D=11'	Concrete	Loop 202 East Red Mt. Freeway	Salt River	S bank of Salt River, 1000' W of Mesa Dr, 2200' N of 202	727,800	897,500	Mesa	AC-STP-600-8(9)B	595+00	L
51-5.45	Circular Pipe	D=48"	Concrete	S.R. 51 Squaw Peak Parkway	Arizona Canal Diversion Channel	300' N & W of Intersection @ 18th St. and Ocotillo	661,700	922,450	Phoenix	C.O.P. BR-885442	270+55	L
51-7.04	Circular Pipe	D=48"	Concrete	S.R. 51 Squaw Peak Parkway	Dreamy Draw Wash	400' S and E of Intersection @ Northern and Squaw Peak Freeway	663,200	930,650	Phoenix	M-600-Z-502	84+50	L
51-8.22	Concrete Box Culvert	10' x 6'	Concrete	S.R. 51 Squaw Peak Parkway	Dreamy Draw Wash	500' E of Northern, 400' S of 51 @ Dreamy Draw	667,000	934,950	Phoenix	M-600-2-506	146+85	R 170
51 - 10.91	Trap Channel	TW=86' D=8'	Concrete	S.R. 51 Squaw Peak Parkway	Indian Bend Wash	¼ mile east of 51, 250' S of Sweetwater into Indian Bend Wash	673,000	947,250	Phoenix	RAM-600-2-514	100+00	R
51 - 11.62	Circular Pipe and Box Culvert	84" pipe,10' x 6' CBC	Concrete	S.R. 51 Squaw Peak Parkway	Indian Bend Wash	400' N of Thunderbird into Indian Bend Wash	671,850	950,550	Phoenix	RAM-600-2-522	9+95.12	
87-178.55	Open Channel		Concrete	S.R. 87 Mesa-Payson Hwy	Salt River	S. of S.R.87 east of McDowell Rd intersection	723,848	896,765	Mesa	AC-STP-053-1(29)	425+10	R
60-187.43	Trapezoidal Open Channel	TW=44' D=8'	Concrete	S.R. 60 Superstition Freeway	East Maricopa Floodway	½ mile E of Higley Rd. & S.R. 60 Traffic Interchange north side	765,800	868,450	Phoenix	BP-028-1-509	815+80	L 65
60-189.65	Trapezoidal Open Channel	TW=48' D=9'	Concrete	S.R. 60 Superstition Freeway	Sossoman Channel	¼ mile E of Sossman & S.R. 60 Traffic Interchange	777,300	868,500	Phoenix	F-028-1-514	939+80	L 130

Outfall identifier	Storm Sewer Data				Location Data					Construction Plan Data		
Route No – Mile Post	Type	Size / Depth	Material	Route No. Route Name	Receiving Water	Location	East	North	City	Project Id No	Project Station	Offset L/R
10-260.7	Circular Pipe	DIA=72"	Concrete	I-10	Julian Wash	N. Side of Julian Wash at 10th Ave. S. of I-10	991,400	433,500	Tucson	IR-10-5(54)	10th Ave 1+100	
10-261.5	Circular Pipe	DIA=78"	Concrete	I-10	Julian Wash	1400' W. of S. Park Ave., 1300' N. of Ajo Way- E. of SPRR	995,600	430,950	Tucson	IR-10-5(54)	Line C 0+00	
10-264.6	Oval Pipe	56" X 42"	Corrugated Metal	I-10	Julian Wash	1200' S. of I-10 & Palo Verde Rd. Interchange, W. side of Palo Verde & N. Bank Julian Wash	1,009,150	422,950	Tucson	I-10-5(58)-28		
19-59.0	Circular Pipe	DIA=36"	Corrugated Metal	I-19 Nogales Freeway	Santa Cruz River	1200' S. of I-19 & Valencia Interchange S. of Valencia & E. bank Santa Cruz River	986,250	412,750	Tucson	I-19-1(15)	3105+01	L
19-61.7	Trapezoidal Open Channel	TW=10' D=2'	Concrete	I-19 Nogales Freeway	Rodeo Wash	900' S. of I-19 & Ajo Way Interchange E. side of I-19 & S. Bank of Rodeo Wash	988,300	428,900	Tucson	I-19-1(15)	3270+80	R
86-171.1	Circular Pipe	DIA=36"	Corrugated Metal	S.R. 86 Ajo Highway	Santa Cruz River	1600' S. of I-19 & Ajo Way Interchange @ W. bank of Santa Cruz River S. of Ajo Way	986,450	429,600	Tucson	S-222-14	1447+78	R
77-71.74	Circular Pipe	DIA=72"	Corrugated Metal	U.S. 77 Tucson Florence Highway	Rillito River	S. Bank of Rillito River E. of Oracle Road	990,700	471,450	Tucson	F-031-1(7)	6+55	R
77-71.8	Open Channel	TW=40' D=7'	Concrete	U.S. 77 Tucson Florence Highway	Rillito River	N. Bank of Rillito River E. of Oracle Road	990,900	471,700	Tucson			
77-78.7	Circular Pipe	2 DIA=36"	Concrete	U.S. 77 Tucson Florence Highway	Tributary of Canada Del Oro	S.E. Quadrant of U.S. 77 & Greenock Dr	994,350	507,500	Oro Valley	F-031-1(11)	564+00	R
77-78.9	Circular Pipe	DIA=42"	Concrete	U.S. 77 Tucson Florence Highway	Tributary of Canada Del Oro	N.E. Quadrant of U.S. 77 & Greenock Dr	994,350	507,500	Oro Valley	F-031-1(11)	569+00	R
77-79.9	Open Channel	TW=25' D=8'	Concrete	U.S. 77 Tucson Florence Highway	Tributary of Canada Del Oro	S.E. Quadrant of U.S. 77 and Hanley Road	998,150	511,800	Oro Valley	BP-031-1-513	620+55	R
77-80.8	Open Channel	TW=30' D=10'	Concrete	U.S. 77 Tucson Florence Highway	Canada Del Oro	N.W. Quadrant of U.S. 77 and Canada Del Oro	1,001,800	515,600	Oro Valley	BP-031-1-513	675+74	L
210-1.2	Circular Pipe	DIA=96"	Concrete	S.R. 210 Aviation Parkway	Arroyo Chico	S.E. of Intersection of 10th Street & 3rd Ave.	994,900	445,800	Tucson	AZP-824-9-510	Line A 185+16	L 234
210-2.7	Circular Pipe	DIA=108"	Concrete	S.R. 210 Aviation Parkway	Railroad Wash	N.W. Quadrant @ Intersection of Campbell Ave. & Aviation Parkway	1,000,700	441,150	Tucson	M-824-9-514	18+07	L