

STORMWATER MANAGEMENT PLAN

JANUARY 2022



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CITY OF PHOENIX

JANUARY 2022



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Acronyms

ADEQ	Arizona Department of Environmental Quality
AZPDES	Arizona Pollutant Discharge Elimination System
BMP	Best Management Practice
CWA	Clean Water Act
eCHRIS	Electronic City Human Resources Information System
EFA	Environmental Facility Assessment
EPA	Environmental Protection Agency
ESD	Environmental Services Division
GIS	Geographic Information System
HMMP	Hazardous Materials Management Program
IDDE	Illicit Discharge Detection and Elimination
IPM	Integrated Pest Management
LEED	Leadership in Energy and Environmental Design
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
MSGP	Multi-Sector General Permit
NPDES	National Pollutant Discharge Elimination System
OEP	Office of Environmental Programs
OAW	Outstanding Arizona Water
PAM	Pollution Awareness Marker
PDD	Planning and Development Department
PRD	Parks and Recreation Department
PWD	Public Works Department
PSW	Protected Surface Water (includes WOTUS and non-WOTUS PSWs)
PSWL	Protected Surface Water List
SOP	Standard Operating Procedure
STR	Street Transportation Department
STORM	Stormwater Outreach for Regional Municipalities
SWM	Stormwater Management Section
SWMP	Stormwater Management Plan
SWPP	Surface Water Protection Program
SWPPP	Stormwater Pollution Prevention Plan
TSDF	Treatment, Storage, or Disposal Facility
TMDL	Total Maximum Daily Load
WOTUS	Waters of the United States
WSD	Water Services Department
WWTP	Wastewater Treatment Plant

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1.0 EXECUTIVE SUMMARY

The City of Phoenix Stormwater Management Plan (SWMP) is a detailed plan that identifies the major programs, policies, and procedures implemented by the City to minimize the impact of urban activities on the quality of stormwater. The City is required to develop this plan as a large Municipal Separate Storm Sewer System (MS4) under the Arizona Pollutant Discharge Elimination System (AZPDES) permit program administered by the Arizona Department of Environmental Quality (ADEQ). The MS4 Permit was most recently issued by ADEQ in December 2020 and became effective July 1, 2021. A permit modification is pending to incorporate the new State Surface Waters Protection Program (SWPP). The MS4 Permit is the driving force behind the development and content of this document. As such, the City is required to develop a SWMP that outlines the specific goals, objectives, and associated timelines for the management and monitoring of activities that impact the quality of stormwater run-off based upon the permit conditions.

The SWMP addresses the major programmatic areas including Public Education and Outreach, Public Involvement, Illicit Discharge Detection and Elimination, Municipal Facilities, Industrial Sites, Construction Sites, Post-Construction, and the wet weather monitoring program. The SWMP is a comprehensive document that has been written to reflect the requirements of the permit in addition to providing the details of the major programmatic areas; therefore the SWMP includes an introduction and regulatory overview, a description of how the stormwater program is managed, sections addressing the major programmatic areas, and additional sections describing the training program, the monitoring program, and the approach to evaluating program effectiveness.

The SWMP is a comprehensive planning tool that guides the implementation of the stormwater program components and provides a mechanism for measuring progress towards the program objectives. It is the goal of the SWMP to minimize the impact of urban run-off on stormwater quality to protect receiving water bodies.

This plan was developed with input from multiple City of Phoenix departments and approved by the applicable department directors. The Certification Statement is included in Appendix A.

A copy of the SWMP and the most recent Stormwater Annual Report will be available on the City's website (phoenix.gov/stormwater).

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2.0 INTRODUCTION TO THE STORMWATER MANAGEMENT PLAN

The SWMP is the principal document that translates the MS4 Permit requirements into City programs and procedures. The SWMP is used by the City in development of individual ordinances, plans, policies, and procedures to protect stormwater quality.

The initial SWMP was prepared in compliance with the requirements of the MS4 Permit issued by the Environmental Protection Agency (EPA) Region 9 in 1997. The SWMP evolves as requirements and practices within the City change and as MS4 permit requirements change. This SWMP outlines the major programs and policies that the City has developed and implemented to protect stormwater quality in compliance with the MS4 Permit and includes programmatic changes that were incorporated since the initial MS4 Permit was issued in 1997.

The SWMP covers the geographic boundary of the City of Phoenix MS4 and addresses stormwater quality concerns related to urbanization, construction activities, and non-stormwater discharges.

2.1 PROGRAM OVERVIEW

The SWMP serves as the primary compliance document that describes the program elements necessary to comply with the MS4 Permit. The program elements are identified in Figure 2-1.

In addition to the descriptions of program elements contained within the SWMP, each City department with stormwater management responsibilities maintains documentation of their internal procedures for implementation of the program elements described in the SWMP. Examples of this documentation include the following information:

- The City's stormwater ordinance
- Illicit Connection/Illegal Discharge investigation, enforcement, and response procedures
- Field screening procedures (dry weather outfall monitoring)
- Industrial/commercial inspection procedures, database, and checklist
- City of Phoenix facility assessment program and schedule
- Hazardous Materials Management Program
- Drainage system maintenance schedule for the MS4
- Development review, approval and permitting
- Construction site inspection program
- Post-construction program (in development).

These documents are reviewed and updated as necessary to keep up with changes within the City and with changing local, state and federal regulations. These programs will remain, however, in compliance with the MS4 Permit and the programs outlined in this SWMP.

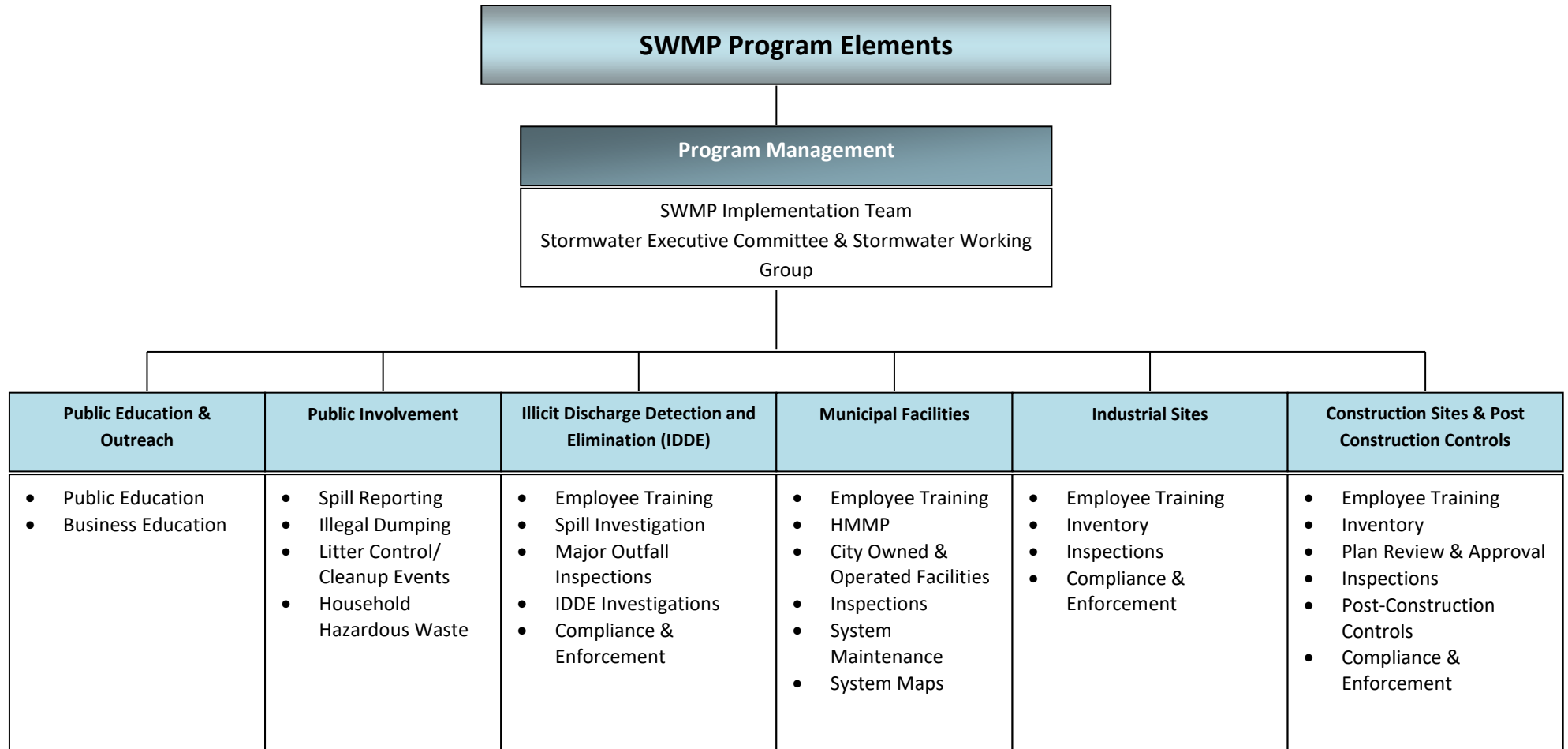


Figure 2-1: Program Elements of SWMP

2.2 REGULATORY FRAMEWORK

2.2.1 NPDES Permitting for Stormwater Discharges

The Water Quality Act of 1987, Clean Water Act (CWA) Section 402(p) required the EPA to regulate stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) using a phased approach. The CWA authorizes the discharge of pollutants to Waters of the United States (WOTUS) from a point source only if the discharge is in compliance with a NPDES permit. EPA's program includes NPDES applications and corresponding permits for stormwater discharges associated with industrial and construction activities and for stormwater discharges from MS4s. The requirements of Section 402(p) applicable to MS4 NPDES permits include:

- A requirement to effectively prohibit non-stormwater discharges into the MS4, and
- A mandate to implement controls to reduce the pollutants in stormwater discharges to the maximum extent practicable (MEP). Controls may include management practices, control techniques and systems, design and engineering methods, maintenance / repair activities, and other provisions deemed appropriate by the administering authority for the control of such pollutants.

EPA's Final Rule for NPDES Permit Application Regulations was effective December 17, 1990 and is commonly referred to as the "Phase I stormwater regulations." These regulations are administered nationwide through the EPA's NPDES program and apply to MS4s serving a population of 100,000 or more.

MS4s are comprised of a conveyance or system of conveyances that are owned by a state, city, town, county, district, association, or other public body, which may include streets, channels, pipes, basins, etc. The Phase I stormwater regulations require that the MS4 reduce the discharge of pollutants to the MEP using management practices, control systems, design and engineering methods, maintenance / repair activities, and other appropriate techniques. The Phase I stormwater regulations include requirements for specified industrial operations and construction activities. The regulations identify who is covered, outline a variety of required planning, recordkeeping, and reporting activities, and define a schedule for compliance.

In 2002, the EPA granted NPDES permitting authority to the State of Arizona. ADEQ administers the program as the AZPDES.

Arizona passed the State Surface Water Protection Rule in May 2021. ADEQ is administering this program as the SWPP. The SWPP includes both WOTUS and non-WOTUS PSWs and will provide protection for certain non-WOTUS waters. A modification to the City's MS4 permit is pending to include state protected surface waters (PSWs). PSWs covered under the SWPP are currently included on ADEQ's Initial PSW List (PSWL). The final PSWL and surface water quality standards must be promulgated by ADEQ by December 31, 2022.

2.2.2 Impaired and Not-Attaining Water Bodies

Section 303(d) of the CWA requires that states, territories, and authorized tribes develop lists of impaired waters in their jurisdiction. The lists are required to be updated every other year. Water bodies included on the 303(d) list are considered impaired because they do not meet water quality standards for at least one designated use. The current 303(d) List for Arizona can be accessed from the following website:

<http://azdeq.gov/programs/water-quality-programs/surface-water-monitoring-and-assessment>. Under the SWPP, ADEQ must develop and promulgate a list of non-WOTUS impaired waters by December 31, 2022. This list is required to be updated every five years.

Though the City's MS4 does not currently discharge to an impaired water or not-attaining water, if a PSW becomes impaired, the City will monitor for any 303(d) listed parameter(s) at a representative outfall discharging to the impaired water. In addition, the City will review and revise the SWMP to incorporate BMPs to minimize discharges of the listed parameter(s) to the maximum extent practicable. The City will also evaluate mechanisms to monitor BMP effectiveness.

The permit could be reopened and modified to include additional permit conditions if one or more of the receiving waters become classified as impaired or not-attaining during the permit term.

An impaired water is classified as not-attaining when a Total Maximum Daily Load (TMDL) has been developed. A TMDL provides the maximum amount of a pollutant that a water body can receive and still meet water quality standards. A TMDL also apportions pollutant loadings between point and nonpoint pollutant sources. To comply with CWA requirements, priority rankings must be established for impaired waters and TMDLs must be determined. The extent of pollution in the water body and the beneficial uses of the water (fishing, swimming, municipal water supply, etc.) are factors in the TMDL calculation. The City's MS4 does not discharge to any surface waters with an established TMDL. However, if a TMDL is established in the future, the SWMP will be revised to incorporate best management practices (BMPs) to address waste load allocations and monitoring requirements.

2.2.3 Outstanding Arizona Waters

Surface waters identified by ADEQ as an outstanding water resource are protected in the State of Arizona. None of the receiving waters within the City's jurisdiction have been classified as Outstanding Arizona Waters (OAWs). The permit could be reopened and modified to include additional permit conditions if one or more of the receiving waters receive the classification of OAW during the permit term.

2.3 PHOENIX AREA WATER QUALITY CONCERNS

2.3.1 Stormwater Runoff and Urbanization

As an area becomes more urbanized, the capacity of the land to naturally infiltrate stormwater is lowered. As buildings, roads, parking lots, driveways, and sidewalks are constructed, the quantity of impervious surface area increases. Stormwater washing over these surfaces picks up pollutants, increases in volume, flows more quickly, and increases in temperature compared with stormwater flowing over areas consisting of natural vegetation (EPA, 1997). Larger quantities of pollutants are generated by the growing population resulting in stormwater runoff with higher pollutant loads. Pollutant sources include tailpipe emissions and fluids from vehicles, fertilizers, pesticides, litter, pet wastes, and household chemicals. Receiving waters may be impacted by contaminated stormwater runoff and by pollutants illegally dumped into storm drains, and by soils, windblown or unstabilized.

2.3.2 Construction Impacts and Stormwater Runoff

Construction activities can impact stormwater quality if measures are not implemented to prevent erosion and sediment transport. Pollutants, (including phosphorus, metals, and organic compounds), are often absorbed onto fine sediment particles and transported to receiving water bodies. It is generally known that erosion rates from construction sites are greater than from almost any other land use (AZPDES Fact Sheet, 2008).

2.3.3 Non-Stormwater Discharges

MS4s frequently receive non-stormwater discharges. Most non-stormwater discharges are prohibited by the MS4 permit unless authorized separately under the AZPDES Program. An exception is included in the permit for discharges of emergency fire-fighting activities and a list of other allowable non-stormwater discharges, including potable water, air conditioning condensate, irrigation water, individual residential car washing, dechlorinated swimming pool water, street wash water, and discharges authorized by another NPDES or AZPDES permit. Phoenix City Code Chapter 32C also authorizes several non-stormwater discharges, provided they are not a significant source of pollutants. See Section 6.1 for additional information on non-stormwater discharges.

Most non-stormwater discharges are considered illicit discharges in the City's stormwater program. Sources of illicit discharges can include process water, sanitary and industrial wastewater, and improperly handled spills. Improperly disposed materials are another area of concern. Untreated discharges can occur when materials that were spilled or improperly handled or stored are washed into the storm drain system during a storm event, or when materials are intentionally dumped into a storm drain. These illicit discharges may contain heavy metals, toxics, oil and grease, solvents, household hazardous materials, radiator fluids, litter, viruses, and bacteria.

2.3.4 Climate

The climate of the Phoenix area consists of hot, dry summers and mild winters. Average annual precipitation ranges from 5 to 8 inches per year in the urban desert. Most of the precipitation occurs between July and September during the summer monsoon season, and between December and March, as winter storms move inland from the west.

- Winter storms generally originate over the Pacific Ocean as a result of the interaction between polar Pacific and tropical Pacific air masses and move eastward over the basin. These storms can last for several days and are accompanied by widespread precipitation in the form of rain.
- Summer monsoon storms are usually associated with an influx of tropical maritime air originating over the Gulf of Mexico or the South Pacific Ocean and entering the area from a southeast to a southwest direction. Storms typically consist of heavy precipitation falling in a short period of time, accompanied by high winds and blowing dust.

2.3.5 Receiving Waters

Pending the permit modification initiated by ADEQ in September 2021, the City's MS4 Permit authorizes stormwater discharges to WOTUS and non-WOTUS PSWs including portions of the Salt River, Indian Bend Wash, Skunk Creek Wash, New River, and Cave Creek Wash. The MS4 also discharges to man-made

distribution systems including the Grand Canal, Arizona Canal, Arizona Canal Diversion Channel (ACDC), Cross Cut Canal, Old Cross Cut Canal, and the Papago Diversion Channel. Most of these distribution systems are included in the initial PSWL as PSWs under the generic listing “Phoenix Area Canals” or are considered conveyances to a WOTUS or non-WOTUS PSW. Runoff from the central part of the city flows to the Papago Diversion Channel, the Grand Canal, and the Arizona Canals, which discharge to Skunk Creek and New River, which discharge to the Agua Fria River. Stormwater runoff from the northern part of the city, including Cave Creek Wash, flows to the ACDC, to Skunk Creek, and then to the Agua Fria River. The Agua Fria River discharges to the Salt River west of the City. Stormwater falling in the northeastern area of Phoenix flows from the Indian Bend Wash and drains to the Salt River. Stormwater falling in the central and southern part of the city flows to the Salt River. Stormwater in the Ahwatukee area flows to the Gila River Indian Community, where it appears to disperse as overland flow before reaching a PSW.

There are numerous other smaller washes in the Phoenix area that may receive stormwater through MS4 connections. Some examples are Scatter Wash in northwest Phoenix, Dreamy Draw Wash in north-central Phoenix, Flynn Lane Wash in north-central Phoenix, and Echo Canyon Wash in east-central Phoenix.

3.0 PROGRAM MANAGEMENT

3.1 PERMITTEE AND PERMITTEE RESPONSIBILITIES

The MS4 permit is administered by the Water Services Department (WSD). However, multiple departments are involved with the day-to-day responsibilities of implementing the stormwater program. A SWMP Implementation Team (also known as the Stormwater Working Group) is tasked with overseeing and assessing progress on each of the elements of the program. The Team includes representatives from each of the following City departments and functions with direct stormwater responsibilities:

Department	Responsibilities
Water Services Department (WSD)	Public Education & Outreach Public Involvement (Hotline & Workshops) Illicit Discharge Detection and Elimination Industrial Inspections Outfall Inspections Enforcement & Compliance Wet Weather Monitoring Construction & Post-Construction Inspections (WSD Projects) Reporting
Street Transportation Department (STR)	Drainage System Maintenance Roadway Maintenance Roadway/Utility Plan Review & Inspections Mapping Municipal Construction Inspection coordination
Office of Environmental Programs (OEP)	Municipal Facility Inspections Municipal Construction Inspections Municipal Post-Construction Inspections Training Program Oversight Spill Tracking Hazardous Materials Mgmt. Program Coordination
Planning and Development Department (PDD)	Public Education & Outreach Construction Plan Review Construction Inspections Post Construction Inspections Enforcement & Compliance
Public Works Department (PWD)	Public Education & Outreach Public Involvement (Household Hazardous Waste) Floodplain Management
Parks Department (PRD)	Public Involvement (River Cleanup Events)

The Working Group meets monthly and directs the implementation of the SWMP and coordinates the overall MS4 Permit compliance program. The Working Group members also provide technical assistance and support to the City stormwater program coordinator when changes to legislative initiatives and regulatory requirements occur.

The Stormwater Executive Committee, which includes members from WSD, STR, PWD, PDD, OEP, and the Law Department, provides management oversight of the program. The Stormwater Executive Committee meets quarterly to review the budget, progress toward meeting permit goals, and stormwater improvement projects.

3.2 FUNDING SOURCES

Implementation of the SWMP is funded through the following resources:

- **Stormwater Management Environmental Excise Tax:** The City funds most direct MS4 Permit compliance program activities through this charge
- **General Fund/Other Revenues:** The City utilizes general fund revenue to finance a portion of MS4 Permit compliance activities
- **Permit Fees:** The City charges fees for services such as construction inspections, plan review check, and other recoverable costs relative to the MS4 Permit.

The City Budget and Research (B&R) Department conducted a review of the program's resources in early 2009. The B&R report and recommendations were reviewed by the Phoenix City Council in April of 2010. Council authorized an increase in the stormwater fee in 2010 to provide additional resources to support the program.

New requirements included in the 2021 MS4 Permit may warrant further review of program funding in the near future.

3.3 LEGAL AUTHORITY AND ENFORCEMENT

3.3.1 Legal Authority

Although ADEQ and EPA may have overlapping legal authority over some discharges to and from MS4s (i.e., through the State's General Permits for stormwater discharges associated with industrial facilities or construction activities), the City must still independently establish, maintain and enforce adequate legal authority to control discharges to the MS4 (40 CFR §122.26(d)(2)(i)(A-F)). Conversely, the ADEQ and EPA are independently responsible for enforcing their own legal authorities. The City's legal authority utilizes ordinances, permits, and procedures or similar means, as necessary. At minimum, an MS4 Permittee's legal authority must authorize the City to:

- Control the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity
- Control the contribution of pollutants to the MS4 by stormwater discharges associated with construction activity and the quality of stormwater discharged from construction sites
- Prohibit illicit connections and discharges to the MS4
- Control discharges to the MS4 of spills, dumping, or disposal of materials other than stormwater
- Require compliance with conditions in ordinances, permits, contracts or orders

- Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the MS4
- Establish requirements for post-construction stormwater controls.

Proper legal authority is necessary for the City to effectively implement compliance programs to reduce pollutants in discharges of stormwater runoff to the MEP. The legal authority necessary to implement compliance programs and pursue enforcement is provided through local stormwater, floodplain, and erosion control ordinances. The City has enacted a comprehensive stormwater quality ordinance (Chapter 32C), a floodplain management ordinance (Chapter 32B), and a grading and drainage ordinance (Chapter 32A). Copies of these ordinances are available online at <https://phoenix.municipal.codes/>.

The City is in the process of revising City code to incorporate new requirements from the 2021 MS4 Permit.

The City does not have the authority to enforce the provisions of Arizona's General Permit for Stormwater Discharges Associated with Industrial Activities, Arizona's General Permit for Stormwater Discharges Associated with Construction Activity, Arizona's Pesticide General Permit or Arizona's De Minimis General Permit. The AZPDES permit program is administered by ADEQ. However, local stormwater and grading and drainage ordinances may address items similar to those identified in some of these statewide permits.

3.3.2 Enforcement

The City periodically reviews ordinances to verify that they include measures to ensure compliance. The City has also developed policies and procedures for ensuring that construction sites, commercial establishments, and industrial facilities operate in compliance with the applicable stormwater and grading and drainage ordinances. The goal of the City's enforcement program is to document the enforcement of stormwater ordinances fairly and consistently throughout the City's jurisdiction. It is recognized that there is no clear, standard approach to handling all the enforcement situations that may be encountered and that the professional judgment of individual inspectors will guide the appropriate level of response.

Enforcement measures have been integrated into the appropriate elements of this SWMP and those sections provide guidelines on how City departments implement enforcement actions appropriate for a given violation.

Prioritizing Violations

The City ordinances discuss a wide range of prohibited activities with varying potential impacts on the beneficial uses of receiving waters. Prioritizing violations is important in focusing City resources on those violations that may have the greatest potential impact on stormwater quality. The prioritization of violations is based on many factors, including the type of violation, whether there is a threat to human health and the environment, duration of the violation, good faith efforts to comply, and compliance history. City staff use their experience and professional judgement to determine the appropriate enforcement response. WSD Inspectors follow standard operating procedure (SOP) 6021, Stormwater Enforcement Response Plan.

Recordkeeping and Reporting

The City maintains records of enforcement activities including:

- Inspection notes or reports
- Copies of communications with the parties in violation of applicable rules and requirements
- Documentation of follow-up actions
- Responses received from violators
- Correspondence with other agencies, if applicable.

3.4 BEST MANAGEMENT PRACTICES/CONTROL MEASURES

The City has developed and implemented BMPs, also referred to as control measures. The BMPs suggest options that can be selected in preventing pollutants from entering stormwater.

The BMPs, described throughout the SWMP, include:

- Public Education & Outreach
- Public Involvement
- Illicit Discharge Detection & Elimination
- Industrial Inspections
- Municipal Inspections
- Construction Inspections
- Post-Construction Controls
- Drainage System Maintenance
- Roadway Maintenance
- Employee Training
- The Hazardous Materials Management Program (HMMP).

4.0 PUBLIC EDUCATION AND OUTREACH

4.1 INTRODUCTION

Public education is an important element in any municipal stormwater program. Increasing public awareness and gaining public involvement is essential in controlling pollution associated with stormwater runoff. Communicating the impacts of stormwater runoff to selected targets increases the likelihood that they will support and participate in program implementation. The City has developed a strong area-wide public education and outreach program.

To wisely manage resources, the public education program has partnered with other local entities including Stormwater Outreach for Regional Municipalities (STORM) and Keep Phoenix Beautiful (KPB) to promote conservation, pollution prevention and environmental awareness. These educational partnerships also expand outreach opportunities.

4.2 MS4 PERMIT REQUIREMENTS

The City's MS4 Permit identifies target audiences and topics for the Public Education & Outreach Program. For the general public, residential audiences, schools, and homeowners topics may include, but are not limited to:

- Post-construction ordinances and long-term maintenance requirements for permanent stormwater controls
- Stormwater runoff issues and residential stormwater management practices
- Potential water quality impacts of application of pesticides, herbicides and fertilizer and best management practices to minimize runoff of pollutants in stormwater
- Potential impacts of animal wastes on water quality and the need to clean up and properly dispose of pet waste to minimize runoff of pollutants in stormwater
- Illicit discharges and illegal dumping, proper management of non-stormwater discharges, and to provide information on reporting spills, dumping, and illicit discharges
- Spill prevention, proper handling and disposal of toxic and hazardous materials, and measures to contain and minimize discharges to the storm sewer system
- Installation of catch basin markers at storm sewer inlets to minimize illicit discharges and illegal dumping to the storm sewer system
- Proper management and disposal of used oil
- Community activities (monitoring programs, environmental protection organization activities, etc.).

Topics identified for audiences in the development, construction, and business communities include:

- Planning ordinances and grading and drainage design standards for stormwater management in new developments and significant redevelopments

- Municipal stormwater requirements and stormwater management practices for construction sites
- Illicit discharges and proper management of non-stormwater discharges
- Spill prevention, proper handling of toxic and hazardous materials, and measures to contain and minimize discharges to the storm sewer system
- Proper management and disposal of used oil and other hazardous or toxic materials, including practices to minimize exposure of materials/wastes to rainfall and minimize contamination of stormwater runoff
- Stormwater management practices, pollution prevention plans, and facility maintenance procedures
- Water quality impacts associated with land development (including new construction and redevelopment).

The topics listed above are not exclusive, and the City may focus outreach efforts on target groups and topics most relevant to the MS4.

4.3 IMPLEMENTATION

Stormwater Outreach

The City conducts a variety of stormwater-related public awareness activities including workshops and public service announcements. The City's stormwater website (phoenix.gov/stormwater) provides information on residential, business, and construction stormwater management practices. The website includes an interactive site for general stormwater pollution awareness. The City also develops and maintains stormwater related videos and various stormwater handouts, including BMP brochures and activity books. These outreach efforts reach the general public, the business community, and schools. An Outreach/Marketing Plan is developed to outline specific activities each fiscal year.

In 2021, the City started implementing an annual Stormwater Awareness Week, which is a weeklong public outreach campaign to focus attention on stormwater pollution and pollution prevention activities. Other municipalities and organizations in the area have also joined the effort. The campaign includes social media, billboards, and radio ads.

In addition, the City participates in STORM to provide coordinated stormwater outreach throughout the Phoenix metropolitan area. STORM members use social media, radio spots, videos, and their website to deliver stormwater education to members of the general public and select businesses.

Pollution Awareness Markers

The City installs pollution awareness markers (PAMs) on catch basin inlets as a visual reminder that dumping to the storm drain is prohibited. PAMs contain the stormwater management logo or mascot and the words "Storm Drain No Dumping." The recycled aluminum from which PAMs are made has a 25-year life expectancy. SOP 6008 covers how to properly install a PAM.

Recycling Education

The PWD Zero Waste team provides presentations to schools, provides tours of the City’s material recovery facilities to the residential community and homeowners, and promotes City recycling programs at special events.

Keep Phoenix Beautiful

The City partners with Keep Phoenix Beautiful (KPB), an affiliate of Keep America Beautiful, that organizes and implements programs in three areas: education/outreach, community gardens, and neighborhood beautification. The education program focuses on presentations to Phoenix schools. KPB gives youth education presentations for schools, Headstart programs and community centers. The presentations reach both students and teachers. Topics emphasize solid waste management, including recycling and litter control and waste prevention. Giveaway materials distributed at events include brochures, volunteer listings, pencils, recycling bags, and activity books.

Educational Program for Developers and Contractors

The Planning and Development Department (PDD) conducts periodic meetings for developers and contractors to provide information about the development process depicted in the flowchart shown in Figure 4-1. In addition to PDD activities, STORM conducts periodic outreach to developers and construction site operators.

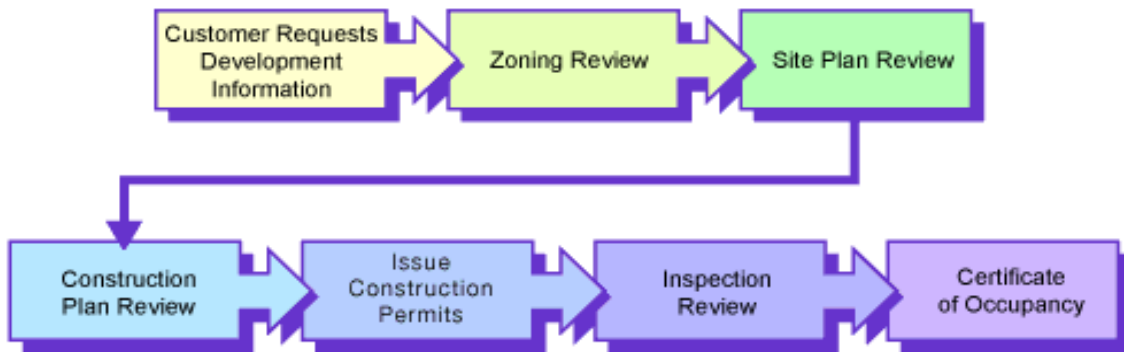


Figure 4-1: Development Process Overview

Five Year Plan

The City has developed a five-year public education and outreach plan to focus on specific target audiences and topics, as required under the permit. The plan includes the following:

When	Theme	Topics	
Fiscal 2022 (July 2021 – June 2022)	Stormwater Runoff Issues:	HOA: Best Management practices	Development Community: grading /drainage standards
Fiscal 2023 (July 2022 – June 2023)	Post Construction Ordinances & IDDE	General Pub: Long term maintenance requirements of SW controls	Commercial Business: IDDE inspection checklist
Fiscal 2024 (July 2023- June 2024)	Water Quality Impacts	Schools: trash, solid waste, pesticides, herbicides, fertilizers bmp’s	Businesses: Proper management and disposal of used oil and toxic materials minimize exposure
Fiscal 2025 (July 2024-June 2025)	Stormwater Runoff Issues and Illicit discharges	Residential/HOA: Topic 2 (Pools proper draining and chemical handling)	Businesses: Topic 3 (IDDE: Mobile Businesses (carpet cleaners, groomers, food trucks, etc..))
Fiscal 2026 (July 2025-June 2026)	IDDE Reporting and Stormwater requirements and management for construction sites	Residential/HOA: Topic 5 (IDDE reporting)	Construction Site Operators: Topic 2 (Municipal stormwater requirements and management for construction sites)

Though the City intends to follow this plan, situations may arise that change the outreach plan, without prior modification of the SWMP. For example, the City may identify an industry group or topic that necessitates special and timely attention. Though the target audience and/or topics may change, the intent will be to provide public education on the causes of stormwater pollution and control measures that minimize pollution to the MEP.

5.0 PUBLIC INVOLVEMENT

The City conducts the following public involvement measures to provide the public an opportunity to participate in the City's stormwater management program, including:

- Hosts an annual public workshop to inform and engage interested members of the public with the development and implementation of all parts of the SWMP
- Creates opportunities for citizens to participate in the implementation of stormwater controls
- Provides and publicizes a reporting system to facilitate and track public reporting of spills, discharges, and/or dumping to the MS4
- Implements a household hazardous waste collection program to facilitate proper disposal of used oil, antifreeze, pesticides, herbicides, paints, and other hazardous materials
- Posts the SWMP and Annual Report on the City's website (phoenix.gov/stormwater).

5.1 PUBLIC REPORTING OF STORMWATER ISSUES

The City promotes Phoenix at Your Service (PAYS) to simplify access to City departments <https://www.phoenix.gov/atyourservice>. Members of the public can notify the City of potential stormwater contamination issues by calling the Stormwater Hotline at (602) 256-3190, through the website at www.phoenix.gov/stormwater, email (ask.water@phoenix.gov), and through PAYS. The Stormwater Management Section (SWM) tracks the number and types of complaints received number of investigations initiated by the section.

5.2 MUNICIPAL PROGRAMS

5.2.1 Stream Clean-up

The Parks and Recreation Department holds stream clean-up events at Rio Salado Habitat Restoration Area, Cave Creek Wash, Skunk Creek Wash, and Apache Wash to educate the public about stormwater pollution and water quality. Park Rangers also provide several trail and trailhead programs regarding the need for, and regulations regarding picking up animal waste. Failing to pick up waste is a citable offence, but staff prefer to utilize educational contact whenever possible.

5.2.2 Household Hazardous Waste

PWD organizes the household hazardous waste (HHW) collection program. This program assists residents in properly disposing of potentially hazardous or toxic materials, including household paint, batteries, used oil, antifreeze, and pesticides in addition to a variety of other non-liquid items.

In the past, HHW collection events were held at various sites in the City throughout the year. However, since the pandemic started in March 2020, the City had to suspend HHW collection events. Alternate HHW disposal options are now offered, and include several drop-off locations, as well as a pilot home pick-up program. Information on the HHW program is available on the City website at <https://www.phoenix.gov/publicworks/hhw> or by calling (602) 262-6251.

Examples of wastes that are accepted as part of the HHW collection program include the following items:

- Kitchen: Aerosol cans, aluminum cleaner with acid, ammonia-based cleaner, furniture polish, oven cleaner
- Bathroom: Disinfectants, nail polish remover, toilet/tub/tile cleaner
- Garage: Antifreeze, auto batteries, transmission & brake fluid, carburetor cleaner, gasoline, diesel fuel, motor oil, engine de-greaser
- Gardening: Fungicide, insecticides/pesticides, weed killer/herbicides, slug and snail poison
- Workshop: Chlorine bleach, pool/spa chemicals, lighter fluid, paint stripper with solvent, paint thinner/turpentine, photographic chemicals, varnish, wood preservative, caulking material, latex & oil based paints.

Examples of wastes that are not accepted at HHW collection events include the following items:

- Regular refuse and bulk trash
- Business/commercial waste
- Explosives/ammunition
- Large quantities, more than five gallons, of each residential waste product will not be accepted
- Radioactive materials
- Biomedical waste
- Pharmaceuticals.

Residents can also drop off limited varieties of HHW at the 27th Avenue and North Gateway Transfer Stations. Acceptable wastes include used oil, lead acid batteries, white goods, and E-waste.

5.3 KEEP PHOENIX BEAUTIFUL

KPB's mission is to promote a clean and healthy environment by increasing knowledge and utilization of the reduce, reuse, recycling philosophy, providing anti-litter and recycling education and fostering community pride through active participation in special events such as cleanup and beautification projects. KPB has a contract with the City and provides outreach community services that complement services provided by the PWD and benefit residents throughout the City.

KPB organizes and implements service and outreach projects and events. KPB partners with other community programs, non-profits and businesses to accomplish the mission and promote an anti-litter message.

KPB hosts and participates in numerous neighborhood cleanups per year. These activities reduce litter in neighborhoods and the environment. KPB also hosts annual 'I Recycle Phoenix' events which divert electronics, clothing, household goods, shredded paper, and Christmas Trees from the landfill. The outreach program involves residents in beautification projects throughout the City. These special projects involve residents and result in a healthier, cleaner and more beautiful environment.

6.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

6.1 MEASURES TO CONTROL ILLICIT CONNECTIONS AND ILLEGAL DUMPING TO MS4

The WSD Environmental Services Division (ESD) has implemented an Illicit Discharge Detection and Elimination (IDDE) Program to investigate and eliminate illegal discharges to the MS4. The program includes field inspections, regulatory enforcement, and illicit discharge education.

The City prohibits illicit discharges to the MS4, and controls discharges to the MS4 resulting from spills, dumping, or disposal of materials other than stormwater.

Chapter 32C Storm Water Quality Protection

The City's stormwater ordinance prohibits the release of significant quantities of materials, pollutants, or stormwater that "may reasonably be expected to cause or contribute to: damage to a public right-of-way or public storm drain system; a violation of an applicable water quality standard; or a violation of any condition of a stormwater AZPDES permit". A copy of the Storm Water Quality Protection ordinance is included in Appendix B.

Non-Stormwater Discharge Evaluation

Most non-stormwater discharges not covered by a separate AZPDES permit are prohibited under the MS4 Permit (except that discharges from emergency fire-fighting activities are allowed). However, the MS4 Permit and Phoenix City Code Chapter 32C authorize several non-stormwater discharges, provided they are not significant sources of pollutants, including the following:

1. Water line flushing
2. Landscape irrigation
3. Diverted stream flows
4. Rising ground waters
5. Uncontaminated groundwater infiltration
6. Uncontaminated pumped groundwater
7. Discharges from potable water sources
8. Foundation drains
9. Air conditioning condensation
10. Irrigation water
11. Springs
12. Water from crawl space pumps
13. Footing drains
14. Lawn watering
15. Individual residential car washing
16. Flows from riparian habitats and wetlands
17. Dechlorinated swimming pool discharges
18. Street wash water
19. Discharges or flows from emergency firefighting activities
20. Discharges authorized by another NPDES or AZPDES permit, including:

- a) Pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed)
- b) Routine external building wash-down that does not use detergents or other chemicals
- c) Water used to control dust, provided effluent or other wastewaters are not used.

The City's ordinance allows SWM staff to issue discharge permits for "not significantly" polluted non-stormwater to be released into the storm drain (i.e., not above an applicable surface water quality standard). These permits may be offered for discharges that are not covered under an AZPDES permit or authorized under City Code. Requests to discharge are reviewed to determine if applicable requirements are fulfilled. If a discharge permit is not granted, staff provides guidance to the applicant on the best method for disposal. Options may include discharging to the sanitary sewer cleanout, using the water for irrigation, or contacting a non-hazardous liquid waste hauler. The City may require commercial or industrial applicants to provide a water analysis report prior to issuing a permit. At a minimum, pH, chlorine levels, and color are monitored. Specific restrictions may be applied in the permit, including flow rate and time of discharge limitations. SOP 6026 covers temporary stormwater discharge permits.

Non-stormwater discharges identified by field personnel or through complaints received from the public are recorded in the SWM database. Trained staff members investigate these reports and enter their findings and any actions initiated in the appropriate database fields. Records of temporary discharge permits issued by SWM are also maintained. SOP 6013 covers complaint receipt and investigations.

6.2 PRACTICES FOR FIELD SCREENING

The City actively seeks to eliminate and prohibit illicit connections and illegal discharges to the MS4. If routine inspections or dry weather monitoring indicate illicit connections or illegal discharges, they are investigated and corrective action is initiated as soon as possible, but no later than sixty (60) calendar days after the source has been identified. Discharges that are determined to not be significantly polluted may be allowed. Illicit discharges that are a serious threat to public health or the environment are responded to immediately.

6.2.1 Outfall Inventory

The City uses a database that currently includes over 670 active "outfalls", and over 400 major outfalls. The number of outfalls and major outfalls may change depending on the final list of PSW and the federal WOTUS definition.

Fifteen outfalls are currently considered "priority outfalls" under the permit requirements, though this number may vary from year-to-year. Priority outfalls include major outfalls that discharge to impaired waters or not-attaining waters, major outfalls that have been a source of illicit discharge in the past five years, and major outfalls that have been identified as priority for illicit discharges and other non-stormwater flows. Outfalls with dry-weather flow, where the source has been identified as allowable under City code and the flow has been determined to not be significantly polluted, are removed from the priority outfall list. The outfall inventory is maintained in the SWM database.

The City's stormwater management program maps showing outfalls, structural controls, rain gauge locations, drainage pipes and their associated outfalls, stormwater conveyances, catchment basins and zoning polygons and other information are available to City employees on the City's Geographic Information System (GIS). Maps of the five monitored outfalls are included in Appendix C of this SWMP. In addition, a list of major outfalls is included in Appendix D.

6.2.2 Inspection Priorities and Schedule

Priority outfalls are inspected annually. Approximately twenty percent of the remaining major outfalls are inspected annually, so that every outfall is inspected at least once every five years. The inspection schedule is reviewed annually and updated as needed. SOP 6024 describes outfall inspections and outfall inventory prioritization.

6.2.3 Field Screening Procedures

Field screening activities are conducted on outfalls that have a dry weather flow. The screening includes a visual inspection of the outfall and surrounding area, as well as qualitative analyses of flows. Standard Operating Procedure (SOP) 6007 addresses field screening. City personnel perform field screening on dry weather discharges if the flow rate is found to be sufficient—typically greater than 0.03 gallons per minute. Colorimetric field kits are typically used for field screening. The results are used to determine if the flow is 'significantly polluted' (i.e., pollutants exceeding a trigger). The information obtained from the field screening is used to prioritize IDDE investigations. The SWM database is used to track and record findings from field screening procedures.

6.3 INVESTIGATING POTENTIAL ILLICIT DISCHARGES

Potential illicit discharges are identified in a number of ways, including through outfall inspections, field screening, and storm drain maintenance. Illicit connections and illegal discharges may also be identified from complaint calls from the public. For example, the City operates a centralized hotline and email address that may be used by the public to report illegal dumping from urban areas into public streets, the MS4, and other water bodies. These calls and emails can be received in English or Spanish and are routed to the appropriate department for response.

SWM inspectors typically respond to illicit discharge reports within three business days. The City immediately responds to illicit discharges that constitute a threat to human health or the environment. When applicable, information is given to the discharger and a field notice of violation (NOV) may be issued. If necessary, an industrial inspection may be conducted to bring the business into compliance with City Code. All observations are recorded in the SWM database and enforcement action may be initiated shortly afterward.

The Street Maintenance Dispatch Office (known as Dispatch 19) maintains a data retrieval system to record work requests and field observations. Some typical examples of service requests include cleaning streets, catch basins, washes, pipes and outfalls; and responding to spills in the roadway. All requests for service received by Dispatch 19 are logged into a computer database called Citizen Serve. The information is transmitted to the appropriate service center where it is assigned to staff. The location and responsible party are included in the system, as well as a description of the work completed. The Citizen Serve system

provides a convenient mechanism for tracking cases, and also provides access to historical data, which may be used to note trends. For larger spills, the City emergency contractor may be dispatched for clean-up response.

6.3.1 Dry Weather Discharges

Procedures are in place to investigate dry weather flows observed during outfall inspections. The inspector uses field screening procedures to identify and characterize the discharge. SWM prioritizes dry weather discharges that exceed a trigger or appear to be obvious wastewater discharges. Outfalls that have a dry-weather flow observed during routine inspections are documented. The SWM database automatically triggers an IDDE investigation and staff begin to search for the source of flow using a variety of techniques. IDDE investigations typically involve tracing the flow up the storm drain system and may include performing a video inspection. Each investigation is documented. Corrective action is initiated if the source(s) can be identified and illegal flow can be verified. If the source of the flow can be identified and determined to be allowable under City code, and the flow is not “significantly polluted”, the outfall will be removed from the priority list. SOP 6006 describes the IDDE procedure for dry weather flow investigations.

6.3.2 Illicit Discharge Investigation

When notified by staff or a third party of a potential illicit discharge in the City’s jurisdiction, the occurrence is logged into the database, prioritized, and assigned to an inspector. Response time is typically less than three working days. Discharges that threaten human health or the environment are investigated immediately. “Triggers” have been set up in the SWM database to assist the inspectors in prioritizing the illicit discharges. Staff evaluate the field screening and determine if the recent discharge warrants a higher priority than the illicit flow currently being investigated. The City may also utilize consultants or contractors to assist with complex or high priority IDDE investigations.

Once the source has been identified, the City evaluates if the discharge is:

- Allowable through an AZPDES Permit
- Allowable under City Code or the MS4 permit
- Illicit.

6.3.3 Illicit Discharge Elimination

When an illicit discharge source has been located, it is evaluated to determine if it is allowable under City Code or permitted through the State. If the discharge is allowable or permitted, no additional action may be necessary. However, if the discharge is not allowable, or is determined to be significantly polluted, corrective action is initiated as soon as possible, but not more than 60 days after the source has been identified.

The discharger may be asked to remove or reduce the source. If this is not possible or practical, then the City may issue a Stormwater Discharge Permit allowing the discharger to continue to release non-stormwater flows to the storm drain system provided certain conditions are met and the discharge is not significantly polluted. If issued, the Stormwater Discharge Permit may require the discharger to report a variety of information to the City regularly and meet specific requirements for the discharge. If the

discharger is required to remove or eliminate the source and does not comply with the order, the investigators initiate enforcement action. The Enforcement Response Plan (SOP 6021) includes specific details on enforcement actions (Appendix E).

The City will coordinate with other MS4's to address pollutants that may enter one MS4 from another MS4. This coordination may include courtesy notifications or field investigations with staff from, all MS4's affected.

6.3.4 Industrial Facility Inspections

If the potential source of an illicit discharge is an industrial facility, SWM may conduct a facility inspection. During the inspection, inspectors evaluate the facility's potential to pollute stormwater, and look for signs of illicit discharges and direct connections to the MS4. If they believe that an illicit connection exists between the facility and the storm drain, inspectors may use one or more techniques including smoke and dye testing, a video inspection, reviewing facility schematics or other means. Should an illegal connection exist, the inspector can require that the connection be severed immediately in an enforcement action.

See Section 9.3 for more detail on industrial and commercial facility inspections.

6.3.5 Tracking and Reporting

SWM uses a computer database to track the inspections conducted, observations made by inspectors, and enforcement actions initiated (if any). The database provides security for the stormwater program data and includes functionality to retrieve data and generate reports. Reports are generated to provide information required for the annual report and as requested by City management.

6.4 ILLICIT DISCHARGE PUBLIC AWARENESS AND REPORTING PROGRAM

As discussed in Section 5.1, members of the public are encouraged to notify the City of potential stormwater contamination issues. Inspections are also conducted in response to complaints of dumping or illicit discharges. Complaints arrive through various means, including the Stormwater Hotlines, email (ask.water@phoenix.gov), or referrals from PAYS. The City advertises the Stormwater Hotline in both English and Spanish. The SWM section tracks the number and types of complaints received and the number of investigations initiated.

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7.0 MUNICIPAL FACILITIES AND ACTIVITIES

7.1 CITY HAZARDOUS MATERIALS MANAGEMENT PROGRAM

Administrative Regulation 2.314, *Hazardous Materials Owned by the City of Phoenix; Responsibilities for Compliance with Local, State, and Federal Rules Governing Hazardous Materials*, adopts the Hazardous Material Management Program (HMMP) Manual as the official City guidance document for hazardous materials management. HMMP procedures apply to all City departments unless stated otherwise and were developed to assist City operations with compliance with federal, state, and local environmental and safety regulations. The objectives of the procedures are to understand basic hazardous waste regulations and how to determine a facility's hazardous waste generator category and, to understand and properly apply City hazardous waste and materials procedures.

The following is a list of HMMP topics:

- Used Batteries – Recycling and Disposal
- Management of Hazardous Building Materials at City of Phoenix Facilities
- Hazardous Materials Purchasing Program
- Disposal and Recycling of Hazardous Waste and Materials
- Pesticide Management Program
- Spill Prevention, Response, and Reporting
- Storage and Handling of Hazardous Materials
- Stormwater Management
- Universal Waste Lamps, Mercury Containing Equipment, Lamp Ballasts and Aerosols
- Used Oil and Petroleum Contaminated Absorbent Material

The HMMP contains a comprehensive stormwater management policy which applies to all City facilities with the potential to impact stormwater quality. The policy addresses other state permit applicability [including the Multi-Sector General Permit (MSGP) and De Minimis General Permit] and outlines City requirements for training and environmental facility assessments (EFAs), as well as BMPs. BMPs for hazardous materials and hazardous wastes are also included in “Storage and Handling of Hazardous Materials” and other procedures.

The HMMP is maintained by the Office of Environmental Programs (OEP). Each HMMP procedure is targeted for review at least once every two years and revised as necessary. Revisions may be made more frequently if regulatory or operational requirements change. Updates to the HMMP are posted on-line upon conclusion of all interdepartmental reviews and comments.

The Stormwater Management Policy HMMP is under review and additional general Good Housekeeping Measures will be incorporated as appropriate for this City-wide document. Departments with specific job tasks (for example, utility installation and street maintenance) have or are developing specific procedures for these tasks.

7.2 PROPER MANAGEMENT OF USED OILS AND TOXICS

The City collects used oil from municipally-owned facilities. Used oil is recyclable and can be burned for energy recovery. The City follows all EPA and ADEQ rules and regulations relating to the labeling, storing, recycling, and disposing of used oil, oil debris, and petroleum contaminated soil. These requirements are augmented by the City's HMMP procedures, specifically the "Used Oil and Petroleum Contaminated Absorbent Materials" procedure, and individual department procedures such as the PWD Fleet Services Division procedure "Facility Spill Response Plan." These procedures are revised as needed and in accordance with regulatory changes.

All other toxic and hazardous materials and wastes are stored, handled, and disposed of in accordance with the HMMP protocols previously described in Section 7.1 above. The HMMP protocols are designed to reduce potential for stormwater contamination by establishing procedures and standards for preventing spills, waste generation, and weather exposure of hazardous materials. All protocols meet or exceed ADEQ and EPA Hazardous Waste and Universal Waste Regulations as mandated by the Resource Conservation and Recovery Act.

7.3 CONTROLS FOR PESTICIDES, HERBICIDES, AND FERTILIZERS

The City follows all EPA, Arizona Department of Agriculture Pest Management Division, and State of Arizona statutes, rules, and regulations relating to the use, disposal and storage of pesticides, herbicides, and fertilizers that are used on the perimeter of buildings, in landscaped areas, and other areas impacted by City-owned property. These requirements are augmented by the City's HMMP procedures, specifically "Pesticide Management Program," "Municipal Facility Stormwater Management Policy," and individual department procedures. The City PRD and WSD both submitted Notices of Intent (NOI) to ADEQ under the AZPDES General Permit for Point Source Discharges from the Application of Pesticides to PSW, which required development of a Pesticide Discharge Management Plan for each NOI.

The City's Pesticide Management Program HMMP is focused on the principle of Integrated Pest Management (IPM). IPM seeks to reduce the amount and toxicity of pesticides and eliminate the need for pesticide use, where possible, by implementing measures that eliminate conditions that attract pests. The Pesticide Management Program HMMP is applicable to any City department that purchases, transports, stores, and controls pesticides or uses contractors to perform these activities.

Pesticides are routinely used in and around public buildings, grounds and outdoor areas to manage weeds, spiders, insects, and on occasion, rodents. IPM can be equally effective and is more protective of human health and the environment. This program is also consistent with the City's sustainability efforts and is creditable in Leadership in Energy and Environmental Design (LEED) Certification for Existing Buildings: Operation and Maintenance Certification.

7.4 SPILL PREVENTION AND RESPONSE

As previously discussed, the City standard for managing hazardous waste and hazardous materials is the HMMP Manual (AR 2.314). The manual is available to City employees online through the City's intranet. The HMMP Manual directs personnel to protect chemical storage areas from weather, and to store in a manner that minimizes the potential for stormwater contamination. This can be accomplished by locating the

storage areas indoors or by using an appropriate canopy for outdoor storage. Guidance is provided on secondary containment, security, permitting requirements, spill response, proper signs, and labeling requirements. Container storage requirements such as aisle spacing, limitations on drum stacking, segregation of incompatible materials, and types and condition of containers are presented. Safety Data Sheets (SDSs) must be available for stored materials, and inventory information must be entered by departments into the City Safety Data System. The HMMP includes a Material & Waste Storage Area Checklist that assists City employees in minimizing spills caused by improper storage practices. Additional regulatory requirements specific to managing hazardous wastes are included in the HMMP.

Environmental Facility Assessments (EFAs) are conducted at City-owned and operated facilities in accordance with the City's MS4 permit. As part of the EFA, each facility's spill response procedures are reviewed. These inspections help assess the City's hazardous material management process and its impact to stormwater. Spill kits and emergency number information is also reviewed for completeness and accuracy during EFAs. Spill prevention and response standards are included in the HMMP Spill Prevention, Response, and Reporting. Facilities subject to the policy are required to develop a spill response program including posting emergency numbers and implementing BMPs to prevent hazardous material spills.

7.5 OTHER MUNICIPAL FACILITIES AND ACTIVITIES

The City implements other programs and activities that indirectly supplement the stormwater program. These activities include, but are not limited to:

- Purchasing
- Recycling
- CWA Section 404 Program
- Riparian Area Restoration and Preservation Projects
- Brownfields.

Purchasing: Purchasing is an important control point for managing the use and/or disposal of products which may be hazardous waste after use or have the potential to pollute stormwater. The City Sustainable Purchasing Policy and Hazardous Materials Purchasing Program HMMP are available to departments before ordering a new product. These policies create a preference for products that have reduced toxicity, contain recycled or bio-based materials, are energy or water efficient, divert waste from landfill through recovery/reuse services, use alternative fuels, renewable energy, or contain sustainable forestry certified materials.

Recycling: The City purchases recycled material products and recycles wastes whenever possible. The City recycles the following items within municipal operations:

- Unbroken fluorescent, high intensity discharge, sodium vapor, high- and low-pressure mercury vapor, metal halide and metal arc lamps
- Unbroken mercury-containing thermostats
- Batteries – lead acid, nickel cadmium, nickel halide, lithium

- Printer and toner cartridges
- Used oil
- Cardboard and paper
- Aluminum
- Antifreeze
- Scrap metal
- Spent fuels
- Plastics.

CWA Section 404 Permits: The OEP helps departments with Section 404 of the CWA, which regulates the discharge of dredged or fill material in WOTUS. In metro Phoenix, the 404 Program focuses on City projects with the potential to have impacts in WOTUS, frequently this may include fragile desert washes that are key wildlife habitat and movement corridors. The City's 404 Program was established in 1998 to help departments review projects, address and minimize the impacts of construction or maintenance on desert washes, and obtain any necessary 404 permit and associated Section 401 certification. The program also helps project managers consider and minimize impacts to other natural and cultural resources.

Riparian Area Restoration and Preservation Projects: Riparian areas are among the most biologically rich habitats and once represented a much larger portion of the Phoenix area. Aided by community leaders, the City recognized the importance of these areas and worked with various partners to restore them. Two key projects, the Rio Salado Habitat Restoration Area and the Tres Rios Ecosystem Restoration Project, encompass hundreds of acres of wetlands and riparian vegetation which are open to the public and provide numerous environmental education opportunities.

Brownfields: The City also supports Brownfields redevelopment through a municipal grant program. Brownfields is a term used to describe real estate that is contaminated or perceived to be contaminated by hazardous substances or petroleum products. Examples include closed landfills, abandoned gas stations, and former manufacturing and dry-cleaning facilities. The City encourages the cleanup and redevelopment of Brownfields, reducing the health and environmental risk from the property, and also creating jobs, increasing property values, and revitalizing neighborhoods.

8.0 MS4 MAINTENANCE

8.1 DRAINAGE SYSTEM MAINTENANCE (STRUCTURAL CONTROLS)

The City develops, implements, maintains, and monitors structural and treatment control BMPs. The maintenance program addresses clean-out for open channels, catch basins, retention/detention basins, and structures for stormwater runoff treatment. Wastes and materials removed are disposed of per applicable laws and appropriate BMPs are deployed to minimize impacts to the receiving waters to the MEP. Drainage system maintenance is the responsibility of the Street Transportation Department (STR).

8.1.1 Drainage System Inventory/Maps

Drainage system maps are available for review by employees on the City's GIS.

8.1.2 Drainage System Monitoring Program

STR Drainage Foremen and employees assigned to the Vactor equipment are scheduled to perform monthly visual inspections of the drainage system assigned to their area. Four lists of priority locations in the City are maintained by STR and available to the foremen that include the addresses of the priority areas, map locations, and date of service columns to be completed by the STR employee performing maintenance. The four areas are identified as Northeast General Maintenance – Union Hills Service Center, Central General Maintenance – Glenrosa Service Center, Southwest General Maintenance – Salt River Service Center, and Southeast General Maintenance – Okemah Service Center.

Outfalls are monitored by SWM (see permit Section 6.3). High Priority outfalls are monitored annually and all other major outfalls are observed at least once every five years (approximately 20% per year).

8.1.3 Maintenance Priorities and Schedule

STR Drainage Foremen prioritize and schedule maintenance using the following criteria:

- Full closure of the drain
- Plugged or partial closure of the drain
- Geographical location – assign cleanup of system based on proximity and location.

Visual inspections of drainage easements and channels are conducted monthly. The results are used to identify maintenance priorities, in addition to the known priority areas discussed in the previous section. For any new problem locations identified after monsoons, staff follow protocol on how to address the situation to mitigate the problem.

8.1.4 System Maintenance

The BMP for drainage system cleaning and maintenance instructs STR employees to clear debris and trash from man-made easements, detention basins, and washes prior to mowing. STR employees are reminded to be aware that items like oil, paint, and other pollutants may be illegally dumped in these areas and must be cleaned up and disposed of properly. Any chemicals encountered are removed and disposed of by the City

hazardous materials contractor not by City employees. Non-hazardous debris collected is deposited directly into the dump truck bed for disposal, not stored on the street surface or shoulder. When catch basins and storm drain lines are cleaned out, non-hazardous debris is also placed in the dump truck bed. Employees are instructed to dump tanks from debris removed by Vactor trucks at the 91st Avenue Wastewater Treatment Plant (WWTP) during normal operations. During significant storm events where flooding occurs, City policy allows rain water pumped from sumps and standing water to be disposed of through existing storm drain inlets. Debris that could contain hazardous or bio-hazardous materials is removed and disposed of by specialized contractors trained and equipped to handle these materials.

Maintenance is performed based on the severity of the drain blockage. Repairs are performed based on the degree of damage and the repair schedule.

8.2 OPERATION AND MAINTENANCE OF PUBLIC STREETS, ROADS, AND HIGHWAYS

8.2.1 Maintenance Priorities and Schedules

STR is responsible for design, construction, and maintenance of all City streets. Prioritizing street surface maintenance (including crack sealing, pothole repair, and more extensive pavement restoration) is managed using a computerized pavement management system that analyzes ride quality. The surface distress information generated by the program helps STR to determine the pavement's structural adequacy and is used to prioritize maintenance on a City-wide basis.

8.2.2 System Maintenance Practices

The BMP for drainage facility component cleaning and maintenance instructs STR employees to clear debris and trash from man-made easements, detention basins, and washes prior to mowing. Employees are reminded to be aware that items like oil, paint, and other pollutants may be illegally dumped in these areas and must be cleaned up and disposed of properly. Any chemicals encountered are removed and disposed of by the City hazardous materials contractor not by City employees. Non-hazardous debris collected is deposited directly into the dump truck bed for disposal, not stored on the street surface or shoulder. When catch basins and storm drain lines are cleaned out, non-hazardous debris is also placed in the dump truck bed. Employees are instructed to dump tanks from debris removed by Vactor trucks at the 91st Avenue WWTP during normal operations. Debris that could contain hazardous or bio-hazardous materials is removed and disposed of by specialized contractors trained and equipped to handle these materials.

During significant storm events, City policy allows rainwater pumped from sumps and standing water to be disposed of through existing storm drain inlets.

Records of system maintenance are generated when the Citizen Serve system creates a work request for an activity. The work is performed by STR personnel and then recorded in the Citizen Serve system when completed.

8.2.3 Street/Parking Lot Sweeping Program

To reduce the amount of debris that may enter the storm drain system, the City has implemented a street sweeping program that encompasses all areas of the City. The City maintains a fleet of PM-10 motor brooms. The sweeping schedule varies according to the type of street as follows:

- Major and collector streets are scheduled to be swept once every 14 days
- Local streets are scheduled to be swept once every three months
- Parking lots are swept as needed or on request
- High priority areas in the southern part of the City (7th Avenue, 25th Avenue, 19th Avenue and 51st Avenue) are scheduled to be swept every seven days
- Non-Attainment area is swept on a seven-day cycle (Van Buren to Dobbins, 51st Avenue to 16th Street).

STR coordinates the street sweeping schedule with PWD's bulk trash pickup schedule. Residential street sweeping follows bulk trash collection, whenever possible. In addition, personnel pick up trash, weeds, and debris in empty lots and the right-of-way, as requested by employees or citizens.

Occasionally, adherence to the published schedule is delayed responding to events that are non-routine. Equipment and personnel resources are directed to priority tasks such as debris cleanup after storm events to ensure public safety. Storm events in a specific area of the City may preempt routine maintenance in an area that was unaffected by the storm. Unscheduled equipment maintenance is an additional non-routine task that can affect maintenance schedules.

Most parking lots are swept on an as-needed or on-call basis. Some City facilities (e.g., Service Centers) may develop site-specific sweeping schedules.

8.2.4 Street Repair Practices

The Street Maintenance Division has developed and implemented BMPs for routine activities that have the potential to impact the storm drain system. When performing asphalt maintenance and removal activities, employees are instructed to place debris and rubble directly into the bed of the dump truck as opposed to staging the material on the street or shoulder. Spraying activities are controlled such that overspray is minimal. Any material generated during equipment flushing or tool cleaning is disposed of properly.

Materials generated during concrete removal and replacement are managed in a similar manner. When hand-mixing concrete, employees are instructed to ensure that excess water is not allowed to flow onto the pavement. The mobile mix truck and contractor ready mix trucks are required to utilize buckets to collect equipment cleaning water and excess concrete material for proper disposal.

Water utilized during concrete/asphalt sawing operations is contained in sand or absorbent material and placed in the dump truck bed for disposal. Excess soil removed when an auger is used to place posts for permanent barricades is collected for disposal at the designated landfill.

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9.0 INDUSTRIAL SITES

9.1 MEASURES TO CONTROL POLLUTANTS

The City's industrial and commercial facility inspection program includes measures to monitor, control and eliminate pollutant discharges from sources throughout the MS4 boundary. It is a priority for the City to maintain good working relationships with the industrial community while ensuring that stormwater and the MS4 receiving waters are protected.

The City prioritizes the industrial facility inventory by considering factors such as potential pollutants, and potential for exposure. Industrial Pretreatment inspectors include stormwater compliance in their annual inspections of permitted facilities. A stormwater assessment has been incorporated into the ESD Commercial Section's inspection program. The SWM section has provided ESD commercial inspectors with the tools needed to conduct stormwater screening at restaurants, auto repair shops, and car washes.

9.2 PRIORITIES AND IMPLEMENTING CONTROLS

9.2.1 Industrial Facility Inventory

The City's industrial facility inventory is maintained in the ESD database and includes the following:

- Facilities subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA)
- Hazardous waste treatment, storage, or disposal facilities (TSDFs)
- Landfills
- Industrial facilities permitted for pretreatment discharges to the sanitary sewer
- Industrial facilities that the City considers to be potential source of substantial pollutant loading to the MS4.

In addition, the City has compared the list of facilities that have applied to ADEQ for coverage under the MSGP to the industrial facility list. Where doing so will enhance the program, the City has added those MSGP facilities to the industrial list.

A listing of the SARA Section 313 facilities, TSDFs, and landfills can be generated from the City's database.

ESD receives regular email notification of new facilities coming into Phoenix from PDD. The information is reviewed by the Industrial Pretreatment Program and new industrial facilities are added to the inventory, when applicable. New facilities are also added when identified by staff during inspections of neighboring facilities.

The City's inventory is reviewed on an annual basis and updated as necessary. The update may include an updated MSGP list from ADEQ, and/or the most recent lists from EPA (e.g., SARA Title III, Tier II, or TSDF). The inventory is revised to address any significant gaps. SOP 6003 describes industrial facility inventory prioritization and inspection procedures.

9.2.2 Municipal Facility Inventory

The municipal facility inventory identifies those municipal facilities with chemical storage and the potential to discharge pollutants to the City's MS4. Facilities that consist of only administrative buildings and parking areas were not identified to be of concern regarding stormwater runoff pollution.

The municipal facility inventory, or facilities subject to the stormwater-required facility assessments, was initially compiled by OEP in December 2009. Data included in the municipal facility inventory includes the facility name and address, SIC code, contact name, latitude and longitude, and a brief description of activities of concern at the facility that may discharge pollutants in stormwater. The facility inventory is continually reviewed by OEP and facilities may be added as they come online or removed based upon closures, consolidations, or operational changes. The last inspection date for each facility is tracked in OEP's database.

A list of the current municipal facility inventory of sites as of publication date of this SWMP with the potential to discharge pollutants to stormwater is included in Appendix F.

9.2.3 Higher Risk Facilities

Industrial Facilities (Private)

SARA Section 313, TSD, and landfill facilities are required to be inspected under the terms of the MS4 permit and are considered as high priority facilities for purposes of industrial inspections.

An additional consideration for determining high priority facilities includes the results of stormwater screening inspections conducted by other ESD Sections. If Commercial or Industrial Pretreatment Inspectors identify a stormwater concern, they forward the information to the SWM section for additional evaluation. In addition, facilities that have a high potential to pollute stormwater based on past stormwater inspection results are also considered high priority.

The rationale used to identify high priority industrial facilities is reviewed annually. If conditions change (e.g., wet weather monitoring results, impaired waters location, etc.), the high priority inspection list may be adjusted. Similarly, the high priority list may be adjusted based on the trends observed at specific industry sectors.

Municipal Facilities

The City's MS4 Permit requires development of a system to review and prioritize the municipal facility inventory for more frequent inspections. This requirement under the 2009 MS4 permit was completed in June 2011. Under the 2021 MS4 Permit, the City's "higher risk" prioritization method has been further refined based on the criteria included in the permit.

Written procedures are being developed for this refined higher risk prioritization, and the procedures and refined process will be in place by July 1, 2022 using the following as criteria for determining higher risk facilities:

- Resource Conservation and Recovery Act (RCRA) Large Quantity Generator, OR

- Multi-departmental sites with Facility Stormwater Plans (excludes sites listed in Appendix G that have Stormwater AZPDES coverage, such as MSGP), AND
- Within 0.25 miles of a Surface Water that is one of the following:
 - a) Impaired
 - b) Not-Attaining
 - c) Outstanding Arizona Water
 - d) Perennial or Intermittent

Footnote: Impaired & Not-Attaining criteria do not apply if the surface water is Impaired or Not-Attaining for E. coli or similar parameters for which the City operations would not contribute pollutants.

Facilities will continue to be reviewed against the higher-risk facility criteria during each annual assessment cycle and facilities are added or removed to the list, based upon those results. As per the MS4 permit, the City may continue to refine this “higher risk” facility prioritization system. Appendix F includes identification of “higher risk” facilities under this new prioritization method.

9.2.4 Municipal Facility Inspections/Facility Assessments

The City conducts an EFA at City-owned and operated facilities in accordance with the City’s MS4 permit. OEP conducts EFAs on 20% of the facilities in the MFI each year, which may include follow-up inspections. The higher risk criteria laid out in Section 9.2.3 (Municipal Facilities) is used to identify facilities for more frequent EFAs. EFA findings must be corrected within 90 days or an implementation schedule must be in place. Findings not corrected within 60 days are referred to the Environmental Program Coordinator for elevation and enforcement.

Identification of the potential pollutants at each municipal facility was necessary in order to select appropriate candidate BMPs to reduce pollutants in stormwater runoff to the MEP. The use of appropriate BMPs is assessed during each EFA for activities addressed in the HMMP, such as: spill response procedures, hazardous materials/waste container management, building and parking lot washing, solid waste/litter control, scrap metal storage, pesticides and fertilizer use, used oil and universal waste protocols, etc.

Table 9-1 identifies activities of concern that may be associated with activities conducted at or based from the City’s municipal facilities. Table 9-2 presents a matrix of pollutants of concern and the activities that may produce them.

Table 9-1: Municipal Facilities and Activities in the City of Phoenix Inventory

Type of Municipal Facility	Activities of Concern Conducted
Maintenance Yards and Hazardous Materials Storage Facilities	Loading, unloading, handling, and storage of significant materials including anti-freeze, asphalt, batteries, chemicals, concrete, diesel wastes, emulsions, fertilizer, fuel, green wastes, hazardous materials, new and used oil, paint products, pesticides, scrap metal, solvents, trash and debris
	Filling of aboveground and underground storage tanks (ASTs and USTs) with fuels
	Dispensing of fuels to vehicles, equipment, and portable fuel containers

Type of Municipal Facility	Activities of Concern Conducted
	Vehicle and equipment parking and storage
	Vehicle, equipment, and material washing and steam cleaning
	Leak and spill cleanup
	Landscape, garden, and general maintenance and cleaning
Fueling Stations	Filling of aboveground and underground storage tanks (ASTs and USTs) with fuels
Parks and Recreational Facilities, including Golf Courses and Landscape Areas	Landscape, garden, and general maintenance and cleaning
	Application of pesticides/herbicides
	Leak and spill cleanup
Warehouses	Loading, unloading, handling, and storage of materials
	Landscape, garden, and general maintenance and cleaning
Fire and Police Stations	Loading, unloading, handling, and storage of significant materials
	Vehicle and equipment maintenance
	Vehicle and equipment parking and storage
	Vehicle washing and steam cleaning
	Dispensing of fuels to vehicles, equipment, and portable fuel containers
	Leak and spill cleanup
	Landscape, garden and general maintenance and cleaning
Service Centers	Vehicle and equipment maintenance
	Vehicle and equipment parking and storage
	Vehicle and equipment washing and steam cleaning
	Loading, unloading, handling, and storage of significant materials.
	Filling of aboveground and underground storage tanks (ASTs and USTs) with fuels
	Dispensing of fuels to vehicles, equipment, and portable fuel containers
	Leak and spill cleanup
	Bulk material pile storage
Swimming Pools	Storage and use of chemicals, including chlorine
	Filter maintenance and backwashing
	Landscape, garden, and general maintenance and cleaning
Water Treatment Facilities	Loading, unloading, handling, and storage of materials
	Vehicle washing and steam cleaning
	Storage and use of chemicals, including chlorine
	Leak and spill cleanup
	Landscape, garden, and general maintenance and cleaning
Roads, streets, highways and parking facilities	Leak and spill cleanup
Flood control projects and devices, drainage facilities and associated maintenance activities	Striping, sawcutting, and sealing
	Leak and spill cleanup
Active or closed municipal/ sanitary landfills	Vegetation control
	Vehicle and equipment parking and storage
	Vehicle and equipment maintenance
POTWs and sanitary sewage collection facilities	Leak and spill cleanup
	Loading, unloading, handling and storage of materials
	Filling of ASTs and USTs with fuels
	Storage and use of chemicals, including chlorine
	Vehicle washing and steam cleaning
Sites for disposing and treating sewage sludge	Landscape, garden and general maintenance and cleanup
	Sewage sludge application

Type of Municipal Facility	Activities of Concern Conducted
Municipal airports	Leak and spill cleanup
	Filling of ASTs and USTs with fuels.
	Landscape, garden and general maintenance and cleaning
	Dispensing of fuels to vehicles, equipment, and portable fuel containers
	Vehicle and equipment parking and storage
Other landscaped areas	Landscape, garden and general maintenance and cleaning

Table 9-2: Potential Pollutants of Concern

Potential Pollutants	Material Loading, Unloading, Handling, or Storage	Filling of ASTs & USTs	Dispensing Fuel	Vehicle & Equipment Maintenance	Vehicle & Equipment Parking and Storage	Vehicle & Equipment Material Washing & Steam Cleaning	Leak & Spill Cleanup	Landscape, Garden, and General Maintenance & Cleaning
Asphalt	✓							
Chemicals/Acids/Bases	✓			✓	✓		✓	
Diesel Wastes	✓			✓			✓	
Fertilizer	✓						✓	
Fuel and Fuel Spills		✓	✓	✓			✓	
Hazardous Materials	✓			✓	✓		✓	✓
Herbicides	✓						✓	✓
New/Used Oil	✓			✓			✓	
Oil and Grease Spills	✓			✓	✓	✓	✓	
Paint Products	✓			✓			✓	✓
Pesticides/Herbicides	✓						✓	✓
Soil stockpiles	✓							✓
Solvents	✓			✓			✓	
Trash and Illegal Dumping	✓			✓	✓			✓
Parts Washer Water				✓	✓	✓		

9.3 INSPECTIONS AND MONITORING OF INDUSTRIAL FACILITIES

9.3.1 Inspection Procedures

The City has developed an inspection program for industrial facilities to identify compliance with local stormwater ordinances. Inspection procedures are documented in SOP 6003. When conducting facility/business inspections, at a minimum, the following are reviewed:

- Investigate any sources of non-stormwater discharges to the storm drain system
- Determine the corrective actions or BMPs needed to contain or halt the discharge
- Initiate the corrective actions, if needed

- Determine if the property has an AZPDES Stormwater permit, Notice of Intent (NOI), No Discharge Certification, or No Exposure Certification
- Document any information needed for follow-up compliance or enforcement actions
- Verify that the facility is operating under its SWMP or Stormwater Pollution Prevention Plan (SWPPP) and recommended BMPs in accordance with Chapter 32C, the City's Stormwater Quality Ordinance.

Inspection findings are documented in the SWM database.

The City values its relationship with the industrial community and uses the inspection program as an opportunity to provide guidance and information on stormwater protection. Communicating and verifying the implementation of appropriate BMPs are an important part of the inspection process.

Re-inspection of Industrial Facilities

SWM inspects approximately twenty percent of the stormwater facility inventory every year, including follow-up inspections. The SWM Section has established a goal of re-inspecting industrial facilities every three to seven years. The SWM database automatically generates a new inspection task, depending on the priority; high-risk facilities are scheduled for inspection every three years, normal priority facilities are scheduled every five years, and low-risk facilities (e.g., low potential to pollute stormwater) are inspected every seven years (*note that at the time of publication, SWM is working with the database vendor to fully implement this process*). In addition, the Chief Water Quality Inspector may select a facility for an accelerated re-inspection based on compliance history or concerns.

Minimum BMPs for Industrial Facilities

Minimum BMPs for industrial and commercial facilities within the City's jurisdiction have been identified to reduce the discharge of pollutants to the MEP. Minimum BMPs for facilities storing hazardous materials or hazardous waste include:

- Hazardous waste/materials storage areas are clean and protected from rainfall and runoff
- Trash bin areas are clean, lids are closed, and there are no signs of leakage from the trash bins
- Aboveground tanks have been properly maintained including no signs of leakage, and secondary containment is in good condition
- Onsite storm drain inlets are protected from inappropriate non-stormwater discharges
- Oil/water separators are covered or indoors and connected to sanitary sewer
- Wash water from wash pads and/or mop buckets is directed through a control device to the sanitary sewer and does not discharge to the MS4
- Parking lot areas are free of trash, debris, and fluids other than water
- Facility has coverage under the MSGP, if appropriate.

Restaurants are expected to implement the minimum BMPs below:

- Oil and grease wastes are not discharged onto a parking lot, street or adjacent catch basin
- Trash bin areas are clean, lids are closed, and there are no signs of leakage
- Floor mats, filters and garbage containers are not washed in adjacent parking lots, alleys, sidewalks, or streets and no wash water is discharged to MS4
- Parking lot areas are cleaned by sweeping, not by hosing down, and the facility operator uses dry methods for spill cleanup.

City inspectors notify the industrial and commercial facilities of these minimum BMPs, as applicable.

9.3.2 AZPDES Non-Filers

Inspectors make note of facilities that may be subject to the MSGP, but cannot provide documentation of coverage (e.g., lack an NOI and/or SWPPP). A report of these “non-filer” facilities is submitted to ADEQ monthly. The City does not determine compliance or non-compliance with AZPDES, but rather forwards information to the Agency, as required under the MS4 permit.

9.3.3 Enforcement

If during a routine inspection or an inspection in response to a complaint, an inspector observes that a business/facility is non-compliant with the City’s stormwater ordinance (including the prohibition of non-exempt non-stormwater discharges or minimum BMPs) the City will initiate enforcement procedures. As described in Section 3.3.2 and Appendix E (Enforcement Response Plan), the severity of the violation is based on various factors. After considering the various factors, the City will determine the level of enforcement that is required. Enforcement may include the following informal and formal actions:

- Verbal Warning
- Inspection Report with Requirements
- NOV
- Field NOV
- Show Cause Proceeding
- Civil Citation.

Enforcement is escalated as necessary to bring the facility into compliance.

9.4 OTHER MEASURES TO CONTROL POLLUTANTS FROM LANDFILLS, TRANSFER STATIONS, AND INDUSTRIAL FACILITIES

The City has obtained MSGP coverage for an operating landfill (SR85), two transfer stations (North Gateway and 27th Avenue), three airports (Deer Valley, Goodyear, Sky Harbor), and three wastewater treatment facilities (Cave Creek Water Reclamation Plant, 91st Avenue WWTP, and 23rd Avenue WWTP). A closed landfill (Skunk Creek) has a No Exposure Certificate (NEC). The list of facilities is identified in Appendix G.

Each of these locations (with the exception of those with an NEC) are required to have a SWPPP that include identification of the potential sources of pollution and the proper measures or BMPs that will reduce or eliminate pollutant loadings in stormwater discharges. Example BMPs in the SWPPPs include:

- Good Housekeeping
- Preventive Maintenance
- Visual Inspections
- Training
- Spill Prevention and Response
- Sediment and Erosion Control
- Management of Runoff

10.0 CONSTRUCTION SITES

10.1 MEASURES TO CONTROL POLLUTANTS FROM CONSTRUCTION SITES

One of the purposes of the City's construction site plan review and permitting program is to ensure that pollutant loads from development projects have been reduced to the MEP. The development approval and permitting processes promote project-specific requirements in the form of conditions of approval, design specifications, tracking, inspection, and enforcement actions. These elements ensure features are planned, designed and evaluated in accordance with the City's mandate to protect stormwater runoff quality.

10.2 CONSTRUCTION SITE PLANS

PDD oversees plan review for private construction projects and most municipal construction projects that occur in the City's MS4 jurisdiction. Some municipal projects, such as those in the right-of-way, are not required to submit plans to PDD for approval. In these cases, the department managing the project, usually Aviation, WSD or STR, reviews the construction site plans. A municipal Stormwater Plan Review Checklist was recently created under the 2021 permit revision to document the review and provide consistency.

10.2.1 Maintaining a Construction Project Inventory

PDD maintains an inventory database (or databases) of construction sites 1-acre or larger for which they have issued a building or grading permit. The database is updated with new projects when the project is issued a building or grading permit or when the pre-construction meeting has occurred. Projects may be removed from the database when construction is completed, final stabilization is achieved, the project's building or grading permit is closed, and the applicable retention period has elapsed. OEP maintains a municipal construction project inventory of City projects that are not required to submit plans to PDD for approval. Aviation, STR and WSD projects are added to this inventory when notification of a new project is received, including via the Stormwater Plan Review Checklist.

10.2.2 MS4 Plan Review of Construction Sites

PDD requires submittal of a project-specific SWMP in a standardized format when plans for a construction project are submitted for review. A SWPPP may be submitted in lieu of a SWMP.

Development projects are required to incorporate site design, source control, and/or treatment control BMPs that comply with the City's Grading and Drainage Ordinance (Chapter 32A). PDD considers site design BMPs and source control BMPs, as applicable, to be included in project plans. The grading and drainage plan submittal must include a SWMP. The plan must include provisions for retaining stormwater onsite, unless exempted in the ordinance. Section 32A-24 outlines the design standards for onsite retention of stormwater. PDD reviews grading and drainage plans submitted for a project and issues a grading permit once the submittal is determined to satisfy all requirements. (A permit can be denied if the Director of PDD determines that the proposed activities would cause a violation of the AZPDES Program.) The grading permit requires that adequate erosion control, anti-erosion/drainage devices, debris basins, or other safety devices be installed and maintained during construction.

The plan must demonstrate that it incorporates the on-site retention of stormwater for a 100-year, 2-hour storm event in all areas of Phoenix except those exempted by law or excluded under the technical appeals process.

For municipal projects that are not required to submit plans to PDD for approval, the department managing the project (usually Aviation, WSD or STR) completes the municipal Stormwater Plan Review Checklist for projects that are => 1 acre, or < 1 acre but part of a larger common plan of development. These checklists are submitted to OEP for inclusion in the municipal construction project inventory.

10.2.3 Plan Approval (or Permits)

PDD administers the approval and permit process established for grading, drainage and floodplain management. Permit requirements for stormwater facilities include:

- 1) Drainage Facilities Permit
- 2) Grading and Draining Permit
- 3) SWMP Permit

PDD has reviewed and revised their standard conditions of approval to ensure that the standard conditions are not in conflict with any provisions of the MS4 Permit, the SWMP, the Construction General Permit or the Industrial General Permit. To minimize the short-term and long-term impacts of stormwater runoff on receiving water quality from development projects, PDD has reviewed and will revise, or supplement their standard conditions of approval or building/grading permit conditions that may be used for projects to include the following conditions or the equivalent, as appropriate:

- Prior to the issuance of any grading or building permits for projects that will result in soil disturbance of more than one acre of land (or smaller projects that are part of a larger plan of development), the applicant shall demonstrate that coverage has been obtained under the AZPDES General Permit for Stormwater Discharges Associated with Construction Activity by providing a copy of the Notice of Intent (NOI) submitted to the ADEQ, including the AZCON Authorization Number. Note that an Erosivity Waiver or No Discharge Certification may be accepted in lieu of an NOI.
- Projects that must comply with AZPDES shall prepare and implement a SWPPP. A copy of the current SWPPP shall be kept at the project site and be available for review upon request. The SWPPP is a free-standing document, not a page on the construction plans, as required by both EPA and ADEQ.
- Prior to grading or building permit close-out and/or the issuance of a certificate of use or a certificate of occupancy, the applicant shall demonstrate that all BMPs have been constructed, installed, and implemented in conformance with approved plans and specifications.

10.3 CONSTRUCTION BEST MANAGEMENT PRACTICES

Sediment is the most common pollutant from construction activities. Soil can clog inlets and pipes, causing flooding, or increase turbidity or impede flow of streams. Construction site operators must design, install,

and maintain effective erosion and sediment controls to minimize the discharge of pollutants to the MS4 in compliance with the municipal stormwater ordinance. Operators must also implement BMPs to protect against other pollutants present at the job site, including chemicals and construction waste.

Common construction site BMPs include, but are not limited to:

- Protecting inlets to dry wells and storm drains from soil and chemicals
- Stabilizing construction entrances and exits to reduce track out
- Installing perimeter protection, such as silt fencing, straw wattles, or filter socks
- Stabilizing inactive soil or sand piles with BMPs such as a tarp or perimeter controls
- Conducting concrete wash-out in designated locations
- Properly storing chemicals (e.g., secondary containment, covered, etc.)
- Minimizing the area disturbed and the time-period of disturbance
- Preserve vegetation when possible and stabilize disturbed areas.

These BMPs must be properly maintained so that they continue to operate effectively. Damaged or ineffective BMPs must be repaired or replaced.

10.4 SITE INSPECTIONS AND ENFORCEMENT

10.4.1 Inspection Priorities

Construction projects are inspected at least once for compliance with MS4 requirements. Effective July 1, 2022, construction projects greater than one acre are inspected every three to six months, depending on the priority. The following high priority projects will be inspected every three months:

- a) Projects that disturb more than five (5) acres, **and**
- b) Are within ¼ mile of a PSW, **and**
- c) Have a direct discharge path to a PSW.

Projects that do not meet these criteria will be inspected every six months, however, departments may opt to inspect more frequently.

10.4.2 Inspection Procedures

The following items are addressed during construction site inspections:

- For projects of one acre or more, verify that an approved SWPPP/SWMP and Permit are available, where applicable.

- Confirm compliance with the City’s stormwater ordinance, including review of the BMP site map.

After notification from the developer that work is to begin, a pre-construction meeting is scheduled. It is verified by PDD inspection staff, that the developer has obtained grading and stormwater permits prior to holding the pre-construction meeting. At the meeting, the developer is notified of stormwater requirements, and the site-specific stormwater plan should be available at the meeting to discuss. A construction entrance and placement of BMPs is the first order of business. Once installed, stormwater inspections can occur in part on any inspection of the site. They generally include, but are not limited to:

- Track out measures
- Tire wash racks
- Silt fencing
- Straw bales
- Straw wattles
- Perimeter controls
- Chemical storage
- Portable toilets
- Concrete wash-out.

BMPs are to be installed per plan and maintained in place during the construction period. During periods of rain, inspections include observing drainage at project sites. Other observations of BMPs are incidental to other inspections occurring at the construction site at the same time.

For those municipal construction projects which do not require a Grading and Drainage permit from PDD, such as right-of-way projects, the department plan review staff schedules pre-construction meetings with the contractor. Construction site stormwater inspections for these projects are conducted by OEP staff or by properly trained departmental staff. For example, WSD conducts inspections for WSD projects that aren’t subject to PDD Plan Review. These inspections address the same requirements as discussed above.

10.4.3 Inspection Records

PDD documents construction site inspection information in the inspection database. Based on the inspection findings, PDD implements follow-up inspections as necessary to verify compliance with the requirements of the City’s MS4 Permit.

For projects which do not require a grading and drainage and stormwater permit from PDD, such as projects in the right-of-way, OEP documents and maintains construction site inspection information in its database. WSD tracks and schedules all construction inspections for WSD project and maintains WSD inspection reports and findings.

10.4.4 Enforcement Processes and Actions

If determined during a routine inspection or an inspection in response to a complaint that a site/project is non-compliant with the City’s stormwater or erosion control ordinance, PDD begins enforcement procedures. Upon observing a deficiency of any installed BMP, or noting a missing BMP, inspection staff will follow a procedure of progressive actions to assure compliance by the developer. The actions are as follows:

- 1) The inspector will verbally notify the superintendent of the job (owner's representative) of the observed deficiency and ask for corrective action, usually by the end of the day.
- 2) The inspector will issue a written notification stating that the verbal notification was not acted on and issuing a specific schedule for the completion of the corrective action.
- 3) A 2nd written notice is issued stating that all civil inspections will cease on the project until corrections are completed and requiring a meeting between the project owner and the inspector's supervisor to discuss the breakdown in communication before inspections may resume.
- 4) All inspections are held on the project – no forward progress can be approved.

As an additional measure, a re-inspection fee is charged to a project for failing any directive after a second inspection. Corrections of findings for municipal projects are referred to the Project Manager. The City department supervisor, such as the OEP Environmental Program Coordinator may need to escalate to the department management if findings are not resolved in a timely manner. For municipal projects, the Project Manager may withhold payment until the issue is corrected.

For private projects, failure to develop specific BMPs or to implement the BMPs located in the SWPPP or SWMP may subject the PDD Permittee(s) to fines of up to \$2,500 per day per violation.

10.4.5 Project Closeout

The end of the construction phase is typically accompanied by the close out of permits and issuance of certificates of use and/or occupancy. PDD uses this milestone to assure satisfactory completion of all conditions of approval for development projects.

BMPs for development projects cannot be considered effective unless a mechanism is in place to provide for long-term reliability, which is achieved through proper implementation, operation, and maintenance. Therefore, once construction of a project is complete, the owner is responsible for the long-term implementation, operation and maintenance of BMPs, and most particularly for treatment control BMPs.

The responsibility for implementation, operation, and maintenance of BMPs is with the owner. The responsibility to provide for the long-term implementation, operation, and maintenance of BMPs associated with Development Projects may:

- Remain with a private entity (property owner, homeowner's association, etc.); or
- Be transferred to a public entity (e.g., a city, county, special district, etc.) through dedication of the property; or
- Be transferred to a public entity, or another private party through a contract.

Following satisfactory inspection, PDD may accept structural BMPs within public right-of-ways and may accept structural BMPs on land dedicated to public ownership. Upon acceptance, responsibility for operation and maintenance will transfer from the developer or contractor to the appropriate entity, including the conditions of approval or building/grading permit conditions.

10.4.6 AZPDES Non-Filers

In conducting an inspection, if it appears that the project may be required to have coverage under the Construction General Permit and the operator indicated that a SWPPP is not onsite, the inspector provides the operator with information on the requirements of the AZPDES Permit and notes the operator name and location for inclusion on a non-filer notification report to ADEQ. These reports are submitted monthly. Projects with an Erosivity Waiver or No Discharge Certification will not be considered non-filers.

11.0 POST-CONSTRUCTION CONTROLS

The City has a program to control the quantity and quality of stormwater discharges from areas of new development and redevelopment projects one acre or greater. Post-construction requirements are included in the latest edition of the *City of Phoenix Storm Water Policies and Standards Manual* (<https://www.phoenix.gov/streets/reference-material/sw-manual>). Grading and drainage requirements are included in Phoenix City Code Chapter 32A (<https://phoenix.municipal.codes/CC/32A>).

11.1 DESIGN AND MAINTENANCE STANDARDS APPLICABLE TO POST-CONSTRUCTION

The analysis and design of stormwater retention facilities for new developments must include provisions to retain the stormwater runoff from a 100-year, 2-hour duration storm occurring within the property boundaries. (The appropriate reference for this information is the Maricopa County Flood Control District Hydrology Manual for stormwater volume.) Waivers may be granted for properties one-half acre or smaller that can demonstrate that no critical drainage problem will be created by the additional runoff from the proposed development and in cases where a detention facility is allowed and post-development peak discharges do not exceed pre-development peak discharges for 2, 10, and 100-year storm events. In addition, first flush water quality criteria, (per EPA requirements,) must be met.

The design must result in a positive outfall to adjacent streets once the stormwater storage basins are filled. An additional 25% storm retention must be included when the storage basin does not outfall to a public right of way or public drainage easement. Additional design criteria are outlined in Section 6.8, Storm Water Storage, of *City of Phoenix Storm Water Policies and Standards*.

Stormwater storage requirements may be waived in cases for in-fill areas or re-development parcels, or where post-development peak discharges are less than pre-development conditions. This later exception will only be allowed after City acceptance of comprehensive hydrologic analysis undertaken in conformance with the Flood Control District of Maricopa County Hydrology Manual. NPDES/AZPDES requirements must be met regardless of stormwater storage provisions.

Basins must incorporate native materials (including native stone and boulders) and be revegetated in such a manner consistent with the engineering intent of the facility and conducive to maintenance activities.

Direct connections from private property retention or stormwater treatment devices are strongly discouraged.

11.2 LOW IMPACT DEVELOPMENT (LID) PRACTICES

All new capital improvement projects must be built to LEED Certified standards, which include stormwater quantity and quality control strategies. Control mechanisms such as pervious paving materials, vegetated swales, and retention basins may be utilized.

Effective July 1, 2011, the City has adopted a voluntary construction code that incorporates sustainable design and construction standards. The Phoenix Green Construction Code is available on the City's web page (<https://www.phoenix.gov/pddsites/Pages/buildingcodeindex.aspx>). The 'whole project' approach

encourages LID through natural resource conservation and environmentally responsible land use and development.

The City's Infrastructure Strategic Plan includes strategies aimed at providing safe, clean, efficient, sustainable, multi-modal surface transportation systems to support the needs of present and future residents. The strategies that relate to LID include designing and constructing facilities using sustainable design standards and planning, designing, and developing a green infrastructure that incorporates preserves and restores habitats.

The Phoenix City Council adopted the Complete Streets policy on June 28, 2017, and the Complete Streets Design guidelines were adopted by Phoenix City Council on March 8, 2018. The Design Guidelines include a chapter providing guidance and information on use of green infrastructure and low-impact development principles in the right of way for stormwater management. The guidance was primarily adopted from, with permission, Watershed Management Group's *Green Infrastructure for Southwestern Neighborhoods (2012)*. Other design principles in the guidelines include improvement of pedestrian and bicycle safety and access and incorporation of street amenities like street furniture and shade accommodation.

In alignment with the Complete Streets Policy and Design Guidelines, standard details for common GI/LID features are being incorporated into the update of the overarching Street Transportation Department Design Manual.

The Phoenix General Plan is the long-range guide for the City, and addresses issues such as energy, housing, neighborhoods, public facilities, natural resources, transportation and land use. The General Plan includes a detailed section on stormwater including: Land Use and Design Principles; Policy Documents and Maps, and Tools: Policies and Actions. This section encourages the use of green infrastructure or other post-construction methods for "capturing and using stormwater and urban runoff for beneficial purposes." PDD leads inter-departmental discussions every year to update the listed "policies and actions" that may be needed due to a completed action or new policy.

The city's Walkable Urban (WU) Code was adopted in July 2015. The WU Code, which was developed as part of the light-rail corridor revitalization initiative, Reinvent Phoenix, encourages the use of LID and green-infrastructure practices to meet the newly developed landscape standards within the Code. Overall, the new WU Code encourages walkability, use of mass transit, and supports additional livability principles through the incorporation of trees, shade, and other natural systems.

11.3 PLAN REVIEW

Plan review staff follow a checklist to ensure thorough and consistent review of important information. When staff review site plans, they verify that the site retention volume is adequate to prevent runoff for the required storm event. If inspectors find that the plans are not being followed, they may stop work on the project. If the problem continues, court-ordered injunctions may be sought or civil penalties assessed.

Chapter 32A, the City's Grading and Drainage Ordinance, establishes minimum requirements for regulating grading and drainage and establishes implementation and enforcement procedures. Grading and Drainage Permits are issued to applicants who fulfill the application requirements, including the submittal of a stormwater management plan when applicable.

Staff from PDD hold pre-construction meetings with private developers to discuss many issues, including the need to minimize the total volume of runoff, the peak rate of runoff from roof drains, on-site retention of stormwater, controlling erosion, and post-construction controls.

An overview of the PDD process for stormwater related submittals is provided below:

- The customer submits grading/drainage and stormwater plans for review
- PDD provides red lines on plans
- The customer addresses the red lines
- Plans are approved for construction by PDD
- The customer applies for required permits
- Permits are created by PDD, including Civil Grading & Drainage and Civil Stormwater
- PDD office staff checks to verify that an NOI has been submitted and an AZPDES Construction General Permit number has been received before the customer can purchase permits (Note: An Erosivity Waiver or No Discharge Certification is also acceptable.)
- The customer schedules a Pre-Construction Meeting prior to beginning work
- BMPs are implemented by the customer prior to the start of construction
- Inspector verifies that track out and BMPs are properly maintained during each inspection
- The customer submits a NOT (Notice of Termination) when the project is completed
- Warranty inspection is performed by PDD, one-year after completion.

11.4 INVENTORY

The City maintains an inventory of post-construction controls constructed under the 2021 MS4 Permit (effective July 1, 2021). PDD collects information from private development and municipal projects that are reviewed by PDD, and OEP collects information regarding municipal projects that are not reviewed by PDD (i.e., don't require a grading and drainage permit). The post-construction program is in development, and the department which will ultimately retain the inventory is subject to change.

11.5 INSPECTION PROGRAM

A post-construction or one-year warranty inspection is conducted on each construction project for which permits were issued. This inspection provides an opportunity to identify corrective action to be implemented by the developer or responsible sub-contractor for a variety of items, including stormwater and grading and drainage controls.

PDD, WSD, and OEP currently conduct the first post-construction inspection for private and municipal projects, respectively. However, a long-term inspection program for post-construction controls is in development, and roles and responsibilities may change.

11.6 ENFORCEMENT STRATEGY/ACTIONS

City Code Chapter 32C mandates that post-construction controls be properly maintained. The post-construction program is in development, and further specifics about enforcement strategy will be included in the next SWMP revision.

12.0 STORMWATER TRAINING PROGRAM

The City has a training program to address the training requirements outlined in the MS4 Permit. A copy of the training plan is included in Appendix H.

Knowledge of the applicable requirements and the overall stormwater program helps personnel with program responsibilities recognize potential violations, respond appropriately, and effectively coordinate with other agencies. The Human Resources (HR) Department maintains electronic records of formal training attended by employees (tracked in the City's HR information system, called eCHRIS) which is used to provide a summary of training activities in the Annual Report. Some departments, such as STR and the Fire Department, do not use eCHRIS and track training using their department procedures.

The SWMP training program targets two categories of employees: training for municipal employees without direct stormwater responsibilities and training for municipal employees with direct stormwater program responsibilities. Examples of employees with direct responsibilities include municipal facility inspectors, industrial facility inspectors, plan reviewers, and construction project inspectors.

Stormwater training is accomplished through training offered by multiple departments and is coordinated by OEP Program. Training frequencies and brief descriptions of the subject matter covered in training courses are presented in Appendix H.

12.1 FIELD STAFF TRAINING

Select field staff with no direct stormwater responsibilities receive awareness training. Awareness training includes information on the City's MS4 Permit, harmful and prohibited practices like hazardous materials spills and illegal dumping, and reporting procedures. Training on spill prevention and response provides specific practices to minimize spills and discharges to the storm drain system. Hazardous materials handling training discusses proper handling, storage, and disposal of used oil and other toxic and hazardous materials and wastes to prevent spills, exposure to rainfall, and contamination of stormwater runoff.

12.2 MUNICIPAL EMPLOYEES WITH SPECIFIC JOB RESPONSIBILITIES

City employees who perform any of the following tasks receive training to minimize stormwater pollution:

- Street repair and road improvement
- Material handling and spill management
- Handling, storage, and disposal of used oil and other toxic and hazardous materials
- Water and sanitary sewer system maintenance and repair
- Municipal stormwater inspections.

The Citywide Stormwater Training Plan lists the AZPDES MS4 Permit section, responsibility, and training requirement, the objectives of the course, course number, and the specific staff by department, job function/job description and/or job title to receive training.

12.3 INSPECTOR AND STORMWATER FIELD STAFF TRAINING

Illicit Discharge Detection and Elimination

Inspectors and other stormwater field staff are educated and updated on detecting, investigating, and identifying illicit discharges, de minimis discharges, and other sources of non-stormwater discharges (i.e., field screening, sampling methods, and field measurements). On-the-job training includes a requirement to complete a series of tasks and then demonstrate proficiency. Requirements include: computer proficiency in a variety of programs, familiarity with 40 CFR 122 and City Code Chapter 32C, policies and procedures, field training on outfall inspection/sampling and field training on IDDE complaint investigations.

Municipal Stormwater Inspectors

Environmental Quality Specialists and Environmental Program Coordinators are trained in stormwater management practices and pollution prevention planning. This training includes information on Phoenix City Code Chapter 32C and may include other stormwater discharge regulations and permit requirements.

Industrial Site Inspectors

These inspectors in WSD are educated and updated on stormwater management practices and BMPs for facilities subject to inspection. Information on requirements for stormwater discharges associated with industrial activity and common BMPs is provided. In addition, on-the-job training must be completed on industrial/commercial inspections, and each new SWM inspector must demonstrate proficiency.

Construction Project Plan Reviewers and Inspectors

PDD plan reviewers and inspectors for PDD receive on the job training to develop skills and knowledge in areas, such as:

- Grading and drainage design standards
- Review procedures
- Municipal ordinances related to stormwater and construction
- Requirements for structural and non-structural management practices on construction sites such as erosion and sediment controls
- Post-construction stormwater controls
- Construction BMP maintenance requirements
- Inspection procedures
- Enforcement procedures.

PDD may use DVDs to present training information on stormwater protection to new staff members. In addition, employees receive on-the-job training, using a detailed training manual and mentoring from experienced PDD staff.

City staff responsible for conducting development planning may also attend outside training sponsored by industry associations (e.g., Building Industry Association, American Society of Civil Engineers, etc.), the ADEQ, or training sponsored by other entities when funding is available.

Other department (Aviation, WSD, STR) City Plan Reviewers receive training on the Stormwater Plan Review Checklist and MS4 permit plan review requirements.

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13.0 WET WEATHER MONITORING PROGRAM

13.1 OVERVIEW OF THE PROGRAM FOR WATER QUALITY MONITORING

The City has five major outfall locations in the wet weather monitoring program. The monitoring sites and rain gauge locations are depicted on the Stormwater Management Program Maps and included in Appendix C. The outfall locations were selected to best characterize stormwater discharges from the system.

The United States Geologic Survey (USGS) conducted the outfall monitoring under an intergovernmental agreement (IGA) with the City until April 2021. The IGA was terminated and the SWM Section now collects the wet weather samples and maintains the sampling equipment. Samples are taken to the ESD Compliance Laboratory for analysis.

13.2 QUALIFYING STORM EVENT

A qualifying storm event is rainfall in the amount of 0.1 inches or more. Stormwater samples are collected from discharges resulting from storm events that produce 0.1 inches or more of rainfall and resulting in a discharge. Samples must be collected from qualifying storm events that are at least 72 hours (3 calendar days) after a previous qualifying storm event. For each qualifying storm event, a record is kept including:

- Date of the event
- Amount of rainfall during the event at each stormwater monitoring location, and
- A notation of whether samples were collected or not, and a reason that samples were not collected, when applicable.

The summer wet season is defined as the period between June 1 and October 31, and the winter wet season is the period between November 1 and May 31. Samples must be collected during the first representative storm event that occurs in each wet season, and for subsequent representative storm events so that samples are collected once for each of the five outfalls during each wet season.

The parameters for which stormwater samples must be analyzed are listed in Tables 1 and 2 (year 4 only) of the MS4 Permit.

13.3 WATER QUALITY ASSESSMENT

Precipitation and water quality data are maintained by the City. Quality control procedures, including data analysis and reporting procedures, are implemented to ensure the integrity of the data. Other software may be used as needed to analyze the data and create reports. The Stormwater Working Group (SWMP Team) meets at least annually to review and assess available water quality data, assess overall program effectiveness, and review and update the SWMP as necessary.

The City's MS4 does not discharge to any impaired waters listed on Arizona's 303(d) List or not-attaining waters listed in the 305(b) Assessment Report, which was current at the time the MS4 Permit was issued in December 2020 (effective July 1, 2021). Nor does the MS4 discharge to an Outstanding Arizona Water. The MS4 Permit may be reopened if these conditions change.

If the 303(d) list is updated to include a surface water that receives discharge from the MS4, the City will evaluate control measures and implement BMPs as warranted to reduce the discharge of any listed parameter(s) to the maximum extent practicable. The SWMP will be revised to include a section on BMPs to control discharges and monitor their effectiveness. In addition, the 303(d) listed parameter(s) will be included in the wet-weather monitoring at a representative outfall.

Persistent Exceedances of Water Quality Standards

If the City determines an exceedance of water quality standards due to stormwater runoff discharges persists, notwithstanding the implementation of the SWMP and other conditions of the MS4 Permit, the City tries to identify potential sources of the pollutant(s), evaluate the effectiveness of existing BMPs, and implement additional BMPs to improve stormwater quality.

WSD attempts to identify potential sources of the pollutant(s) of concern through research and inspections. Research includes the identification of industry types that are known to use the pollutant(s), potential non-industrial sources of the pollutant(s), review of industries in the targeted catchment area(s), and visual reconnaissance of the targeted catchment area(s).

WSD evaluates existing BMPs that may affect the pollutant(s) of concern and determines if revisions are warranted or if new BMPs are recommended. Input may be needed from other departments, including STR, PWD, or PDD, depending on the nature of the pollutant(s), the identified source(s), and the applicable BMPs.

The City reports information on exceedances to ADEQ in the Annual Report.

If a recurring, consecutive exceedance of a SWQS exists at an outfall, and the exceedances are not a routine or ubiquitous stormwater pollutant (e.g., e. coli, dissolved copper, lead), the City will submit an Action Plan to ADEQ within 60 calendar days of becoming aware of the exceedance.

13.4 DISCHARGE MONITORING REPORTS

When available, wet-weather data is submitted to ADEQ electronically in a Discharge Monitoring Report (DMR) via the myDEQ portal. The DMRs are submitted within 30 days of receipt of all lab reports for all methods at each outfall. The reports must include:

- Discharge Monitoring Reports
- Copies of laboratory reports
- Bench sheets or similar documentation for field testing parameters.

Until the myDEQ portal is functioning, wet-weather data is submitted to ADEQ via email using Excel spreadsheet templates provided by the agency.

14.0 PROGRAM EVALUATION, REPORTING AND REVISION

14.1 ANNUAL REPORTING

Each year the City prepares an Annual Report summarizing the implementation of the programs described in the SWMP for submittal to the ADEQ. To support preparation of the Annual Report, the City departments with program responsibilities submit data in support of program compliance activities. The Annual Report must be submitted by September 30 of each year on a form provided by ADEQ and must include the information provided in Appendix A of the Permit. When available, the Annual Report must be submitted to ADEQ electronically via myDEQ.

14.2 PROGRAM EVALUATION

The City will regularly assess the component programs of the SWMP to identify improvements that promote the reduction of pollutants in stormwater runoff to the MEP while also supporting the responsible management and allocation of the public resources available to implement the SWMP.

The short-term strategy for assessing the effectiveness of the SWMP focuses on quantitative, indirect methods (that is, not directly based on the quality of stormwater runoff or receiving water quality) of assessment. The City may track the following data that are believed to have an influence on stormwater runoff and receiving water quality:

- The estimated quantity of material collected under litter removal and street sweeping programs
- The total number of construction sites inspections for stormwater compliance
- The total number of industrial and commercial facility inspections for stormwater compliance
- The number of City staff receiving training for activities related to SWMP implementation
- The number of stormwater complaints and illicit discharges investigated
- Public involvement opportunities
- Public education and outreach events.

In addition to assessing the effectiveness of the various program elements, the City evaluates the effectiveness of the overall stormwater management program. The legal authority and program management elements of the City program is considered in this assessment to determine if changes are needed to comply with AZPDES requirements. Major accomplishments and recommended changes to be implemented in the subsequent year to improve the effectiveness of the program are discussed in the evaluation.

The long-term strategy for assessing the effectiveness of the SWMP may focus on water quality data obtained as part of the stormwater monitoring program. There is inherent variability in stormwater runoff so reviewing several years of monitoring data is necessary to identify statistically significant trends and formulate conclusions. Additionally, because there are numerous program elements being implemented concurrently and because other environmental regulations indirectly impact stormwater runoff, the ability

to identify cause-and-effect relationships between a specific program element and/or BMP and improvement in the quality of stormwater runoff is complicated, if not infeasible.

The effectiveness of the public education and outreach program is measured using the following tools:

- **Public Surveys** – The City uses surveys to help assess the effectiveness of public education and outreach activities. Past survey results indicate that citizen awareness of stormwater protection has remained at approximately the same level. The City may seek to develop more targeted surveys to determine awareness levels of specific target groups.
- **Employee Feedback** – The City may modify the public education program based on employee feedback or knowledge of stormwater quality issues affecting a specific drainage area.

14.3 SWMP REVISIONS

As part of the annual review process, the Stormwater Working Group (SWMP Team) reviews the SWMP to identify the need, if any, for revisions. Additionally, the SWMP will be revised under the following conditions:

- If new BMPs or modifications to existing BMPs are determined to be necessary
- To address impacts on water quality caused, or contributed to by discharges from the MS4
- To include more stringent requirements necessary to comply with new State or Federal statutory or regulatory requirements
- To incorporate specific BMPs to address a recurring, consecutive exceedance of a non-routine stormwater pollutant
- To incorporate specific TMDL requirements and programs into the SWMP in the event that TMDLs are established during the permit term
- To incorporate requirements that would become applicable in the event that a receiving water in the MS4 is classified as an Outstanding Arizona Water.

The SWMP is submitted to ADEQ with the Annual Report each September.


APPENDIX A

CERTIFICATION STATEMENT

SWMP – APPENDIX A
CERTIFICATION

The SWMP must be signed and certified by either a principal executive officer or ranking elected official; or by a “duly authorized representative” of that person in accordance with Section 7.2 of the permit.

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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering 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.

	<p>Digitally signed by Jim Swanson Date: 2022.02.07 20:20:40 -07'00'</p>	<p>2/7/22</p>
<hr/>		
<p>James Swanson Assistant Water Services Director</p>		<p>Date</p>

Concurrences

<p>Alan Stephenson</p>	<p>Digitally signed by Alan Stephenson Date: 2022.02.03 09:55:10 -07'00'</p>	<p>2/3/22</p>
<hr/>		
<p>Alan Stephenson Planning & Development Director</p>		<p>Date</p>

<p>Kini Knudson</p>	<p>Digitally signed by Kini Knudson Date: 2022.01.28 12:55:40 -07'00'</p>	<p>1/28/22</p>
<hr/>		
<p>Kini Knudson Street Transportation Director</p>		<p>Date</p>

<p>Ray Dovalina Jr</p>	<p>Digitally signed by Ray Dovalina Jr Date: 2022.01.28 10:45:18 -07'00'</p>	<p>1/28 /2022</p>
<hr/>		
<p>Ray Dovalina Assistant Public Works Director</p>		<p>Date</p>

<p>Nancy Allen</p>	<p>Digitally signed by Nancy Allen Date: 2022.01.28 10:03:42 -07'00'</p>	<p>1/28 /2022</p>
<hr/>		
<p>Nancy Allen Environmental Programs Administrator</p>		<p>Date</p>

Signature:

Email: stephen.wetherell@phoenix.gov

APPENDIX B

STORMWATER RELATED ORDINANCES

CHAPTER 32A
GRADING AND DRAINAGE

Chapter 32A

GRADING AND DRAINAGE*

- Sec. 32A-1. Purpose.
- Sec. 32A-2. Scope.
- Sec. 32A-3. Enforcement.
- Sec. 32A-4. Minor variances.
- Sec. 32A-5. Appeals.
- Sec. 32A-6. Permits required and exceptions.
- Sec. 32A-7. Hazardous conditions.
- Sec. 32A-8. Definitions.
- Sec. 32A-9. Permit requirements.
- Sec. 32A-10. Permit limitations and conditions.
- Sec. 32A-11. Denial of permit.
- Sec. 32A-12. Grading permit fees and plan review fees.
- Sec. 32A-13. Necessity for completion of grading before occupation of building.
- Sec. 32A-14. Design standards for cuts.
- Sec. 32A-15. Design standards for fills.
- Sec. 32A-16. Design standards for setbacks.
- Sec. 32A-17. Design standards for drainage.
- Sec. 32A-18. Grading, inspections and supervision.
- Sec. 32A-19. Safety precautions.
- Sec. 32A-20. Responsibility of permittee.
- Sec. 32A-21. Modification of approved plan.
- Sec. 32A-22. Completion of work.
- Sec. 32A-23. Adoption of City of Phoenix Stormwater Policies and Standards Manual. *1
- Sec. 32A-24. Design standards for on-site retention of stormwater.
- Sec. 32A-25. Reserved.
- Sec. 32A-26. Hillside lots/mountain preserves.
- Sec. 32A-27. Violations and penalties.
- Sec. 32A-28. Jurisdiction of court.
- Sec. 32A-29. Commencement of civil action.
- Sec. 32A-30. Admission or denial of allegation; hearing; findings of court; civil sanction.

***Cross reference**—Development Advisory Board, § 2-164 et seq.; building regulations, ch. 9; subdivisions, ch. 32; development of hillside areas, § 32-32; floodplains, ch. 32B; stormwater quality protection, ch. 32C; Planning and Development Department fee schedule, app. A.2.

Sec. 32A-1. Purpose.

A. The purpose of this chapter is to safeguard life, limb, property, and public welfare by establishing minimum requirements for regulating grading and drainage and procedures by which these requirements may be enforced.

B. All grading shall be performed in accordance with the provisions of this chapter, but this chapter shall not be construed to prevent the enforcement of other laws which prescribe more restrictive limitations nor shall the provisions of this chapter be presumed to waive any limitations imposed by other statutes or ordinances.

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1)

Sec. 32A-2. Scope.

This chapter sets forth rules and regulations to control earthwork construction, including excavation embankments and drainage on property other than public street and alley right-of-way; establishes the administrative procedure for issuance of permits; and provides for approval of plans, specifications, and inspection of such construction.

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1)

Sec. 32A-3. Enforcement.

A. The official charged with the enforcement of this chapter is the Planning and Development Director. *1

B. It shall be unlawful to perform any work described in Section 32A-2 without obtaining a permit from the Planning and Development Director. Work described in Section 32A-2 that proceeds without the required permit shall be subject to the investigation and remediation fee set forth in Appendix A.2 of the City Code.

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 1; Ord. No. G-3313, § 1;

Ord. No. G-3346, § 5; Ord. No. G-3887, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-3

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-4. Minor variances.

The Planning and Development Director may grant a minor variance to this chapter's provisions and amendments relating thereto when there exists an unnecessary hardship substantially limiting the preservation and enjoyment of property rights and resulting from a literal interpretation of this chapter's provisions and amendments relating thereto. This minor variance shall not apply to the requirements imposed by the NPDES/AZPDES Program, nor be authorized unless it is found that:
*1

A. Special circumstances or conditions apply to this permit application; and

B. The minor variance is necessary for the preservation and enjoyment of substantial property rights; and *1

C. The minor variance will not be materially detrimental to the person residing or working in the vicinity, to adjacent property, to the neighborhood or to the public welfare in general; and *1

D. The minor variance will be in harmony with the purposes sought to be attained by this chapter's provisions and amendments relating thereto. *1

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-3887, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-4

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-5. Appeals.

Appeals from decisions of the Planning and Development Director in interpreting this chapter may be taken to the Development Advisory Board.

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 1; Ord. No. G-1569, § 1; Ord. No. G-3313, § 1; Ord. No. G-3887, § 1; Ord. No. G-4176, § 12, passed 5-19-1999, eff. 6-18-1999; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011)

Sec. 32A-6. Permits required and exceptions.

A. *Drainage.* No person shall obtain a building permit, required by the Phoenix Building Construction Code, for work in or over any natural watercourse, drainageway, canyon, ravine, arroyo or other potential flood hazard area without first having obtained a grading permit from the Planning and Development Director. All such work and activities authorized by the grading permit shall comply with this chapter and the City of Phoenix Stormwater Policies and Standards Manual. *1

B. *Flood hazard area.* No person shall obtain a building permit, required by the Phoenix Building Construction Code, in an area of special flood hazard without first obtaining a grading permit from the Planning and Development Director and its approval of by the Street Transportation Director. All such work and activities authorized by the grading permit shall comply with this chapter and the City of Phoenix Stormwater Policies and Standards Manual. *1

C. *Filling and excavating.* No person shall do any grading, filling or excavating without first having obtained a grading permit from the Planning and Development Director except for the following, only to the extent such grading, filling or excavating does not result in land disturbance over one acre: *1

1. An excavation which (a) is less than two feet in depth, or (b) which does not create a cut slope greater than five feet in height and steeper than one vertical to one and one-half horizontal.
2. A fill less than one foot in depth and placed on natural terrain with a slope flatter than one vertical to five horizontal and which does not exceed 100 cubic yards on any one site and does not obstruct a drainage course. *1
3. An excavation of 10,000 cubic yards or less or eight feet or less below finished grade for basements and footings of a building, retaining wall, or other structure authorized by a valid building permit. This shall not exempt any fill made with the material from such excavation nor exempt any excavation having an unsupported height greater than five feet after the completion of such structure.
4. Excavation or deposition of earth materials within a property which is dedicated or used, or to be used for cemetery purposes not obstructing a watercourse, except where such grading is within 100 feet of the property line or intended to support structures.
5. Mining, quarrying, excavating, processing, or stockpiling of rock, sand, gravel, aggregate, or clay where established and provided for by law; provided, that such operations do not affect

the lateral support or unduly increase the stresses in or pressure upon any adjacent or contiguous property.

6. Grading in an isolated, self-contained area if the Planning and Development Director finds that no apparent danger to private or public property can now or thereafter result from the grading operations.
7. Grading in public rights-of-way and easements done under a permit issued by the Planning and Development Director.
8. Grading by a public utility company in private easements that does not obstruct a natural watercourse. *1
9. New sanitary landfills and refuse disposal areas that are regulated by the Arizona Department of Environmental Quality and the Maricopa County Air Quality Department. *1

D. Notwithstanding subsections C.1 and 2 of this section, no person shall commence or conduct any clearing, grubbing, and/or grading of land which is designated as hillside under the Zoning Ordinance of the City of Phoenix, or which land has specific zoning or development stipulations attached to it which prohibit or control grading, clearing or grubbing on said land, or which land is in a zoning district which prohibits or controls clearing, grubbing and/or grading of said land, without first having obtained a permit from the Planning and Development Director.

E. Notwithstanding the provisions of subsection C of this section, the NPDES/AZPDES program may require a stormwater pollution

prevention plan and impose additional requirements and prohibitions.

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, §§ 1, 3; Ord. No. G-2786, § 1; Ord. No. G-3313, § 1; Ord. No. G-3887, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-6

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-7. Hazardous conditions.

Whenever any existing excavation or embankment or fill has become a hazard to life and limb, or endangers property, or adversely affects the safety, use, or stability of a public way or drainageways, such condition shall be deemed a nuisance and the owner of the property upon which the excavation or fill is located, or other person or agent in control of said property, upon receipt of notice in writing from the Planning and Development Director shall within the period specified therein repair or eliminate such excavation or embankment so as to eliminate the hazard and be in conformance with the requirements of this chapter and the City of Phoenix Stormwater Policies and Standards Manual. *1

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-7

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Cross reference—Nuisances, § 23-11 et seq.

Sec. 32A-8. Definitions.

For the purposes of this chapter, the words and phrases herein defined shall be construed in accordance with the definitions set forth in this

section unless it is apparent from the context that a different meaning is intended. *1

Bedrock means the solid, undisturbed bedrock in place either at the ground surface or beneath surficial deposits of gravel, sand or soil. *1

Building Official means the Building Official of the City of Phoenix Planning and Development Department. *1

Clearing or grubbing means the removal of any plant, bush, tree, cacti, or earth or rock. *1

Earthwork means the cut, fill, import or disposal of excess earth, sand, gravel, rock or other earthen material. +1

Excavation means any act by which earth, sand, and gravel, rock, or other earthen material is cut into, dug, uncovered, displaced or relocated, and shall include the conditions resulting therefrom.

Existing grade means the grade or elevation of the existing ground surface prior to excavating or filling. *1

FEMA means the Federal Emergency Management Agency. +1

Fill means deposits of soil, rock, or other materials placed by humans. *1

Finish grade means the final grade or elevation of the ground surface after grading is completed. *1

Grading means any excavating, filling, moving of natural earthen ground surface or combination thereof, and shall include the conditions resulting from any excavation, fill or movement of the natural earthen ground surface, including the natural drainage pattern. *1

NPDES/AZPDES Program means the Federal National Pollution Discharge Elimination System (NPDES) Program administered

nationally pursuant to 33 U.S.C. Section 1342 and the Arizona Pollution Discharge Elimination System (AZPDES) Program administered in Arizona pursuant to Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1, requiring the control or elimination of erosion and other forms of water pollution from a site. As used in this chapter, the term also includes the requirements of Chapter 32C of this Code. *1

On-lot detention means detaining stormwater on an individual lot for a given design frequency storm, said area of lot being exclusive of public streets, alleys, or other land dedicated for public use. *1

On-site retention means retaining stormwater that falls on the site for a given design frequency, said site being exclusive of public streets, alleys or other land dedicated for the public use. *1

Outfall of lot means the lowest point of the lot (when final grading and improvements are complete) that will provide for continuity of drain water disposal to the street, alley, or drainage channel or easement. *1

Planning and Development Director means the City of Phoenix Planning and Development Director or the Director's designee. +1

Retaining wall means a wall which supports earth higher on one side than the other side (measured from the top of the footing to the top of the retaining wall); a retaining wall over three feet high shall be designed by an Arizona registered civil or structural engineer and approved by the Planning and Development Department prior to construction. *1

Rough grade means an approximate elevation of the ground surface conforming to the proposed design. *1

Site means any lot or parcel of the land or contiguous combination thereof, under the

same ownership, where grading is performed or permitted. *1

Soil means all earth material of whatever origin that overlies bedrock. *1

Supervising engineer means an Arizona registered engineer who has been employed to design or oversee work regulated by this chapter. *1

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 2; Ord. No. G-1641, § 1; Ord. No. G-3313, § 1; Ord. No. G-3887, § 1; Ord. No. G-3994, § 1, passed 3-19-1997, eff. 4-18-1997; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

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*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Cross reference—Definitions and rules of construction generally, § 1-2.

Sec. 32A-9. Permit requirements.

A. Application. To obtain a grading permit, a person shall file an application in writing on a form furnished by the Planning and Development Director. A separate application shall be required for each site and may cover both excavation and filling. *1

B. Every application shall: *1

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by lot, block, tract or similar description that will identify readily and definitely locate the proposed work and give name and address of property owner.

3. Indicate the intended use for which the site is being prepared.
4. Give proposed location of deposit area and name and address of person who will receive excavated material and evidence that such person is willing to receive the material (if off site). *1
5. Be accompanied by plans, specifications and a geotechnical report as required in subsection C of this section and a stormwater pollution prevention plan (SWPPP) if required as stated in subsection G of this section. *1
6. State the estimated quantities of earthwork involved, including, but not limited to, cut, fill, import, borrow and the excess disposal. *1
7. Be signed by the applicant, or the applicant's authorized agent, who may be required to submit evidence to indicate such authority. *1
8. Locate all retaining walls and state height planned in the project. *1
9. Provide typical cross sections of retaining wall and privacy wall at all locations along the perimeter of the project.
10. Give such other information as reasonably may be required by the Planning and Development Director and the City of Phoenix Stormwater Policies and Standards Manual. *1

C. Plans, specifications and geotechnical report. Each application for a grading permit shall be accompanied by two sets of plans, specifications and geotechnical report, except when waived by the Planning and Development Director for minor or insignificant work. The plans, specifications and geotechnical report shall be prepared, sealed and signed by an Arizona registered engineer. *1

*D. Exceptions to plans, specifications and geotechnical report requirements. *1*

1. Plans and specifications need not be prepared by an Arizona registered engineer if the Planning and Development Director waives such requirement because technical engineering is not required. *1
2. When waived by the Planning and Development Director in cases where soils and geologic conditions are not significant factors in the design, a geotechnical report need not be submitted. *1
3. Plans, specifications and geotechnical reports shall not be required by the Planning and Development Director for work in a legal subdivision or for work which is in an area under an approved site plan required by the Zoning Ordinance, provided such subdivision or site plan approval is granted subsequent to the effective date of this chapter. The requirements of this chapter shall be fulfilled during the approval process of the subdivision or site plan. *1

E. Information on plans, specifications and geotechnical report. Plans shall be prepared to scale and shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail conformance to the provisions of this chapter and all relevant laws, ordinances, rules and regulations. The first sheet of each set of plans shall give the location of the work and the name and address of the owner and person by whom they were prepared. The plans shall comply with the City of Phoenix Stormwater Policies and Standards Manual and shall show, at a minimum, the following information: *1

1. General vicinity map of the proposed site.
2. Property limits and accurate contours of existing ground and details of terrain and area drainage. All elevations shall conform with National Geodetic Vertical Datum (NGVD), 1929. *1
3. Limiting dimensions, elevations, slopes and finish contours or elevations to be achieved by the grading, and proposed drainage channels and related construction.
4. Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams and other protective devices to be constructed with, or as part of, the proposed work together with a map showing the drainage area and the estimated runoff of the area served by any drainage system.
5. Location of any buildings or structures on the property where the work is to be performed and the location of any building or structures on land of adjacent property owners which are within 50 feet of the property or which may be affected by the proposed grading operations.
6. Any additional plans, drawings, specifications or calculations reasonably required by the Planning and Development Director.
7. Provisions for on-site retention of stormwater, unless waived by the City of Phoenix Stormwater Policies and Standards Manual, or the Planning and Development Director, or otherwise not required by this chapter. *1

8. In areas of special flood hazard, indicate the area of special flood hazard as delineated by FEMA. *1
9. Specifications shall contain information covering construction and material requirements.
10. Plans and specifications shall be based on the geotechnical report when such a report is required. *1

F. The geotechnical report shall show the information obtained from surface, subsurface and geological investigations necessary to provide information on which to base the design of the proposed project. The report shall include, but need not be limited to, pertinent data as applicable to the proposed project concerning:
*1

1. The nature, distribution and strengths of existing soil and rock.
2. Geologic factors affecting stability and safety.
3. Conclusions and recommendations for grading requirements including the correction of weak and/or unstable conditions.
4. Opinions and recommendations covering the adequacy of sites to be developed by the proposed grading operations.

G. As required by State or Federal regulations, a stormwater pollution prevention plan (SWPPP), as per the NPDES/AZPDES program, shall be submitted by the owner applicant or the applicant's representative with the grading and drainage plan. The requirements of the erosion control plan are listed in the City of Phoenix Stormwater Policies and Standards Manual. *1

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-1260, § 1;

Ord. No. G-1641, § 1; Ord. No. G-3313, § 1; Ord. No. G-3887, § 1; Ord. No. G-3994, § 1, passed 3-19-1997, eff. 4-18-1997; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-9

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-10. Permit limitations and conditions.

A. *General.* The issuance of a grading permit shall constitute an authorization to do only that work which is described or illustrated on the application of the permit or on the site plans and specifications approved by the Planning and Development Director.

The issuance of a permit or the approval of drawings and specifications shall not be construed to be a permit for, nor an approval of any violation of or deviation from the provisions of this chapter or any other ordinance, law, rule or regulation. A permit issued shall be invalid if, in the work completed, a violation of this chapter or deviation therefrom, ensued. When such violation occurs, the permit shall be deemed to be canceled and the ground restored to the condition it was in prior to start of the grading work.

The issuance of a permit based upon drawings and specifications shall not prevent the Planning and Development Director from thereafter requiring the correction of errors in said drawings and specifications or from stopping unlawful construction operations being carried on thereunder. *1

B. *Jurisdiction of other agencies.* Permits issued under the requirements of this chapter shall not relieve the permittee of the responsibility for securing required permits for work to be done that is regulated by any other ordi-

nance, department, or division of the City of Phoenix or other governing agency. *1

C. *Time limits.* The permittee shall fully perform and complete all of the work required to be done pursuant to the grading permit within the time limit specified. If no time limit is specified, the permittee shall complete the work within 180 days after the date of the issuance of the grading permit.

If the permittee is unable to complete the work within the specified time, he shall, prior to the expiration of the permit, present in writing to the Planning and Development Director a request for an extension of the time, setting forth the reasons for the requested extension. If, in the opinion of the Planning and Development Director, such an extension is warranted, he may grant additional time for the completion of the work. *1

D. *Storm drainage precautions.* All persons performing any grading operations shall put into effect all safety regulations and rules required by County, State or Federal law and all safety precautions that are required by the Planning and Development Director; and comply with the City of Phoenix Stormwater Policies and Standards Manual; and provide adequate erosion and sedimentation control as required by the NPDES/AZPDES Program. *1

E. *Conditions of approval.* In granting any permit under this chapter, the Planning and Development Director may attach such conditions as may be reasonably necessary to prevent creation of a nuisance or hazard to public or private property. Such conditions may include, but shall not be limited to:

1. Compliance with dust control requirements of the Maricopa County Air Quality Department. *1

2. Requirements for fencing of excavations or fills which would otherwise be hazardous.
3. Improvement of any existing site condition to bring it up to the standards of this chapter.
4. Salvage of protected native plant species prior to commencing grading operations.
5. Temporary fencing of protected hillside and desert preservation areas prior to commencing grading operations. *1
6. Implementation of any stormwater best management practices deemed necessary to prevent pollutants from entering the public storm drain system. +1

F. *Liability.* Neither the issuance of a permit under the provisions of this chapter nor the compliance with the provisions hereof, or with any conditions imposed in the permit issued hereunder, shall relieve any person from responsibility for damage to other persons or property, nor impose any liability upon the City for damage to other persons or property.

G. *Revocation.* Should the Planning and Development Director find the work under any permit issued under these provisions is not proceeding in accordance with the drawings, specifications, and details of the application upon which such permit was issued, and/or is proceeding in violation of this or any other ordinance of the City, or should he find that there has been any false statement or misrepresentation as to a material fact in the application, payment for said permit or plans on which the permit was based, the Planning and Development Director shall notify the person obtaining the permit and the owner that such work fails to conform to said permit, or that the permit was obtained by false representations and that such

failure in obtaining the permit be corrected without delay. If the owner or person obtaining the permit fails or refuses to make such correction within the time specified in said notice, the Planning and Development Director shall revoke such permit and serve notice of such revocation upon such person to whom the permit was issued. Such notice shall be in writing and signed by the Planning and Development Director. It shall be unlawful for any person to proceed with any part of such work after such notice is served. *1

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-3887, § 1; Ord. No. G-3994, § 1, passed 3-19-1997, eff. 4-18-1997; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

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Sec. 32A-11. Denial of permit.

A. *Geological or flood hazard.* If, in the opinion of the Planning and Development Director, the land area for which grading is proposed is subject to geological or flood hazard to the extent that the proposed corrective work will not eliminate or sufficiently reduce the hazard to human life or property, the grading permit and the building permits for habitable structures shall be denied.

B. *Unlawful grading.* The Planning and Development Director shall not issue a permit in any case where he finds that the work as proposed by the applicant will endanger any private property or result in the deposition of debris on any public way or seriously interfere with any existing drainage course. However, if it can be shown to the satisfaction of the Plan-

ning and Development Director that the hazard would be essentially eliminated by the construction of retaining structures, buttress fills, drainage devices, or by other means, the Planning and Development Director may issue the permit after the applicant has complied with Sections 32A-9.E and F. *1

C. *Noncompliance with the NPDES/AZPDES Program.* If, in the opinion of the Planning and Development Director, the activities covered by the permit would cause a violation of any aspect of the NPDES/AZPDES Program, a permit may be denied or may be granted subject to any requirements necessary to prevent or remedy the violation as expeditiously as practicable. *1

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-3887, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-11

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-12. Grading permit fees and plan review fees.

A. Before issuance of a grading permit, the Planning and Development Director shall collect the fees set forth in Appendix A.2 of the City Code. Such fees shall be paid in lawful money of the United States or by collectible draft or check. Should such draft or check be uncollectible within a reasonable time, the permit shall be null and void. The application for permit shall state the quantity of excavation and fill involved. For excavation and fill on the same site, the fee shall be based on the volume of the excavation or fill, whichever is greater.

B. The Planning and Development Director shall collect the fees set forth in Appendix A.2

of the City Code before providing grading and drainage plan review services.

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-2216, § 1; Ord. No. G-2225, § 2; Ord. No. G-2511, § 1; Ord. No. G-2628, § 1; Ord. No. G-2786, §§ 2, 3; Ord. No. G-3010, § 1; Ord. No. G-3127, § 2; Ord. No. G-3313, § 1; Ord. No. G-3346, § 5; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011)

Sec. 32A-13. Necessity for completion of grading before occupation of building.

A. Necessity for completion of improvements before occupation of building.

1. The Building Official shall deny final approval of any building permit or any clearance for occupation of any building, until all the required grading, retention and improvements including corrective work necessary to remove and eliminate any hazard, all as determined by the Planning and Development Director, are completed and have been inspected and approved. The Planning and Development Director, at the Director's option, may accept cash, a letter of credit or a surety bond to guarantee the corrective work if occupancy is sought before the work is done if posted with the Planning and Development Department in the form as provided by subsection B or C herein. *1
2. The cash, letter of credit or surety bond may be retained or called upon by the Planning and Development Department at any time as funds to be utilized for performing any work required to complete the required grading and improvements, if the Planning and

Development Department finds that the required grading and improvements are not being satisfactorily completed. *1

B. Bond conditions. Every bond (cash, letter of credit or surety) shall include the conditions that the permittee shall: *1

1. Comply with all of the provisions of this chapter, applicable laws, and ordinances.
2. Comply with all of the terms and conditions of the permit for excavation or fill to the satisfaction of the Planning and Development Director.
3. Complete all of the work contemplated under the permit within the time limit specified in the permit or in Section 32A-10.C. The Planning and Development Director may, for sufficient cause, extend the time specified in the permit but no such extension shall release the surety upon the bond.
4. The bond (cash, letter of credit or surety) shall include penalty provisions on a form approved by the City Attorney for failure to complete the work on schedule. *1

C. Failure to complete work. The term of each bond (cash, letter of credit or surety) shall begin upon the date of filing and shall remain in effect until the completion of the work to the satisfaction of the Planning and Development Director. In the event of failure to complete the work and failure to comply with all of the conditions and terms of the permit, the Planning and Development Director may have the work required by the permit to be completed to the Director's satisfaction. The surety executing such bond or deposit shall continue to be firmly bound to have all work completed and provide for the payment of all necessary costs and

expenses that may be incurred or expended by the governing agency in causing any and all such required work to be done. In the case of a cash deposit, said deposit or any unused portion thereof shall be refunded to the permittee. *1 (Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-2406, § 1; Ord. No. G-2786, §§ 4, 5; Ord. No. G-3313, § 1; Ord. No. G-3994, § 1, passed 3-19-1997, eff. 4-18-1997; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-13

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-14. Design standards for cuts.

Maximum slope. Cuts shall not be steeper in slope than one vertical to one and one-half horizontal unless a retaining wall or other approved support is provided or unless the owner furnishes a geotechnical report proving to the satisfaction of the Planning and Development Director that the proposed deviation will be stable, will not endanger any property or result in the deposition of debris on any public way or interfere with any existing drainage course. *1

The Planning and Development Director may require the excavation to be made with a cut face flatter in slope than one vertical to one and one-half horizontal if the Director considers it necessary for stability and safety. *1 (Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-14

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-15. Design standards for fills.

A. *Finishing.* All material placed as fill shall be bladed and graded to a uniform surface and shall not be left on the site as irregular dumping.

B. *Compaction.* All fills shall be compacted to not less than the minimum densities as listed below and as determined in accordance with ASTM D698-70. Field density shall be determined by ASTM D1556-64.

<i>Location</i>	<i>Minimum Density*</i>
Under structures	95% *1
Parking lots, driveways, roads	95% *1
Yards, open space	75%

*Unless a modification is indicated based on a geotechnical report. *1

Fills which will support the foundations of structures shall be constructed under the supervision of an Arizona registered engineer. *1

C. *Exceptions to fill design standards.* *1

1. Fills in non-hillside areas that are made for yard purposes and which do not exceed 18 inches in depth need not be compacted.
2. Sanitary landfills and refuse disposal areas which are regulated by the Arizona Department of Environmental Quality and the Maricopa County Air Quality Department. *1

When foundations of structures are not to be supported by the fill, the Planning and Development Director may allow deviations from the above requirements if he finds that their strict enforcement is unduly restrictive for the intended purpose.

D. *Preparation of ground.* The area over which fills are to be made shall be cleared of all trash, trees, stumps, timber, debris, or other material not suitable as a foundation for a fill. Where slopes are one vertical to five horizontal or steeper, scarifying or benching into sound bedrock or other competent material shall be required. Five feet of the lowermost bench shall be exposed beyond the toe of the fill. The bench shall be sloped for sheet overflow or a paved drain shall be provided. *1

E. *Fill slope.* No fill shall be made which creates an exposed surface steeper in slope than one vertical to one and one-half horizontal. *1

The Planning and Development Director may require that the fill be constructed with an exposed surface flatter than one vertical to one and one-half horizontal if this is necessary for stability and safety. Slopes of fills which are not compacted in accordance with Section 32A-15.B may not exceed one vertical to two horizontal. *1

F. *Fill material.* The material to be used for fill shall be approved by the supervising engineer prior to use when the fill is to support the foundations of structures. No organic material shall be permitted in fills. When the fill material includes large rocky or hard lumps, such as hardpan or cemented gravel which cannot be broken readily, such material shall be well distributed throughout the fill. Sufficient earth or other fine material shall be placed around the larger material as it is deposited so as to fill the interstices and produce a dense, compact fill. However, such material shall not be placed within two feet of the finished grade of the fill. *1

G. *Slopes to receive fill.* Fills toeing out on natural slopes which are steeper than one vertical to two horizontal will not be permitted. *1

H. No dredge or fill shall be stockpiled in the street, right-of-way, easement or stormwater conveyance for more than five working days, or less if rain is forecast, without proper best management practices in place to protect the storm drain system. Removed materials are allowed only as a temporary measure during emergency operations such as water line breaks, replacing sewer and water valves, or other repairs as necessary to the City's operation. +1

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-3994, § 1, passed 3-19-1997, eff. 4-18-1997; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

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Sec. 32A-16. Design standards for setbacks.

A. Cuts and fills shall be set back from property lines and buildings shall be set back from cut or fill slopes in accordance with Figure No. 1. Retaining walls may be used to reduce the required setback when approved by the Planning and Development Director.

B. Fill placed on or above the top of an existing or proposed cut or natural slope steeper than one vertical to three horizontal shall be set back from the edge of the slope a minimum distance of six feet. *1

C. Building foundations shall be set back from the top of slope a minimum distance of six feet for all cut slopes steeper than two horizontal to one vertical. No buildings shall be constructed on cut or fill slopes steeper than three horizontal to one vertical.

D. The setbacks given in this section are minimum and may be increased by the Planning and Development Director, if considered necessary for safety or stability or to prevent possible damage from water, soil, or debris, or when development standards contained in Section 703 of the Phoenix Zoning Ordinance require an increase in setbacks.

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-3887, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-16

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

approved by the Planning and Development Director. *1

E. *Terrace drains.* All swales or ditches on drainage terraces shall be graded to provide suitable drainage and designed to prevent erosion and provide durability. *1

Sec. 32A-17. Design standards for drainage.

A. All drainage facilities shall comply with the City of Phoenix Stormwater Policies and Standards Manual. +1

B. *Existing drainage facilities.* No person shall alter any natural drainage course or existing drainage facility in such a way as to damage or endanger by flooding, erosion, or any other means, any public or private property or improvements. *1

C. *Disposal.* All drainage facilities shall be designed to carry surface waters to the nearest practical street storm drain or natural watercourse approved by the Planning and Development Director and any other governmental agency having jurisdiction as a safe place to deposit such waters. *1

D. *Erosion prevention.* Adequate provision shall be made to prevent surface waters from damaging the face of an excavation or fill. All slopes shall be protected from surface water runoff from above by berms, swales, walls, stabilized slope treatment, or other protection as

FIGURE 1. REQUIRED SETBACKS*

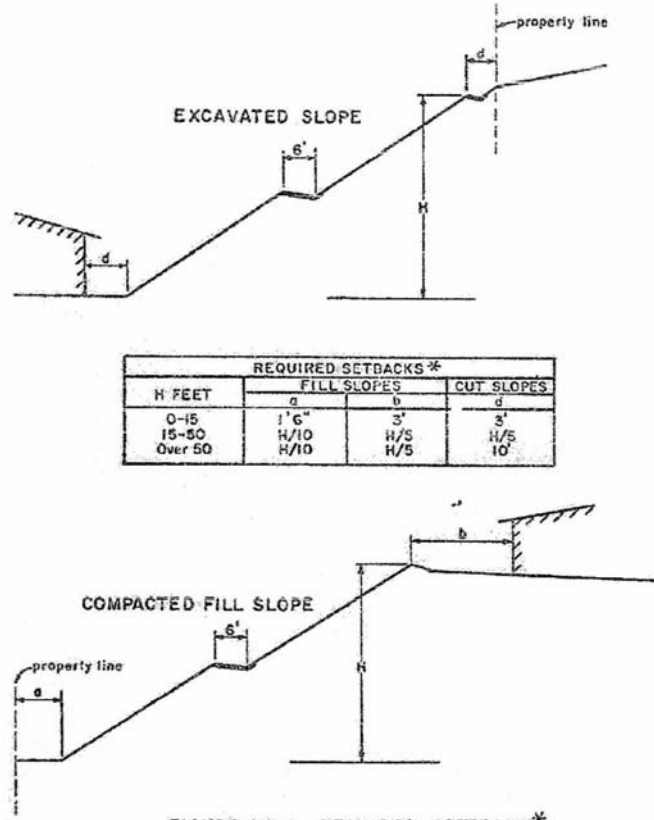


FIGURE NO. 1—REQUIRED SETBACKS *

*This setback is not the setback referred to in the Zoning Ordinance. Greater setback distances may be required by the Zoning Ordinance.

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-3313, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-17

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-18. Grading, inspections and supervision.

A. *Supervised grading required.* All fills used or intended to be used for the support of foundations of structures and, when required by the Planning and Development Director, all grading affecting stability of adjacent property, shall be performed under the supervision of an

engineer registered in the State of Arizona and shall be designated "supervised grading." Grading not supervised in accordance with this section shall be designated "regular grading."

B. *Regular grading requirements.* The Planning and Development Director may inspect the work, and may require adequate

inspection and compaction control by a soils testing agency.

C. *Supervised grading requirements.* For supervised grading, it shall be the responsibility of the supervising engineer to supervise and coordinate all site inspection and testing during grading operations. Geotechnical reports shall also be required as specified in Section 32A-9. All necessary reports, compaction data, and soils engineering and engineering geological recommendations shall be submitted to the Planning and Development Director by the supervising engineer.

Geotechnical reports certifying the compaction or acceptability of all fills shall be required except as exempted by Section 32A-15.C. These shall include, but not be limited to, inspection of areas cleared, compacted, and otherwise prepared to receive fill; the placement and compaction of fill material; and the inspection or review of the construction of retaining walls, subdrains, drainage devices, buttress fills, and similar measures. *1

D. *Notification of noncompliance.* If, in the course of fulfilling his responsibility under this chapter, the supervising engineer finds that the work is not being done in conformance with this chapter or the plans approved by the Planning and Development Director, he shall immediately notify the person in charge of the grading work and Planning and Development Department in writing of the nonconformity and of the corrective measures to be taken. (Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-18

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-19. Safety precautions.

A. If at any stage of the work the Planning and Development Director determines by inspection that further grading as authorized will endanger any property or result in the deposition of debris on any public way or interfere with any existing drainage course, the Planning and Development Director shall require, as a condition to allowing the work to be completed, that such reasonable safety precautions be taken as he considers advisable to avoid such likelihood of damage.

B. Notice to comply shall be submitted to the permittee and the owner in writing. After a notice to comply is written, a period of ten days shall be allowed for the contractor to begin to make the corrections unless an imminent hazard exists, in which case the corrective work shall begin immediately.

C. If the Planning and Development Director finds any existing conditions not as stated in the granting permit or approved plans, he may refuse to approve further work until approval is obtained for a revised grading plan which will conform to the existing conditions. (Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011)

Sec. 32A-20. Responsibility of permittee.

A. *Compliance with plans and requirements.* All permits issued hereunder shall be presumed to include the provision that the applicant, his agent, contractors, or employees, shall carry out the proposed work in accordance with all the requirements of this chapter.

B. *Protection of utilities.* During the grading operations, the permittee shall be responsible for the prevention of damage to any street or

drainage facilities or to any public utilities or services. This responsibility applies within the limits of grading and along any routes of travel of equipment.

C. *Protection of adjacent property.* The permittee is responsible for the prevention of damage to adjacent property and no person shall excavate on land sufficiently close to the property line to endanger any adjoining public street, sidewalk, alley, or other public or private property prior to supporting and protecting such property from settling, cracking, or other damage which might result.
(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1)

Sec. 32A-21. Modification of approved plan.

No modification of the approved grading plans may be made without the approval of the Planning and Development Director. All necessary geotechnical reports shall be submitted with the plans. *1
(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-21
*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-22. Completion of work.

A. *Final reports.* Upon completion of the work, the Planning and Development Director may require the following reports:

1. Certification by the supervising engineer that all grading, lot drainage, and drainage facilities have been completed in conformance with the approved plans, the City of Phoenix Stormwater Policies and Standards Manual and this chapter. *1

2. A geotechnical report including certifications of soil bearing capacity of compacted fills, summaries of field and laboratory tests and locations of tests. *1
3. An engineering geology report based on the final construction. It shall include specific approval of the grading as affected by geological factors. Where necessary, a revised geologic map and cross sections, and any recommendations regarding building restrictions or foundation setbacks, shall be included.

B. *Notification of completion.* The permittee or his agent shall notify the Planning and Development Director when the grading operation is ready for final inspection. Final approval shall not be given until all work, including installation of all drainage structures and their protective devices, have been completed and required reports have been submitted.

(Ord. No. G-1177, § 1; Ord. No. G-1192, § 1; Ord. No. G-1203, § 3; Ord. No. G-3313, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-22
*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-23. Adoption of City of Phoenix Stormwater Policies and Standards Manual. *1

The Street Transportation Department Director in coordination with the Planning and Development Director shall prepare and maintain a City of Phoenix Stormwater Policies and Standards Manual with policies, standards, procedures, and practices related to stormwater management and compliance with this code. The City of Phoenix Stormwater Policies and Standards Manual is a comprehensive, state-of-

the-practice drainage design document that addresses flood hydrology, stormwater drainage facilities, grading requirements and floodplain regulation and shall govern all drainage requirements for development, public and private, within the City of Phoenix. The City of Phoenix Stormwater Policies and Standards Manual shall be placed on file in the office of the City Clerk and shall be available to the public on the City of Phoenix website, www.phoenix.gov. *1

(Ord. No. G-2786, § 6; Ord. No. G-3313, § 1; Ord. No. G-3887, § 1; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-23

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-24. Design standards for on-site retention of stormwater.

A. On-site retention of stormwater shall be required for all developments. This requirement may be waived for isolated developments under one-half acre where there will be no critical drainage problem created by the additional runoff from the proposed development. The NPDES program may require on-site retention for parcels less than one-half acre. *1

B. On-site stormwater retention areas shall be adequate to contain the volume of water required by the latest edition of the City of Phoenix Stormwater Policies and Standards Manual in effect at the time of the first submittal of plans to the Planning and Development Department. *1

All developments shall not increase the 100-year two-hour peak runoff, change the time of the peak, nor increase the total runoff from its pre-development values. *1

(Ord. No. G-1641, § 2; Ord. No. G-2786, § 7; Ord. No. G-3313, § 1; Ord. No. G-3887, § 1;

Ord. No. G-3994, § 1, passed 3-19-1997, eff. 4-18-1997; Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-24

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-25. Reserved. -1

Date of Addition/Revision/Deletion - Section 32A-25

-1 Deletion on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-26. Hillside lots/mountain preserves.

A. Lots in the hillside development area as regulated by Section 32-32 of the City Code shall have an individual grading and drainage plan per each lot. The grading and drainage plan shall be approved and permit issued before a house permit can be obtained.

B. All lots (or plats) adjacent to the mountain preserve shall show the boundary of the Phoenix Mountain Preserve as determined by the survey prepared for the Parks and Recreation Department; conflicts between the private deed description and the City's survey shall be resolved prior to obtaining approval of the grading and drainage plan and/or building safety permit.

(Ord. No. G-3887, § 1; Ord. No. G-4419, § 5, passed 4-3-2002, eff. 5-3-2002)

Sec. 32A-27. Violations and penalties.

A. The remedies herein are cumulative and the City may proceed under one or more remedies.

B. Any owner or responsible party who causes, permits, facilitates, or aids or abets any violation of any provision of this chapter or who fails to perform any act or duty required by

this chapter is subject to a civil sanction of not less than \$500.00 nor more than \$2,500.00. The \$500.00 minimum sanction may not be waived.

*1

C. Any owner or responsible party who causes, permits, facilitates, or aids or abets any violation of any provision of this chapter or who fails to perform any act or duty required by this chapter is guilty of a Class 1 misdemeanor.

*1

D. Each day any violation of any provision of this chapter or the failure to perform any act or duty required by this chapter exists shall constitute a separate violation or offense.

(Ord. No. G-4036, § 1, passed 7-2-1997, eff. 8-1-1997; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-27

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

State law reference—Penalty for ordinance violations, A.R.S. §§ 9-499.01, 9-240(B)(28).

Sec. 32A-28. Jurisdiction of court.

A. Jurisdiction of all proceedings to enforce the provisions of this chapter shall be in the Municipal Court of the City of Phoenix.

B. Civil actions to enforce this chapter may be adjudicated by a judge or a court hearing officer.

(Ord. No. G-4036, § 2, passed 7-2-1997, eff. 8-1-1997; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-28

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-29. Commencement of civil action.

Any civil action to enforce the provisions of this chapter shall be commenced and summons shall be issued in accordance with the procedures set forth in Arizona Revised Statutes,

City ordinance or as provided in the Local Rules of Practice and Procedure—City Court—City of Phoenix.

(Ord. No. G-4036, § 3, passed 7-2-1997, eff. 8-1-1997; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32A-29

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32A-30. Admission or denial of allegation; hearing; findings of court; civil sanction.

A. A person served with a civil citation or complaint shall appear at the time and place stated in the citation or summons, or may appear prior to the time and admit or deny the allegations of the complaint. Allegations not denied at the time of appearance are deemed admitted.

B. If the allegations are admitted, the court shall enter judgment for the City and impose a civil sanction.

C. If the person denies the allegations, the court shall set the matter for hearing. Civil hearings are informal and held without a jury, and the City is required to prove the violation charged by a preponderance of the evidence. Technical rules of evidence do not apply, except for statutory provisions relating to privileged communications. If the person elects to be represented by counsel, the person shall so notify the court at least ten days prior to the hearing date. Hearings may be recorded. If the court finds in favor of the person, the court shall enter an order dismissing the citation or complaint. If the court finds in favor of the City, the court shall enter judgment for the City and impose a civil sanction.

D. If the person served with a civil citation or complaint fails to appear on or before the time directed to appear or at the time set for

hearing by the court, the allegations shall be deemed admitted and the court shall enter judgment for the City and impose a civil sanction. (Ord. No. G-4036, § 4, passed 7-2-1997, eff. 8-1-1997)

CHAPTER 32B
FLOODPLAIN MANAGEMENT

Chapter 32B

FLOODPLAINS*

Article I. Authorization and Purpose

- Sec. 32B-1. Authorization and findings.
- Sec. 32B-2. Purpose.
- Sec. 32B-3. Methods of reducing flood losses.
- Sec. 32B-4. Implementation.

Article II. Definitions

- Sec. 32B-5. Definitions.

Article III. General Provisions

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- Sec. 32B-9. Abrogation and greater restrictions.
- Sec. 32B-10. Disclaimer of liability.
- Sec. 32B-11. Statutory exceptions.
- Sec. 32B-12. Unlawful acts.
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Article IV. Administration

- Sec. 32B-17. Designation of the Floodplain Administrator.
- Sec. 32B-18. Duties and responsibilities of the Floodplain Administrator.
- Sec. 32B-19. Establishment of development permit.

***Cross reference**—Development Advisory Board, § 2-164 et seq.; building regulations, ch. 9; subdivisions, ch. 32; grading and drainage, ch. 32A.

State Law reference—Floodplain management, A.R.S. § 48-3601 et seq.; municipal floodplain management programs, A.R.S. § 48-3610.

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Article V. Provisions for Flood Hazard Reduction

- Sec. 32B-20. Standards of construction.
- Sec. 32B-21. Standards for storage of materials and equipment.
- Sec. 32B-22. Standards for utilities.
- Sec. 32B-23. Additional development standards, including subdivisions.
- Sec. 32B-24. Standards for manufactured homes.
- Sec. 32B-25. Standards for recreational vehicles.
- Sec. 32B-26. Floodways.

Article VI. Variance Procedure

- Sec. 32B-27. Nature of variances.
- Sec. 32B-28. Appeal Board.
- Sec. 32B-29. Conditions for variances.

ARTICLE I. AUTHORIZATION AND PURPOSE

Sec. 32B-1. Authorization and findings. +1

In A.R.S. 48-3610, the Arizona State Legislature authorized incorporated cities to adopt regulations in conformance with A.R.S. 48-3603, which are designed to promote the public health, safety and general welfare of its citizenry. Therefore, the Phoenix City Council finds as follows:

A. The flood hazard areas of the City of Phoenix are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

B. These flood losses may be caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities and, when inadequately anchored, cause damage in other areas. Uses that are inadequately flood-proofed, elevated or otherwise protected from flood damage also contribute to the flood loss.

Date of Addition/Revision/Deletion - Section 32B-1
+1 Addition on 5-30-2012 by Ordinance No. G-5707,
eff. 6-29-2012

Sec. 32B-2. Purpose. +1

It is the purpose of this chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

A. Protect human life and health;

B. Minimize expenditure of public money for costly flood control projects;

C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

D. Minimize prolonged business interruptions;

E. Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in areas of special flood hazard;

F. Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize blight areas caused by flooding;

G. Ensure that potential buyers are notified that property is in an area of special flood hazard;

H. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions; and

I. Maintain eligibility for disaster relief.
Date of Addition/Revision/Deletion - Section 32B-2
+1 Addition on 5-30-2012 by Ordinance No. G-5707,
eff. 6-29-2012

Sec. 32B-3. Methods of reducing flood losses. +1

A. These regulations take precedence over any less restrictive conflicting local laws, ordinances and codes.

B. In order to accomplish its purposes, this chapter includes methods and provisions to:

1. Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;

2. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
3. Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;
4. Control filling, grading, dredging, and other development which may increase flood damage; and
5. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

Date of Addition/Revision/Deletion - Section 32B-3
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-4. Implementation.

To implement the regulation of the Floodplain areas in the City of Phoenix, the City Council is designated as the Floodplain Board and the Street Transportation Department Director is designated as the administrative agent for these regulations, or Floodplain Administrator. *1
 (Ord. No. G-2027, § 2; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32B-4
 *1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012
Note—Formerly, § 32B-1

ARTICLE II. DEFINITIONS

Sec. 32B-5. Definitions.

Unless specifically defined below, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in

common usage and to give this chapter its most reasonable application. +1

Accessory structure, low-cost and small means a structure that is: +1

1. Solely for the parking of no more than two cars; or limited storage (small, low cost sheds); and +1
2. Is less than 150 square feet and valued at no more than \$1,500.00. +1

Appeal means a request for a review of the Floodplain Administrator’s interpretation of any provision of this chapter or a request for a variance. +1

Area of shallow flooding means a designated AO or AH Zone on a community’s flood insurance rate map (FIRM). These zones have a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Shallow flooding is characterized by ponding or sheet flow. *1

Area of special flood hazard means the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. These areas are designated as Zones A, AE, AO, AH, and A1-30 on the FIRM and other areas as determined by the criteria adopted by the Director of the Arizona Department of Water Resources. See *Special flood hazard area*. *1

Base flood means a flood that has a one percent chance of being equaled or exceeded in any given year (also called the "100-year flood"). *1

Base flood elevation (BFE) means the water surface elevation resulting from a flood that has a one percent or greater chance of being equaled or exceeded in any given year shown

on the FIRM for Zones AE, AH, A1-30, VE and V1-V30. +1

Basement means the area of the building having its floor subgrade on all sides. +1

Building. See *Structure.* +1

CLOMR means conditional letter of map revision issued by FEMA. +1

Community means any state, area or city thereof, or any Indian tribe or authorized tribal organization, or authorized native organization, which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction. +1

Development means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, utilities, pipelines, mining, dredging, filling, grading, paving, or excavation or drilling operations or storage of equipment or materials. *1

Encroachment means the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain. +1

Erosion means the gradual wearing away process of landmasses. +1

FEMA means the Federal Emergency Management Agency. +1

FIA means the Federal Insurance Administration. +1

Flood or flooding means a general and temporary condition of partial or complete inundation of normally dry land areas from: (1) the overflow of floodwaters; (2) the unusual and rapid accumulation or runoff of surface waters from any source; and/or (3) the collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of

water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in this definition. *1

Flood boundary and floodway map (FBFM) means the official map on which FEMA or the Federal Insurance Administration (FIA) has delineated both the areas of special flood hazards and the floodway. *1

Flood insurance rate map (FIRM) means the official map on which FEMA or FIA has delineated both the areas of special flood hazard and the risk premium zones applicable to the community. *1

Flood insurance study (FIS) means the official report provided by FEMA that includes flood profiles, FIRM, FBFM and the water surface elevations of the base flood. *1

Floodplain or flood prone area means any land area susceptible to being inundated by water from any source. See *Flood or flooding.* *1

Floodplain Administrator means the City of Phoenix Street Transportation Department Director, who is charged with administering and enforcing these floodplain management regulations. +1

Floodplain Board or Board means the Phoenix City Council. *1

Floodplain management means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including but not limited to emergency preparedness plans, flood control works, flood-

plain management regulations, and open space plans. +1

Floodplain management regulations means this chapter and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as grading and erosion control) and other application of police power which control development in flood prone areas. This term describes Federal, State or local regulations in any combination thereof, which provide standards for preventing and reducing flood loss and damage. +1

Floodproofing means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents. +1

Flood-related erosion means the collapse or subsidence of land along the shore of a lake or other body of water as a result of undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding. +1

Floodway means the area of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. This is also referred to as "Regulatory floodway." +1

Functionally dependent use means a use which cannot perform its intended purpose unless it is located or carried out proximate to water. The term includes only docking facili-

ties, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, and does not include long-term storage or related manufacturing facilities. +1

Governing body means the local governing unit, i.e., county or municipality, which is empowered to adopt and implement regulations to provide for the public health, safety and general welfare of its citizenry. +1

Hardship means the exceptional hardship that would result from a failure to grant the requested variance under Article VI of this chapter. +1

Highest adjacent grade means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure. +1

Historic structure means any structure that is: +1

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; +1
2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; +1
3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or +1

4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either: +1
 - a. By an approved state program as determined by the Secretary of the Interior; or +1
 - b. Directly by the Secretary of the Interior in states without approved programs. +1

LOMR means letter of map revision issued by FEMA. +1

Lowest floor means the lowest floor of the lowest enclosed area, including the basement. An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this chapter.

Manufactured home means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term *manufactured home* also includes park trailers, travel trailers, and other similar recreational vehicles placed on a site for greater than 180 consecutive days. For insurance purposes the term *manufactured home* does not include park trailers, travel trailers, and other similar recreational vehicles. *1

Manufactured home park or subdivision means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mean sea level means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD of 1929), North American Vertical Datum (NAVD) of 1988, or other datum, to which base flood elevations shown on a community's flood insurance rate map are referenced. *1

New construction means, for purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial flood insurance rate map or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, *new construction* means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures. +1

NPDES/AZPDES Program means the Federal National Pollution Discharge Elimination System (NPDES) Program administered nationally pursuant to 33 U.S.C. Section 1342 and the Arizona Pollution Discharge Elimination System (AZPDES) Program administered in Arizona pursuant to Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1, requiring the control or elimination of erosion and other forms of water pollution from a site. As used in this chapter, the term includes the requirements of Chapter 32C of this code. +1

Obstruction includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation or other material in, along, across or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water, or due to its location, its propensity to snare or

collect debris carried by the flow of water, or its likelihood of being carried downstream. +1

One-hundred-year flood or *100-year flood* means a flood having a one percent chance of being equaled or exceeded in any given year. See *Base flood*. +1

Person means any individual or the individual's agent, a firm, partnership, association, corporation, or any agent of the aforementioned groups, or this State or its agencies or cities. *1

Recreational vehicle means a vehicle that is: +1

1. Built on a single chassis; and +1
2. Four hundred square feet or less when measured at the largest horizontal projection; and +1
3. Designed to be self-propelled or permanently towable by a light duty truck; and +1
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use. +1

Regulatory flood elevation (RFE) means an elevation one foot above the *base flood* elevation for a *watercourse* for which the *base flood* elevation has been determined and shall be as determined by the criteria developed by the Director of the Arizona Department of Water Resources for all other watercourses. *1

Regulatory floodway means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. +1

Riverine means relating to, formed by, or resembling a river (including tributaries), stream, or brook. +1

Sheet Flow Area. See *Area of shallow flooding*. +1

Special flood hazard area (SFHA) means an area in the floodplain subject to a one percent or greater chance of flooding in any given year. It is shown on an FBFM or FIRM as Zone A, AO, A1-30, AE, A99, or AH. +1

Start of construction includes substantial improvement and other proposed new development, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not the alteration affects the external dimensions of the building. *1

Structure means a walled and roofed building that is principally above ground; this includes a gas or liquid storage tank or a manufactured home. *1

Substantial damage means damage of any origin sustained by a structure whereby the cost

of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. +1

Substantial improvement means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the *start of construction* of the improvement. This term includes structures which have incurred *substantial damage*, regardless of the actual repair work performed. The term does not, however, include either: +1

1. Any project for improvement of a structure to correct existing violations or State or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to ensure safe living conditions; or +1
2. Any alteration of a *historic structure*; provided, that the alteration will not preclude the structure's continued designation as a *historic structure*. +1

Variance means a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter. +1

Violation means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required by this chapter is presumed to be in violation until such time as that documentation is provided.

Water surface elevation means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas. +1

Watercourse means any lake, river, creek, stream, wash, arroyo, channel, or other topographic feature on or over which waters flow at least periodically. The term may include specifically designated areas in which flood damage may occur. *1

(Ord. No. G-2027, § 2; Ord. No. G-3092, § 2; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32B-5
+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Cross reference—Definitions and rules of construction generally, § 1-2.

Note—Formerly, § 32B-2

ARTICLE III. GENERAL PROVISIONS

Sec. 32B-6. Lands to which this chapter applies. +1

This chapter shall apply to all areas of special flood hazard within the corporate limits of the City of Phoenix.

Date of Addition/Revision/Deletion - Section 32B-6
+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-7. Basis for establishing the areas of special flood hazard. +1

The areas of special flood hazard identified by FEMA in a scientific and engineering report entitled "The Flood Insurance Study (FIS) for Maricopa County, Arizona and incorporated

areas" dated September 30, 2005, with accompanying FIRMs and FBFMs dated September 30, 2005, and all subsequent amendments and/or revisions, are hereby adopted by reference and declared to be a part of this chapter. This FIS and attendant mapping is the minimum area of applicability of this chapter and may be supplemented by studies for other areas which allow implementation of this chapter and which are recommended to the Floodplain Administrator. The Floodplain Administrator, within its area of jurisdiction, shall delineate (or may, by rule, require developers of land to delineate) for areas where development is ongoing or imminent, and thereafter as development becomes imminent, floodplains consistent with the criteria developed by FEMA and the Director of the Arizona Department of Water Resources. The FIS and FIRM panels are on file at City of Phoenix City Hall, 200 W. Washington Street, Phoenix, AZ 85003, Street Transportation Department, 5th Floor.

Date of Addition/Revision/Deletion - Section 32B-7
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-8. Compliance. +1

All development of land, construction of residential, commercial or industrial structures, or future development within delineated floodplain areas is subject to the terms of this chapter and other applicable regulations.

Date of Addition/Revision/Deletion - Section 32B-8
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-9. Abrogation and greater restrictions. +1

This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter and another ordinance, easement, cov-

enant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

Date of Addition/Revision/Deletion - Section 32B-9
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-10. Disclaimer of liability. +1

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the City of Phoenix, any officer or employee thereof, the State of Arizona or FEMA, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

Date of Addition/Revision/Deletion - Section 32B-10
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-11. Statutory exceptions. +1

A. In accordance with A.R.S. 48-3609(H), unless expressly provided, this and any regulation adopted pursuant to this article does not affect:

1. Existing legal uses of property or the right to continuation of such legal use. However, if a nonconforming use of land or a building or structure is discontinued for 12 months, or destroyed to the extent of 50 percent of its value as determined by a competent appraiser, any further use shall comply with this

article and regulations of the City of Phoenix;

2. Reasonable repair or alteration of property for the purposes for which the property was legally used on August 3, 1984, or any regulations affecting such property takes effect, except that any alteration, addition or repair to a non-conforming building or structure which would result in increasing its flood damage potential by 50 percent or more shall be either floodproofed or elevated to or above the regulatory flood elevation;
3. Reasonable repair of structures constructed with the written authorization required by A.R.S. 48-3613; and
4. Facilities constructed or installed pursuant to a certificate of environmental compatibility issued pursuant to A.R.S. Title 40, Chapter 2, Article 6.2.

B. Before any authorized construction begins for the exceptions listed below, the responsible person must submit plans for the construction to the Floodplain Board for review and comment. In accordance with A.R.S. 48-3613, written authorization shall not be required, nor shall the Floodplain Board prohibit:

1. The construction of bridges, culverts, dikes and other structures necessary to the construction of public highways, roads and streets intersecting or crossing a watercourse;
2. The construction of storage dams for watering livestock or wildlife, structures on banks of a watercourse to prevent erosion of or damage to adjoining land if the structure will not divert, retard or obstruct the natural channel of

the watercourse or dams for the conservation of floodwaters as permitted by A.R.S. Title 45, Chapter 6;

3. Construction of tailing dams and waste disposal areas for use in connection with mining and metallurgical operations. This subsection does not exempt those sand and gravel operations that will divert, retard or obstruct the flow of waters in any watercourse from complying with and acquiring authorization from the Floodplain Board pursuant to regulations adopted by the Floodplain Board under this article;
4. Other construction upon determination by the Floodplain Board that written authorization is unnecessary;
5. Any flood control district, county, city, town or other body from exercising powers granted to it under A.R.S. Title 48, Chapter 21, Article 1;
6. The construction of streams, waterways, lakes and other auxiliary facilities in conjunction with development of public parks and recreation facilities by a public agency or city; and
7. The construction and erection of poles, towers, foundations, support structures, guy wires and other facilities related to power transmission as constructed by any utility whether a public service corporation or a city.

Date of Addition/Revision/Deletion - Section 32B-11
+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-12. Unlawful acts. +1

A. It is unlawful for a person to engage in any development or to divert, retard or obstruct the flow of waters in a watercourse if it creates

a hazard to life or property without securing the written authorization required by A.R.S. 48-3613. Where the watercourse is a delineated floodplain, it is unlawful to engage in any development affecting the flow of waters without securing written authorization required by A.R.S. 48-3613.

B. Any person found guilty of violating any provision of this chapter shall be guilty of a Class One misdemeanor. Each day that a violation continues shall be a separate offense punishable as hereinabove described.

Date of Addition/Revision/Deletion - Section 32B-12
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-13. Declaration of public nuisance. +1

All development located or maintained within any area of special flood hazard after August 8, 1973, in violation of this chapter, is a public nuisance and may be abated, prevented or restrained by action of the City.

Date of Addition/Revision/Deletion - Section 32B-13
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-14. Abatement of violations. +1

Within 30 days of discovery of a violation of this chapter, the Floodplain Administrator shall submit a report to the Floodplain Board which shall include all information available to the Floodplain Administrator which is pertinent to said violation. Within 30 days of receipt of this report, the Floodplain Board shall either:

A. Take any necessary action to effect the abatement of such violation; or

B. Issue a variance to this chapter in accordance with the provisions of Article VI herein; or

C. Order the owner of the property upon which the violation exists to provide whatever additional information may be required for their determination. Such information must be provided to the Floodplain Administrator within 30 days of such order and the Floodplain Administrator shall submit an amended report to the Floodplain Board within 20 days. At the next regularly scheduled public meeting, the Floodplain Board shall either order the abatement of said violation or they shall grant a variance in accordance with the provisions of Article VI herein; or

D. Submit to the Federal Emergency Management Agency a declaration for denial of insurance, stating that the property is in violation of a cited State or local law, regulation or ordinance, pursuant to Section 1316 of the National Flood Insurance Act of 1968 as amended.

Date of Addition/Revision/Deletion - Section 32B-14
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-15. Enforcement. +1

In addition to other penalties or remedies otherwise provided by law, this State, a city or a person who may be damaged or has been damaged as a result of the unauthorized diversion, retardation or obstruction of a watercourse has the right to commence, maintain and prosecute any appropriate action or pursue any remedy to enjoin, abate or otherwise prevent any person from violating or continuing to violate this section or regulations adopted pursuant to this article. If a person is found to be in violation of this section, the court shall require the violator to either comply with this section, if authorized by the Floodplain Board, or remove the obstruction and restore the watercourse to its original state. The court may also award such monetary damages as are appropriate to

the injured parties resulting from the violation including reasonable costs and attorney fees.

Date of Addition/Revision/Deletion - Section 32B-15

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-16. Severability. +1

This chapter and the various parts thereof are hereby declared to be severable. Should any section of this chapter be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of this chapter as a whole, or any portion thereof other than the section so declared to be unconstitutional or invalid.

Date of Addition/Revision/Deletion - Section 32B-16

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

ARTICLE IV. ADMINISTRATION

Sec. 32B-17. Designation of the Floodplain Administrator. +1

The Street Transportation Department Director is hereby appointed to administer, implement and enforce this chapter by granting or denying development permits in accordance with its provisions.

Date of Addition/Revision/Deletion - Section 32B-17

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-18. Duties and responsibilities of the Floodplain Administrator.
+1

A. *Permit review.* Review all development permits to determine that:

1. The permit requirements of this chapter have been satisfied;
2. All other required State and Federal permits have been obtained;

3. The site is reasonably safe from flooding;
4. The proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. For purposes of this chapter, *adversely affect* means that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point.

B. *Substantial improvement and substantial damage procedures.*

1. Using FEMA Publication 213, "Answers to Questions about Substantially Damaged Buildings," develop detailed procedures for identifying and administering requirements for substantial improvement and substantial damage, to include defining "market value."
2. Ensure procedures are coordinated with other departments and divisions and implemented by community staff.

C. *Use of other base flood data.* When base flood elevation data has not been provided in accordance with Section 32B-7, the Floodplain Administrator shall obtain, review and reasonably utilize any base flood elevation data available from a Federal, State or other source, in order to administer Article V herein. Any such information shall be consistent with the requirements of FEMA and the Director of the Arizona Department of Water Resources and shall be submitted to the Floodplain Board for adoption.

D. Obtain and maintain for public inspection:

1. The certified regulatory flood elevation required in Section 32B-20.C.1;
2. The floodproofing certification required in Section 32B-20.C.2;
3. The flood vent certification required in Section 32B-20.C.3;
4. The elevation certification required for additional development standards, including subdivisions, in Section 32B-23.A.2;
5. The floodway encroachment certification required in Section 32B-26.A;
6. Maintain a record of all variance actions, including justification for their issuance, and report such variances issued in its biennial report submitted to FEMA; and
7. Obtain and maintain improvement calculations.

E. *Notification of other entities.*

1. Whenever a watercourse is to be altered or relocated:
 - a. Notify adjacent communities and the Arizona Department of Water Resources prior to such alteration or relocation of a watercourse, and submit evidence of such notification to FEMA through appropriate notification means; and
 - b. Ensure that the flood carrying capacity of the altered or relocated portion of said watercourse be maintained.

2. *Base flood elevation and rate of flow due to physical alterations.*

- a. Base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, the Floodplain Administrator shall notify FEMA of the changes by submitting technical or scientific data in accordance with 44 CFR Section 65.3. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and floodplain management requirements will be based upon current data.
- b. Within 120 days after completion of construction of any flood control protective works which changes the rate of flow during the flood or the configuration of the floodplain upstream or downstream from or adjacent to the project, the person or agency responsible for installation of the project shall provide to the governing bodies of all jurisdictions affected by the project a new delineation of all floodplains affected by the project. The new delineation shall be done according to the criteria adopted by the Director of the Arizona Department of Water Resources.

3. *Corporate boundary changes.* Notify FEMA and the Arizona Department of Water Resources of acquisition by means of annexation, incorporation or

otherwise, of additional areas of jurisdiction.

F. *Map determinations.* Make interpretations, where needed, as to the exact location of the boundaries of the areas of special flood hazards (e.g., where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Article VI.

G. *Remedial actions.* Take actions on violations of this chapter as required in Section 32B-14 herein.

H. *Biennial report.* Complete and submit a biennial report to FEMA.

Date of Addition/Revision/Deletion - Section 32B-18
+1 Addition on 5-30-2012 by Ordinance No. G-5707,
eff. 6-29-2012

Sec. 32B-19. Establishment of development permit. +1

A development permit shall be obtained before construction or development begins, including placement of manufactured homes, within any area of special flood hazard established in Section 32B-7. Application for a development permit shall be made on forms furnished by the Floodplain Administrator and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions and elevation of the area in question, existing or proposed structures, fill, storage of materials, drainage facilities and the location of the foregoing. Specifically, the following information is required:

A. Proposed elevation in relation to mean sea level of the lowest floor (including basement) of all structures. In Zone AO, elevation of existing highest adjacent natural grade and

proposed elevation of lowest floor of all structures;

B. Proposed elevation in relation to mean sea level to which any non-residential structure will be floodproofed;

C. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section 32B-20.C.2;

D. Base flood elevation data for subdivision proposals or other development greater than 50 lots or five acres; and

E. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

Date of Addition/Revision/Deletion - Section 32B-19
+1 Addition on 5-30-2012 by Ordinance No. G-5707,
eff. 6-29-2012

ARTICLE V. PROVISIONS FOR FLOOD HAZARD REDUCTION

Sec. 32B-20. Standards of construction. +1

In all areas of special flood hazards the following standards are required:

A. Anchoring.

1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy; and
2. All manufactured homes shall meet the anchoring standards of Section 32B-24.B.

B. Construction materials and methods.

1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage;
3. All new construction, substantial improvement and other proposed new development shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding; and
4. Within Zones AH or AO, adequate drainage paths shall be constructed around structures on slopes to guide floodwaters around and away from proposed structures.

C. Elevation and floodproofing.

1. *Residential construction.* Residential construction, new or substantial improvement, shall have the lowest floor, including basement:
 - a. In an AO Zone, elevated to or above the regulatory flood elevation, or elevated at least two feet above the highest adjacent grade if no depth number is specified.
 - b. In an A Zone where a BFE has not been determined, elevated to or above the regulatory flood elevation or be elevated in accordance with the criteria developed by the

Director of the Arizona Department of Water Resources.

- c. In Zones AE, AH and A1-30, elevated to or above the regulatory flood elevation.

Upon completion of the structure, the elevation of the lowest floor including basement shall be certified by a registered professional engineer or surveyor, and verified by the community's building inspector to be properly elevated. Such certification and verification shall be provided to the Floodplain Administrator.

2. *Nonresidential construction.* Nonresidential construction, new or substantial improvement, shall either be elevated to conform with subsection C.1 of this section or together with attendant utility and sanitary facilities:
 - a. Be floodproofed below the elevation recommended under subsection C.1 of this section so that the structure is watertight with walls substantially impermeable to the passage of water;
 - b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - c. Be certified by a registered professional engineer or architect that the standards of this section are satisfied. Such certification shall be provided to the Floodplain Administrator.
3. *Flood openings.* All new construction and substantial improvement with fully enclosed areas below the lowest floor (excluding basements) that are usable

solely for parking of vehicles, building access or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwater. Designs for meeting this requirement must meet or exceed the following criteria:

- a. Have a minimum of two openings, on different sides of each enclosed area, having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices; provided, that they permit the automatic entry and exit of floodwater; or
 - b. If it is not feasible or desirable to meet the openings criteria stated above, a registered engineer or architect may design and certify the openings.
4. *Manufactured homes.* Manufactured homes shall meet the standards in Section 32B-24 herein.
 5. *Garages and low cost accessory structures.*
 - a. *Attached garages.*
 - (1) A garage attached to a residential structure, constructed with the garage floor slab below the regulatory flood elevation, must be designed to allow for the automatic entry of flood waters. See subsection C.3 of this section. Areas of the garage below the regulatory flood elevation must be constructed with flood resistant materials. See subsection B of this section.
 - (2) A garage attached to a non-residential structure must meet the above requirements or be dry floodproofed.
 - b. *Detached garages and accessory structures.* "Accessory structure" used solely for parking (two-car detached garages or smaller) or limited storage (small, low-cost sheds), as defined in Article II, may be constructed such that its floor is below the regulatory flood elevation, provided the structure is designed and constructed in accordance with the following requirements:
 - (1) Use of the accessory structure must be limited to parking or limited storage;
 - (2) The portions of the accessory structure located below the regulatory flood elevation must be built using flood-resistant materials;
 - (3) The accessory structure must be adequately anchored to prevent flotation, collapse and lateral movement;
 - (4) Any mechanical and utility equipment in the accessory structure must be elevated or floodproofed to or above the regulatory flood elevation;

- (5) The accessory structure must comply with floodplain encroachment provisions in Section 32B-26; and
- (6) The accessory structure must be designed to allow for the automatic entry of flood waters in accordance with subsection C.3 of this section.

Detached garages and accessory structures not meeting the above standards must be constructed in accordance with all applicable standards in this section.

Date of Addition/Revision/Deletion - Section 32B-20
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-21. Standards for storage of materials and equipment. +1

A. The storage or processing of materials that could be injurious to human, animal or plant life if released due to damage from flooding is prohibited in special flood hazard areas.

B. Storage of other material or equipment may be allowed if not subject to damage by floods and if firmly anchored to prevent flotation, or if readily removable from the area within the time available after flood warning.

Date of Addition/Revision/Deletion - Section 32B-21
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-22. Standards for utilities. +1

A. All new or replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from systems into flood waters.

B. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

C. Waste disposal systems shall not be installed wholly or partially in a regulatory floodway.

Date of Addition/Revision/Deletion - Section 32B-22
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-23. Additional development standards, including subdivisions. +1

A. All new subdivision proposals and other proposed development (including proposals for manufactured home parks and subdivisions), greater than 50 lots or five acres, whichever is the lesser, shall:

1. Identify the area of the special flood hazard area and the elevation of the base flood.
2. Identify on the final plans the elevation(s) of the proposed structure(s) and pads. If the site is filled above the base flood elevation, the final lowest floor and grade elevations shall be certified by a registered professional engineer or surveyor and provided to the Floodplain Administrator.

B. All subdivision proposals and other proposed development shall be consistent with the need to minimize flood damage.

C. All subdivision proposals and other proposed development shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.

D. All subdivision proposals and other proposed development shall provide adequate drainage to reduce exposure to flood hazards.

Date of Addition/Revision/Deletion - Section 32B-23

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-24. Standards for manufactured homes. +1

All manufactured homes that are placed on site or substantially improved shall:

A. Be elevated so that the bottom of the structural frame or the lowest point of any attached appliances, whichever is lower, is at or above the regulatory flood elevation; and

B. Be securely anchored to an adequately anchored foundation system to resist flotation, collapse or lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.

Date of Addition/Revision/Deletion - Section 32B-24

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-25. Standards for recreational vehicles. +1

All recreational vehicles placed on site shall:

A. Be on site for fewer than 180 consecutive days; or

B. Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or

C. Meet the permit requirements of Article IV of this chapter and the elevation and anchor-

ing requirements for manufactured homes in Section 32B-24.

Date of Addition/Revision/Deletion - Section 32B-25

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-26. Floodways. +1

Located within areas of special flood hazard established in Section 32B-7 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions apply:

A. Prohibit encroachments, including fill, new construction, substantial improvements and other development, unless certification by a registered professional engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

B. If this section is satisfied, all new construction and substantial improvements shall comply with all other applicable flood hazard reduction provisions of Article V.

Date of Addition/Revision/Deletion - Section 32B-26

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

ARTICLE VI. VARIANCE PROCEDURE

Sec. 32B-27. Nature of variances. +1

A. The variance criteria set forth in this article are based on the general principle of zoning law that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this chapter would create an exceptional hardship to the applicant

or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants or the property owners.

B. It is the duty of the City to help protect its citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below the regulatory flood elevation are so serious that variances from the flood elevation or from other requirements in the flood ordinance are quite rare. The long-term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance guidelines provided in this chapter are more detailed and contain multiple provisions that must be met before a variance can be properly granted. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.

Date of Addition/Revision/Deletion - Section 32B-27
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-28. Appeal Board. +1

A. The Floodplain Board of the City of Phoenix shall hear and decide appeals and requests for variances from the requirements of this chapter.

B. The Floodplain Board shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Floodplain Administrator in the enforcement or administration of this chapter.

C. In passing upon such applications, the Floodplain Board shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and:

1. The danger that materials may be swept onto other lands to the injury of others;
2. The danger to life and property due to flooding or erosion damage;
3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
4. The importance of the services provided by the proposed facility to the community;
5. The necessity to the facility of a waterfront location, where applicable;
6. The availability of alternative locations for the proposed use, which are not subject to flooding or erosion damage;
7. The compatibility of the proposed use with existing and anticipated development;
8. The relationship of the proposed use to the Comprehensive Plan and Floodplain Management Program for that area;
9. The safety of access to the property in time of flood for ordinary and emergency vehicles;
10. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and
11. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, water system and streets and bridges.

D. Upon consideration of the factors of this section and the purposes of this chapter, the

Floodplain Board may attach such conditions to the granting of variances as it deems necessary to further the purposes of this chapter.

E. Any applicant to whom a variance is granted shall be given written notice over the signature of a community official that:

1. The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage; and
2. Such construction below the base flood level increases risks to life and property; and
3. The land upon which the variance is granted shall be ineligible for exchange of State land pursuant to the flood relocation and land exchange program provided by A.R.S. Title 26, Chapter 2, Article 2. A copy of the notice shall be recorded in the Office of the Maricopa County Recorder and shall be recorded in a manner so that it appears in the chain of title of the affected parcel of land.

F. The Floodplain Administrator shall maintain a record of all variance actions, including justification for their issuance and report such variances issued in its biennial report submitted to FEMA.

Date of Addition/Revision/Deletion - Section 32B-28
+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32B-29. Conditions for variances. +1

A. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by

lots with existing structures constructed below the base flood elevation, provided the procedures of Articles IV and V of this chapter have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.

B. Variances may be issued for the repair, rehabilitation or restoration of structures listed in the National Register of Historic Places or the State Inventory of Historic Places, upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

C. For a variance to be granted, the circumstances must be exceptional, unusual, and peculiar to the property involved. Mere economic or financial hardship alone is not exceptional. Inconvenience, aesthetic considerations, physical handicaps, personal preferences, or the disapproval of one's neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if the alternative is more expensive, or requires the property owner to build elsewhere or put the parcel to a different use than originally intended.

D. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

E. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

F. Variances shall only be issued upon a:

1. Showing of good and sufficient cause;

2. Determination that failure to grant the variance would result in exceptional hardship to the applicant;
3. Showing that the use cannot perform its intended purpose unless it is located or carried out in close proximity to water. This includes only facilities defined in Article II of this chapter in the definition of *functionally dependent use*; and
4. Determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.

Date of Addition/Revision/Deletion - Section 32B-29

+1 Addition on 5-30-2012 by Ordinance No. G-5707,
eff. 6-29-2012

CHAPTER 32C
STORMWATER QUALITY PROTECTION

Chapter 32C

STORMWATER QUALITY PROTECTION*

- Secs. 32C-1—32C-99. Reserved.
- Sec. 32C-100. General powers and purpose.
- Sec. 32C-101. Definitions.
- Sec. 32C-102. Declaration of nuisance.
- Sec. 32C-103. Prohibited and permitted practices. *1
- Sec. 32C-104. Stormwater management plan. *1
- Sec. 32C-105. City authorized discharges.
- Sec. 32C-106. Inspections.
- Sec. 32C-107. Violations and penalties.
- Sec. 32C-108. Requirement to monitor, analyze and remediate.
- Sec. 32C-109. Stormwater treatment devices.
- Sec. 32C-110. Low impact development (LID).
- Sec. 32C-111. Fees (Reserved).

***Cross references**—Sewers, ch. 28; grading and drainage, ch. 32A; environmental protection, ch. 40.

Secs. 32C-1—32C-99. Reserved.**Sec. 32C-100. General powers and purpose.**

A. The City Manager may regulate the use, grading, paving, maintenance, and operation of public rights-of-way and public storm drain systems so as to reduce, to the maximum extent practicable, the addition of pollutants to stormwater in quantities or concentrations that could reasonably be expected to cause or contribute to either a violation of an applicable water quality standard or any condition of a stormwater NPDES/AZPDES permit issued to the City, or any other act that causes or contributes to damage to a public storm drain system. The City Manager may regulate the use of the public storm drain system through administrative rules, permits, and other written forms of approval for activities that could release pollutants or stormwater to a public storm drain system. *1

B. Nothing in this chapter shall be construed as an assumption by the City of Phoenix of any other person's duties or responsibilities arising under any applicable law, including the common law. Any activities of the City Manager authorized by this chapter are permissive rather than mandatory.

C. The City Manager will provide implementation guidance to assist the public in complying with this chapter. This guidance may consist of fact sheets, policy and procedure manuals, and other pertinent information relating to the development and implementation of best management practices for stormwater quality protection. *1

(Ord. No. G-3589, § 1; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32C-100

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32C-101. Definitions.

As used in this chapter, the following terms shall have the designated meanings.

Applicable water quality standard means a numeric or narrative water quality criterion that limits the quantity or concentrations of pollutants that may be present in navigable waters defined in 33 U.S.C. Section 1362(7). *1

Best management practice (BMP) means activities, prohibition of practices, structural and nonstructural controls, operational and maintenance procedures, control measures and other management practices to prevent or reduce the discharge of pollutants to the public storm drain system. +1

City Manager means the City Manager for the City of Phoenix or the City Manager's designee. +1

Direct connection means any pipe, conduit or other conveyance that is inserted into any part of the public storm drain system either temporarily or permanently. +1

Discharge permit means a City-issued document (permit) authorizing the release of uncontaminated stormwater or non-stormwater to the storm drain system for a specified period of time. Specific restrictions may apply and will be determined on a case-by-case basis. Fees for administering the permit may apply. +1

Firefighting activities means all emergency response activities that control or extinguish fires. The phrase does not include the release of significant materials that occur after an emergency situation has ended. +1

Nonresidential property means any real property that is actually or intended to be used for commercial, industrial, agricultural, or recreational purposes, including but not limited to the immediate vicinity of five or more con-

nected residential dwelling units, and residential subdivisions or dwellings that have not been occupied by a bona fide purchaser or tenant.

NPDES/AZPDES permit means an authorization to discharge stormwater issued under the NPDES/AZPDES program. *1

NPDES/AZPDES Program means the Federal National Pollution Discharge Elimination System (NPDES) Program administered nationally pursuant to 33 U.S.C. Section 1342 and the Arizona Pollution Discharge Elimination System (AZPDES) Program administered in Arizona pursuant to Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1. +1

Permit means written authorization to engage in specific conduct or an activity that is issued pursuant to and in accordance with the particular law, rules or ordinances governing that conduct or activity. +1

Person means any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust or any other legal entity, including their legal representatives, agents and assigns. +1

Pollutant means fluids, contaminants, toxic wastes, toxic pollutants, dredged spoil, solid waste, substances and chemicals, pesticides, herbicides, fertilizers and other agricultural chemicals, incinerator residue, sewage, garbage, sewage sludge, munitions, petroleum products, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, dirt, sand, sediment, and mining, municipal, and agricultural waste, or any other liquid, solid, gaseous or hazardous substances. *1

Pollution means the presence of pollutants on land or in stormwater.

Pollution prevention means operational procedures and processes and improvements in housekeeping or management techniques that reduce potential or actual releases of pollutants to the environment including all air, water and land resources affected by those pollutants. +1

Public storm drain system means all or any part of the publicly owned stormwater conveyance system, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels or storm drains located within easements, rights-of-way, parks, streets, roads, or highways, or in common areas of real property leased from the City of Phoenix, that are used for collecting, retaining, or conveying stormwater. *1

Release means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, placing, leaching, dumping, or disposing into or on any land in a manner that significant materials, pollutants, or stormwater has the reasonable potential to be introduced into the public storm drain system. *1

Significant materials means any solid, liquid, or gaseous substance other than uncontaminated stormwater, that can release pollutants, including but not limited to: raw materials; fuels; solvents; detergents; finished materials; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601(14); any chemical for which a report must be filed pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. Section 11023; fertilizers; pesticides; herbicides; and waste materials, including garbage, trash, ashes, slag, yard waste, animal waste, and sludge. *1

Stormwater means rainfall runoff, snow melt runoff, and surface runoff and drainage. *1

Stormwater management plan (SWMP) means a document, tailored to the facility's site-specific conditions and activities, identifying the facility's plan for eliminating, minimizing or reducing the amount of pollution in stormwater discharged from the site. +1

Uncontaminated means the absence of pollutants. +1
(Ord. No. G-3589, § 1; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32C-101
+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Cross reference—Definitions and rules of construction generally, § 1-2.

Sec. 32C-102. Declaration of nuisance.

A. A public nuisance is anything that is injurious or obnoxious to health or the environment, or is offensive to the sense, or is an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property by any considerable number of persons, or which obstructs the free passage or use, in any customary manner, of any street, alley, sidewalk, or other public right-of way. +1

B. It is hereby declared to be a public nuisance for any person to store, use, manufacture, process, handle or release significant materials, pollutants, or stormwater in a manner that causes or contributes to: (1) the conditions or circumstances as defined in subsection A of this section; (2) damage to a public right-of-way or public storm drain system; (3) a violation of an applicable water quality standard; or (4) a violation of any applicable condition of a stormwater NPDES/AZPDES permit. An act is not a public nuisance if it is authorized in: (1) this chapter; (2) an administrative rule, permit, plan approval, or other authorization issued in

compliance with this chapter; or (3) a NPDES/AZPDES permit. *1

(Ord. No. G-3589, § 1; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32C-102
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Sec. 32C-103. Prohibited and permitted practices. *1

A. It shall be unlawful for any person to use, store, treat or dispose of stormwater, pollutants, or significant materials in a manner that creates a public nuisance as defined in Section 32C-102 of this chapter.

B. It shall be unlawful for any person to release to a publicly owned right-of-way, retention or detention basin, or public storm drain system any substance that is not composed entirely of stormwater except (1) releases pursuant to an NPDES/AZPDES permit, (2) releases resulting from emergency firefighting activities, and (3) releases of materials as provided in subsection F, G or H of this section. *1

C. It shall be unlawful for any person to install or use a direct connection to the public storm drain system without permission of the City Manager. +1

D. It shall be unlawful for any person to fail to maintain best management practices, including but not limited to stormwater retention and detention basins, drywells, and storage structures. +1

E. It shall be unlawful for any person to, without good cause, interfere with or prohibit any City employee from conducting any activities in furtherance of the requirements of this chapter, including conducting inspections and collecting samples. *1

F. This section does not prohibit releases of stormwater from stormwater retention or detention basins if a permit or approval is first obtained from the City Manager. A person seeking such a permit or approval shall demonstrate that the release is not reasonably expected to cause or contribute to a public nuisance as defined in Section 32C-102. *1

G. This section does not prohibit releases from the following sources, provided those releases are not a significant source of pollutants and are discharged in a manner that does not create a public nuisance as defined in Section 32C-102: *1

1. Fire fighting system testing and maintenance, including hydrant flushings; +1
2. Discharges related to installation and maintenance of potable water supply systems, including disinfection and flushing activities; discharges resulting from pressure releases or overflows; and discharges from wells approved for drinking water use; +1
3. Uncontaminated condensate from air conditioners, and other compressors and from the outside storage of refrigerated gases or liquids; +1
4. Irrigation water; +1
5. Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling; +1
6. Pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed); +1
7. Routine external building wash-down that does not use detergents or other chemicals; +1

8. Water used to control dust, provided effluent or other wastewaters are not used; +1
9. Uncontaminated groundwater or spring water; +1
10. Foundation or footing drains where flows are not contaminated with process materials such as solvents; +1
11. City street sweeping activities; and +1
12. Individual residential and not-for-profit/charitable organization fundraising vehicle washing. +1

H. This section does not prohibit releases to the public storm drain system that are authorized pursuant to an NPDES/AZPDES permit; provided, that all conditions of that permit are met and the City has been provided a copy of the applicable authorization to discharge or other written proof of permit coverage. Examples of this include releases authorized under the NPDES/AZPDES general permits for de minimis discharges or stormwater discharges associated with industrial activity. An authorization under a separate NPDES/AZPDES permit, however, does not exempt a person from preparing a stormwater management plan and submitting it to the City, if required under Section 32C-104. +1

(Ord. No. G-3589, § 1; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32C-103
+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32C-104. Stormwater management plan. *1

A. Any person who conducts an activity on nonresidential property or conducts an activity for a fee or charge on residential property that

has the reasonable potential to affect the quality or volume of stormwater impounded upon or released from the property, regardless of whether it is raining at the time, shall prepare a detailed written stormwater management plan as described in this section. There is a rebuttable presumption that a stormwater management plan is not required for activities conducted within completely enclosed structures and in other areas that are permanently inaccessible to contact with stormwater or other sources of water, including run-on and run-off. +1

B. Any person applying pursuant to any chapter of the Phoenix City Code for authorization, permission, or a permit to perform or engage in an activity that has the reasonable potential to affect the quality or volume of stormwater impounded upon or released from their property as a result of the activity for which approval is sought shall prepare and submit a stormwater management plan. *1

C. A stormwater management plan shall apply to all contiguous land under common ownership or control, and shall specifically state the address of each parcel of property subject to the plan. The plan shall include a description of the types of all significant materials that will be on the property; the land use and materials management practices that could lead to the pollution of stormwater during all phases of existing and proposed land use; the manner in which significant materials will be used, stored, treated or disposed of; the methods to minimize, to the maximum extent practicable, the pollution of stormwater; and any additional information concerning stormwater management and pollution prevention efforts that are or will be prepared to comply with any rules or NPDES/AZPDES permits issued pursuant to the portions of 40 CFR Part 122 that relate to discharges of stormwater. The storm-

water management plan shall be provided to the City Manager upon request by the City. *1

D. A stormwater management plan may apply to more than one parcel of property so long as the activities on the properties are sufficiently similar that a single plan is appropriate. A stormwater management plan is not transferable to new property owners and/or operators. *1

E. Permits, approvals or other authorizations that require stormwater management plans as provided in subsection B of this section shall not be issued until the City Manager has received the applicable stormwater management plan. If significant materials are not at all times managed in substantial compliance with the applicable stormwater management plan, or if the authorized activity causes or contributes to violations of this chapter, the City Manager may modify or revoke the City permit, approval or other authorization. *1

F. A stormwater management plan shall include, to the extent applicable, best management practices for: managing litter; the use, storage, treatment, and disposal of significant materials; the use and disposal of pesticides and herbicides; reducing the velocity of releases to a public storm drain system; the use of landscape features to reduce the quantity and velocity of stormwater that may be released off-site; maintenance of retention basins and other stormwater management devices and facilities; underground storage and other treatment devices; maintenance and cleaning of parking lots and buildings; and ensuring that significant materials are not exposed to direct contact with stormwater; and documented employee and contractor training. *1

G. The persons identified in subsections A and B of this section shall fully implement their stormwater management plan and are required

to revise that stormwater management plan as necessary if the affected property or activities at the property are modified in a manner that may cause a material detrimental change in the volume, velocity, or quality of stormwater released off site. +1

H. The City Manager reserves the right to require amendments to a stormwater management plan as deemed necessary to reduce or eliminate pollutant sources from reaching the publicly owned storm drain system or environment. +1

I. A stormwater pollution prevention plan (SWPPP) that complies with a stormwater NPDES/AZPDES permit and applicable requirements of 40 CFR Part 122 may be used as part or all of the stormwater management plan required by this section. +1

(Ord. No. G-3589, § 1; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32C-104
+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32C-105. City authorized discharges. +1

A. The City Manager may permit or allow a facility or person to release uncontaminated non-stormwater to the storm drain system as necessary and with specific restrictions. Similarly, the City may allow the discharge of uncontaminated stormwater from on-site retention areas. Each approved permit shall have a fee of not less than \$1,000.00 per year. Each permit shall not extend beyond five years in duration. It shall be the permittee’s responsibility to reapply as stated in the permit. The permittee shall comply with applicable Arizona Surface Water Quality Standards designated by the City.

B. Uncontaminated stormwater or non-stormwater discharges that are infrequent (less than twice per calendar year) and low volume (less than 50,000 gallons per discharge) shall not be required to pay a permit fee. Additionally, discharges authorized under and in compliance with an NPDES/AZPDES permit are not required to obtain a City discharge permit or pay a permit fee.

C. Permits issued under the requirements of this chapter shall not relieve the owner of the responsibility for securing required permits for work to be done that is regulated by any other ordinance, department, or division of the City of Phoenix or other governing agency.

Date of Addition/Revision/Deletion - Section 32C-105
+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32C-106. Inspections.

A. The City Manager is authorized to enter and inspect real property, structures, and buildings as necessary to assess compliance with this chapter or a stormwater NPDES/AZPDES permit. These inspections shall be conducted in accordance with applicable constitutional or statutory requirements. *1

B. Inspections conducted pursuant to this chapter may be expanded to include items covered by other chapters of the Phoenix City Code that relate to the quality or management of stormwater.

C. The City Manager may collect and analyze samples of stormwater and significant materials, install and require the installation of stormwater sampling and measurement

devices, and examine records concerning significant materials and stormwater activities. *1 (Ord. No. G-3589, § 1; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32C-106

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Note—Formerly, § 32C-105

Sec. 32C-107. Violations and penalties.

A. The remedies specified herein are cumulative and the City Manager, or the City Attorney, may proceed under these or any other remedies authorized by law. In addition to any other authorized remedies, a person who violates any provision of this chapter shall be guilty of a misdemeanor. Each day of violation shall be a separate offense. *1

B. Any person having control over an activity or any real property, or who causes, authorizes, facilitates, aids or abets any violation of any provision of this chapter, or who fails to abate any nuisance or prohibited practice for which the person is responsible, is guilty of a Class 1 misdemeanor.

C. The City Manager may issue a notice of violation or other compliance and enforcement documentation to any person who has violated or is in violation of this chapter. Failure to perform any act required in the notice of violation shall be a separate violation for each day the violation continues beyond the notice of violation date. *1

D. The transfer of ownership, possession, or control of real property to another person does not relieve the transferor of responsibility for violations of this chapter, as provided in subsection B of this section, which occurred before the transfer unless the transferee accepts responsibility for the violations.

E. A person who violates this chapter is subject to a civil action in any court of competent jurisdiction to collect a civil sanction of not less than \$50.00 nor more than \$2,500.00 for each violation. Each day of each violation shall constitute a separate civil offense.

F. The owner of record of the property upon which a violation of this chapter occurs shall be presumed to be a person having lawful control over an activity or real property, unless it is demonstrated that another person has knowingly and in good faith accepted responsibility for the activity or property at issue. If more than one person is identified as the owner of record, such persons shall be presumed to be jointly and severally in lawful possession and control of the activity or land.

G. Any person causing or contributing to a violation of this chapter or a permit issued in accordance herewith shall notify the City immediately upon learning of the events that resulted in the violation. This notification shall be followed within five days by a detailed written statement describing the cause of the violation and the measures being taken to prevent reoccurrence. Neither the submission to the City of the original notification nor the detailed written statement will relieve the person of liability for any expense, loss or damage to the publicly owned storm drain, or for any fines imposed on or by the City on account thereof. +1

(Ord. No. G-3589, § 1; new style in use as of 8-1-2011)

Date of Addition/Revision/Deletion - Section 32C-107

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

*1 Revision on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

State law reference—Penalty for ordinance violations, A.R.S. §§ 9-499.01, 9-240(B)(28).

Note—Formerly, § 32C-106

Sec. 32C-108. Requirement to monitor, analyze and remediate. +1

A. Where a reasonable basis exists to conclude that a person engaged in any activity and/or owning or operating any property has violated this chapter, the City Manager may require by written notice that said person undertake, at their expense, such monitoring and analyses and furnish the resulting reports to the City as deemed necessary to determine compliance with this chapter.

B. Where a person engaged in any activity and/or owning or operating any property has violated this chapter, the City Manager may require by written notice that said person remediate or restore, within a specified period of time, any property, conveyance or equipment contaminated by or otherwise adversely affected by the activities giving rise to the violation.

Date of Addition/Revision/Deletion - Section 32C-108
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32C-109. Stormwater treatment devices. +1

A. Where necessary in the opinion of the City Manager, any person that seeks to use a direct connection to the public storm drain system shall provide, at their expense, such treatment devices, facilities or interceptors as may be necessary to reduce the objectionable characteristics or constituents of the released water to within the limits provided for in this chapter. Plans, specifications, and any other pertinent information relating to proposed treatment devices, facilities or interceptors shall be submitted for approval of the City Manager. No construction of such treatment devices, facilities or interceptors shall be commenced until the written approval from the City is obtained.

City approval of the plans and inspection of the construction shall not relieve the owner from complying with the release limits set forth in this chapter.

B. Where treatment devices, facilities or interceptors are used in direct connection to the public storm drain system, those devices, facilities or interceptors shall be maintained continuously in satisfactory and effective operation by the owner at their expense. The owner shall keep written records and documentation of all cleaning, repair, calibration and maintenance required demonstrating compliance with this section. Records shall be kept at the property upon which the treatment devices, facilities or interceptors are located for a minimum of five years and be made available to the City upon request.

C. All treatment devices, facilities and interceptors shall be of a type and capacity approved by the City Manager and shall be located as to be readily and easily accessible for cleaning and inspection. Additionally, interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature; shall be of substantial construction, watertight, and equipped with easily removable covers when a bolted cover is required.

Date of Addition/Revision/Deletion - Section 32C-109
 +1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

Sec. 32C-110. Low impact development (LID). +1

The City Manager shall where reasonable and practical encourage low impact development or the use of green methods or structures

to control the release of pollutants into the storm drain system.

Date of Addition/Revision/Deletion - Section 32C-110

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

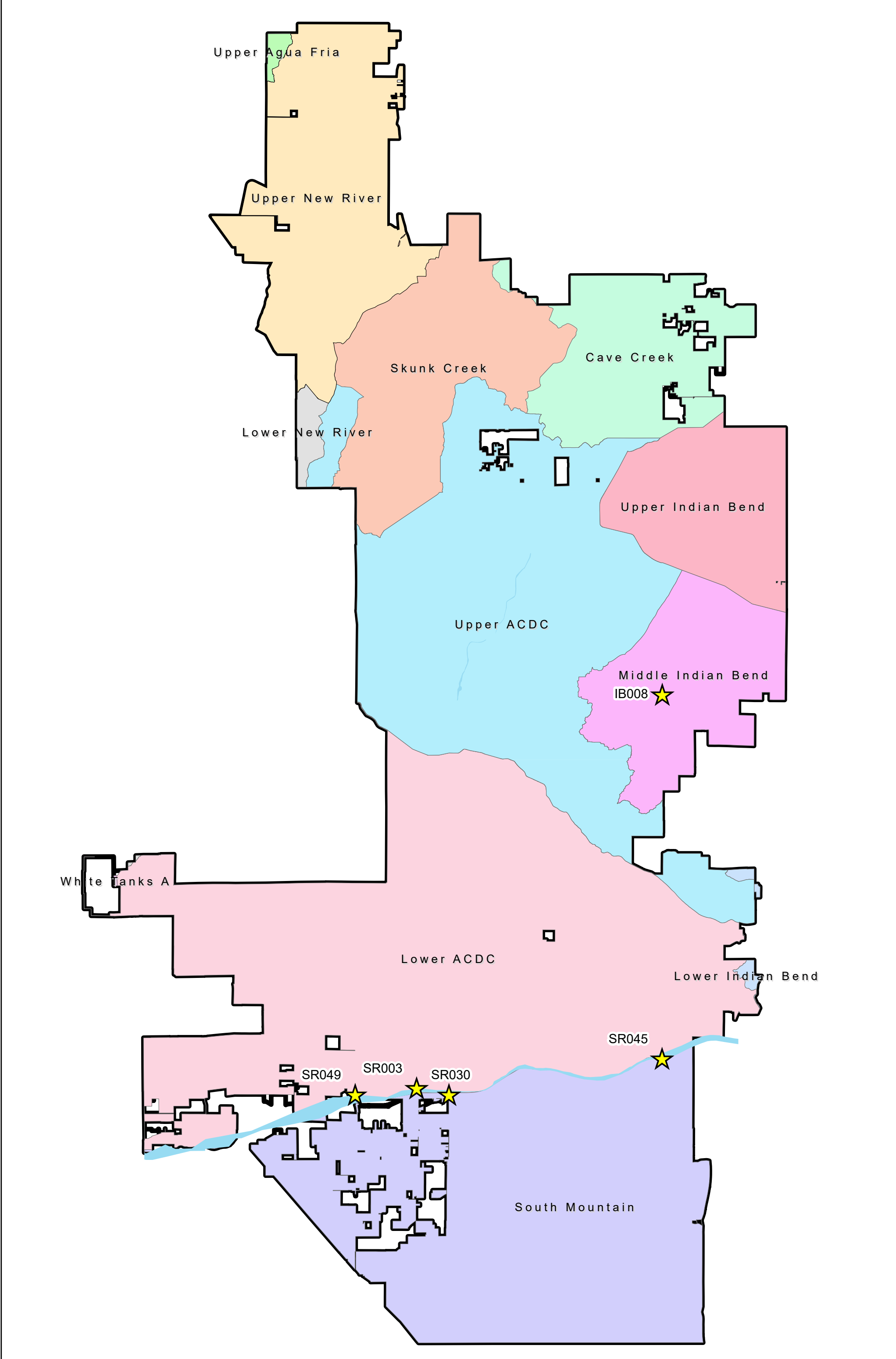
Sec. 32C-111. Fees (Reserved). +1

Date of Addition/Revision/Deletion - Section 32C-111

+1 Addition on 5-30-2012 by Ordinance No. G-5707, eff. 6-29-2012

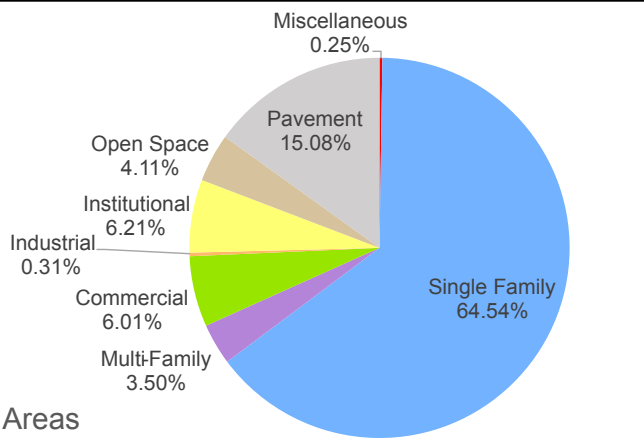
APPENDIX C

DRAINAGE SYSTEM MAPS

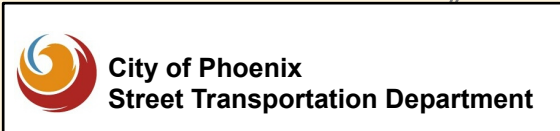
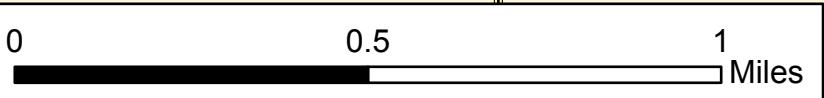
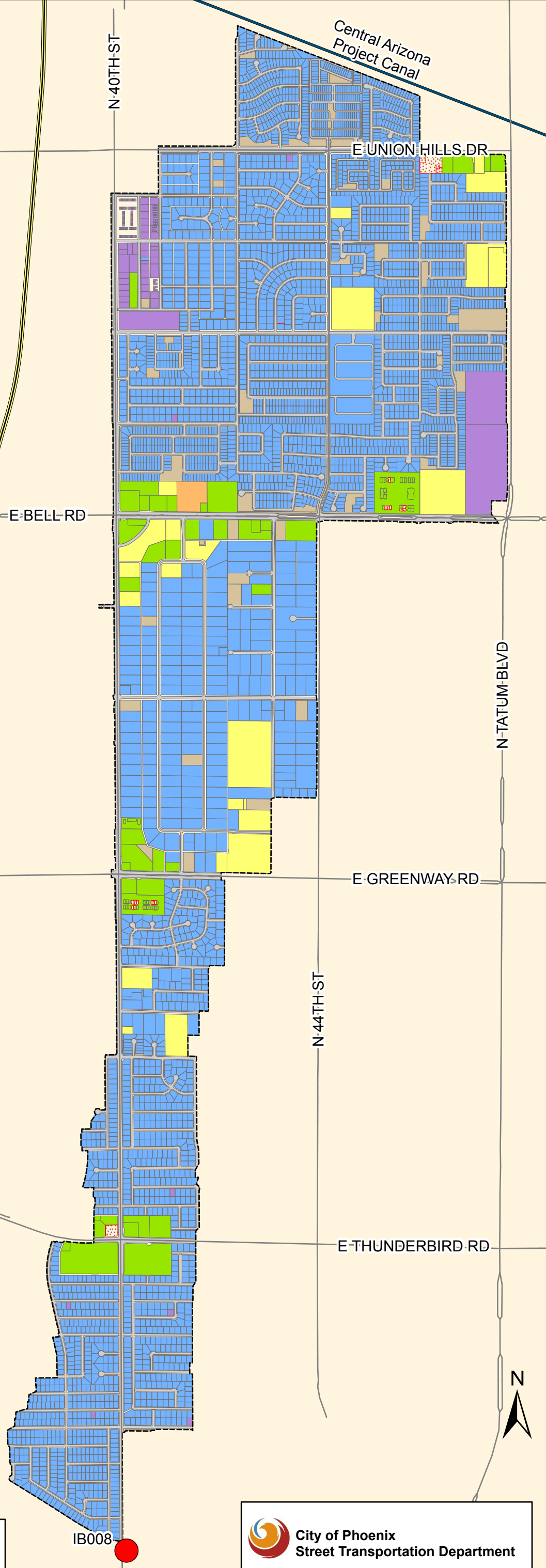
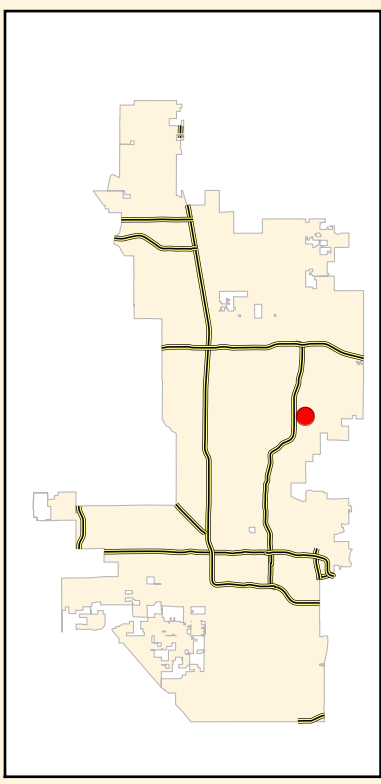


City of Phoenix Watersheds

Drainage Area IB008











- Outfalls
 - Freeways
 - Streets
 - Canals
 - Rivers
 - Pavement
 - City Limit
 - Drainage Areas
- Land Use**
- Commercial
 - Industrial
 - Institutional
 - Miscellaneous
 - Multi Family Residential
 - Open Space
 - Single Family Residential
 - Transportation
 - Utilities

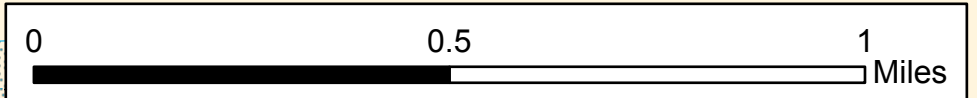
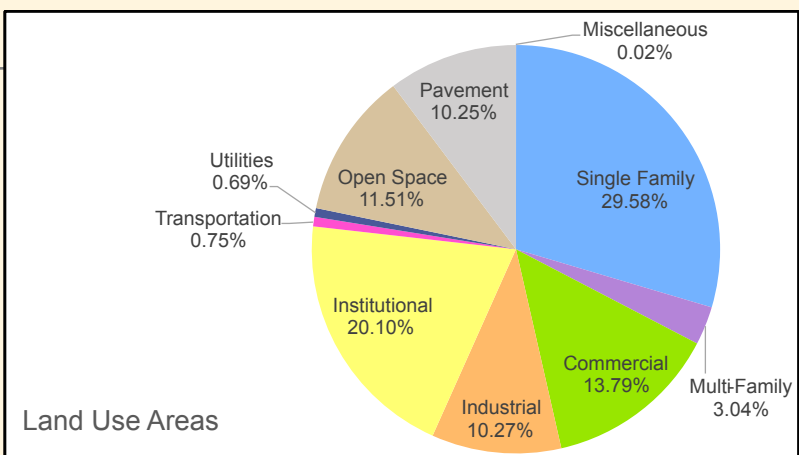
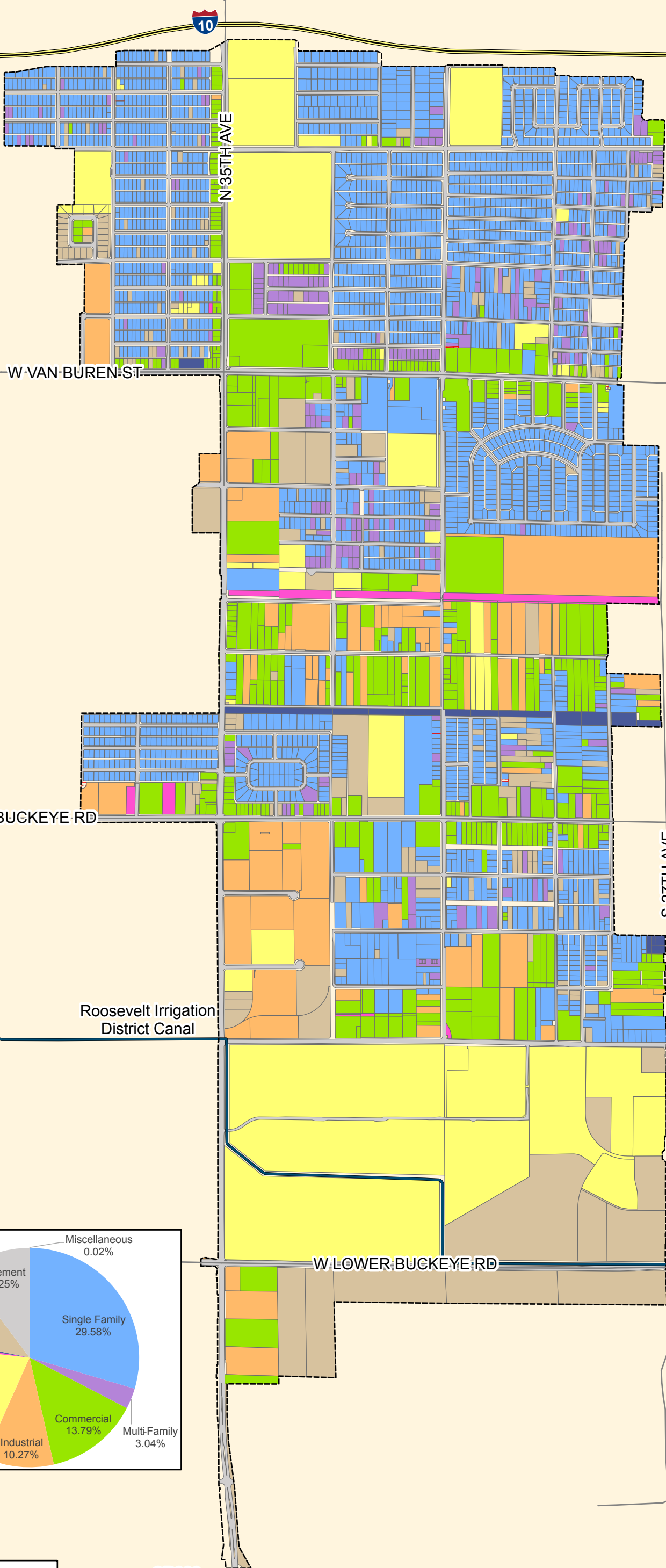
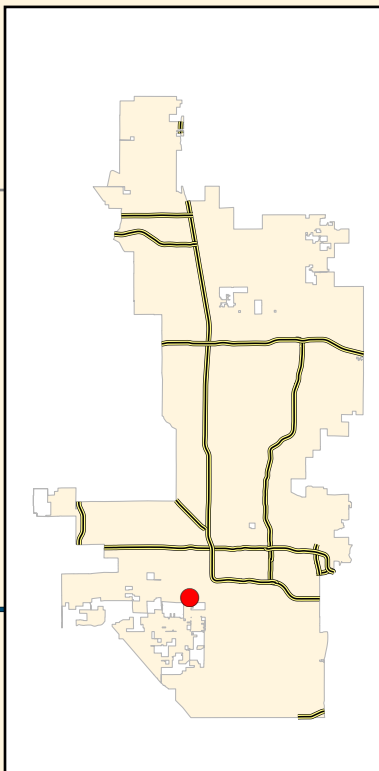


Drainage Area SR003

-  Outfalls
-  Freeways
-  Streets
-  Canals
-  Rivers
-  Pavement
-  City Limit
-  Drainage Areas

Land Use

-  Commercial
-  Industrial
-  Institutional
-  Miscellaneous
-  Multi Family Residential
-  Open Space
-  Single Family Residential
-  Transportation
-  Utilities



SR030


















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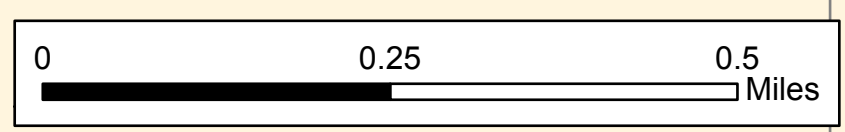
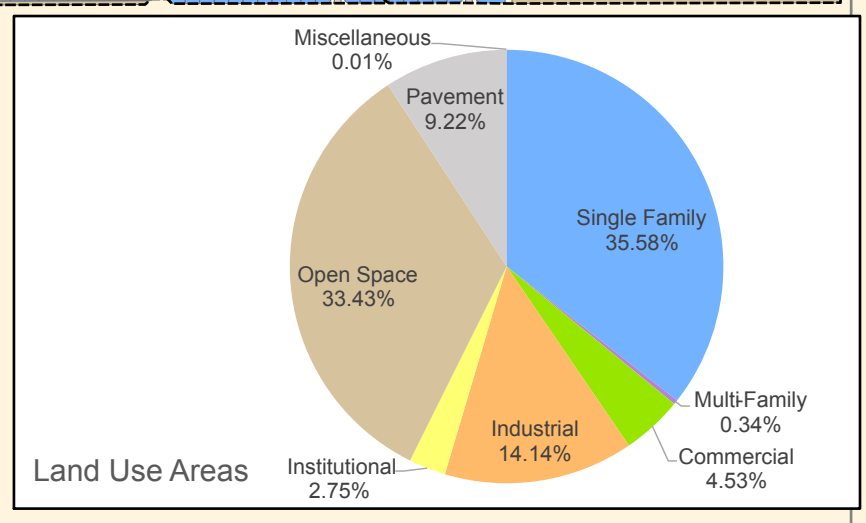
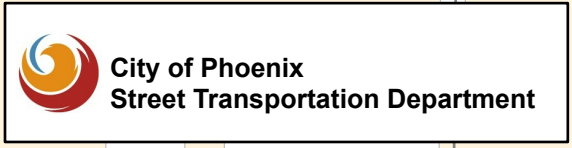
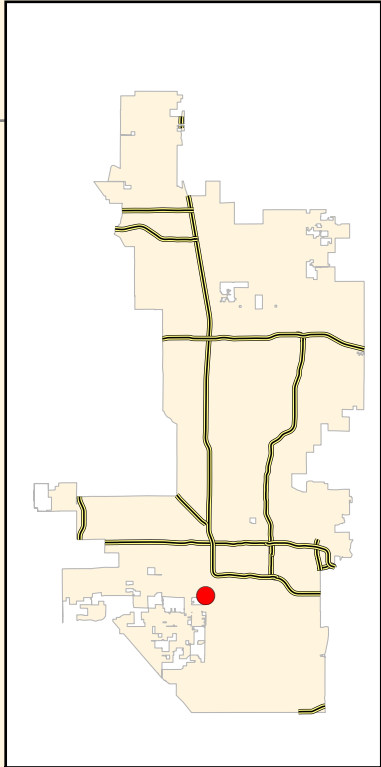
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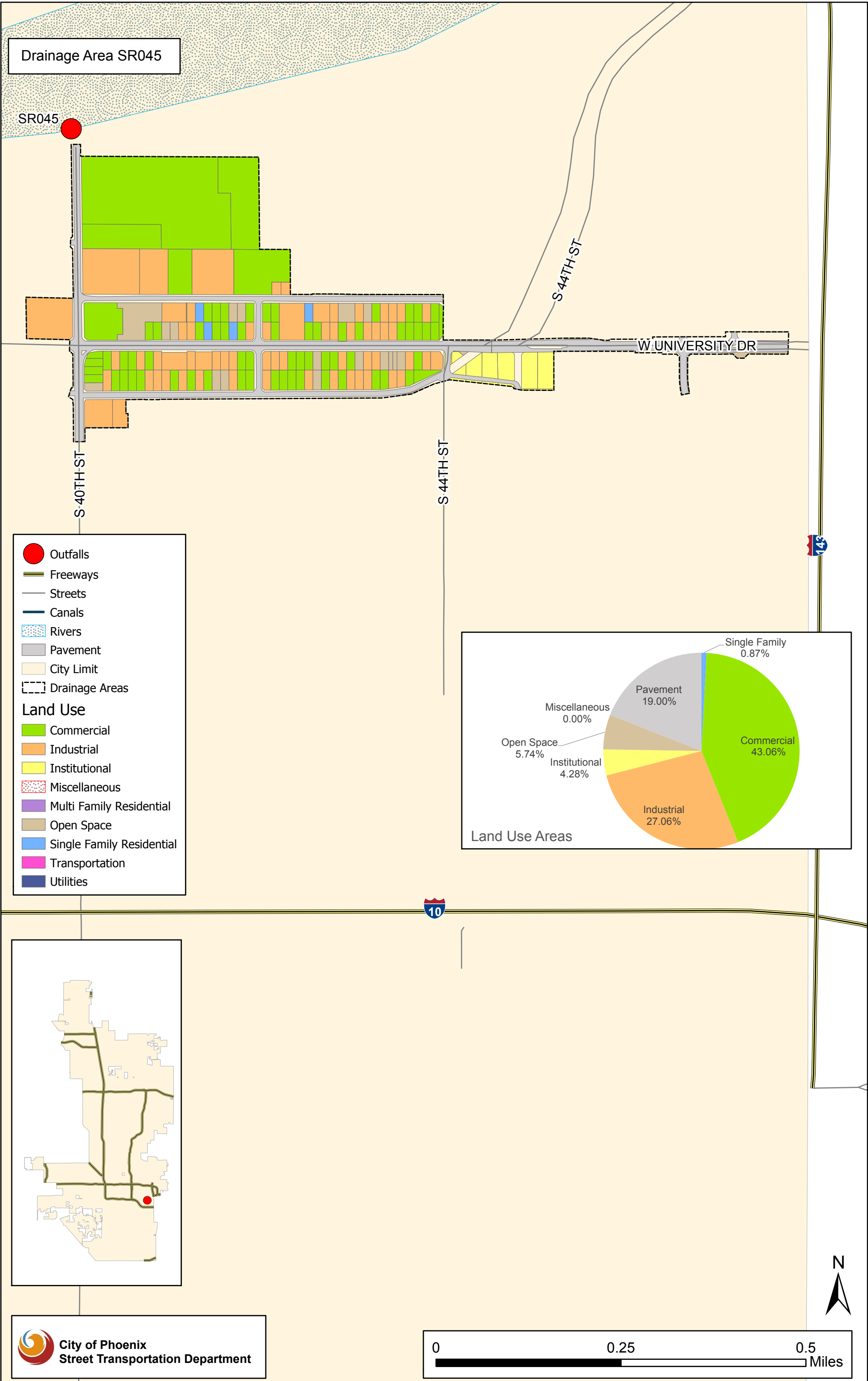
S-19TH AVE

S-27TH AVE

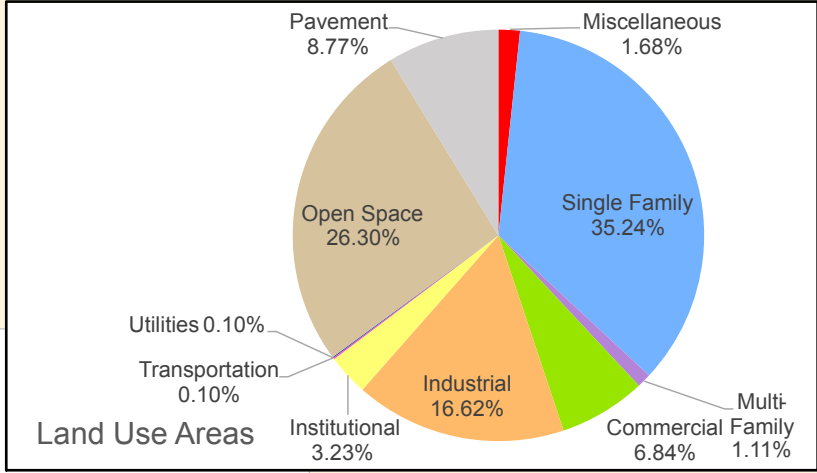
W SOUTHERN AVE

-  Outfalls
 -  Freeways
 -  Streets
 -  Canals
 -  Rivers
 -  Pavement
 -  City Limit
 -  Drainage Areas
- Land Use**
-  Commercial
 -  Industrial
 -  Institutional
 -  Miscellaneous
 -  Multi Family Residential
 -  Open Space
 -  Single Family Residential
 -  Transportation
 -  Utilities





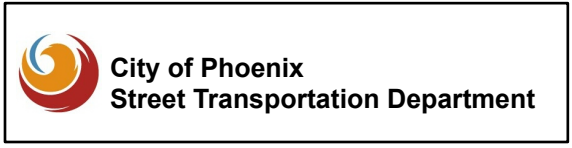
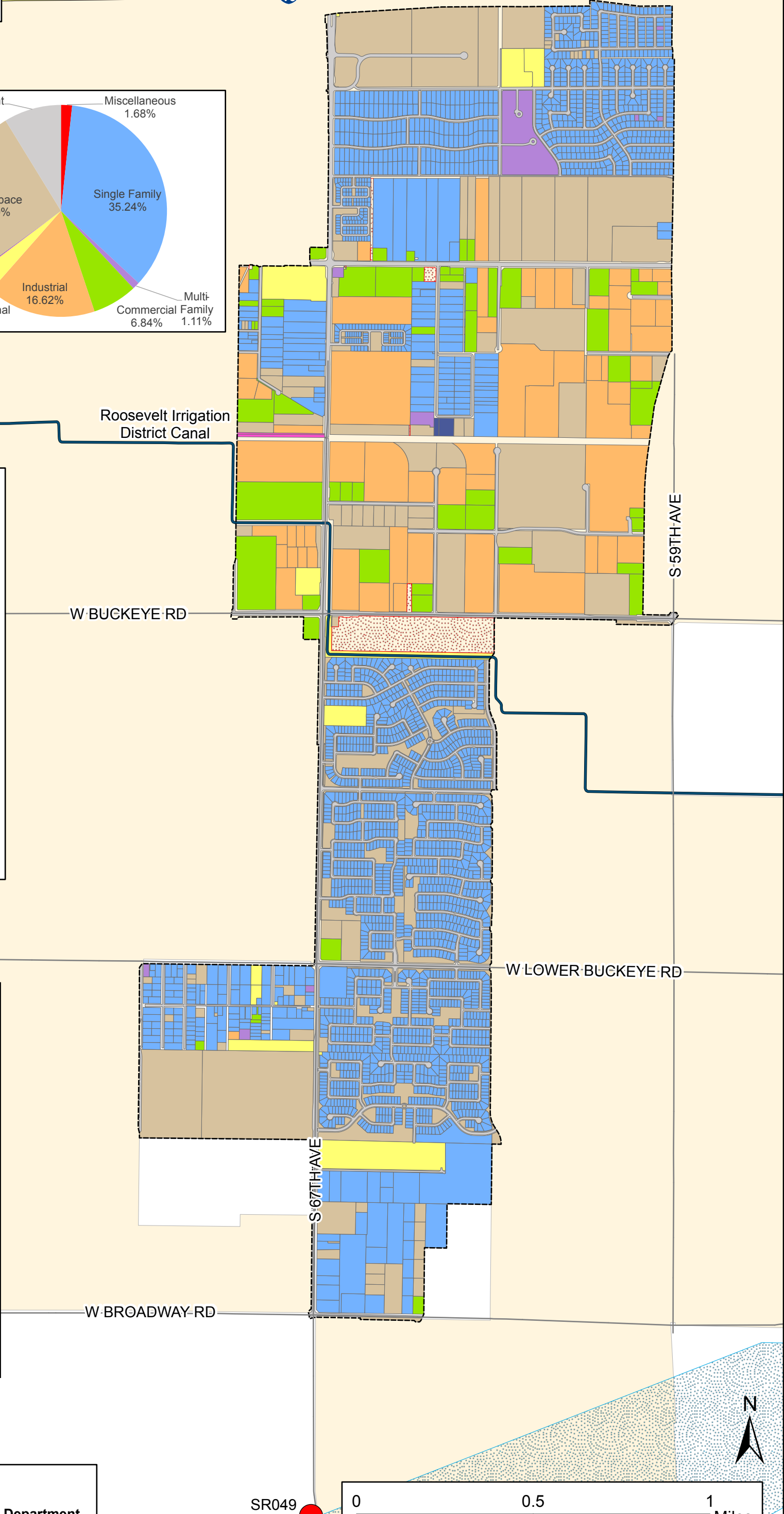
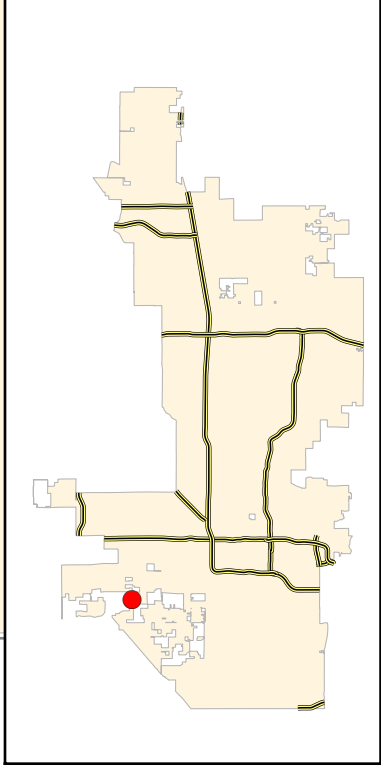
Drainage Area SR049



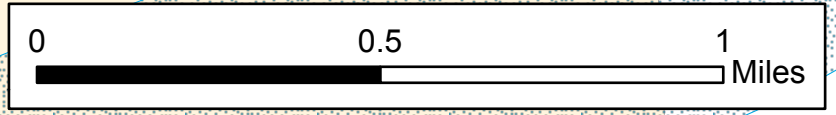
- Outfalls
- Freeways
- Streets
- Canals
- Rivers
- Pavement
- City Limit
- Drainage Areas

Land Use

- Commercial
- Industrial
- Institutional
- Miscellaneous
- Multi Family Residential
- Open Space
- Single Family Residential
- Transportation
- Utilities



SR049



APPENDIX D

INVENTORY OF MAJOR OUTFALLS

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
AC/DC-Arizona Canal Diversion Channel		Count: 89				
AC001	51st Ave And Cactus Road, Phoenix, AZ	33.5965	-112.1695	78 Inches	01/12/2021	2026
AC002	43rd Ave And Peoria Ave, Phoenix, AZ	33.5829	-112.1519	90 Inches	01/12/2021	
AC003	43rd Ave And Peoria Ave, Phoenix, AZ	33.5817	-111.8500	42 Inches	01/12/2021	2026
AC004	35th Ave And Acdc Channel, Phoenix, AZ	33.5725	-111.8656	96 Inches	01/11/2021	2027
AC005	30th Ave And Metrocenter, Phoenix, AZ	33.5697	-111.8744	53 Inches	01/11/2021	
AC006	29th Ave And Metrocenter, Phoenix, AZ	33.5708	-111.8789	48 Inches	01/11/2021	2026
AC007	29th Ave And Metrocenter, Phoenix, AZ	33.5708	-111.8789	43 Inches	01/11/2021	2026
AC008	I-17 (Black Canyon Fwy) And Acdc Channel, Phoenix, AZ	33.5714	-111.8825	27 Inches	02/03/2021	2026
AC010	19th Ave And Acdc Channel, Phoenix, AZ	33.5721	-112.0997	36 Inches	01/13/2021	2026
AC011	7th St And Acdc Channel, Phoenix, AZ	33.5964	-111.1694	42 Inches	02/04/2021	2026
AC012	18th Pl And Acdc Channel, Phoenix, AZ	33.5357	-112.0422	48 Inches	02/09/2021	2026
AC013	24th St. Water Treatment Plant And Acdc Channel, Phoenix, AZ	33.5264	-111.9692	36 Inches	02/10/2021	2026
AC014	2 Mile Tunnel And Acdc Channel, Phoenix, AZ	33.5964	-111.8308	36 Inches	02/10/2021	2026
AC015	33rd Dr And Acdc Channel, Phoenix, AZ	33.5714	-111.8692	12 Inches	01/11/2021	2026
AC018	18th Ave And Hatcher, Phoenix, AZ	33.5715	-112.0974	36 Inches	01/13/2021	2026
AC021	49th Dr And Acdc Channel, Phoenix, AZ	33.5919	-112.1644	50 Feet	01/12/2021	2026
AC022	Lupine Dr And Acdc Channel, Phoenix, AZ	33.5899	-112.1624	50 Feet	01/12/2021	2026
AC023	Yucca St And ACDC Channel, Phoenix, AZ	33.5877	-112.1585	27 Feet	01/12/2021	2026
AC024	39th Ave And Acdc Channel, Phoenix, AZ	33.5781	-112.1443	30 Feet	01/11/2021	2026
AC025	Ironwood Dr And Acdc Channel, Phoenix, AZ	33.5761	-111.8589	30 Feet	01/11/2021	2026
AC026	3rd St And Acdc Channel, Phoenix, AZ	33.5564	-111.9375	70 Feet	02/04/2021	2026
AC028	10th St And Acdc Channel, Phoenix, AZ	33.5564	-111.9375	100 Feet	02/04/2021	2026
AC029	12th St And Acdc Channel, Phoenix, AZ	33.5458	-111.9433	16 Feet	02/04/2021	2026
AC030	13th St And Orangewood, Phoenix, AZ	33.5447	-111.9456	50 Feet	02/04/2021	2026
AC031	14th St And State Ave, Phoenix, AZ	33.5436	-111.9483	90 Feet	02/04/2021	2026
AC033	7th Ave And Acdc Channel, Phoenix, AZ	33.5690	-112.0829	42 Inches	02/03/2021	2026
AC034	12th Ave And Acdc Channel, Phoenix, AZ	33.5700	-111.9086	36 Inches	02/04/2021	2026
AC039	14th St And Acdc Channel, Phoenix, AZ	33.5817	-111.8503	36 Inches	02/04/2021	2026
AC044	6th St And Acdc Channel, Phoenix, AZ	33.5581	-111.9339	36 Inches	02/04/2021	2026
AC048	10th St And Acdc Channel, Phoenix, AZ	33.5564	-111.9375	96 Inches	02/04/2021	2026
AC070	Dunlap Ave And Short Tunnel, Phoenix, AZ	33.5708	-111.8794	60 Inches	02/04/2021	2026
AC081	Hwy 51 And Acdc Channel, Phoenix, AZ	33.5353	-112.0415	6 x 6 Feet	02/09/2021	2026

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
AC/DC-Arizona Canal Diversion Channel		Count: 89				
AC083	24th St. Water Treatment Plant And Acdc Channel, Phoenix, AZ	33.5714	-111.8822	36 Inches	02/10/2021	2026
AC085	2 Mile Tunnel And Acdc Channel, Phoenix, AZ	33.5714	-111.8822	30 Inches	02/10/2021	2026
AC106	2 Mile Tunnel And Acdc Channel, Phoenix, AZ	33.5189	-111.9872	36 Inches	02/10/2021	2026
AC128	7th Ave And Dunlap Ave, Phoenix, AZ	33.5681	-111.9200	12 Inches	02/03/2021	2027
AC130	Paradise Dr And Acdc, Phoenix, AZ	33.5933	-112.1656	64 Feet	01/12/2021	2026
AC131	47th Ave And Acdc, Phoenix, AZ	33.5888	-112.1602	64 Feet	01/12/2021	2026
AC132	46th Ave And Acdc, Phoenix, AZ	33.5848	-112.1562	32 Feet	01/12/2021	2026
AC133	43rd Ave And Acdc, Phoenix, AZ	33.5836	-112.1536	32 Feet	01/12/2021	2026
AC134	43rd Ave And Acdc, Phoenix, AZ	33.5833	-111.8467	32 Feet	01/12/2021	2026
AC135	43rd Ave And Acdc, Phoenix, AZ	33.5831	-111.8478	24 Feet	01/12/2021	2026
AC136	North Ln And Acdc, Phoenix, AZ	33.5811	-111.8506	24 Feet	01/12/2021	2026
AC137	41st Dr And Acdc, Phoenix, AZ	33.5806	-111.8517	24 Feet	01/12/2021	2026
AC138	41st Ln And Acdc, Phoenix, AZ	33.5803	-111.8519	24 Feet	01/12/2021	2026
AC139	41st Ave And Acdc, Phoenix, AZ	33.5800	-111.8528	24 Feet	01/12/2021	2026
AC140	40th Dr And Acdc, Phoenix, AZ	33.5794	-111.8533	24 Feet	01/12/2021	2026
AC141	40th Ln And Acdc, Phoenix, AZ	33.5793	-112.1462	24 Feet	01/11/2021	2026
AC142	40th Ave And Acdc, Phoenix, AZ	33.5789	-112.1456	24 Feet	01/11/2021	2026
AC143	39th Ln And Acdc, Phoenix, AZ	33.5783	-111.8553	24 Feet	01/11/2021	2026
AC144	37th Ave And Acdc, Phoenix, AZ	33.5742	-111.8617	64 Feet	01/11/2021	2026
AC145	36th Ave And Acdc, Phoenix, AZ	33.5733	-111.8636	40 Feet	01/11/2021	2026
AC146	33rd Ave And Acdc, Phoenix, AZ	33.5711	-111.1300	48 Feet	01/11/2021	2026
AC147	23rd Ave And Acdc, Phoenix, AZ	33.5733	-111.8928	40 Feet	02/08/2021	2026
AC148	21st Dr And Acdc, Phoenix, AZ	33.5728	-111.8956	40 Feet	02/08/2021	2026
AC150	20th Dr And Acdc, Phoenix, AZ	33.5725	-111.8969	50 Feet	02/08/2021	2026
AC151	20th Ave And Acdc, Phoenix, AZ	33.5722	-111.8983	40 Feet	02/08/2021	2026
AC152	20th Dr And Acdc, Phoenix, AZ	33.5719	-111.8994	24 Feet	02/08/2021	2026
AC153	16th Ave And Acdc, Phoenix, AZ	33.5703	-111.9067	36 Feet	02/08/2021	2026
AC154	15th Ave And Acdc, Phoenix, AZ	33.5700	-111.9089	60 Feet	02/08/2021	2026
AC155	14th Ave And Acdc, Phoenix, AZ	33.5697	-111.9100	60 Feet	02/08/2021	2026
AC156	13th Ave And Acdc, Phoenix, AZ	33.5694	-111.9108	60 Feet	02/08/2021	2026
AC157	9th Ave And Acdc, Phoenix, AZ	33.5690	-112.0854	46 Feet	02/08/2021	2026
AC158	8th Ave And Acdc, Phoenix, AZ	33.5686	-111.9156	48 Feet	02/08/2021	2026
AC159	Central Ave And Short Channel, Phoenix, AZ	33.5617	-111.9269	30 Feet	02/08/2021	2026
AC160	8th St And Acdc, Phoenix, AZ	33.5572	-111.9358	24 Feet	02/08/2021	2026
AC161	8th Pl And Acdc, Phoenix, AZ	33.5569	-111.9369	24 Feet	02/08/2021	2026

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
<u>AC/DC-Arizona Canal Diversion Channel</u>		<u>Count: 89</u>				
AC162	Harmont Dr And Acdc, Phoenix, AZ	33.5544	-111.9386	56 Feet	02/08/2021	2026
AC163	Northern Ave And Acdc, Phoenix, AZ	33.5519	-111.9389	80 Feet	02/08/2021	2026
AC165	E Desert Park Ln And Acdc, Phoenix, AZ	33.5497	-111.9406	40 Feet	02/09/2021	2026
AC166	Haywood Ave And Acdc, Phoenix, AZ	33.5492	-111.9411	40 Feet	02/09/2021	2026
AC169	Morten Ave And Acdc, Phoenix, AZ	33.5472	-111.9422	40 Feet	02/09/2021	2026
AC171	15th St And Acdc, Phoenix, AZ	33.5419	-111.9517	320 Feet	02/09/2021	2026
AC173	17th St And Acdc, Phoenix, AZ	33.5372	-111.9556	40 Feet	02/09/2021	2026
AC176	19th St And Acdc, Phoenix, AZ	33.5331	-111.9600	80 Feet	02/09/2021	2026
AC177	20th St And Acdc, Phoenix, AZ	33.5321	-112.0389	40 Feet	02/09/2021	2026
AC178	Maryland Ave And Acdc, Phoenix, AZ	33.5311	-111.9619	24 Feet	02/09/2021	2026
AC179	Maryland Ave And Acdc, Phoenix, AZ	33.5300	-111.0383	40 Feet	02/09/2021	2026
AC180	Maryland Ave And Acdc, Phoenix, AZ	33.5297	-111.9631	32 Feet	02/09/2021	2026
AC181	Maryland Ave And Acdc, Phoenix, AZ	33.5294	-111.9633	40 Feet	02/09/2021	2026
AC182	Marlette Ave And Acdc, Phoenix, AZ	33.5286	-111.9642	32 Feet	02/10/2021	2026
AC183	Claremont St And Acdc, Phoenix, AZ	33.5283	-111.9647	32 Feet	02/10/2021	2026
AC184	Squaw Peak Water Treatment Plant And Acdc, Phoenix, AZ	33.5281	-111.9661	72 Feet	02/10/2021	2026
AC191	I-17 And Acdc Channel, Phoenix, AZ	33.5714	-111.8825	31 Feet	02/03/2021	2026
AC192	3858 W MalapaiDr Phoenix, AZ	33.5780	-112.1435	25 Feet	01/11/2021	2026
AC193	3848 W MalapaiDr Phoenix, AZ	33.5772	-111.8567	25 Feet	01/11/2021	2026
AC194	3832 W MalapaiDr Phoenix, AZ	33.5769	-111.8569	25 Feet	01/11/2021	2026
AC195	9th Avenue And Acdc Channel, Phoenix, AZ	33.5689	112.0844	72 Inches	10/20/2021	2027
AC196	1330 North State Ave And Acdc, Phoenix, AZ	33.5439	112.0525	5 Feet	10/19/2021	2027
<u>AF-Aqua Fria</u>		<u>Count: 4</u>				
AF002	Encanto Blvd And Sr101 West (9500 W), Phoenix, AZ	33.4722	-111.7342	42 Inches	07/22/2020	2026
AF003	Mcdowell Rd And Sr101 West (9700 W), Phoenix, AZ	33.4653	-111.7325	4 x 11 Feet	07/22/2020	2026
AF005	Camelback Rd And Sr Loop 101, Phoenix, AZ	33.5081	-111.7317	35 Inches	07/22/2020	2026
AF006	Camelback Road And 114th Aveune, Phoenix, AZ	33.5067	-111.6958	60 Inches	07/22/2020	2026
<u>AZ-Arizona Canal</u>		<u>Count: 7</u>				
AZ001	Arizona Canal And 42nd St, Phoenix, AZ	33.5073	-111.9913	36 Inches	02/10/2020	2025
AZ002	Arizona Canal And 56th St, Phoenix, AZ	33.4894	-111.9606	48 Inches	02/04/2020	2025
AZ003	Arizona Canal And 57th St, Phoenix, AZ	33.4896	-111.9595	48 Inches	02/04/2020	2025
AZ024	Arizona Canal And 21st St, Phoenix, AZ	33.5273	-112.0345	36 Inches	02/10/2020	2025
AZ025	Arizona Canal And 21st St, Phoenix, AZ	33.5275	-112.0346	36 Inches	02/10/2020	2025
AZ028	Arizona Canal And 56th St, Phoenix, AZ	33.4891	-111.9610	6 Feet	02/04/2020	2025
AZ030	Arizona Canal And 44th St, Phoenix, AZ	33.5043	-111.9869	6 Feet	02/10/2020	2025

Outfall Id	Site Address		Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
<u>CAP-Central Arizona Project</u>		<u>Count: 2</u>					
CAP002	19224 N North TatumBlvd Phoenix, AZ		33.6592	11.9828	20 Feet	08/17/2020	2027
CAP003	56th Street And Cap (Central Arizona Project), Phoenix, AZ		33.6453	11.9469	20 Feet	08/17/2020	2027

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
CC-Cave Creek Wash		Count: 47				
CC002	23rd Ave And Mountain View Rd, Phoenix, AZ	33.5746	-112.1088	48 Inches	07/16/2019	2025
CC003	Peoria Ave And Cave Creek Wash, Phoenix, AZ	33.5816	-112.1119	84 Inches	07/16/2019	
CC004	25th Ave And Cholla Rd, Phoenix, AZ	33.5892	-112.1145	78 Inches	07/23/2019	2025
CC005	25th Ave And Cactus Rd, Phoenix, AZ	33.5963	-112.1119	48 Inches	06/03/2020	2025
CC006	25th Ave And Larkspur Dr, Phoenix, AZ	33.5999	-112.1111	30 Inches	08/27/2019	2025
CC008	23rd Ave And Thunderbird Rd, Phoenix, AZ	33.6108	-112.1076	72 Inches	09/10/2019	2025
CC010	19th Ave And Greenway Rd, Phoenix, AZ	33.6243	-112.0999	90 Inches	09/13/2019	2025
CC024	Shangri-La Rd And Cave Creek Wash, Phoenix, AZ	33.5881	-112.1147	36 Inches	08/15/2019	2025
CC041	901 W DanburyRd Phoenix, AZ	33.6421	-112.0849	10 Feet	10/10/2019	2025
CC042	17407 N 8thAve Phoenix, AZ	33.6441	-112.0844	10 Feet	10/10/2019	2025
CC043	7th Ave And Cave Creek Wash, Phoenix, AZ	33.6444	-112.0830	60 Inches	10/10/2019	2025
CC044	3rd Ave And Grovers Ave, Phoenix, AZ	33.6476	-112.0790	16 Feet	10/10/2019	2025
CC045	5th Ave And Michelle Dr, Phoenix, AZ	33.6495	-112.0796	10 Feet	10/23/2019	2025
CC046	5th Ave And Michigan Ave, Phoenix, AZ	33.6510	-112.0794	10 Feet	10/23/2019	2025
CC047	232 W MichiganAve Phoenix, AZ	33.6508	-112.0782	14 Feet	10/23/2019	2025
CC048	5th Ave And Bluefield Cir, Phoenix, AZ	33.6524	-112.0795	10 Feet	10/23/2019	2025
CC049	237 W WagonerRd Phoenix, AZ	33.6524	-112.0785	8 Feet	10/23/2019	2025
CC050	Union Hills Dr And Cave Creek Wash, Phoenix, AZ	33.6544	-112.0788	72 Inches	10/23/2019	2025
CC052	15478 N 13thAve Phoenix, AZ	33.6279	-112.0907	10 Feet	10/03/2019	2025
CC055	19th Ave And Greenway Rd, Phoenix, AZ	33.6243	-112.0995	3 x 6 Feet	09/13/2019	2025
CC056	19th Ave And Greenway Rd, Phoenix, AZ	33.6243	-112.0998	3 x 6 Feet	09/13/2019	2025
CC057	Cave Creek Golf Course At Acoma Dr, Phoenix, AZ	33.6183	-112.1067	42 Inches	09/10/2019	2025
CC060	18019 N Villa RitaDr Phoenix, AZ	33.6498	-112.0786	18 Feet	04/21/2020	2025
CC062	19823 N 3rdSt Phoenix, AZ	33.6664	-112.0701	29 Feet	11/13/2019	2025
CC063	19819 N 3rdSt Phoenix, AZ	33.6663	-112.0701	20 Feet	11/13/2019	2025
CC064	19801 N 3rdSt Phoenix, AZ	33.6658	-112.0699	7 Feet	11/13/2019	2025
CC065	301 E BehrendDr Phoenix, AZ	33.6655	-112.0699	9 Feet	11/13/2019	2025
CC066	301 E WikieupLn Phoenix, AZ	33.6651	-112.0700	9 Feet	11/13/2019	2025
CC067	301 E SequoiaDr Phoenix, AZ	33.6643	-112.0699	9 Feet	11/13/2019	2025
CC068	301 E OraibiDr Phoenix, AZ	33.6638	-112.0699	9 Feet	11/13/2019	2025
CC069	301 E PiuteAve Phoenix, AZ	33.6632	-112.0699	9 Feet	11/13/2019	2025
CC070	301 E UtopiaRd Phoenix, AZ	33.6621	-112.0699	9 Feet	11/13/2019	2025
CC071	401 E WescottDr Phoenix, AZ	33.6587	-112.0696	13 Feet	11/13/2019	2025
CC072	18650 N 2ndAve Phoenix, AZ	33.6566	-112.0761	12 Feet	11/13/2019	2025
CC073	18819 N 2ndAve Phoenix, AZ	33.6576	-112.0758	10 Feet	11/13/2019	2025

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
CC-Cave Creek Wash		Count: 47				
CC074	18802 N 2ndDr Phoenix, AZ	33.6567	-112.0780	9 Feet	11/13/2019	2025
CC075	201 W TaroLn Phoenix, AZ	33.6591	-112.0759	10 Feet	11/13/2019	2025
CC076	27th Ave And Cholla Rd, Phoenix, AZ	33.5892	-112.1144	62 Feet	08/22/2019	2025
CC077	519 W HelenaDr Phoenix, AZ	33.6448	-112.0814	15 Feet	10/10/2019	2025
CC078	4th Ave And Muriel Dr, Phoenix, AZ	33.6463	-112.0792	24 Feet	10/10/2019	2025
CC079	4th Ave And Angela Dr, Phoenix, AZ	33.6457	-112.0798	16 Feet	10/10/2019	2025
CC080	4th Ave And Angela Dr, Phoenix, AZ	33.6458	-112.0797	16 Feet	10/10/2019	2025
CC081	17415 N 6thAve Phoenix, AZ	33.6444	-112.0823	19 Feet	10/10/2019	2025
CC082	Cave Creek Gc And Cave Creek Wash, Phoenix, AZ	33.6237	-112.1054	42 Inches	10/17/2019	2025
CC083	23rd Ave And Greenway Rd, Phoenix, AZ	33.6234	-112.1054	48 Inches	10/17/2019	2025
CC087	Deer Valley Road And 11th Pl, Phoenix, AZ	33.6843	-112.0575	66 Inches	11/19/2019	2025
CC094	7th St And Lone Cactus, Phoenix, AZ	33.6809	-112.0659	54 Inches	11/19/2019	2026
CO-Charter Oak		Count: 18				
CO001	Nisbet Rd And 42nd St, Phoenix, AZ	33.6225	111.9906	5 Feet	12/13/2016	2022 (2)
CO003	42nd St And Whitney Ln, Phoenix, AZ	33.6208	111.9911	11 Feet	12/13/2016	2022 (2)
CO005	42nd St. South Of Acoma Dr. East Side Of Channel, Phoenix, AZ	33.6183	111.9917	5 Feet	12/13/2016	2022 (2)
CO006	Located At 14245 N. 42nd St. East Side Of Channel, Phoenix, AZ	33.6169	111.9917	5 Feet	12/13/2016	2022 (2)
CO007	42nd St And Hearn Rd. East Side Of Channel, Phoenix, AZ	33.6158	111.9917	9 Feet	12/13/2016	2022 (2)
CO008	41st Place And Gelding Dr., Phoenix, AZ	33.6175	111.9922	30 Feet	12/14/2016	2022 (2)
CO009	41st Place And Sheena Dr., Phoenix, AZ	33.6147	111.9922	9 Feet	12/14/2016	2022 (2)
CO010	Thunderbird Rd And 41st Pl, Phoenix, AZ	33.6119	111.9917	5 Feet	12/14/2016	2022 (2)
CO011	Thunderbird Rd And 41st Place, Phoenix, AZ	33.6119	111.9917	5 Feet	12/14/2016	2022 (2)
CO012	4202 E 4202 East Sheena Dr.Dr Phoenix, AZ	33.6147	111.9911	10 Feet	12/14/2016	2022 (2)
CO013	4202 E RedfieldDr Phoenix, AZ	33.6147	111.9911	10 Feet	12/14/2016	2022 (2)
CO014	Thunderbird Rd And 41st Place, Phoenix, AZ	33.6114	111.9917	5 Feet	12/14/2016	2022 (2)
CO015	Thunderbird Rd And 41st Place, Phoenix, AZ	33.6114	111.9917	5 Feet	12/14/2016	2022 (2)
CO017	4215 E AndoraDr Phoenix, AZ	33.6069	111.9908	4 Feet	12/14/2016	2022 (2)
CO018	13221 N 42ndSt Phoenix, AZ	33.6072	111.9914	9 Feet	12/14/2016	2022 (2)
CO019	13021 N 42ndSt Phoenix, AZ	33.6050	111.9914	9 Feet	12/15/2016	2022 (2)
CO020	4156 E SweetwaterAve Phoenix, AZ	33.6046	-111.9910	5 Feet	12/15/2016	2022 (2)
CO021	4127 E WindroseDr Phoenix, AZ	33.6017	111.9922	9 Feet	12/15/2016	2022 (2)

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
EF-East Fork of Cave Creek		Count: 57				
EF001	Cave Creek Rd And Greenway Pkwy, Phoenix, AZ	33.6317	-111.9689	72 Inches	11/18/2020	2023
EF002	16th St And Greenway Pkwy, Phoenix, AZ	33.6342	-111.9561	84 Inches	10/14/2020	2023
EF003	18th St And Greenway Pkwy, Phoenix, AZ	33.6342	-111.9558	84 Inches	10/14/2020	2023
EF004	20th St And Greenway Pkwy, Phoenix, AZ	33.6322	-111.9606	96 Inches	12/01/2020	2023
EF006	9th St And Greenway Pkwy, Phoenix, AZ	33.6369	-111.9386	96 Inches	10/14/2020	2023
EF007	9th St And Greenway Pkwy, Phoenix, AZ	33.6372	-111.9386	36 Inches	10/13/2020	2023
EF008	Cave Creek Rd And Greenway Pkwy, Phoenix, AZ	33.6317	-111.9686	72 Inches	11/18/2020	2023
EF009	16th St And Greenway Pkwy, Phoenix, AZ	33.6361	-111.9522	48 Inches	10/14/2020	2023
EF010	7th St And Greenway Pkwy, Phoenix, AZ	33.6374	-112.0660	84 Inches	10/20/2020	2023
EF011	7th St And Greenway Pkwy, Phoenix, AZ	33.6370	-112.0657	36 Inches	10/20/2020	2023
EF012	7th St And Greenway Pkwy, Phoenix, AZ	33.6373	-112.0657	36 Inches	10/20/2020	2023
EF013	Cave Creek Rd And Greenway Pkwy, Phoenix, AZ	33.6317	-111.9686	22 Feet	11/18/2020	2023
EF014	22nd Pl And Monte Cristo, Phoenix, AZ	33.6322	-111.9653	50 Feet	11/03/2020	2023
EF015	22nd St And East Fork, Phoenix, AZ	33.6322	-111.9650	36 Inches	11/18/2020	2023
EF016	22nd St And East Fork, Phoenix, AZ	33.6322	-111.9650	36 Inches	11/18/2020	2023
EF017	22nd St And Monte Cristo, Phoenix, AZ	33.6322	-111.9647	40 Feet	11/03/2020	2023
EF018	21st St And East Fork, Phoenix, AZ	33.6322	-111.9628	36 Inches	11/18/2020	2023
EF019	21st St And East Fork, Phoenix, AZ	33.6322	-111.9628	42 Inches	11/18/2020	2023
EF020	20th Pl And Monte Cristo, Phoenix, AZ	33.6322	-111.9617	12 Feet	11/03/2020	2023
EF021	2012 E Monte Cristo Ave Phoenix, AZ	33.6322	-112.0388	21 Feet	11/03/2020	2023
EF022	20th St And Greenway Pkwy, Phoenix, AZ	33.6322	-111.9608	15 Feet	11/18/2020	2023
EF023	19th St And East Fork (1926 E Monte Cristo), Phoenix, AZ	33.6322	-111.9594	10 Feet	11/03/2020	2023
EF025	1410 E Sandra Ter Phoenix, AZ	33.6361	-111.9489	15 Feet	11/18/2020	2023
EF026	14th St And Grandview Rd, Phoenix, AZ	33.6361	-111.9475	21 Feet	10/14/2020	2023
EF027	12th St And East Fork, Phoenix, AZ	33.6369	-111.9428	36 Feet	10/13/2020	2023
EF028	16431 N 12th St Phoenix, AZ	33.6361	-111.9444	50 Feet	11/03/2020	2023
EF033	301 W Lemarche Ave Phoenix, AZ	33.6317	-111.9233	10 Feet	10/21/2020	2023
EF034	301 W Monte Cristo Ave Phoenix, AZ	33.6313	-112.0771	6 Feet	10/21/2020	2023
EF035	15802 N 4th Ave Phoenix, AZ	33.6300	-111.9214	12 Feet	10/21/2020	2023
EF036	15803 N 4th Dr Phoenix, AZ	33.6297	-111.9211	14 Feet	10/21/2020	2023
EF037	Moon Valley Park, Phoenix, AZ	33.6272	-111.9183	5 Feet	10/21/2020	2023
EF038	214 W Kathleen Rd Phoenix, AZ	33.6301	-112.0769	10 Feet	11/04/2020	2023
EF039	16042 N 1st St Phoenix, AZ	33.6325	-111.9267	8 Feet	11/04/2020	2023
EF040	1407 W Beck Ln Phoenix, AZ	33.6260	-112.0907	21 Feet	11/04/2020	2023
EF041	1101 W Beck Ln Phoenix, AZ	33.6263	-112.0859	19 Feet	11/04/2020	2023

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
<u>EF-East Fork of Cave Creek</u>		<u>Count: 57</u>				
EF042	15406 N 7thDr Phoenix, AZ	33.6256	-111.9167	25 Feet	11/04/2020	2023
EF043	1527 W CaribbeanLn Phoenix, AZ	33.6243	-112.0927	10 Feet	11/04/2020	2023
EF044	1445 W CaribbeanLn Phoenix, AZ	33.6248	-112.0902	6 Feet	11/04/2020	2023
EF045	1455 W CaribbeanLn Phoenix, AZ	33.6244	-112.0907	10 Feet	11/04/2020	2023
EF046	1503 W CaribbeanLn Phoenix, AZ	33.6247	-112.0918	6 Feet	11/04/2020	2023
EF051	19th Pl And Greenway Pkwy, Phoenix, AZ	33.6331	-111.9581	36 Inches	10/14/2020	2023
EF052	Cave Creek Rd And Greenway Pkwy, Phoenix, AZ	33.6317	-111.9692	48 Feet	11/18/2020	2023
EF053	1802 E ParadiseLn Phoenix, AZ	33.6335	-112.0437	18 Feet	11/03/2020	2023
EF054	16th St And Greenway Pkwy, Phoenix, AZ	33.6358	-111.9519	23 Feet	11/18/2020	2023
EF055	16th St And Greenway Pkwy, Phoenix, AZ	33.6358	-111.9519	14 Feet	11/18/2020	2023
EF056	1610 E SandraTer Phoenix, AZ	33.6356	-111.9522	6 Feet	11/18/2020	2023
EF057	1526 W CaribbeanLn Phoenix, AZ	33.6246	-112.0933	12 Feet	11/04/2020	2023
EF058	15406 N 7thDr Phoenix, AZ	33.6256	-111.9167	90 Inches	12/01/2020	2023
EF063	7th St And Greenway Pkwy, Phoenix, AZ	33.6373	-112.0663	150 Feet	10/20/2020	2023
EF065	Union Hills And 25th Way, Phoenix, AZ	33.6547	112.0264	48 Inches	11/24/2020	2023
EF066	Union Hills And 25th Way, Phoenix, AZ	33.6547	112.0261	63 Inches	11/24/2020	2023
EF069	Utopia Rd Between 27th And 28th Street, Phoenix, AZ	33.6622	112.0239	48 Inches	11/17/2020	2023
EF070	Utopia Road Between 27th And 28th St., Phoenix, AZ	33.6622	112.0239	96 Inches	11/17/2020	2023
EF086	20300 N 26thSt Phoenix, AZ	33.6747	112.0364	76 Inches	11/24/2020	2023
EF087	20300 N 26thSt Phoenix, AZ	33.6747	112.0183	76 Inches	11/24/2020	2023
EF088	Cave Creek And 101, Phoenix, AZ	33.6747	112.0397	58 Inches	12/07/2020	2023
EF091	2302 E GroversAve Phoenix, AZ	33.6482	-112.0320	96 Inches	11/05/2020	2023
<u>GC-Grand Canal</u>		<u>Count: 3</u>				
GC001	Grand Ave And Grand Canal, Phoenix, AZ	33.4892	-112.1273	24 Inches	01/28/2020	2025
GC002	Grand Ave And Grand Canal, Phoenix, AZ	33.4891	-112.1276	36 Inches	02/03/2020	2025
GC033	Grand Canal And E Of Pueblo Grande Museum Park, Phoenix, AZ	33.4441	-111.9816	14 Feet	01/14/2020	2025

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
<u>IB-Indian Bend Wash</u>		<u>Count: 21</u>				
IB001	52nd St And Shea Blvd, Phoenix, AZ	33.5825	-111.9679	36 Inches	09/26/2018	2024
IB002	52nd St And Shea Blvd, Phoenix, AZ	33.5825	-111.9688	84 Inches	09/26/2018	2024
IB003	Tatum Blvd And Cholla St, Phoenix, AZ	33.5906	-111.9774	66 Inches	09/26/2018	2024
IB004	Tatum Blvd And Cholla St, Phoenix, AZ	33.5901	-111.9770	66 Inches	09/26/2018	2024
IB005	52nd St And Indian Bend Wash, Phoenix, AZ	33.5837	-111.9688	14 x 3 Feet	09/26/2018	2024
IB007	36th St And Sweetwater Ave, Phoenix, AZ	33.6036	-112.0042	78 Inches	09/11/2018	2024
IB008	40th St And Indian Bend Wash, Phoenix, AZ	33.5989	-111.9953	66 Inches	12/15/2020	
IB010	40th Street And Indian Bend Wash. North Side Of Wash., Phoenix, AZ	33.5989	-111.9954	36 Inches	09/11/2018	2024
IB011	56th St And Indian Bend Wash, Phoenix, AZ	33.5739	-111.9609	66 Inches	10/11/2018	2024
IB013	Cactus Rd And Indian Bend Wash, Phoenix, AZ	33.5974	-111.9929	72 Inches	09/12/2018	2024
IB016	Tatum Blvd And Cholla St, Phoenix, AZ	33.5914	-111.9779	36 Inches	09/26/2018	2024
IB018	Cactus Rd And Indian Bend Wash, Phoenix, AZ	33.5975	-111.9929	72 Inches	12/15/2020	
IB021	10202 N 54thPl Phoenix, AZ	33.5791	-111.9643	36 Inches	10/11/2018	2024
IB024	3631 E DahliaDr Phoenix, AZ	33.6032	-112.0028	21 Feet	08/23/2018	2024
IB026	12806 N 37thCt Phoenix, AZ	33.6023	-112.0012	8 Feet	08/23/2018	2024
IB035	Thunderbird Rd And Indian Bend Wash, Phoenix, AZ	33.6118	-112.0090	60 Inches	08/22/2018	2024
IB036	Thunderbird Rd And Indian Bend Wash, Phoenix, AZ	33.6119	-112.0091	60 Inches	08/22/2018	2024
IB037	Thunderbird Rd And Indian Bend Wash, Phoenix, AZ	33.6130	-112.0090	6 x 10 Feet	08/22/2018	2024
IB038	Thunderbird Rd And Indian Bend Wash, Phoenix, AZ	33.6130	-112.0090	84 Inches	08/22/2018	2024
IB045	4943 E ChollaSt Phoenix, AZ	33.5899	-111.9749	7 Feet	10/11/2018	2024
IB050	40th St And Indian Bend Wash. North Side Of Wash., Phoenix, AZ	33.5989	-111.9953	48 Inches	09/11/2018	2024
<u>LC-Laveen Channel</u>		<u>Count: 12</u>				
LC001	4532 W Alta VistaRd Phoenix, AZ	33.3875	-111.8433	9 Feet	09/15/2021	2027
LC002	6616 S 46th Gn, Phoenix, AZ	33.3861	-111.8428	13 Feet	09/15/2021	2027
LC003	46th Dr And Vineyard Rd, Phoenix, AZ	33.3847	-111.8417	32 Feet	09/15/2021	2027
LC008	53rd Ln And Baseline Rd, Phoenix, AZ	33.3781	-112.1750	66 Inches	07/22/2021	2027
LC015	63rd Land And Beverly Rd, Phoenix, AZ	33.3731	112.1969	26 Inches	09/15/2021	2027
LC017	7377 W Magdalena Ln, Phoenix, AZ	33.3703	112.2136	34 Inches	09/15/2021	
LC018	7810 S 74thAve Phoenix, AZ	33.3742	-111.7808	36 Inches	09/15/2021	2027
LC020	S 63rd Ave And Lacc, Phoenix, AZ	33.3731	112.1947	60 Inches	09/16/2021	2027
LC022	4724 W CarsonRd Phoenix, AZ	33.3831	-111.8383	8 Feet	09/16/2021	2027
LC023	North Side Of Channel. About 50 Ft. West Of 51st Street Culvert., Phoenix, AZ	33.3825	-112.1690	62 Inches	07/22/2021	2027
LC026	Inside West Tunnel Culvert @ Baseline And Lacc, Phoenix, AZ	33.3772	-112.1810	48 Inches	07/22/2021	2027
LC028	74th Lane And Fawn, Phoenix, AZ	33.3747	112.2194	10 Feet	09/16/2021	2027

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
<u>MV-Moon Valley</u>		<u>Count: 7</u>				
MV001	19th Ave And Sweetwater Ave, Phoenix, AZ	33.6040	112.0990	48 Inches	07/12/2017	2023
MV005	12th Ave And Thunderbird Rd, Phoenix, AZ	33.6070	112.0870	54 Inches	07/12/2017	2023
MV007	7th St And Hearn Rd, Phoenix, AZ	33.6153	-111.9344	48 Inches	08/02/2017	2023
MV016	13th Ln And Thunderbird Rd, Phoenix, AZ	33.6075	-111.9125	11 Feet	07/12/2017	2023
MV019	7th St. And E. Roberts Rd. West Side Of Street, Phoenix, AZ	33.6120	112.0600	50 Inches	08/09/2017	
MV020	7th St. And E. Roberts Rd. West Side Of Street., Phoenix, AZ	33.6110	112.0600	50 Inches	08/09/2017	
MV023	23rd Avenue And Wood DriveAve Phoenix, AZ	33.6030	-112.1080	46 Feet	07/12/2017	
<u>NR-New River</u>		<u>Count: 5</u>				
NR001	44th Lane And Kastler Ln, Phoenix, AZ	33.8100	112.1228	40 Inches	09/13/2021	2027
NR002	44th Lane And Lapenna Drive, Phoenix, AZ	33.8814	112.1561	40 Inches	09/13/2021	2027
NR004	4640 W HeyerdahlCt Phoenix, AZ	33.8725	112.1611	40 Inches	09/13/2021	2027
NR005	N 45th Ave And W Emily Dr, Phoenix, AZ	33.8786	112.1575	40 Inches	09/13/2021	2027
NR006	45th Ave And Judson Drive, Phoenix, AZ	33.8764	112.1581	36 Inches	09/13/2021	2027
<u>OC-Old Cross-Cut Canal</u>		<u>Count: 16</u>				
OC001	Old Cross Cut And Washington St, South Tunnel, Phoenix, AZ	33.4478	-111.9810	36 Inches	12/13/2018	2024
OC002	Old Cross Cut And Van Buren St, South Tunnel, Phoenix, AZ	33.4511	-111.9810	42 Inches	12/13/2018	2024
OC004	46th St And Mcdowell Rd, Phoenix, AZ	33.4660	-111.9810	42 Inches	01/16/2019	2024
OC005	48th St And Thomas Rd, Phoenix, AZ	33.4800	-111.9780	36 Inches	01/30/2019	2024
OC006	48th St And Earll Dr, Phoenix, AZ	33.4840	-111.9780	52 Inches	01/30/2019	2024
OC007	48th St And Indian School Rd, Phoenix, AZ	33.4940	-111.9780	36 Inches	01/31/2019	2024
OC008	46th St And Mcdowell Rd, Phoenix, AZ	33.4660	-111.9810	54 Inches	01/16/2019	2024
OC022	48th St And Oak St, Phoenix, AZ	33.4730	-111.9780	48 Inches	01/31/2019	2024
OC039	46th Street And Roosevelt Street - Old Cross Cut, Phoenix, AZ	33.4580	-111.9820	6 x 5 Feet	12/13/2018	2024
OC053	48th St And Osborn Rd, Phoenix, AZ	33.4880	-111.9780	52 Inches	01/29/2019	2024
OC054	48th St And Osborn Rd, Phoenix, AZ	33.4870	-111.9780	8 x 6 Feet	01/29/2019	2024
OC055	48th St And Weldon Ave, Phoenix, AZ	33.4900	-111.9780	48 Inches	01/29/2019	2024
OC062	48th St And Thomas Rd, Phoenix, AZ	33.4800	-111.9780	36 Inches	01/30/2019	2024
OC072	Old Cross Cut And Granada, Phoenix, AZ	33.4680	-111.9790	42 Inches	01/17/2019	2024
OC090	48th St. And Indian School, Phoenix, AZ			102 Inches	01/31/2019	
OC091	48th st And OsbornRd Phoenix, AZ			48 Inches	02/01/2019	
<u>PD-Papago Diversion Channel</u>		<u>Count: 1</u>				
PD010	35th Ave And Papago Diversion Channel, Phoenix, AZ	33.4636	-112.1347	54 Inches	03/26/2019	2024

Outfall Id	Site Address		Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
<u>PV-Paradise Valley</u>		<u>Count: 2</u>					
PV002	34th St And Lincoln Dr, Phoenix, AZ		33.5300	112.0000	48 Inches	08/23/2017	2023
PV004	35th St And Lincoln Dr, Phoenix, AZ		33.5300	112.0000	48 Inches	08/23/2017	2023

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
SC-Skunk Creek		Count: 42				
SC001	56th Ave And Union Hills Dr, Phoenix, AZ	33.6553	-111.8208	10x11 Feet	11/03/2021	2027
SC002	51st Ave And Skunk Creek, Near Norhtwest Bike Lane Off Bridge., Phoenix, AZ	33.6622	-111.8308	36 Inches	11/03/2021	2027
SC006	19432 N 50thAve Phoenix, AZ	33.6628	-111.8319	10 Feet	11/04/2021	2027
SC008	19653 N 48thLn Phoenix, AZ	33.6636	-111.8356	16 Feet	11/03/2021	2027
SC009	19623 N 48thAve Phoenix, AZ	33.6633	-112.1626	24 Feet	11/04/2021	2027
SC010	47th Dr And Behrend Dr, Phoenix, AZ	33.6644	-111.8381	6 Feet	11/04/2021	2027
SC012	4790 W OraibiDr Phoenix, AZ	33.6625	-112.1646	6 Feet	11/04/2021	2027
SC013	19634 N 47thDr Phoenix, AZ	33.6639	-111.8389	4 Feet	11/04/2021	2027
SC014	19640 N 47thAve Phoenix, AZ	33.6641	-112.1604	6 Feet	11/09/2021	2027
SC015	46th Dr And Behrend Dr, Phoenix, AZ	33.6650	-111.8397	6 Feet	11/09/2021	2027
SC016	19810 N 46thAve Phoenix, AZ	33.6659	-112.1596	6 Feet	11/09/2021	2027
SC017	19828 N 45thLn Phoenix, AZ	33.6661	112.1586	6 Feet	11/09/2021	2027
SC022	2749 W DarienWay Phoenix, AZ	33.8028	-111.8800	10 Feet	11/09/2021	2027
SC023	27th Ct And Florimond Rd, Phoenix, AZ	33.8036	-111.8797	50 Feet	11/09/2021	2027
SC024	27th Ln And Via Aquila, Phoenix, AZ	33.8072	-111.8803	4 x 2 Feet	11/15/2021	2027
SC025	27th Ln And Via Aquila, West Side, Phoenix, AZ	33.8072	-111.8800	4 x 2 Feet	11/15/2021	2027
SC027	Carefree Hwy And 27th Dr, Phoenix, AZ	33.7986	-111.8817	36 Inches	11/22/2021	2027
SC031	35th Dr And Soft Wind Dr, Phoenix, AZ	33.7017	-111.8644	30 Inches	11/16/2021	2027
SC032	20659 N 41stLn Phoenix, AZ	33.6744	-111.8514	18 Feet	11/15/2021	2027
SC033	20669 N 41stLn Phoenix, AZ	33.6747	-111.8514	17 Feet	11/15/2021	2027
SC034	20657 N 42ndAve Phoenix, AZ	33.6746	-112.1494	18 Feet	11/16/2021	2027
SC035	20622 N 42ndAve Phoenix, AZ	33.6733	-112.1501	17 Feet	11/16/2021	2027
SC036	20670 N 41stAve Phoenix, AZ	33.6750	-112.1480	45 Feet	11/16/2021	2027
SC037	Sc Wash And Sr101 Frontage Rd, Phoenix, AZ	33.6700	-111.8489	36 Inches	11/16/2021	2027
SC040	Via Puzzola And Via Del Deserto, Phoenix, AZ	33.8089	-111.8783	36 Inches	11/22/2021	2027
SC043	2761 W Via Calabria , Phoenix, AZ	33.7994	0.0000	19 Feet	11/22/2021	2027
SC044	35th Ave And Parkside Ln, Phoenix, AZ	33.6939	112.1344	35 Inches	11/30/2021	2027
SC046	35206 N 27thDr Phoenix, AZ	33.8031	-112.1187	36 Inches	11/30/2021	2027
SC048	W Oberlin Way And N 26th Ave, Phoenix, AZ	33.7367	112.1147	32 Feet	11/30/2021	2027
SC049	Pinnacle Peack Road And 40th Lane, Phoenix, AZ	33.6981	112.1472	62 Inches	12/02/2021	2027
SC050	South Side Of Pinnacle Peak Road At 40th Lane., Phoenix, AZ	33.6981	112.1475	60 Inches	12/02/2021	2027
SC052	Southside Of Pinnacle Peak Road Just Before 47th Avenue., Phoenix, AZ	33.6978	112.1592	54 Inches	12/02/2021	2027
SC053	Southside Of Pinnacle Peak Road Just Before 47th Avenue., Phoenix, AZ	33.6978	112.1594	48 Inches	11/29/2021	2027
SC054	Southside Of Pinnacle Peak Road Just Before 47th Avenue., Phoenix, AZ	33.6978	112.1594	42 Inches	11/29/2021	2027
SC055	Southside Of Pinnacle Peak Road And 51st Avenue., Phoenix, AZ	33.6978	112.1697	42 Inches	11/29/2021	2027

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
<u>SC-Skunk Creek</u>		<u>Count: 42</u>				
SC058	4531 W Soft WindDr Phoenix, AZ	33.7211	112.1569	11 feet	11/29/2021	2027
SC059	23620 N 45thAve Phoenix, AZ	33.7050	112.1567	24 Inches	11/29/2021	2027
SC060	23804 N 44thLn Phoenix, AZ	33.7019	112.1556	6 Feet	12/20/2021	2027
SC061	Mariposa Grande And 45th Dr, Phoenix, AZ	33.7031	112.1569	10 Feet	12/20/2021	2027
SC064	Alameda Road Between 43rd Ave And 45th Dr, Phoenix, AZ	33.7053	112.1553	24 Inches	12/01/2021	2027
SC065	44th Ln And W Misty Willow Ln, Phoenix, AZ	33.7039	112.1556	9 Feet	12/01/2021	2027
SC067	35th Avenue And Williams Drive, Phoenix, AZ	112.2125	34.1564	56 Inches	12/20/2021	2027

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
SR-Salt River		Count: 59				
SR001	51st Ave And Salt River, Phoenix, AZ	33.4087	-112.1695	96 Inches	08/03/2021	2024
SR002	43rd Ave And Salt River, Phoenix, AZ	33.4124	-112.1515	90 Inches	08/03/2021	
SR003	35th Ave And Salt River, Phoenix, AZ	33.4119	-112.1347	75 Inches	08/03/2021	
SR004	27th Ave And Salt River, Phoenix, AZ	33.4178	-112.1169	72 Inches	08/03/2021	2024 (4)
SR005	25th Ave And Salt River, Phoenix, AZ	33.4169	-112.1131	102 Inches	09/09/2021	
SR006	22nd Ave And Salt River, Phoenix, AZ	33.4187	-112.1066	72 Inches	08/26/2021	
SR007	19th Ave And Salt River, Phoenix, AZ	33.4114	-112.0997	54 Inches	09/07/2021	
SR008	15th Ave And Salt River, Phoenix, AZ	33.4149	-112.0908	96 Inches	09/08/2021	2026
SR009	11th Ave And Salt River, Phoenix, AZ	33.4213	-112.0873	81 Inches	08/31/2021	2025
SR010	7th Ave And Salt River, Phoenix, AZ	33.4194	-112.0824	54 Inches	08/04/2021	
SR012	Central Ave And Salt River, Phoenix, AZ	33.4234	-112.0741	42 Inches	08/31/2021	2025
SR013	Central Ave And Salt River, Phoenix, AZ	33.4238	-112.0740	10 x 21 Feet	09/09/2021	2025
SR014	3rd St And Salt River, Phoenix, AZ	33.4224	-112.0695	36 Inches	08/31/2021	2026
SR015	3rd St And Salt River, Phoenix, AZ	33.4224	-112.0695	84 Inches	08/04/2021	2024 (4)
SR016	10th St And Salt River, Phoenix, AZ	33.4217	-112.0605	54 Inches	08/31/2021	2025
SR017	12th St And Salt River, Phoenix, AZ	33.4212	-112.0561	96 Inches	01/08/2020	2023
SR018	16th St And Salt River, Phoenix, AZ	33.4196	-112.0485	66 Inches	01/09/2020	2023
SR019	20th St And Salt River, Phoenix, AZ	33.4204	-112.0394	10 x 21 Feet	03/17/2020	2023
SR020	24th St And Salt River, Phoenix, AZ	33.4184	-112.0304	84 Inches	08/09/2021	2024 (3)
SR024	28th St And Salt River, Phoenix, AZ	33.4204	-112.0186	90 Inches	04/14/2020	2023
SR026	37th St And Salt River, Phoenix, AZ	33.4270	-112.0056	42 Inches	04/15/2020	2023
SR027	36th St And Salt River, Under Sky Harbor, Phoenix, AZ	33.4276	-112.0011	82 Inches	04/15/2020	
SR029	47th St And Salt River, Phoenix, AZ	33.4334	-111.9813	78 Inches	04/22/2020	
SR030	27th Ave And Salt River, Phoenix, AZ	33.4088	-112.1164	108 Inches	08/04/2021	
SR031	19th Ave And Salt River, Phoenix, AZ	33.4101	-112.1000	60 Inches	04/01/2020	
SR032	7th Ave And Salt River, Phoenix, AZ	33.4164	-112.0824	72 Inches	04/07/2020	2023
SR033	Central Ave And Salt River, Phoenix, AZ	33.4209	-112.0738	66 Inches	02/20/2020	2024
SR035	7th St And Salt River, Phoenix, AZ	33.4203	-112.0650	72 Inches	02/19/2020	
SR036	15th St And Salt River, Phoenix, AZ	33.4178	-111.9503	72 Inches	01/09/2020	2024
SR037	16th St And Salt River, Phoenix, AZ	33.4172	-112.0481	36 Inches	03/17/2020	2024
SR038	24th St And Salt River, Phoenix, AZ	33.4155	-112.0303	72 Inches	01/09/2020	2024
SR039	28th St And Salt River, Phoenix, AZ	33.4164	-112.0209	96 Inches	08/25/2021	2024 (4)
SR045	40th St And Salt River, Phoenix, AZ	33.4261	-111.9956	54 Inches	12/10/2020	2024
SR046	7th St And Salt River, Phoenix, AZ	33.4216	-112.0651	24 Inches	04/08/2020	2024
SR048	45th St And Salt River, Phoenix, AZ	33.4265	-111.9927	48 Inches	04/22/2020	2024

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
<u>SR-Salt River</u>		<u>Count: 59</u>				
SR049	67th Ave And Salt River, Phoenix, AZ	33.4001	-112.2042	96 Inches	08/09/2021	
SR052	52nd St And Hohokam Frwy, Phoenix, AZ	33.4370	-111.9729	8 x 5 Feet	04/22/2020	2024
SR056	28th St And Salt River, Phoenix, AZ	33.4199	-112.0199	36 Inches	04/14/2020	2025
SR059	25th Ave And Salt River, Phoenix, AZ	33.4167	-112.1131	60 Inches	03/27/2020	
SR061	32nd St And Salt River, Phoenix, AZ	33.4230	-112.0133	7 x 5 Feet	08/25/2021	
SR062	38th St And Salt River, Phoenix, AZ	33.4277	-112.0012	60 Inches	04/15/2020	2025
SR063	15th Ave And Salt River, Phoenix, AZ	33.4149	-112.0908	60 Inches	04/03/2020	2025
SR064	19th Ave And Salt River, Phoenix, AZ	33.4115	-112.0990	36 Inches	04/02/2020	2025
SR068	28th St And Salt River, Phoenix, AZ	33.4205	-112.0182	8 x 8 Feet	08/25/2021	
SR069	31st St And Salt River, Phoenix, AZ	33.4228	-111.9858	60 Inches	04/14/2020	2025
SR070	33rd St And Salt River, Phoenix, AZ	33.4236	-112.0125	36 Inches	04/15/2020	2025
SR071	33rd St And Salt River, Phoenix, AZ	33.4247	-112.0105	60 Inches	04/15/2020	2025
SR072	45th St And Salt River, Phoenix, AZ	33.4313	-111.9867	48 Inches	04/22/2020	2025
SR073	45th St And Salt River, Phoenix, AZ	33.4313	-111.9867	60 Inches	04/21/2020	2025
SR075	43rd Ave And Broadway Rd, Phoenix, AZ	33.4038	-112.1514	10 Feet	03/24/2020	
SR076	43rd Ave And Broadway Rd, Phoenix, AZ	33.4041	-112.1509	48 Inches	03/24/2020	
SR077	22nd Ave And Rio Salado Service Yard, Phoenix, AZ	33.4185	-112.1071	17 Feet	03/25/2020	
SR079	35th Ave And Salt River, Phoenix, AZ	33.4096	-112.1343	42 Inches	03/25/2020	
SR080	51st Ave And Salt River, Phoenix, AZ	33.4043	-112.1691	42 Inches	03/23/2020	
SR082	75th Ave S/O Broadway Rd, Phoenix, AZ	33.3961	-112.2205	84 Inches	02/27/2020	
SR083	83rd Ave And Salt River, Phoenix, AZ	33.3861	-112.2315	12 Inches	08/23/2021	2024 (4)
SR084	Sw Corner Of The 153 Expressway And The Salt River, Phoenix, AZ	33.4309	-111.9801	72" Inches	04/22/2020	2025
SR088	31st Ave. And Salt River, Phoenix, AZ	33.4080	-112.1248	30 Inches	08/05/2021	2024 (4)
SR089	31st And Salt River, Phoenix, AZ	33.4080	-112.1248	11 Feet	08/05/2021	2024 (4)
<u>ST-Sweetwater Tributary of Indian Bend Wash</u>		<u>Count: 1</u>				
ST004	Sweetwater Ave And 35th St, Phoenix, AZ	33.6042	112.0060	36 Inches	08/17/2017	2023

Outfall Id	Site Address	Latitude	Longitude	Drain Size	Last Inspection	Next Inspection
<u>SW-Scatter Wash</u>		<u>Count: 10</u>				
SW001	33rd Ave And Deer Valley Rd, Phoenix, AZ	33.4000	-112.0700	54 Inches	01/03/2022	
SW006	43rd Ave And Behrend Dr, Phoenix, AZ	33.6650	-111.8481	36 Inches	10/31/2017	2022
SW009	21041 N 33rdAve Phoenix, AZ	33.6775	-112.1300	8 Feet	12/28/2017	2022
SW011	33rd Ave And Deer Valley Rd, Phoenix, AZ	33.4100	-112.0700	36 Inches	12/14/2017	2022
SW015	38th Ave And Beardsley Rd, Phoenix, AZ	33.6689	-111.8592	96 Inches	12/13/2017	2022
SW019	31st Dr And Deer Valley Rd, Phoenix, AZ	33.4100	-112.0700	36 Inches	01/03/2022	
SW026	31st Ave And Deer Valley Rd, Phoenix, AZ	33.4100	-112.0700	36 Inches	12/14/2017	2022
SW032	22125 SandsDr Phoenix, AZ	33.6867	-112.1190	53 Inches	12/28/2017	2022
SW037	35th Avenue And Mohawk Lane, Phoenix, AZ	33.6722	-112.1353	48 Inches	12/13/2017	2022
SW040	35th Avenue And Mohawk Lane, Phoenix, AZ	33.6700	-112.1300	42 Inches	12/13/2017	2022 (3)
<u>TD-Tempe Drainage Channel</u>		<u>Count: 3</u>				
TD008	3402 S 40thSt Phoenix, AZ	33.4160	-111.9961	36 Inches	10/17/2017	2024
TD010	3425 S 40thSt Phoenix, AZ	33.4158	-111.9944	18 Inches	10/17/2017	2024
TD013	3402 E IlliniSt Phoenix, AZ	33.4127	-112.0083	24 Inches	10/17/2017	2024
<u>TS-Tenth Street Wash</u>		<u>Count: 8</u>				
TS002	11421 N Cave CreekRd Phoenix, AZ	33.5896	-112.0460	48 Inches	09/21/2021	2027
TS007	1425 E Desert CoveRd Phoenix, AZ	33.5847	-111.9489	36 Inches	09/22/2021	2027
TS008	14th St And Desert Cove Ave, Phoenix, AZ	33.5858	-111.9481	52 Feet	09/22/2021	2027
TS011	10th St. And Townley Ave., Phoenix, AZ	33.5658	-111.9397	36 Feet	09/22/2021	2027
TS013	11th Street And Townley Ave., Phoenix, AZ	33.5656	112.0425	8 Feet	09/29/2021	2027
TS014	Dunlap And 11th Street, Phoenix, AZ	33.5675	112.0594	72 Inches	09/29/2021	2027
TS018	1107 HatcherRd Phoenix, AZ	33.5711	112.0589	45 Inches	10/11/2021	2027
TS025	1839 E CinnabarAve Phoenix, AZ	33.5758	112.0564	9 Feet	10/13/2021	2027
<u>ZT-Emile Zola Tributary of Indian Bend Wash</u>		<u>Count: 2</u>				
ZT001	33rd Pl And Sharon Dr, Phoenix, AZ	33.6114	-111.9894	18 Feet	09/20/2021	2027
ZT002	33rd Pl And Emile Zola Ave, Phoenix, AZ	33.6078	-111.9897	46 Feet	09/20/2021	2027

APPENDIX E

ENFORCEMENT RESPONSE PLAN



Water Services Department
Environmental Services Division
Stormwater Management Section
2474 South 22nd Avenue
Phoenix, Arizona 85009

Effective Date: **MAR 03 2021**

STANDARD OPERATING PROCEDURE

Stormwater Enforcement Response Plan

Document Number: 6021R6I

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Stormwater Enforcement Response Plan

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Stormwater Enforcement Response Plan

- 1.0 Purpose
 - 1.1 The purpose of the Stormwater Enforcement Response Plan (ERP) SOP is to provide procedures for initial compliance actions and escalation of enforcement of the Stormwater Quality Protection ordinance under Chapter 32C of the Phoenix City Code.
 - 1.2 This document provides guidance to staff for enforcement response procedures following complaint and facility inspections. Illicit discharge investigations may also utilize this SOP, as appropriate.
 - 1.3 This SOP describes Inspector actions and time frames for escalating enforcement to achieve compliance with Chapter 32C of the Phoenix City Code. Staff must use professional judgment when evaluating unique situations and determining appropriate response options.
 - 1.4 Changes to this document are outlined in Appendix A.
- 2.0 Responsibilities
 - 2.1 Water Quality Inspectors/Senior Water Quality Inspectors (WQI/SWQI or Inspectors) are responsible to follow the procedures outlined in this document in consultation with the Chief Water Quality Inspector (CWQI) and Environmental Programs Coordinator (EPC). The CWQI and SWQIs will train and guide WQIs in appropriate enforcement responses. Inspectors are required to thoroughly document observed conditions at the facility and/or complaint site and provide a monthly update of the status of the inspection as required by A.R.S §9-833.H. Inspectors are also required to keep updated records of all communications with facility or property representatives and make appropriate entries into the database.
 - 2.2 The CWQI is responsible for monitoring adherence to the procedures described in this SOP and for providing guidance or direction for complaints and enforcement actions as necessary.
 - 2.3 The EPC is responsible for arranging consultations with legal counsel concerning escalated enforcement actions and for providing guidance or direction for complaints and enforcement actions as necessary.
 - 2.4 The Environmental Quality Specialist (EQS) is responsible for providing relevant details in the Stormwater Annual Report.
- 3.0 Safety and Precautions

There are no hazards associated with this procedure.
- 4.0 Job Planning
 - 4.1 All staff will review this SOP and complete the “Read and Understood” form.
 - 4.2 It is critical that the inspector maintain complete and accurate records of inspections, correspondence, and communications with the facility or property representative to support future enforcement.
- 5.0 Procedures
 - 5.1 Progressive enforcement steps to ensure the facility or property is brought to compliance are presented in this section. The severity of the compliance issue or extent of failure to implement best management practices, recalcitrance, history of repeat violations, or other

evidence of bad faith will be considered in determining the level of enforcement response. Inspectors, in consultation with the CWQI, will evaluate the individual facility information to determine the appropriate enforcement option. Individual progressive enforcement steps may be bypassed with the approval of the EPC. All compliance letters are transmitted via Certified Mail or hand delivered when necessary, except for the Closure Letter and Status Letter, which are sent regular mail. For stormwater complaint inspections, the Inspector will search the database for previous complaints associated with the property address or responsible party.

5.2 Industrial/Commercial Facility Enforcement

5.2.1 Informal and formal enforcement actions may be initiated for an industrial or commercial facility following routine, Illicit Discharge Detection and Elimination (IDDE), and complaint compliance inspections. See Facility Inspections SOP 6003 for routine facility inspection procedures and the Complaint Investigation SOP 6013 for complaint inspection procedures. Documentation requirements for all enforcement actions are provided in Section 7 of the SOP. Informal actions and requirements may be documented on the inspection form. If the requirements are not addressed during the inspection, a formal inspection letter will be mailed no later than 30 days from the date of the inspection.

5.2.2 A verbal warning is a verbal exchange between an Inspector and the facility representative and is used ONLY during a complaint investigation or a less-serious IDDE investigation where no requirements are issued. Results of complaint investigations are documented as per the procedures in the Stormwater Complaint Investigation SOP 6013.

During the course of a complaint investigation, no letter is typically written if the facility has corrected the problem immediately and the Inspector has observed the corrective action and deems it appropriate. However, a complaint inspection report may be warranted to document the findings of the inspection, especially if requirements are made.

5.2.3 The Compliance Inspection Letter details any concerns noted during the industrial/commercial inspection process. The facility inspection process, including the issuance of the Compliance Inspection Letter, is described in the Facility Inspections SOP 6003. Facility inspections typically have a 30 day compliance time frame.

5.2.4 A Notice of Violation (NOV) typically requires compliance within fourteen (14) calendar days. An NOV is issued to a facility:

- If the facility fails to correct compliance issues identified in the Compliance Inspection Letter.
- When compliance issues are critical, or human health or the environment is threatened.

The NOV is prepared by the Inspector, reviewed by the CWQI and EPC and signed by the CWQI.

5.2.5 A Field NOV orders the facility to immediately cease and desist further discharge and provides a date by which any cleanup or repairs must be conducted. The inspector may issue a Field NOV to a facility observed actively discharging a pollutant to the MS4 or if there is clear evidence of a recent discharge of a pollutant to the storm drain system. Field NOVs are not issued for administrative violations (e.g., failure to have a Stormwater Management Plan). In this situation, a compliant inspection report may be appropriate.

5.2.6 Show Cause Proceeding: For situations where prior enforcement actions have failed to produce compliance or a reasonable commitment to attain compliance by an established

deadline, or at the discretion of the EPC, a meeting will be scheduled. A Show Cause letter will be sent to the facility, establishing a date, time, and location for a meeting between the facility representative(s) and representatives of the City of Phoenix (City). The City's representatives will include the Inspector and CWQI. The EPC and representative of the Law Department will also be present during these meetings.

- 5.2.6.1 During the meeting, the City will present evidence establishing the facility's non-compliance. The City will give an overview of the stormwater program, review the compliance issues, prior activities, explain the City enforcement policy, and identify the assessed penalties for non-compliance. The Stormwater Management Section will negotiate to reach an agreement on the required compliance activities and the amount of civil sanctions. Fines are negotiated and assessed. The CWQI will take meeting notes and prepare the meeting minutes. The terms of this agreement will be documented in a Show Cause Meeting Minutes memorandum to the file.
- 5.2.6.2 Guidelines for creating a packet for use by City Personnel and the Law Department are found in Exhibit 1. These packets are for City use only and are not intended for the Facility Representative(s).
- 5.2.6.3 After the Show Cause Proceeding, the Law Department will prepare a draft of the Stormwater Settlement Agreement that details the terms of the agreement reached. The Stormwater Settlement Agreement is signed by the Water Services Director and the facility representative authorized to enter into the agreement. A copy of the Stormwater Settlement Agreement is filed in the facility file and associated compliance dates are entered into the database.
- 5.2.7 If the facility does not achieve substantial compliance with the stormwater requirements, the CWQI or a delegate may file a Civil Citation with the Phoenix Municipal Court. Depending on the situation, a Civil Citation may be issued in lieu of a Show Cause Proceeding.
- 5.2.8 When all elements of any enforcement action are met, a Closure Letter will be issued. This letter will inform the individual or facility that they have addressed the issues identified during the inspection and will remind them that further non-compliance may result in additional enforcement actions.
- 5.2.8.1 A facility inspection with no requirements can be closed when the Facility Inspection Report is issued, noting that no additional actions are required.
- 5.2.8.2 A facility investigation can be closed because the facility has resolved all stormwater requirements. The inspector prepares the closure memo. No letter is generated for non-operational facilities.
- 5.2.9 Inspectors will conduct a full inspection at industrial/commercial facilities that have repeat complaints in one year or one complaint with conditions that warrant it. Enforcement will follow the procedures for a routine inspection.
- 5.2.10 The Stormwater Management Section's goal is to close 90% of compliance cases within one year of inspection. However, facilities required to construct or install extensive structural best management practices or facilities required to pay substantial fines may be offered a compliance schedule by the City. A compliance schedule breaks down the work to be conducted into an enforceable sequence of actions (or payments), with the ultimate result of compliance with the Phoenix City Code Chapter 32C. The Stormwater Management Section may consider a compliance schedule when dealing with companies that conduct a large number of operations outdoors and/or store a large amount of material outdoors (such as scrap yards).

- 5.2.11 If a facility's compliance exceeds 30 days, a written or electronic "update of action resulting from on-site inspection" letter must be sent per A.R.S. 9-833(H). This is referred to as a status letter. The status letter is intended to inform the facility of the current status of compliance process, and to remind them of any impending due dates. A new status letter must be generated and sent to the business monthly until all compliance issues are resolved. For businesses without reliable physical or electronic mail service, these letters may be hand delivered.

The Inspector may request the facility to provide a proposed list of actions and time frame for completion in the facility's response to the Compliance Inspection Letter. The Inspector reviews the proposed list of actions and time frames for completion and determines if they are acceptable. If they are not acceptable, the Inspector can request the facility to meet to negotiate a more agreeable list of actions and time frames. If they are acceptable, the Inspector incorporates the list of actions and time frames into a compliance schedule issued to the facility. Missing time frames are cause for initiating escalated enforcement to the facility. However, any compliance schedule exceeding nine months should proceed to a Show Cause Proceeding.

- 5.2.12 A Flowchart showing typical enforcement process and timeline is included in Exhibit 2.

5.3 Residential Complaint Enforcement

- 5.3.1 A Verbal Warning is a verbal exchange between an Inspector and the resident and is ONLY used during a complaint investigation where no requirements are necessary. Results of complaint investigations are documented according to the procedures in the Stormwater Inquiry and Complaint Investigation SOP 6013.

During the course of a complaint investigation, a letter is typically not written if the resident has corrected the problem immediately and the Inspector has observed the corrective action and deems it appropriate. The Inspector may also direct the resident to correct the compliance issue within a given time frame (generally fourteen calendar days or less) using an informal enforcement action. If the Inspector requires an action by a specific date then a follow-up complaint inspection is required and a complaint inspection report may be warranted. If the resident fails to correct the compliance issue after the first follow-up visit, an inspection letter should be written by the inspector.

- 5.3.2 An inspector may issue a Field NOV for discharges that could adversely affect human health or the environment. Examples of such discharges include green (algal bloom) pool water, oils, or hazardous chemicals.

- 5.3.3 An informational letter is written to advise residents of stormwater requirements. An example of this type of letter is a Neighborhood Letter, used when multiple residents are discharging pool water to a wash behind their properties. An informational letter is considered outreach and generally does not have actions associated with a time frame.

- 5.3.4 A Residential Complaint Investigation Letter is sent to the resident if they fail to comply with the standard guidance information provided during the complaint investigation. A 30-day compliance time frame is typically specified.

- 5.3.5 If the resident fails to comply with the Residential Complaint Investigation Letter or the non-compliance is substantial, a Notice of Violation (NOV) or field NOV may be issued (See Section 5.2.5). The CWQI, EPC, and Deputy Director should be consulted.

5.4 Monetary Assessments

5.4.1 Potential monetary assessments include the sum of civil penalties and reimbursement of City costs (see Section 6.0).

5.4.2 Under Phoenix City Code Chapter 32C, the City is authorized to collect monetary sanctions of not less than \$50 or more than \$2,500 per day per violation. The purpose of assessing penalties is to deter potential violators of Chapter 32C, provide fair and equitable treatment to the community, and facilitate swift resolution of environmental problems.

Any civil sanction associated with stormwater violations should reflect the seriousness, frequency, and persistence of each violation.

5.4.2.1 This section of the SOP is intended for use by City personnel for settlement purposes and does not create any rights or obligations nor should it be used or relied upon by non-city personnel for any purpose. The City reserves the right to act at variance with this SOP and to change it at any time. Civil penalties may be considered under the following circumstances:

- As the result of a field NOV
- When an active discharge is observed by an Inspector or clearly documented by others
- Failure to discontinue a prohibited action(s) after being made aware of non-compliance
- Failure to comply with the written requirements or time frames specified in a NOV or other Administrative Order (such as a Stormwater Settlement Agreement)
- Damage to City property (including streets, gutters, right-of-way property, municipal storm drains, washes, rivers, etc.) from a prohibited activity
- Injury to City personnel caused by a prohibited activity
- Any other situation in which the City believes civil sanctions are necessary or legal action is contemplated.

5.4.2.2 The base amount of the civil penalty can be increased (not to exceed \$2,500 per violation per day), decreased (but not less than \$50 per violation per day) or remain the same after consideration of the seriousness of the violation, any history of such violation, any good faith efforts to comply with the applicable requirements, the economic impact of the penalty on the violator, and such other factors as justice may require.

6.0 Calculations

6.1 Violations Entry Sheet Table 2, is a spreadsheet that contains the formulas for calculating penalties. Outstanding compliance issues that are listed in the section of the table titled "Miscellaneous Sanctions" have penalties that are multiplied by the number of days of violation. For most facilities, the first day of violation is the submittal due date included in the Compliance Inspection Letter. This blank Excel spreadsheet is included in the S drive.

6.2 Outstanding compliance issues that are listed under the "Discharge to Storm Drain System: Dominant Pollutant" and the "Discharge to Storm Drain System: Material with Potential to Cause Blockage" sections on Table 2. Each occurrence of a discharge is considered a separate offense. The penalty is multiplied by the number of offenses. A copy of penalty calculations is included in the facility file.

- 6.3 Any costs associated with the violation(s), such as sampling, analysis, investigation, surveillance, harm done to the environment, or damage to City infrastructure are not included in the amount of the calculated penalty. Rather, these costs are separate and distinct from civil penalties and can be recovered under the authorities identified in various sections of the Phoenix City Code, including Chapter 32C, and other laws.
- 6.4 Facility instructions for submittal of monetary assessments are included in the Stormwater Settlement Agreement. Monetary assessments are submitted to the Law Department for processing.
- 6.5 The Inspector will consult with the Law Department before including any material in the facility file that relates to a pending court action. Carefully document all conversations or correspondence with the facility, providing appropriate information to the Law Department.
- 7.0 Documentation and Reporting
- 7.1 Documentation concerning the facility is attached to facility file, including information collected during the complaint or routine inspection (see Complaint Investigation SOP 6014 and Facility Inspections SOP 6003. The Closure Letter, Compliance Inspection Letter, NOV, field NOV, Show Cause Meeting letter, Closure letter, and/or Residential Complaint Investigation letter should all be included when applicable. If the letter is sent via Certified Mail, the Certified Mail receipts are stapled to the back of the first page of the letter as they are received. Copies of the signed correspondence (e.g., inspection letter, NOV, etc.) should also be included as an attachment to the database.
- 7.2 Copies of correspondence sent to the facility are saved in the S drive under S:/Stormwater/Documents current FY/ according to the type of letter issued. All violations and enforcement actions, including the correspondence date and required response date are entered into the database. If a Compliance Schedule has been developed, the submittal due dates (and date resolved) are entered into the database.
- 7.3 The correspondence log (for telephone calls) and any correspondence received from the facility (including copies of email) are included in the facility file. Telephone calls and correspondence received from the facility are also entered into the database.
- 7.4 Once a facility investigation is closed, the Inspector files the facility folder in the Stormwater file area. If the facility is no longer in operation, file the facility folder in the "inactive files" area of the Stormwater files. If the facility is still in operation, the inspector files the facility folder in Stormwater Management Section main facility file area.
- 7.5 The total number of enforcement letters issued annually is reported in the Municipal Separate Storm Sewer System (MS4) Annual Report to the Arizona Department of Environmental Quality (ADEQ). The timeframe to achieve compliance is also reported, as closure within one year is a permit requirement. Assessed penalties and collected penalties are included in the report. In addition, management is notified of any escalated enforcement actions.
- 7.6 Forms used to document the activity performed according to this SOP are shown in Table 1.
- 8.0 References
- 8.1 Phoenix City Code Section 32C
- 8.2 Stormwater Section, Quality Assurance Plan, Document Number 12153, current version.

- 8.3 Stormwater Section, Inquiry and Complaint Investigation SOP, Document 6013, current revision.
- 8.4 Facility Inspections SOP, Document 6003, current revision.

Table 1

Referenced Forms and Spreadsheets

Form Number	Title
148-17D	Field NOV Form
6000R0wks	Penalty Calculation Worksheet spreadsheet

Table 2

1.1 Instructions for Violation Entry Sheet

1. Place an "x" in the yellow box next to the violation type and quantity being assessed. Leave the other yellow boxes blank.
2. If any of the violation categories was "Discharge to Storm Drain System", enter the number of discharge occurrences for each type of discharge in the blue boxes.
3. If there were costs to the city to recover, enter the amount in the orange box.
4. Click on the "Penalty Calculation Sheet" tab at the bottom of the spreadsheet to enter additional information

1.2 VIOLATION ENTRY SHEET

DISCHARGE TO STORM DRAIN SYSTEM: DOMINANT POLLUTANT	DISCHARGE OCCURRENCE S	Discharge <55 gal	Discharge >55 gal	Any Quantity
Any "unauthorized" discharge ⁽¹⁾	1	x \$100.00	\$1,500.00	
Organic matter ⁽²⁾	1			x \$200.00
Septic/sanitary waste ⁽³⁾	1	x \$250.00	\$2,500.00	
Construction debris ⁽⁴⁾	1		x	\$500.00
Any substance that may cause a blockage ⁽⁵⁾	1		x	\$1,000.00
Acids and bases ⁽⁶⁾	1	x \$1,000.00	\$2,500.00	
Petroleum products ⁽⁷⁾	1	x \$1,500.00	\$2,500.00	
Other pollutant not covered above ⁽⁸⁾	1			x \$2,500.00

MISCELLANEOUS SANCTIONS		BASE PENALTY PER DAY
Failure to develop and/or submit a SWMP or SWPPP or other required documentation by deadline.	x	\$100.00
Failure to implement Best Management Practice(s)	x	\$100.00
Failure to submit sampling reports, inspection reports or other requested information	xx	\$100.00

CITY COSTS		
Other costs to city ⁽⁹⁾	x	Enter total costs: \$300.00

- ¹Any discharge into the public storm drain system not consisting entirely of stormwater which is not listed elsewhere.
- ²Substances partially or entirely consisting of material derived from an organism.
- ³Substances typically treated at a waste water treatment plant.
- ⁴Debris or material originating from a site of construction activity.
- ⁵Blockages occur when a substance or material may inhibit the flow of stormwater through any part of the Public Storm Drain System, as defined in Sec. 32C-101.
- ⁶Substances labeled as 'Acids' and 'Bases' or any substances with pH of 6.0 or less and a pH of 9.5 of greater
- ⁷Petroleum products include gasoline, diesel gasoline, kerosene, jet fuels, and other petroleum based products used to run equipment.
- ⁸Pollutants including chemicals, pesticides, herbicides, dissolved metals, other hazardous materials as defined in 29 CFR 1910.1200, 40 CFR 355, and

49 CFR 171.8, and hazardous wastes as defined in 40 CFR 261.3.

⁹Costs incurred to the City associated with Chapter 32C violations required to be recouped from responsible party.

Appendix A

Procedural Changes Narrative

The following changes have been incorporated into this revision:

Location	Description



City of Phoenix
 WATER SERVICES DEPARTMENT
 ENVIRONMENTAL SERVICES DIVISION

"Read and Understand Form"

Document Title: Stormwater Enforcement Response Plan

Document/Revision Number: 6021R6I

Quick Fix Number: N/A Quick Fix Effective Date: N/A

I have received, agree to read, and will ask any questions I may have. I will adhere to the policies and procedures for the document identified above.

Staff Name (Print)	Staff Signature	Date
Alex Araiza	<i>Alex Araiza</i>	3/1/21
SCOTT STIREK	<i>Scott Stirek</i>	3/2/21
Mike Vey	<i>Mike Vey</i>	3-2-21
Rocky Orso	<i>Rocky Orso</i>	3/3/21
Jessica Henderson	<i>Jessica Henderson</i>	3-3-21
Chris Molina	<i>Chris Molina</i>	3/4/21
Marcos Cordova	<i>Marcos Cordova</i>	3/4/21
James Mendez	<i>James Mendez</i>	3/4/21
Jeffrey Dooley	<i>Jeffrey Dooley</i>	3/4/2021
JOEL ZUNTA	<i>Joel Zunta</i>	3/4/2021

Supervisor's Initials: LW Date: 3/4/21
 Supervisor's Initials: _____ Date: _____
 Supervisor's Initials: _____ Date: _____

*Original RAU filed in archive with document.

Scanned/Attached to document: Initials: IC Date: 3-5-2021



City of Phoenix
 WATER SERVICES DEPARTMENT
 ENVIRONMENTAL SERVICES DIVISION

"Read and Understand Form"

Document Title: Stormwater Enforcement Response

Document/Revision Number: 6021R06

Quick Fix Number: _____ Quick Fix Effective Date: 03/03/2021

I have received, agree to read, and will ask any questions I may have. I will adhere to the policies and procedures for the document identified above.

Staff Name (Print)	Staff Signature	Date
Luis Weisel	<i>Luis Weisel</i>	12-13-21
Edwin Villalobos	<i>Edwin Villalobos</i>	12/13/21
Patrick Anderson	<i>Patrick Anderson</i>	12/13/21
Marcus Cochran	<i>Marcus Cochran</i>	12/13/21
Alex Araiza	<i>Alex Araiza</i>	12/13/21
Jessica Henderson	<i>Jessica Henderson</i>	12/14/21
James Marden	<i>James Marden</i>	12/14/21
Jeffrey Dooley	<i>Jeffrey Dooley</i>	12/14/21
Joel Zurita	<i>Joel Zurita</i>	12/14/21
Mike Veje	<i>Mike Veje</i>	12-14-21
Rocky Orsco	<i>Rocky Orsco</i>	12-15-21

Supervisor's Initials: LW

Date: 12-15-21

Supervisor's Initials: fmp

Date: 12/14/21

Supervisor's Initials: _____

Date: _____

*Original RAU filed in archive with document.

Scanned/Attached to document: Initials: K.P. Date: 1/5/22

APPENDIX F

INVENTORY OF MUNICIPAL FACILITIES AND OPERATIONS

Appendix F
City of Phoenix Inventory of Municipal Facilities with Potential to Release Pollutants to Stormwater

City facility	Address	SIC Code (best fit for services at facility)	Operating Status	Latitude - Degrees	Latitude - Minutes	Latitude - Seconds	Longitude - Degrees	Longitude - Minutes	Longitude - Seconds	Facility Contact	Brief Description of Activities of Concern (use letter codes A-N on second worksheet tab. If O (other), please specify.)
Aviation Deer Valley Airport Maintenance Center	702 W. Deer Valley Road	4581	Operational	33	41	3.27	112	4	58.62	Lisa Farinas	A,B,C,D,E,G,H,J,F,L,N
Aviation Sky Harbor Terminal 2, 3, and 4, all applicable buildngs	3400 E. Sky Harbor Blvd.	4581	Operational	33	26	7.62	112	0	31.42	Lisa Farinas	A,B,C,D,E,G,H,J,F,L,N
City Clerk Print Shop	2640 S. 22nd Ave	2759	Operational	33	25	25.5	112	6	23.31	Abner Landas	A,D,O-printing
Convention Center CCEG HVAC	601 E. Washington	7521	Operational	33	26	51.17	112	3	58.96	Michael Campos	A,D,F,G
Convention Center Herberger Theater (ES)	222 E. Monroe	6512	Operational	33	27	3.49	112	4	14.58	Michael Campos	B,F,G
Convention Center North building	150 N. 5th St.	6512	Operational	33	26	57.75	112	4	7.37	Michael Campos	A,B,D,E,F,G
Convention Center Orpheum Basement (BT) and Production Services (PS)	203 W. Adams Street	6512	Operational	33	26	56.33	112	4	36.57	Michael Campos/Roxann Favors	F,G
Convention Center South Building	20 S. 5th Street	6512	Operational	33	26	50.64	112	4	6.45	Michael Campos	A,B,D,E,F,G
Convention Center Symphony Hall	225 E. Adams Street	6512	Operational	33	26	56.17	112	4	14.07	Michael Campos	A,F,G
Convention Center West Building	100 N. 3rd Street	6512	Operational	33	26	58.02	112	4	14.01	Michael Campos	A,B,D,F,G
Fire Operations Center	150 S. 12th Street	9224	Operational	33	26	44.63	112	3	25.23	Salvatore Salese	B,C
Fire Special Operations	2450 S. 22nd Ave	9224	Operational	33	25	28.57	112	6	25.56	Salvatore Salese	A,D,E,F,G
Fire Station 01	323 N. 4th Avenue	9224	Operational	33	27	8.44	112	4	43.2	Salvatore Salese	B,C,D,E,F,G
Fire Station 03	1257 W. Pierce	9224	Operational	33	25	28.57	112	5	26.86	Salvatore Salese	B,C,D,E,F,G
Fire Station 04	1601 N. 3rd Avenue	9224	Operational	33	27	58.01	112	4	40.64	Salvatore Salese	B,C,D,E,F,G
Fire Station 05	1840 E. Cambridge Ave.	9224	Operational	33	28	39.93	112	2	30.16	Salvatore Salese	B,C,D,E,F,G
Fire Station 06	368 W. Apache Street	9224	Operational	33	25	49.3	112	4	48.55	Salvatore Salese	B,C,D,E,F,G
Fire Station 07	403 E. Hatcher	9224	Operational	33	34	16.04	112	4	4.9	Salvatore Salese	B,C,D,E,F,G
Fire Station 08	1025 E. Polk	9224	Operational	33	27	9.16	112	3	33.58	Salvatore Salese	B,C,D,E,F,G
Fire Station 09 & WSD Odor Control Station 84	330 E. Fairmount Street	9224/4952	Operational	33	29	35.82	112	4	6.05	Salvatore Salese/Lynn Ogata	B,C,D,E,F,G,L
Fire Station 10	2731 N. 24th Drive	9224	Operational	33	28	46.23	112	6	39.66	Salvatore Salese	B,C,D,E,F,G
Fire Station 11	2727 E. Roosevelt	9224	Operational	33	27	29.43	112	1	22.16	Salvatore Salese	B,C,D,E,F,G
Fire Station 12	4243 N. 32nd Street	9224	Operational	33	29	34.88	112	0	44.45	Salvatore Salese	B,C,D,E,F,G
Fire Station 13	2828 N. 47th Place	9224	Operational	33	28	46.22	111	58	43.44	Salvatore Salese	B,C,D,E,F,G
Fire Station 14	1330 N. 32nd Avenue	9224	Operational	33	27	50.29	112	7	39.1	Salvatore Salese	B,C,D,E,F,G
Fire Station 15	4730 N. 43rd Avenue	9224	Operational	33	30	22.89	112	9	6.93	Salvatore Salese	B,C,D,E,F,G
Fire Station 16	1414 E. Mohave	9224	Operational	33	25	54.49	112	3	6.02	Salvatore Salese	B,C,D,E,F,G
Fire Station 17	1531 E. Missouri	9224	Operational	33	30	58.4	112	2	53.96	Salvatore Salese	B,C,D,E,F,G
Fire Station 18	5019 N. 23rd Avenue	9224	Operational	33	30	37.21	112	6	28.19	Salvatore Salese	B,C,D,E,F,G
Fire Station 19	3547 E. Sky Harbor Blvd.	9224	Operational	33	26	3.25	112	0	20.5	Salvatore Salese	B,C,D,E,F,G

Appendix F
City of Phoenix Inventory of Municipal Facilities with Potential to Release Pollutants to Stormwater

City facility	Address	SIC Code (best fit for services at facility)	Operating Status	Latitude - Degrees	Latitude - Minutes	Latitude - Seconds	Longitude - Degrees	Longitude - Minutes	Longitude - Seconds	Facility Contact	Brief Description of Activities of Concern (use letter codes A-N on second worksheet tab. If O (other), please specify.)
Fire Station 20	726 W. Glendale Avenue	9224	Operational	33	32	19.79	112	5	0.67	Salvatore Salese	B,C,D,E,F,G
Fire Station 21	1212 S. 27th Avenue	9224	Operational	33	26	10.48	112	7	3.52	Salvatore Salese	B,C,D,E,F,G
Fire Station 22	230 E. Roeser Road	9224	Operational	33	23	59.88	112	4	12.67	Salvatore Salese	B,C,D,E,F,G
Fire Station 23	4416 S. 32nd Street	9224	Operational	33	24	21.37	112	0	47.21	Salvatore Salese	B,C,D,E,F,G
Fire Station 24	2602 N. 43rd Avenue	9224	Operational	33	28	37.57	112	9	7.47	Salvatore Salese	B,C,D,E,F,G
Fire Station 25	4010 N. 63rd Avenue	9224	Operational	33	29	36.77	112	11	44.07	Salvatore Salese	B,C,D,E,F,G
Fire Station 26	3301 W. Rose Lane	9224	Operational	33	31	37.81	112	7	49.06	Salvatore Salese	B,C,D,E,F,G
Fire Station 27	12449 N. 32nd Street	9224	Operational	33	36	1.58	112	0	45.96	Salvatore Salese	B,C,D,E,F,G
Fire Station 28	7409 S. 16th Street	9224	Operational	33	22	45.4	112	2	48.56	Salvatore Salese	B,C,D,E,F,G
Fire Station 29	3949 E. Air Lane	9224	Operational	33	26	33.77	112	59	48.53	Salvatore Salese	B,C,D,E,F,G
Fire Station 30	2701 W. Belmont Ave	9224	Operational	33	32	56.22	112	7	3.31	Salvatore Salese	B,C,D,E,F,G
Fire Station 31	5730 E. Thunderbird Road	9224	Operational	33	36	42.8	111	57	26.96	Salvatore Salese	B,C,D,E,F,G
Fire Station 32	7620 S. 42nd Place	9224	Operational	33	22	36.87	111	59	33.8	Salvatore Salese	B,C,D,E,F,G
Fire Station 33	2409 W. Cactus Road	9224	Operational	33	35	46.13	112	6	38.42	Salvatore Salese	B,C,D,E,F,G
Fire Station 35	646 E. Paradise Lane	9224	Operational	33	37	59.91	112	3	57.33	Salvatore Salese	B,C,D,E,F,G
Fire Station 36	21602 N. 9th Avenue	9224	Operational	33	40	55.09	112	5	8.33	Salvatore Salese	B,C,D,E,F,G
Fire Station 37	16602 N. 40th Street	9224	Operational	33	38	14.56	111	59	47.53	Salvatore Salese	B,C,D,E,F,G
Fire Station 38	5002 E. Warner Road	9224	Operational	33	19	58.48	111	58	42.76	Salvatore Salese	B,C,D,E,F,G
Fire Station 39	2276 W. Southern Avenue	9224	Operational	33	23	33.32	112	6	26.71	Salvatore Salese	B,C,D,E,F,G
Fire Station 40	3838 N. 83rd Avenue	9224	Operational	33	29	26.15	112	14	17.46	Salvatore Salese	B,C,D,E,F,G
Fire Station 41	2501 W. Morningside Drive	9224	Operational	33	38	54.26	112	6	47.3	Salvatore Salese	B,C,D,E,F,G
Fire Station 42	3246 W. Greenway	9224	Operational	33	37	32.31	112	7	45.27	Salvatore Salese	B,C,D,E,F,G
Fire Station 43	4110 E. Chandler Boulevard	9224	Operational	33	18	20.29	111	59	40.55	Salvatore Salese	B,C,D,E,F,G
Fire Station 44	7117 W. McDowell Road	9224	Operational	33	27	55.25	112	12	44.76	Salvatore Salese	B,C,D,E,F,G
Fire Station 45	2545 E. Beardsley Road	9224	Operational	33	40	6.95	112	1	37.29	Salvatore Salese	B,C,D,E,F,G
Fire Station 46	15402 S. Marketplace Way	9224	Operational	33	18	24.45	112	3	7.78	Salvatore Salese	B,C,D,E,F,G
Fire Station 48	5230 W. Happy Valley Road	9224	Operational	33	42	46.7	112	10	23.45	Salvatore Salese	B,C,D,E,F,G
Fire Station 49	3750 E. Dynamite Road	9224	Operational	33	44	29.27	111	59	45.37	Salvatore Salese	B,C,D,E,F,G
Fire Station 50	20225 N. 35th Ave	9224	Operational	33	40	14.71	112	8	2.6	Salvatore Salese	B,C,D,E,F,G
Fire Station 52	21650 N Tatum Blvd	9224	Operational	33	40	58.79	111	58	36.65	Salvatore Salese	B,C,D,E,F,G
Fire Station 54 & WSD Odor Control Station 85	9820 W. Campbell Ave.	9224/4952	Operational	33	30	6.12	112	16	13.98	Salvatore Salese/Lynn Ogata	B,C,D,E,F,G,L
Fire Station 55	26700 N 27th Ave	9224	Operational	33	72	56.67	112	11	70.26	Salvatore Salese	B,C,D,E,F,G
Fire Station 56	3210 W. Canotia Place	9224	Operational	33	48	3.9	112	7	44.12	Salvatore Salese	B,C,D,E,F,G
Fire Station 57	1660 W. Dobbins	9224	Operational	33	21	49.1	112	5	43.02	Salvatore Salese	B,C,D,E,F,G
Fire Station 58	4718 W. Dobbins Road	9224	Operational	33	21	48.2	112	9	40.4	Salvatore Salese	B,C,D,E,F,G
Fire Station 59	1165 S. 65th Ave	9224	Operational	33	26	16	112	11	51	Salvatore Salese	B,C,D,E,F,G
Fire Station 60	2405 W. Townley	9224	Operational	33	33	53.85	112	6	39.59	Salvatore Salese	B,C,D,E,F,G

Appendix F
City of Phoenix Inventory of Municipal Facilities with Potential to Release Pollutants to Stormwater

City facility	Address	SIC Code (best fit for services at facility)	Operating Status	Latitude - Degrees	Latitude - Minutes	Latitude - Seconds	Longitude - Degrees	Longitude - Minutes	Longitude - Seconds	Facility Contact	Brief Description of Activities of Concern (use letter codes A-N on second worksheet tab. If O (other), please specify.)
Fire Station 61	1925 E. Indian School	9224	Operational	33	29	39.22	112	2	24.2	Salvatore Salese	B,C,D,E,F,G
Fire Station 72	33027 N. Cave Creek Rd.	9224	Operational	33	47	5.88	111	58	17.47	Salvatore Salese	B,C,D,E,F,G
Fire Training Academy	2425 W Lower Buckeye	9224	Operational	33	25	17.29	112	6	34.07	Salvatore Salese	A,B,D,E,F,G
Housing Buchanan Warehouse	701 W. Buchanan	6513	Operational	33	26	33.54	112	4	58.09	Joe Collins	C,D,F,G,L
Housing East Maintenance Shop (Luke Krohn)	500 N. 20th Street	6513	Operational	33	27	23.8	112	2	23.8	Joe Collins	C,D,F,G,H,L
Housing Sidney P. Osborn	1720 E Adams	6513	Operational	33	26	59.19	112	2	40.33	Joe Collins	C,D,F,G,H,L
Housing Fillmore Gardens	802 N. 22nd Place	6513	Operational	33	27	20.45	112	1	59.3	Joe Collins	C,D,F,G,H,L
Housing Maryvale Parkway Terrace	4545 N. Maryvale Parkway	6513	Operational	33	30	13.95	112	10	14.05	Joe Collins	C,D,F,G,H,L
Housing Pine Towers	2936 N. 36th Street	6513	Operational	33	28	53.99	112	0	17.35	Joe Collins	C,D,F,G,H,L
Housing Sunnyslope Manor	205 E. Ruth	6513	Operational	33	33	45.7	112	4	16.91	Joe Collins	C,D,F,G,H,L
Library Department Burton Barr Library (Public Works)	1221 N. Central Ave.	8231	Operational	33	27	45	112	4	23.43	Mikaela Castle	D,O,G
NSD Graffiti Warehouse	3325 W. Flower	1721	Operational	33	29	9.4	112	7	43.9	Christy Blake	O,A,D,F
Police Academy Firearms Shooting Range & Special Assignment Unit Bldg	10001 S. 15th Ave.	9221	Operational	33	21	12.64	112	5	18.39	David Jordan	D,G,N
Police Academy Defensive Driving Track	8645 W. Broadway Rd.	9221	Operational	33	24	3.55	112	14	38.89	David Jordan	D,F,G,J
Police MDC and Dive Facility	425 E. Buckeye Rd.	9221	Operational	33	26	11.17	112	4	5.82	David Jordan	D
Black Mountain Police Precinct (200) & PW Maint	33355 N. Cave Creek Rd.	9221/7538	Operational	33	47	15.85	111	58	8.7	David Jordan/Mikaela Castle	A,B,C,D,F,J,L
Police Cactus Park Precinct (Briefing Station) & PW Maint	12220 N. 39th Avenue	9221/7538	Operational	33	35	49.51	112	8	36.26	David Jordan/Mikaela Castle	B,C,D,E
Central City Police Briefing Station Equipment Management Division & PW Maint	1902 S. 16th Street	9221/7538	Operational	33	25	45.16	112	2	56.75	David Jordan/Mikaela Castle	L
Police Deer Valley Tactical Operations, Air Support	102 E. Deer Valley Road	9221	Operational	33	41	11.66	112	4	24.15	David Jordan	A,D,E,F,J,L
Police Desert Horizon Precinct (Briefing Station) & PW Maint	16030 N. 56th Street	9221/7538	Operational	33	37	57.5	111	57	40.66	David Jordan/Mikaela Castle	B,C,D,E
Police Estrella Precinct & PW Maint	2111 S. 99th Ave.	9221/7538	Operational	33	25	38.3	112	16	16.11	David Jordan/Mikaela Castle	B,C,D,E
Police Laboratory Services and Police Crime Lab (PW Facilities)	621 W. Washington	8734/6512	Operational	33	26	50.84	112	4	55.03	David Jordan/Mikaela Castle	A,B,D,F,G,L
Police & Public Safety Bldg (PW Facilities)	620 W Washington St	9221/6512	Operational	33	26	55.2	112	4	55.15	David Jordan/Mikaela Castle	A,B,D,G,L
Police Maryvale Precinct & PW Maryvale Police Substation Maint	6180 W. Encanto Blvd.	9221/7538	Operational	33	28	26.44	112	11	33.33	David Jordan/Mikaela Castle	A,B,C,D,E,F,J,L

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City of Phoenix Inventory of Municipal Facilities with Potential to Release Pollutants to Stormwater

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Mountainview Police Substation Equipment Management Division & PW Maint	2075 E. Maryland	9221/7538	Operational	33	31	50.45	112	2	12.56	David Jordan/Mikaela Castle	A,B,C,D,F,J,L
Police Property Management Bureau (PMB) & PW Building Maintenance Site	100 E. Elwood	9221/6512	Operational	33	24	53.66	112	4	12.58	David Jordan/Mikaela Castle	B,C,D,E,L
Police Department Vehicle Storage Yard	2820 S. 22nd Avenue	9221	Operational	33	25	12.81	112	6	27.89	David Jordan	D,F,J
Police South Mountain Precinct (Briefing Station) & PW Maint	400 W. Southern Ave.	9221/7538	Operational	33	23	35.12	112	4	44.58	David Jordan/Mikaela Castle	B,C,D,E
Police South Resource Bureau Equipment Management Division & PW Maint	3443 S. Central Ave.	9221/7538	Operational	33	24	55.35	112	4	21.81	David Jordan/Mikaela Castle	A
Police Sunnyslope Precinct (Interim)	750 W. Peoria	9221	Operational	33	34	57.5	112	4	59.12	David Jordan	B,C,D,E
PRD Downtown Division Civic Space Park and Historic AE England Bldg	424 N. Central	7999	Operational	33	27	6.86	112	4	27.32	Scott Coughlin	A,C,D,F,G,H
PRD Downtown Division Encanto Park	2605 N. 15th Ave.	7999	Operational	33	28	34.64	112	5	23.19	Scott Coughlin	A,C,D,E,F,G,H
PRD Downtown Division Japanese Friendship Garden	1125 N. 3rd Ave	7999	Operational	33	27	39.55	112	4	31.74	Scott Coughlin	A,B,E,G,H,L
PRD Downtown Division Margaret T. Hance Park	67 W. Culver Street	7999	Operational	33	27	44.06	112	4	35.41	Scott Coughlin	A,C,D,E,F,G,H
PRD Downtown Division Monterey Maintenance	322 E. Oak Street	7999	Operational	33	28	24.1	112	4	7.08	Scott Coughlin	A,C,D,E,F,G,H
PRD Downtown Division Steele Indian School Park Maintenance	300 E. Indian School Rd.	7999	Operational	33	29	55.07	112	4	2.19	Scott Coughlin	A,C,D,E,F,G,H
PRD Natural Resources Division Papago Park Maintenance Yard	1001 N 52nd St	7999	Operational	33	27	9.2	111	57	29.81	Scott Coughlin	A,C,D,F,G,H
PRD Natural Resources Division Pueblo Grande Museum	4619 E. Washington St.	7999	Operational	33	26	48.3	111	59	5.24	Scott Coughlin	A,C,D,F,G,H
PRD Natural Resources Division Ranger Station - Phoenix Mountains Preserve	2245 W. Greenway	7999	Operational	33	37	29.5	112	6	23.5	Scott Coughlin	A,C,D,F,G,H
PRD Natural Resources Division Rio Salado Maintenance Facility	641 W. Lower Buckeye	7999	Operational	33	25	18.59	112	4	48.95	Scott Coughlin	A,C,D,E,F,G,H
PRD Natural Resources Division South Mountain Park Maintenance	10919 S. Central Avenue	7999	Operational	33	20	52.23	112	4	57.56	Scott Coughlin	A,C,D,F,G,H

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PRD Northeast Division 52nd Street Maintenance	1001 N. 52nd St.	7999	Operational	33	27	33.04	111	58	8.43	Scott Coughlin	A,B,C,D,E,F,G,H
PRD Northeast Division Bloomfield Warehouse	3201 E Bloomfield Road	7999	Operational	33	35	58.63	112	0	46.21	Scott Coughlin	A,D,F,G
PRD Northeast Division Paradise Valley Park Maintenance	17642 N. 40th Street	7999	Operational	33	39	6.04	111	59	53.12	Scott Coughlin	A,C,D,F,G,H
PRD Northeast Division Sahuaro Maintenance Yard	1602 E. Sahuaro	7999	Operational	33	35	6.53	112	2	50.19	Scott Coughlin	A,C,D,F,G,H
PRD Northwest Division La Pradera Maintenance Yard	3901 W. Glendale Ave.	7999	Operational	33	32	17.61	112	8	34.94	Scott Coughlin	A,C,D,F,G,H
PRD Northwest Division Peoria Maintenance Shop	9850 N. 23rd Ave.	7999	Operational	33	34	35.03	112	6	31.27	Scott Coughlin	A,C,D,E,F,G,H
PRD South Division Cesar Chavez Maintenance Yard	7858 S. 35th Ave.	7999	Operational	33	22	8.58	112	8	31.71	Scott Coughlin	A,C,D,E,F,G,H
PRD South Division Pecos Park Maintenance yard	17010 S. 48th St.	7999	Operational	33	17	29.07	111	59	10.68	Scott Coughlin	A,C,D,E,F,G,H
PRD Special Operations Division Alkire Pool	1617 W. Papago	7999	Operational	33	26	1.17	112	5	41.49	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Cielito Pool	4551 N. 35th Avenue	7999	Operational	33	30	14.21	112	7	57.42	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Coronado Pool	1717 N. 12th Street	7999	Operational	33	28	3.25	112	3	21.31	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Cortez Pool	3434 W. Dunlap	7999	Operational	33	34	4.96	112	7	57.34	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division David Uribe Pool (Cactus Pool)	3801 W. Cactus Road	7999	Operational	33	35	39.06	112	8	27.8	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Deer Valley Pool	19400 N. 19th Avenue	7999	Operational	33	39	46.02	112	6	1.82	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Desert West Softball and PRD Northwest Division Desert West Soccer	6602 W. Encanto Blvd	7999	Operational	33	28	29.03	112	11	46.09	Scott Coughlin	A,C,D,E,F,G,H
PRD Special Operations Division Eastlake Pool	1548 E. Jefferson Street	7999	Operational	33	26	47.17	112	2	53.6	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division El Prado Pool	6428 S. 19th Avenue	7999	Operational	33	23	16.79	112	6	0.54	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Encanto Maintenance Yard and Stores	1802 W. Encanto Blvd.	7999	Operational	33	28	25.12	112	5	51.64	Scott Coughlin	A,B,C,D,E,F,G,H
PRD Special Operations Division Encanto Pool	2121 N. 15th Ave.	7999	Operational	33	28	20.26	112	5	23.39	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Falcon Pool	3420 W. Roosevelt St.	7999	Operational	33	27	33.23	112	7	56.05	Scott Coughlin	A,F,L,M,G

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PRD Special Operations Division Grant Pool	714 S. 2nd Avenue	7999	Operational	33	26	25.57	112	4	36.25	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Harmon Pool	1239 S. 5th Avenue	7999	Operational	33	26	5.1	112	4	47.24	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Hermoso Pool	5749 S. 20th Street	7999	Operational	33	23	39.5	112	2	17.64	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Holiday Pool	4530 N. 67th Ave.	7999	Operational	33	30	12.68	112	12	16.02	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Madison Pool	1440 E. Glenrosa Ave.	7999	Operational	33	29	55.77	112	3	1.12	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Marivue Pool	5625 W. Osborn Rd.	7999	Operational	33	29	13.21	112	10	51.04	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Maryvale Pool	4444 N. 51st Ave.	7999	Operational	33	30	6.17	112	10	10.57	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Mountain View Pool	1104 E. Grovers Ave.	7999	Operational	33	38	52.98	112	3	35.26	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Papago Softball Complex	6201 E. Oak Street	7999	Operational	33	28	13.84	111	56	43.95	Scott Coughlin	A,C,D,F,G,H
PRD Special Operations Division Paradise Valley Pool	17648 N. 40th St.	7999	Operational	33	38	50.46	111	59	51.09	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Pecos Park Pool	17010 S. 48th St.	7999	Operational	33	17	29.07	111	59	10.68	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Perry Pool	3131 E. Windsor	7999	Operational	33	28	41.56	112	0	48.83	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Pierce Pool	2150 N. 46th St.	7999	Operational	33	28	13.56	111	59	0.58	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Reach 11 Maintenance Yard/Sports Complex	2425 and 2405 E. Deer Valley Rd.	7999	Operational	33	41	11.66	112	1	29.73	Scott Coughlin	A,C,D,E,F,G,H
PRD Special Operations Division Roadrunner Pool	3502 E. Cactus Rd.	7999	Operational	33	35	52.86	112	0	25.26	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Roosevelt Pool	6246 S. 7th Street	7999	Operational	33	23	20.25	112	3	57.61	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Rose Mofford Soccer - Maintenance	9833 N. 25th Ave.	7999	Operational	33	34	49.59	112	6	46.1	Scott Coughlin	A,C,D,E,F,G,H
PRD Special Operations Division Starlight Pool	7810 W. Osborn Rd.	7999	Operational	33	29	16.48	112	13	39.36	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Sunnyslope Pool	301 W. Dunlap	7999	Operational	33	34	1.76	112	4	42.4	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Telephone Pioneers of America Pool	1946 W. Morningside	7999	Operational	33	38	57.25	112	6	6.35	Scott Coughlin	A,F,L,M,G

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PRD Special Operations Division University Pool	1102 W. Van Buren	7999	Operational	33	27	9.7	112	5	12.91	Scott Coughlin	A,F,L,M,G
PRD Special Operations Division Washington Pool	6655 N. 23rd Ave.	7999	Operational	33	32	3.81	112	6	26.64	Scott Coughlin	A,F,L,M,G
PW 22nd Avenue Equipment Management Division South Truck and Tire Shops & Metro Facilities Division HVAC	2441 S. 22nd Ave.	7538/6512	Operational	33	25	29.34	112	6	18.54	Mikaela Castle	A,B,C,D,E,F,G,J,L
PW Madison Street Fueling Facility	1201 E Madison St.	5541	Operational	33	26	44.63	112	3	25.23	Mikaela Castle	B,C
PW 27th Avenue Transfer Station Solid Waste Disposal Division	3060 S. 27th Avenue	4212/5093	Operational	33	25	1.34	112	7	6.73	Mikaela Castle	A,B,C,D,F,H,L,N
PW 310 Parking Garage Downtown Facilities Division	310 W. Adams St	7521	Operational	33	26	58.86	112	4	42.79	Mikaela Castle	D
PW Calvin C. Goode Downtown Facilities Division - 10th Floor	251 W. Washington	9199	Operational	33	26	52.26	112	4	37.45	Mikaela Castle	L
PW City Hall Facilities Management Division	200 W. Washington	9199	Operational	33	26	54.73	112	4	38.57	Mikaela Castle	L
PW (Maint) Fire Operation Equipment Management Division & Fire Resources Sterling	2625 S. 19th Avenue	7538/9224	Operational	33	25	25	112	5	55.44	Mikaela Castle/Salvatore Salese	A,B,C,D,E,F,G,J,L
PW Municipal Court Building	300 W. Washington	9199	Operational	33	26	55.22	112	4	41.68	Mikaela Castle	L
PW North Gateway Transfer Station Solid Waste Disposal Division	30205 N. Black Canyon Hwy	4212/5093	Operational	33	45	38.69	112	6	58.98	Mikaela Castle	A,B,C,F,N,L
PW Petroleum Stores	2239 W. Lower Buckeye Road	4214	Operational	33	25	18.9	112	6	26.36	Mikaela Castle	B,C,D
Glenrosa (Northwest) Service Center PW Equipment Management Division, Water Services Yard, PRD Warehouse & Maintenance Yard, Street Transportation General and Preventive Maintenance	4020, 4021, 4155 W. Glenrosa	7538/4953/ 4941/4952/ 1611/7999	Operational	33	24	53.6	112	8	43.55	Mikaela Castle/Lynn Ogata/Scott Coughlin/Miguel Vasquez	A,B,C,D,E,F,G,H,J,L,N
Okemah Service Center PW Equipment Management Division & Street Transportation Southeast General Maintenance	3828 E. Anne St.	7538/4953/ 1611	Operational	33	24	52.47	111	59	49.37	Mikaela Castle/Miguel Vasquez	A,B,C,D,E,F,G,H,J,L,N

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Salt River (Southwest) Service Center PW Equipment Management Division, Water Services Yard & Street Transportation PSW General Maintenance	3045 S. 22nd Avenue	7538/4953/ 4941/1611	Operational	33	25	7.35	112	6	18.54	Mikaela Castle/Lynn Ogata/Miguel Vasquez	A,B,C,D,E,F,G,H,J,L,N
PW Union Hills (North) Service Center Equipment Management Division, Water Services Yard & Street Transportation (North) Service Center Maintenance	202 E. Union Hills Drive	7538/4953/ 4941/4952/ 1611	Operational	33	39	19.81	112	4	17.37	Mikaela Castle/Lynn Ogata/Miguel Vasquez	A,B,C,D,E,F,G,H,J,L,N
Street Transportation DCM Shop (Materials Lab)	1034 E. Madison	1611	Operational	33	26	46.58	112	3	35.36	Miguel Vasquez	A,D,F
Street Transportation Signing and Striping	4035 W. Glenrosa	1721	Operational	33	29	53.3	112	8	49.08	Miguel Vasquez	A,D,E,F
Street Transportation Traffic Signal Shop	2141 E. Jefferson Street	1611	Operational	33	26	46.92	112	2	7.37	Miguel Vasquez	A,D,F,E
WSD 23rd Avenue W.W.T.P.	2470 S. 22nd Ave.	4952	Operational	33	25	23.1	112	6	29.4	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
WSD 24th St. WTP	6202 N. 24th St.	4941	Operational	33	26	46.92	112	2	7.37	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
WSD 5E W264 ATF	6630 E. Bell Road	4941	Operational	33	38	26.63	111	56	16.09	Lynn Ogata	L,B
WSD 91st Avenue W.W.T.P. (includes PW 91st Ave EMD)	5615 S. 91st. Ave.	4952/7538	Operational	33	23	37.1	112	15	11.5	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
WSD Booster 2A-B6	2406 E. Missouri Ave.	4941	Operational	33	31	25.37	112	1	23.11	Lynn Ogata	L,B
WSD Booster 2A-B11	4114 N 20th St	4941	Operational	33	29	43.62	112	2	23.05	Lynn Ogata	A,B,D,G,L
WSD Booster 4B-B2	3192 E Sierra Vista Dr	4941	Operational	33	31	57.36	112	0	46.86	Lynn Ogata	L,B,G
WSD Booster 4F-B1, Lower Coral Gables	14627 N. 15th Avenue	4941	Operational	33	37	11.184	112	5	27.665	Lynn Ogata	L,B
WSD Booster 4J-B2 (Short Tank)	7500 N Invergordon Rd	4941	Operational	33	32	45.3	111	56	36.35	Lynn Ogata	L,B,G
WSD Booster 4M-B2, Phoenician	5943 E. Elsie Avenue	4941	Operational	33	30	9.599	111	57	8.599	Lynn Ogata	L,B
WSD Booster 4SC-B1 (Foothills Parkway)	15234 Desert Foothills Parkway	4941	Operational	33	18	26.292	112	3	19.527	Lynn Ogata	L,B
WSD Booster 4SC-B2, Privada (Foothills Zone 4)	437 W. Desert Foothills Parkway	4941	Operational	33	18	32.792	112	4	53.938	Lynn Ogata	L,B
WSD Booster 4SE-B1 (Sanctuary)	15651 S. 19th Street	4941	Operational	33	18	14.524	112	2	34.812	Lynn Ogata	L,B
WSD Booster 5EA-B1 (Deem Hills, 4AW-R1)	3301 W. Pinnacle Vista Drive	4941	Operational	33	43	56.758	112	7	48.507	Lynn Ogata	L,B
WSD Booster 5EA-B3, 63rd Avenue and Jomax	27420 N. 63rd Avenue	4941	Operational	33	43	59.525	112	11	41.99	Lynn Ogata	L,B
WSD Booster 5EB-B2	5220 W. Inspiration Mtn. Parkway	4941	Operational	33	43	50.02	112	10	25.21	Lynn Ogata	L,B
WSD Booster 5ED-B1 (I-17 Corridor, Tramonto, 4A-R2)	26701 N. 19th Avenue	4941	Operational	33	43	37.723	112	5	56.648	Lynn Ogata	L,B

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WSD Booster 5J-B3	6045 E Cheney	4941	Operational	33	32	44.55	111	57	3.41	Lynn Ogata	L,B,G
WSD Booster 5SB-B1 (Vista Estates)	201 W. Desert Foothills Parkway	4941	Operational	33	18	43.279	112	4	31.4	Lynn Ogata	L,B
WSD Booster 6B-B1 (I-17 Corridor, Tramonto, 5ED-R1)	31601 N. 26th Ave.	4941	Operational	33	46	34.662	112	6	45.598	Lynn Ogata	L,B
WSD Booster 7A-B1 (Cave Creek No. 7, 6A-R1, W299)	26829 N. Cave Creek Road	4941	Operational	33	43	47.537	112	0	18.961	Lynn Ogata	L,B
WSD Booster 7B-B1/8B-B1 (Tramonto, 6B-R1)	34650 N. 27th Avenue	4941	Operational	33	47	55.794	112	7	6.948	Lynn Ogata	L,B
WSD Booster 8A-B1 (Cave Creek No. 8, 7A-R3)	29221 N. Cave Creek Road	4941	Operational	33	45	1.517	111	59	32.744	Lynn Ogata	L,B
WSD Booster 8CP-B1, Anthem	4505 W. Opportunity Way	4941	Operational	33	51	51.04	112	9	13.28	Lynn Ogata	L,B
WSD Cave Creek Water Reclamation Plant	22841 N. Cave Creek Rd.	4952	Operational	33	41	27.9	112	1	30.6	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
WSD Deer Valley W.T.P., Administration bldg., 2nd Floor Janitorial Room	3030 W. Dunlap Avenue	4941	Operational	33	34	14.8	112	7	31.7	Lynn Ogata	L,B
WSD Lift Station 40, Ray Road	5102 E. Ray Road	4952	Operational	33	19	14.727	111	58	22.951	Lynn Ogata	L,B
WSD Lift Station 41, E. Pecos Road	17017 S. 48th Street	4952	Operational	33	17	29.059	111	58	46.98	Lynn Ogata	L,B
WSD Lift Station 42, W. Pecos Road	3302 W. Pecos Road	4952	Operational	33	17	27.364	112	7	49.642	Lynn Ogata	L,B
WSD Lift Station 43, 75th Avenue	6834 S. 75th Avenue	4952	Operational	33	23	9.728	112	13	13.347	Lynn Ogata	L,B
WSD Lift Station 44, W. Softwind Drive	6570 W. Softwind Drive	4952	Operational	33	42	6.169	112	12	9.163	Lynn Ogata	L,B
WSD Lift Station 46, W. Indian School Road	10652 W. Indian School Road	4952	Operational	33	29	38.011	112	17	23.217	Lynn Ogata	L,B
WSD Lift Station 47, 113th Drive	4102 N. 113th Drive	4952	Operational	33	29	38.574	112	8	9.502	Lynn Ogata	L,B
WSD Lift Station 50, North 49th Dr.	12050 N. 49th Drive	4952	Operational	33	45	46.035	112	9	54.916	Lynn Ogata	L,B
WSD Lift Station 51 and Well 294, North Tatum Rd.	18635 N. Tatum Boulevard	4952/4941	Operational	33	39	42.266	111	58	33.106	Lynn Ogata	L,B
WSD Lift Station 55, South Foothills Drive	16800 S. Foothills Drive	4952	Operational	33	17	33.266	112	4	49.039	Lynn Ogata	L,B
WSD Lift Station 56, South 7th Avenue	11 W. Liberty Lane	4952	Operational	33	17	33.161	112	4	59.617	Lynn Ogata	L,B
WSD Lift Station 60, South 17th Avenue	17005 S. 17th Avenue	4952	Operational	33	17	32.711	112	5	48.467	Lynn Ogata	L,B
WSD Lift Station 61, S. 107th Avenue	4325 S. 107th Avenue	4952	Operational	33	24	26.211	112	17	19.983	Lynn Ogata	L,B
WSD Lift Station 62, 91st Avenue and Broadway Rd	9059 W. Broadway Rd.	4952	Operational	33	24	22.834	112	15	14.619	Lynn Ogata	L,B
WSD Lift Station 64, North 64th Street	18018 North 64th Street	4952	Operational	33	38	59.016	111	56	32.409	Lynn Ogata	L,B

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WSD Lift Station 65	27001 N. Valley Parkway	4952	Operational	33	43	49.67	112	5	56.4	Lynn Ogata	L,B
WSD Lift Station 66	30101 N. Black Canyon Freeway	4952	Operational	33	45	18.809	112	6	54.941	Lynn Ogata	L,B
WSD Lift Station 68, Magellan Drive/Anthem West	4925 W. Magellan Drive	4952	Operational	33	52	35.96	112	9	59.06	Lynn Ogata	L,B
WSD Lift Station 72	4555 E Mayo Blvd	4952	Operational	33	39	56.60	111	59	16.53	Lynn Ogata	A,B,D,G,L
WSD Lift Station 73	11284 W. Camelback Road	4952	Operational	33	30	32.42	112	18	7.51	Lynn Ogata	L,B
WSD Odor Control Station 70 (Well 230, 4A-W230)	5712 E. Thunderbird Road	4952	Operational	33	36	42.357	111	57	29.769	Lynn Ogata	L
WSD Odor Control Station 71 (Well 255, 3D-W255)	4002 W. Grovers Avenue	4952	Operational	33	38	50.909	112	8	43.781	Lynn Ogata	L
WSD Odor Control Station 72, 47th Ave. and Pinnacle Peak Road	4653 West Pinnacle Peak Road	4952	Operational	33	41	52.213	112	9	37.695	Lynn Ogata	L
WSD Odor Control Station 76, Airport East Scrubber	4465 East Sky Harbor Blvd.	4952	Operational	33	26	6.328	111	59	20.414	Lynn Ogata	L
WSD Odor Control Station 78 (Well 272, 2A-W272, 55-608405, Payback Well)	10445 North 43rd Avenue	4952	Operational	33	34	53.518	112	9	4.408	Lynn Ogata	L
WSD Odor Control Station 79, 15th Ave. and Bethany Home Rd. (Yucca Library)	5648 North 15th Avenue	4952	Operational	33	31	10.616	112	5	29.883	Lynn Ogata	L
WSD Odor Control Station 82, 15th Street and Jefferson	1548 East Jefferson Street	4952	Operational	33	26	46.714	112	2	55.718	Lynn Ogata	L
WSD Odor Control Station 86 (McDowell)	1838 East Brill Street	4952	Operational	33	27	54.13	112	2	30.04	Lynn Ogata	L
WSD Odor Control Station 88 (Coronado Park)	1717 North 12th Street	4952	Operational	33	25	50.327	112	3	22.042	Lynn Ogata	L
WSD Odor Control Station 89 (East Broadway Road)	2432 East Broadway Road	4952	Operational	33	24	25.818	112	1	42.831	Lynn Ogata	L
WSD Odor Control Station 90 (Fire Station 39)	2276 West Southern Avenue	4952	Operational	33	23	33.429	112	6	26.877	Lynn Ogata	L
WSD Odor Control Station - Corona	30 West Corona Avenue	4952	Operational	33	24	23.33	112	4	29.57	Lynn Ogata	L
WSD PRV 0S-R4	6625 West Buckeye Road	4941	Operational	33	26	12.90	112	12	11.36	Lynn Ogata	A,B,D,G,L
WSD PRV 0S-R5	4230 South 35th Ave	4941	Operational	33	24	28.31	112	8	2.90	Lynn Ogata	A,B,D,G,L
WSD 0-R3 PRV 11	9402 West Indian School Road	4941	Operational	33	29	41.10	112	15	45.53	Lynn Ogata	L,B
WSD Service Yard - Campbell Support Services (Well 69)	4436 N. 35th Ave.	4941	Operational	33	30	5.56	112	8	6.67	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
WSD Service Yard - Cave Creek Water Yard	21642 N. 20th Street	4941	Operational	33	40	59.64	112	2	29.82	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
WSD Service Yard - Corona Water Distribution Yard	936 E Broadway	4941	Operational	33	24	21.92	112	4	28.39	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
WSD Service Yard - East Wastewater Collection Service Yard (OCS 75)	3015 N. 52nd Street	4952	Operational	33	28	57.788	111	58	9.084	Lynn Ogata	A,B,C,D,E,F,G,H,J,L

Appendix F
City of Phoenix Inventory of Municipal Facilities with Potential to Release Pollutants to Stormwater

City facility	Address	SIC Code (best fit for services at facility)	Operating Status	Latitude - Degrees	Latitude - Minutes	Latitude - Seconds	Longitude - Degrees	Longitude - Minutes	Longitude - Seconds	Facility Contact	Brief Description of Activities of Concern (use letter codes A-N on second worksheet tab. If O (other), please specify.)
WSD Service Yard - East Distribution, Reservoir Yard	3015 N. 52nd Street	4941	Operational	33	28	57.788	111	58	9.084	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
WSD Service Yard - Morten Water Distribution Yard	7617 N. 21st Avenue	4941	Operational	33	32	56.04	112	6	12.53	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
WSD Service Yard - Remote Facilities Service Yard (WSSS, 2A-B9, 2C-B3)	5204 E. Thomas Road	4941	Operational	33	24	50.441	111	58	9.559	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
WSD Union Hills W.T.P., bldg. 04, Paint/Oil	2001 E. Deer Valley Rd.	4941	Operational	33	4	9.3	112	2	4.8	Lynn Ogata	A,B,C,D,E,F,G,H,J,L
Water Storage 1-ES1 (64th Street Reservoir, 2C-B1, 3B-B1)	2650 N 64th St	4941	Operational	33	28	42.99	111	56	43.38	Lynn Ogata	A,B,D,G,L
WSD Water Storage 1-ES3 (South Mountain Reservoir, 2S-B4, 3SE-B4, 3S-R1, 4SN-B1)	10830 S. 27th Avenue	4941	Operational	33	20	52.778	112	7	9.848	Lynn Ogata	L,B
WSD Water Storage 1-ES4 (42nd Place Reservoir, Old Highline Reservoir)	8002 S. 42nd Place	4941	Operational	33	22	25.882	111	59	32.752	Lynn Ogata	L,B
WSD Water Storage 2A-ES1 (Shaw Butte Reservoir)	1638 W. Sunnyside Drive	4941	Operational	33	35	35.203	112	5	40.517	Lynn Ogata	L,B
WSD Water Storage 2C-ES1 (Papago Reservoir)	1820 N. 60th Street	4941	Operational	33	28	5.443	111	57	17.266	Lynn Ogata	L,B
WSD Water Storage 2S-ES1 (Lower Mineral Road Reservoir, 3S-B1)	745 E. Mineral Road	4941	Operational	33	21	21.258	112	3	49.977	Lynn Ogata	L,B
WSD Water Storage 2S-ES2 (Police Tank)	1201 W. Olney	4941	Operational	33	21	1.718	112	5	22.987	Lynn Ogata	L,B
WSD Water Storage 3A-ES1 (Sunnyslope Storage Tank, Old Hatcher)	1835 E. Hatcher Road	4941	Operational	33	34	15.798	112	2	32.076	Lynn Ogata	L,B
WSD Water Storage 3A-ES2 (North Mountain Reservoir(at different lat/long), 4A-B2, 3A-R4) & Booster	10234 N. 7th Street	4941	Operational	33	34	48.47	112	3	58.538	Lynn Ogata	L,B
WSD Water Storage 3SE-ES1 (Horse Tank Reservoir, 4SA-B1)	3201 E. Equestrian Trail	4941	Operational	33	20	25.572	112	0	50.393	Lynn Ogata	L,B
WSD Water Storage 3SE-ES2 (Mountain Park Ranch Storage(dif lat/long), 4SA-B3, Diamond Ridge Booster)	14100 S. 24th Way	4941	Operational	33	19	8.063	112	1	49.291	Lynn Ogata	L,B
WSD Water Storage 3SE-ES3 (Foothills Storage Tank)	15805 S. 3rd Street	4941	Operational	33	18	10.372	112	4	9.603	Lynn Ogata	L,B
WSD Water Storage 3S-ES1 (Upper Mineral Road Storage Tank)	901 E. Mineral Road	4941	Operational	33	21	16.867	112	3	41.287	Lynn Ogata	L,B

Appendix F
City of Phoenix Inventory of Municipal Facilities with Potential to Release Pollutants to Stormwater

City facility	Address	SIC Code (best fit for services at facility)	Operating Status	Latitude - Degrees	Latitude - Minutes	Latitude - Seconds	Longitude - Degrees	Longitude - Minutes	Longitude - Seconds	Facility Contact	Brief Description of Activities of Concern (use letter codes A-N on second worksheet tab. If O (other), please specify.)
WSD Water Storage 4A-ES5 (Deems Hills Reservoir)	27442 N. 39th Avenue	4941	Operational	33	44	4.476	112	8	56.717	Lynn Ogata	L,B
WSD Water Storage 4F-ES1 (Upper Coral Gables Storage Tank, 5F-B2, 4FX-R1)	14214 N. 15th Ave.	4941	Operational	33	36	53.831	112	5	20.172	Lynn Ogata	L,B
WSD Water Storage 4M-ES1 (Cholla Invergordon Storage Tank, 5P-B1, Lower Cloudcroft)	5156 N. 61st Street	4941	Operational	33	30	47.466	111	56	59.12	Lynn Ogata	L,B
WSD Water Storage 4SC-ES1 (Tapestry Canyon Storage Tank, 6SA-B1)	1444 E. Desert Willow Drive	4941	Operational	33	19	1.533	112	3	2.984	Lynn Ogata	L,B
WSD Water Storage 5C-ES1 (Red Rock Storage Tank)	4948 E. Red Rock Road	4941	Operational	33	30	59.056	111	58	23.511	Lynn Ogata	L,B
WSD Water Storage 5M-ES1 (Sage (Rolling Hills) Storage Tank)	5941 E. Sage Drive	4941	Operational	33	30	54.936	111	57	9.774	Lynn Ogata	L,B
WSD Water Storage 6A-B1	24201 N. Cave Creek Road	4941	Operational	33	42	24.06	112	1	10.93	Lynn Ogata	L,B
WSD Water Storage 6A-ES1 (Happy Valley Storage Tank)	24425 N. 64th Street	4941	Operational	33	30	45.78	111	56	23.417	Lynn Ogata	L,B
Water Storage 7A-GS2 (Pinnacle Peak)	23425 N 56th St	4941	Operational	33	41	58.00	111	57	32.64	Lynn Ogata	A,B,D,G,L
WSD Water Storage 7B-ES1 (Tramonto Storage Tank)	34701 N. 19th Avenue	4941	Operational	33	48	3.424	112	5	57.009	Lynn Ogata	L,B
WSD Storage 8A-ES1; Booster 11A-B1 & 9A-B3	32625 N 56th St	4941	Operational	33	46	28.01	111	57	33.77	Lynn Ogata	A,B,D,G,L
WSD Well 1-W72	5126 N 37th Avenue	4941	Operational	33	30	46.05	112	8	22.35	Lynn Ogata	L,B
WSD Well 166 (4A-W166, 55- 626582)	4138 E. Greenway Rd	4941	Operational	33	37	37.457	111	59	27.701	Lynn Ogata	L,B
WSD Well 180 (3C-W180, 3C- R3), 55-626589	13009 N. 56th Street	4941	Operational	33	36	17.63	111	57	36.403	Lynn Ogata	L,B
WSD Well 205 - (1S-W205, 1S- R1), 55-626598	4702 W. Estrella Drive	4941	Operational	33	20	2.912	112	9	39.858	Lynn Ogata	L,B
WSD Well 211 (2A-W211, 55- 626603)	3848 W. Cholla Street	4941	Operational	33	35	20.638	112	8	32.92	Lynn Ogata	L,B
WSD Well 218 - (2A-W218), 55- 626610	4375 W. Acoma Drive	4941	Operational	33	37	1.539	112	9	11.069	Lynn Ogata	L,B
WSD Well 232 - (3C-W232), 55- 626624	10831 N. 56th Street	4941	Operational	33	35	7.901	111	57	37.078	Lynn Ogata	L,B
WSD Well 233 - (3C-W233), 55- 626625	10801 N. 56th Street	4941	Operational	33	35	4.435	111	57	36.39	Lynn Ogata	L,B
WSD Well 235 (3C-W235, 3C-B1, 3C-GS1), 55-626627	6026 E. Caballo Street	4941	Operational	33	33	45.174	111	57	4.229	Lynn Ogata	L,B
WSD Well 244 (4A-W244, 5E-B2, CAP, 55-087614)	5602 E. Bell Road	4941	Operational	33	38	26.897	111	57	34.984	Lynn Ogata	L,B

**Appendix F
City of Phoenix Inventory of Municipal Facilities with Potential to Release Pollutants to Stormwater**

City facility	Address	SIC Code (best fit for services at facility)	Operating Status	Latitude - Degrees	Latitude - Minutes	Latitude - Seconds	Longitude - Degrees	Longitude - Minutes	Longitude - Seconds	Facility Contact	Brief Description of Activities of Concern (use letter codes A-N on second worksheet tab. If O (other), please specify.)
WSD Well 250 (3D-W250, Odor Control Station 77, 55-626637)	4715 West Bell Road	4941	Operational	33	38	19.45	112	9	38.22	Lynn Ogata	L,B
WSD Well 261 (4A-W261, 4A-ES4, 4A-R1, 4A-R4, 6A-B2, 55-508818, Rose Garden, Desert Ridge)	20805 N. 56th Street	4941	Operational	33	40	29.946	111	57	31.484	Lynn Ogata	L,B
WSD Well 264 - (5E-W264 - Active), 55-501643	6714 E. Juniper Avenue	4941	Operational	33	38	23.804	111	56	8.076	Lynn Ogata	L,B
WSD Well 275 - (4A-W275 - Active), 55-504791	5746 E. Saint John Road	4941	Operational	33	38	51.583	111	57	21.023	Lynn Ogata	L,B
WSD Well 276 Active (Tatum Ranch, 8A-W276, 8A-GS1, 8A-B2), 55-603807	29402 N. 44th Street	4941	Operational	33	45	7.881	111	59	16.383	Lynn Ogata	L,B
WSD Well 280 (9A-W280, 9A-GS1, 9A-B1), 55-527549	4390 E. Rancho Tierra Drive	4941	Operational	33	45	55.504	111	59	9.524	Lynn Ogata	L,B
WSD Well 281 (9A-W281, 9A-GS2, 9A-B2, 10A-B1, Casa de Cielo Storage Tank), 55-524559	33005 N. 52nd Street	4941	Operational	33	47	11.129	111	58	7.83	Lynn Ogata	L,B
WSD Well 288 (8A-W288, Active), 55-540078	28401 N. Tatum Blvd	4941	Operational	33	44	34.816	111	58	34.594	Lynn Ogata	L,B
WSD Well 289 (8A-W289, Active), 55-540079	28606 N. 56th Street	4941	Operational	33	44	41.654	111	57	39.48	Lynn Ogata	L,B
WSD Well 290 (7A-W290, 7A-B2, 7A-GS1), 55-623687	26425 N. 40th Street	4941	Operational	33	43	33.542	111	59	44.505	Lynn Ogata	L,B
WSD Well 295 - (6A-W295 - Active), 55-560509	22204 N. 40th Way	4941	Operational	33	41	22.394	111	59	6.06	Lynn Ogata	L,B
WSD Well 296 (4A-W296 A163-Active), 55-583886	18604 N. 56th Street	4941	Operational	33	39	19.017	111	57	28.772	Lynn Ogata	A,B,D,G,L
Yellow shading indicates facilities prioritized as higher-risk using the criteria specified in the SWMP.											
Inventory only includes City owned and operated property within the jurisdiction of the MS4. Pink shading indicates facilities with MSGP coverage.											

Activities of Concern codes

Type of Municipal Facility	Activities of Concern Conducted	Activity Code
Maintenance Yards and Hazardous Materials Storage Facilities	Loading, unloading, handling, and storage of significant materials including anti-freeze, asphalt, batteries, chemicals, concrete, diesel wastes, emulsions, fertilizer, fuel, green wastes, hazardous materials, new and used oil, paint products, pesticides, scrap metal, solvents, trash and debris, and wash water	A
	Filling of aboveground and underground storage tanks (ASTs and USTs) with fuels	B
	Dispensing of fuels to vehicles, equipment, and portable fuel containers	C
	Vehicle and equipment parking and storage	D
	Vehicle, equipment, and material washing and steam cleaning	E
	Leak and spill cleanup	F
	Landscape, garden, and general maintenance and cleaning	G
Fueling Stations	Filling of aboveground and underground storage tanks (ASTs and USTs) with fuels	B
	Dispensing of fuels to vehicles, equipment, and portable fuel containers	C
Parks and Recreational Facilities, including Golf Courses	Landscape, garden, and general maintenance and cleaning	G
	Application of pesticides/herbicides	H
Warehouses	Loading, unloading, handling, and storage of significant materials including anti-freeze, asphalt, batteries, chemicals, concrete, diesel wastes, emulsions, fertilizer, fuel, green wastes, hazardous materials, new and used oil, paint products, pesticides, scrap metal	A
	Landscape, garden, and general maintenance and cleaning	G
Fire and Police Stations	Loading, unloading, handling, and storage of significant materials including antifreeze, chemicals, new and used oil, scrap metal, and trash and debris.	A
	Vehicle and equipment maintenance	J
	Vehicle and equipment parking and storage	D
	Vehicle and equipment washing and steam cleaning	E
	Leak and spill cleanup	F
	Dispensing of fuels to vehicles, equipment, and portable fuel containers	C
	Landscape, garden and general maintenance and cleaning	G
Service Centers / Street Transportation Sites	Vehicle and equipment maintenance	J
	Vehicle and equipment parking and storage	D
	Loading, unloading, handling, and storage of significant materials including antifreeze, batteries, chemicals, new and used oil, scrap metal, and trash and debris.	A
	Filling of aboveground and underground storage tanks (ASTs and USTs) with fuels	B
	Leak and spill cleanup	F
	Bulk Material Pile Storage	N
	Dispensing of fuels to vehicles, equipment, and portable fuel containers	C
Swimming Pools	Storage and use of chemicals, including chlorine	L
	Filter maintenance and backwashing	M
	Landscape, garden, and general maintenance and cleaning	G
Water Treatment Facilities and POTWs	Loading, unloading, handling, and storage of materials and chemicals	A
	Vehicle and equipment washing and steam cleaning	E
	Storage and use of chemicals, including chlorine	L
	Leak and spill cleanup	F
	Landscape, garden, and general maintenance and cleaning	G
Municipal Airports	Leak and spill cleanup	F

Activities of Concern codes

	Filling of aboveground and underground storage tanks (ASTs and USTs) with fuels	B
	Landscape, garden, and general maintenance and cleaning	G
	Dispensing of fuels to vehicles, equipment, and portable fuel containers	C
	Vehicle and equipment parking and storage	D
	Vehicle and equipment maintenance	J
Landfills - Closed or active	Vehicle and equipment parking and storage	D
	Vehicle and equipment maintenance	J
	Leak and spill cleanup	F
OTHER	Other	O (specify)

APPENDIX G

MUNICIPAL MSGP FACILITIES

Appendix G
Municipal MSGP Facilities

Department	Facility	Address	POC	Authorization #	Comments
Public Works	Skunk Creek Landfill	3165 West Happy Valley Road Phoenix, AZ 85027	Engineering Supervisor Doug Sawyer 602-534-1157	AZMS-81051	
	27 th Avenue Solid Waste Management Facility	3060 South 27 th Avenue Phoenix, AZ 85009		AZMS-81050	
	SR 85	28361 West Patterson Road Buckeye, AZ 85326		AZMS-81065	
	North Gateway Transfer Station	30205 North Black Canyon Highway, Phoenix, AZ 85085		AZMS-81064	
Aviation	Sky Harbor International Airport	3400 East Sky Harbor Boulevard, Ste 3300 Phoenix, AZ 85034	Project Manager Lisa Farinas 602-273-2787	AZMS-80274	
	Deer Valley Airport	702 West Deer Valley Road Phoenix, AZ 85027		AZMS-80278	
	Phoenix/Goodyear Airport	1658 South Litchfield Road Goodyear, AZ 85338		AZMS-80276	
Water Services	91 st Avenue Wastewater Treatment Plant	5616 South 91 st Avenue Tolleson, AZ 85353	Environmental Quality Specialist Doug Taylor 602-534-5081	AZMS-80181	
	23 rd Avenue Wastewater Treatment Plant	2470 South 22 nd Avenue Phoenix, AZ 85009		AZMS-80180	
	Cave Creek Water Reclamation Plant	22841 North Cave Creek Road Phoenix, AZ 85024		AZMS-80179	
City Clerk	Customer Service Center (Print Shop)	2640 South 22 nd Avenue Phoenix, AZ	Environmental Quality Specialist Hilary Hartline 602-534-1778	AZNC-85446	No Exposure Certification September 2020

APPENDIX H

CITYWIDE STORMWATER TRAINING PLAN

SWMP – APPENDIX H

City of Phoenix Stormwater Training Plan for AZPDES MS4 Permit (permit effective date 7/1/21)

Training will be provided for new employees with direct stormwater responsibilities at least one time per year.
 Refresher training for existing employees with direct stormwater responsibility will be provided at least once every two years.
 In the event there are no new employees in a given period, this will be documented in the Annual Report.
 Note: Municipal Employee General Awareness Training has different training frequency requirements which are listed below.

Permit Section 4.4.D Illicit Discharge Detection and Elimination (IDDE)

Course Objective	Course Topics	Employees Trained/Course Code
<p>Municipal Employee Training - Stormwater Inspectors Educate and update inspectors on detecting, investigating, and identifying illicit discharges and recognizing allowable sources of non-stormwater discharges.</p>	<p>IDDE</p> <ul style="list-style-type: none"> • Federal & local regulatory requirements (including MS4 permit, SWMP, Phoenix PCC 32C, allowable AZPDES discharges such as DeMinimis discharges). • Detecting, investigating and identifying illicit discharges. • Field screening procedures, sampling methods, field measurements, outfall inspections. • Sources of non-stormwater discharges. 	<p>Department/Employees <u>WSD</u></p> <ul style="list-style-type: none"> • Water Quality Inspectors • Senior Water Quality Inspectors • Chief Water Quality Inspectors <p>New Employee & Refresher Training: WSSWPB, OR equivalent documented OJT</p>
<p>Municipal Employee Training – General Awareness Educate and update field staff with no direct stormwater responsibilities on illicit discharges and best management practices (BMPs) .</p> <p>Provide Initial Training: By July 1, 2022 Provide Additional Training: Select groups of staff every two years.</p>	<p>Stormwater Pollution Awareness</p> <ul style="list-style-type: none"> • MS4 permit and requirements. • Identifying harmful/prohibited practices (illegal dumping or spills) into the City’s stormwater system. • Management procedure (reporting to the WSD Stormwater Management Section). 	<p>Department/Employees <u>PWD</u></p> <ul style="list-style-type: none"> • SWFS Drivers • SWFS Environmental Specialist • Zero Waste Team <p>New & Refresher Employee Training: EPTBSW EP8026 (OEP catalog course) also satisfies this training requirement.</p> <p><u>WSD</u></p> <ul style="list-style-type: none"> • Water Distribution • Wastewater Collection • Customer Services <p>New & Refresher Employee Training: ESSW1*, ESSW2*, OR ESDM1Z</p> <p><u>HOU</u> Select employees in the Property Management Division:</p> <ul style="list-style-type: none"> • Building Maintenance Foreman • Building Maintenance Worker • Trades Helper <p><u>NSD</u> Select employees in the Administrative Services, Neighborhood Engagement, Neighborhood Revitalization and Neighborhood Preservation divisions:</p> <ul style="list-style-type: none"> • Building Maintenance Foreman • Community Worker II • Community Worker III • Economic Development Program Manager • Housing Rehabilitation Supervisor

SWMP – APPENDIX H (continued)

Citywide Stormwater Training Plan for City of Phoenix AZPDES MS4 Permit effective date 7/1/21

		<ul style="list-style-type: none">• Housing Rehabilitation Specialist• Management Assistant II• Neighborhood Inspector I• Neighborhood Inspector II• Neighborhood Specialist• Project Management Assistant• Project Manager• Trades Helper* U2• Volunteer Coordinator <p><u>PDD</u></p> <ul style="list-style-type: none">• Field Supervisors and Inspectors (categories - general [residential], plumbing/mechanical, elevator, fire, structural, electrical)• Building Code Examiners (residential and commercial)• Principle Engineering Tech (residential only) <p><u>PFD</u></p> <ul style="list-style-type: none">• Fire Prevention Specialist/Inspectors <p>New & Refresher Employee Training: EPTBGA EP8026 (OEP catalog course) also satisfies this training requirement.</p>
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SWMP – APPENDIX H (continued)

Citywide Stormwater Training Plan for City of Phoenix AZPDES MS4 Permit effective date 7/1/21

Permit Section 4.5.A.1. Municipal Facilities Pollution Prevention & Good Housekeeping Practices

Course Objective	Course Topics	Employees Trained/Course Code
<p>Municipal Employee Training Stormwater Pollution Prevention</p> <p>Covers the importance of protecting water quality, pollutants/pollutant sources which may be present at municipal facilities, City operating procedures (e.g., HMMP), inspections, selecting appropriate BMPs, performing job activities to prevent or minimize impacts to water quality, spill prevention/response, and procedures for reporting illegal stormwater discharges.</p>	<p>Stormwater Pollution Prevention & Good Housekeeping Practices</p> <ul style="list-style-type: none"> • MS4 permit and requirements. • Identifying harmful/prohibited practices (illegal dumping or spills) into the City’s stormwater system. • Management procedure (reporting water quality concerns to the WSD Stormwater Management Section). • Importance of water quality protection and performing job activities (e.g., street repair/improvement, vehicle/equipment maintenance) to prevent or minimize impacts to water quality. • Spill prevention, response procedures, responsibilities, clean-up and reporting. • Municipal facility/job activities pollutant sources. • Proper handling, storage, transportation and disposal of used oil and other hazardous materials/wastes to prevent spills, exposure to rainfall and stormwater runoff. • The City Hazardous Material Management Program (HMMP). • Municipal facility inspections form for site staff. • Selecting appropriate BMPs, including operation and maintenance. • Water and sanitary sewer system maintenance and repair practices to minimize discharges (where applicable). 	<p>Department/Employees</p> <p><u>PRD</u></p> <ul style="list-style-type: none"> • Field Staff • Maintenance Yard Staff • Warehouse Staff • Foreman • Park Manager • Associated Supervisors <p>New Employee Training: EP8062 (four training briefs), EP8092, <u>OR</u> equivalent documented OJT</p> <p>Refresher Training: EP8062 (four training briefs), <u>OR</u> EP8092</p> <p><u>PWD</u></p> <ul style="list-style-type: none"> • Fleet Services Division Staff <p>New Employee Training: PW8026, <u>OR</u> equivalent documented OJT</p> <p>Refresher Training: PW8026</p> <p><u>STR</u></p> <ul style="list-style-type: none"> • Maintenance field employees • Service center staff <p>New Employee Training: EP8065, <u>OR</u> equivalent documented OJT</p> <p>Refresher Training: EP8065</p> <p><u>WSD (Facility Staff)</u></p> <ul style="list-style-type: none"> • Water Treatment Staff (Water Production) • Wastewater Treatment Staff (Wastewater Treatment) <p>New Employee Training and Refresher Training: WSSTMB, <u>OR</u> equivalent documented OJT</p> <p><u>WSD (Field Staff)</u></p> <ul style="list-style-type: none"> • Wastewater Collection staff • Wastewater Distribution staff <p>New Employee Training and Refresher Training: WSSTMD, <u>OR</u> equivalent documented OJT Every two years incorporate Hazardous Materials Handlers.</p>

SWMP – APPENDIX H (continued)

Citywide Stormwater Training Plan for City of Phoenix AZPDES MS4 Permit effective date 7/1/21

<p>Municipal Employee Training Spill Management Procedures and spill management practices to prevent or minimize spills or discharges to the storm sewer system, particularly during spill response.</p>	<p>Spill Prevention and Reporting</p> <ul style="list-style-type: none"> • Spill prevention & response procedures/responsibilities. • Spill management practices to prevent or minimize discharges to the storm sewer system and drywells. 	<p>Department/Employees <u>PFD</u></p> <ul style="list-style-type: none"> • Company Officers (Fire Captains) • Command Officers <p>New Employee Training: EP8051, EPTBSW, <u>OR</u> equivalent documented OJT.</p> <p>Refresher Training: EP8051, <u>OR</u> EPTBSW</p>
<p>Municipal Employee Training Municipal Stormwater Inspectors Procedures on how to conduct stormwater inspections at municipal facilities.</p>	<p>Municipal Stormwater Inspector Training</p> <ul style="list-style-type: none"> • Federal & local regulatory requirements (including MS4 permit requirements, SWMP and PCC 32C). • Stormwater BMPs and pollution prevention for municipal facilities. • Stormwater management plans (City Hazardous Materials Management Program) and Stormwater Pollution Prevention Plans (SWPPPs) if applicable. 	<p>Department/Employees <u>OEP</u></p> <ul style="list-style-type: none"> • Environmental Quality Specialists <p>New Employee Training: EP8064, <u>OR</u> equivalent documented OJT</p> <p>Refresher Training: EP8064</p>

Permit Section 4.6.A.1 Industrial and Commercial Facilities

Course Objective	Course Topics	Employees Trained/Course Code
<p>Municipal Employee Training – Industrial and Commercial Facilities Educate and update inspectors on stormwater management practices and BMPs for industrial and commercial facilities subject to inspection.</p>	<p>Industrial and Commercial Facility Inspections</p> <ul style="list-style-type: none"> • Information on requirements for stormwater discharges associated with industrial and commercial activity. • Federal & local regulatory requirements (including MS4 permit requirements and city SWMP) • BMPs, industrial facility inspections, PCC 32C, and AZPDES MSGP. 	<p>Department/Employees <u>WSD</u></p> <ul style="list-style-type: none"> • Water Quality Inspectors • Senior Water Quality Inspectors • Chief Water Quality Inspectors <p>New Employee & Refresher Training: WSSWPA, <u>OR</u> equivalent documented OJT</p>

SWMP – APPENDIX H (continued)

Citywide Stormwater Training Plan for City of Phoenix AZPDES MS4 Permit effective date 7/1/21

Permit Section 4.7 Construction and Section 4.8 Post Construction

Course Objective	Course Topics	Employees Trained/Course Code
<p>Plan Review Staff with Stormwater Responsibilities Procedures on how to conduct plan review to verify compliance with local, state and federal stormwater regulations.</p>	<p>Plan Review Procedures and Requirements</p> <ul style="list-style-type: none"> • Grading and drainage design standards • Review procedures • Municipal ordinances related to stormwater, construction and post-construction. • Requirements for structural and non-structural management practices on construction sites in new development and redevelopment, such as erosion and sediment controls • Post construction stormwater controls • Includes PCC and Stormwater Policies and Standards Manual 	<p>Department/Employees <u>Private & Municipal Project Review</u> <u>PDD</u></p> <ul style="list-style-type: none"> • Civil Plan Reviewers <p>New Employee Training and Refresher Training: WSGDPR (Grading & Drainage Plan Review), <u>OR</u> Equivalent documented OJT</p> <p><u>Municipal Project Review</u> <u>AVN</u></p> <ul style="list-style-type: none"> • Project Managers <u>STR (Vertical Project Management, Horizontal Project Management)</u> • Project Managers <u>WSD</u> • Project Managers <p>New Employee Training and Refresher Training: WSGDPR (Grading & Drainage Plan Review), <u>OR</u> Equivalent documented OJT</p>
<p>Construction Inspection Staff with Stormwater Responsibilities Procedures on how to conduct construction inspections to verify compliance with local stormwater regulations and to protect the City's MS4.</p>	<p>Construction Inspection Procedures and Requirements</p> <ul style="list-style-type: none"> • Municipal ordinances related to stormwater and construction • Requirements for structural and non-structural control measures • Practices on construction sites, such as erosion and sediment controls • Construction BMPs to reduce pollution from construction activities • Inspection procedures • Enforcement procedures 	<p>Department/Employees <u>Private & Municipal Project Construction Inspectors</u> <u>PDD</u></p> <ul style="list-style-type: none"> • Civil Inspectors <p>New Employee Training and Refresher Training: PDD Construction Inspection procedures, <u>OR</u> Equivalent documented OJT/Field inspections</p> <p><u>Municipal Project Construction Inspectors</u> <u>OEP, WSD</u></p> <ul style="list-style-type: none"> • Environmental Quality Specialists <p>New Employee Training EP8074, <u>OR</u> equivalent documented OJT.</p> <p>Refresher Training: EP8074</p>
<p>Post-Construction Inspection Staff w/Stormwater Responsibilities Note: Implementation required one (1) year from Permit effective date (July 1, 2022). Procedures on how to conduct post construction inspections to meet requirements of the City MS4 permit.</p>	<p>Inspection Procedures and Requirements</p> <ul style="list-style-type: none"> • Municipal ordinances related to stormwater and post-construction • Requirements for structural stormwater control practices in new development and redevelopment • Maintenance responsibilities through agreements and policies • Inspection procedures • Enforcement procedures 	<p>Department/Employees</p> <p>TBD</p>

SWMP – APPENDIX H (continued)

Citywide Stormwater Training Plan for City of Phoenix AZPDES MS4 Permit effective date 7/1/21

Acronyms

AZPDES = Arizona Pollutant Discharge Elimination System	PCC = Phoenix City Code
BMP = Best Management Practices	PDD – Planning and Development Department
HOU = Housing Department	PFD = Phoenix Fire Department
IDDE = Illicit Discharge and Elimination (IDDE)	PWD = Public Works Department
MS4 = Municipal Separate Storm Sewer System	PRD = Parks & Recreation Department
MSGP = Multi-Sector General Permit	SWMP = Stormwater Management Plan
NSD = Neighborhood Services Department	STR = Street Transportation Department
OJT = On-the-Job Training	SWFS = Solid Waste Field Services Division
OEP = Office of Environmental Programs	WSD = Water Services Department

Notes

Training not provided to contractors/subcontractors.

Facilities with specific AZPDES permits (for example, MSGP) are not covered in this training plan, but are governed by that permit.

* Note: Water Department Classes starting in ESSW1, 2, 4 can have different codes depending on length of class or if it is a training brief. A = 1 hour, B = 30 min, C = 15 min and T = Training brief