Chapter 7

Minimum Control Measure: Item 6

Pollution Prevention/Good Housekeeping for Municipal Operations

A. Permit Requirements

4.6. MCM 6. Pollution Prevention/Good Housekeeping for Municipal Operations

The permittee shall develop and implement an operation and maintenance program that includes a training component and has the goal of preventing or reducing pollutant runoff from municipal operations.

See BMP #2 below which is the "City of Nixa Employee Stormwater Operation & Maintenance (O & M) Plan Committee".

4.6.A The MS4 Operator shall maintain and utilize an employee training program for MS4 staff. The training shall be given at minimum annually to all MS4 staff who work with material handling, at MS4 vehicle or equipment maintenance areas, storage yards, and material storage facilities. This may be broken up into staff units, or by applicable topics.

Unless maintained in a separate document:			
STAFF & DEPARTMENT	DATE	TOPIC(S)	TRAINING PROVIDER/ METHOD
TBD	**TBD**	**TBD**	**TBD**

Future employee training dates, topics and providers are yet to be determined. This information on past training is maintained in the SWMP Chapter 7, "MCM 6 Municipal Operations" within the folder labeled "BMP #2 City of Nixa Employee Stormwater Operation & Maintenance (O & M) Plan Committee".

4.6.B The training shall be used to prevent and reduce stormwater pollution. The training shall cover a minimum of the following topics/ activities (if applicable to the MS4):

Unless maintained in a separate document:			
Topic	Years covered in training	Departments trained	Number of staff trained
1. Vehicle and equipment washing	**TBD**	**TBD**	**TBD**
2. Fluid disposal and spills			
3. Fleet, equipment, and building maintenance			
4. Park and open space maintenance procedures (including fertilizer, herbicide, pesticide application)			
5. New construction, road maintenance, and land disturbances			
6. Stormwater system maintenance			
7. MS4 operated salt and de-icing operations			
8. Fueling			
9. Solid waste disposal			
10. Street sweeper operations			
11. Illicit Discharges			

Since the date(s), time(s) and topic(s) of future employee training meetings have yet to be determined, that information will be included when preparing the annual MS4 Stormwater Management Program Report for submittal to the Department.

4.6.C The MS4 Operator shall:

1. Maintain material to use in the training program, such as those available from the EPA, the state, or other organizations.
2. Maintain written procedures for the training program. Include a description of how this training will coordinate with all other minimum control measures (such as Illicit Discharge), monitoring and TMDL implementations where applicable.
3. Maintain a written schedule to offer topic specific training when it is appropriate. Such as, swimming pool discharges in the summer, leaf disposal in the fall, proper salt clean-up and usage in the winter.

The City of Nixa utilizes an Employee Stormwater Operation & Maintenance (O & M) Plan Committee made up of 1 representative (except the police department) from each department. This committee has, in the past, met monthly for the sole purpose of training staff on MS4 stormwater pollution issues. They are provided with printed material to take back to their department and share with the rest of the staff there. They have all been provided a notebook to insert the updated printed material and can keep it in a central location for review by others. This committee was paused in 2020 and to date in 2021 due to Covid 19 issues. Starting in the spring of 2022 the city will resume utilization of this committee in person twice annually, unless there are still lingering Covid concerns. In that case, the meetings will be twice annually by video chat until further notice.

Since the date(s), time(s) and topics of future employee training meetings have yet to be determined, that information will be included when preparing the annual MS4 Stormwater Management Program Report for submittal to the Department.

4.6.D The MS4 Operator shall maintain a list of all municipal operations/facilities that are impacted by this operation and maintenance program. This shall include a minimum of (if applicable to the MS4):

1. Maintenance yards;
2. Fleet or maintenance shops, including parks department;
3. Storage yards;
4. Parks and golf courses;
5. Municipal parking lots;
6. Salt/sand storage locations; and
7. Snow disposal areas.

See addendum "MCM #6-2 "Municipal Pollution Prevention, Good Housekeeping Operations and Maintenance Plan" pages 22 and 23.

4.6.E The MS4 Operator shall maintain a list of industrial facilities the MS4 Operator owns or operates which are subject to NDPES permits for discharges of stormwater associated with industrial activity. The list shall include the permit number or a copy of the No Exposure Exemption Certification (if applicable) for each facility. This includes Municipal projects with a land disturbance permit. NPDES permitted facilities not owned or operated by the permittee are not required to be part of the list, however the MS4 Operator should be familiar with all such facilities in their MS4 service area as they may signify a priority area for the IDDE program.

FACILITY	PERMIT NUMBER/ NO EXPOSURE
109 WASTEWATER TREATMENT FACILITY, 972 S. OLD RIVERDALE RD.	Mo-0028037

4.6.F The MS4 Operator shall develop or maintain controls for reducing or eliminating the discharge of floatables and pollutants from municipal facilities listed in Section 4.6.D and 4.6.E. These controls shall include at a minimum:

1. A list of potential pollutant sources at each facility, such as materials used and stored on site;

The lists of potential pollutant sources at each facility will evolve with implementation of the Spill Prevention and General Response Plan.

See Addendum MCM #6-5 "Spill Prevention and General Response Plan".

2. A minimum of annual inspections of all municipally owned or operated facilities for stormwater issues.

a) Records shall be kept for inspections and follow up. This may be a checklist, and may be electronic.

These inspections have been in place for several years and we will continue to utilize them annually.

See BMP #3 below, "Municipal Operation Facilities Inspections".

Also see addendum MCM #6-2 "Municipal Pollution Prevention, Good Housekeeping Operations and Maintenance Plan".

3. Use of structural controls/BMPs to reduce or prevent pollutants from entering waters of the state or into another MS4.

a) A map with descriptions of these BMPs shall be maintained for each facility;

Structural controls/BMPs are in use at several our facilities. There are no site maps of these BMPs due to the rather small nature of most of the city owned/operated sites. It is common knowledge as to their location. However, these maps at each facility will evolve with implementation of the Spill Prevention and General Response Plan within one (1) year of this permits issuance.

See Addendum MCM #6-5 "Spill Prevention and General Response Plan".

4. All paints, solvents, petroleum products, and petroleum waste products (except fuels) under the control of the permittee shall be stored so these materials are not exposed to stormwater.

The lists of potential pollutant sources and the proper storage thereof at each facility will evolve as part of the Spill Response and Prevention Plan once fully implemented within one (1) year of this permits issuance.

See Addendum MCM #6-5 "Spill Prevention and General Response Plan".

5. Sufficient practices of spill prevention, control, and/or management shall be provided to prevent any spill of these pollutants from entering waters of the state.

a) This shall include spill kits when liquid product is stored at a facility; and

b) Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.

Spill prevention practices, Spill kits including products used for spill cleanup and containment, at each facility will evolve with the implementation of the Spill Prevention and General Response Plan.

See Addendum MCM #6-5 "Spill Prevention and General Response Plan".

6. Tracking of rock salt/brine or other deicer usage.

See addendum MCM #6-2 "Municipal Pollution Prevention, Good Housekeeping Operations and Maintenance Plan".

7. Maintaining municipal salt storage area(s) after use of rock salt, at minimum:

a) Sweep and/or shovel spillage in loading area and storage area, and

b) Unload salt hoppers or keep under cover when salt is in the hopper.

See addendum MCM #6-2 "Municipal Pollution Prevention, Good Housekeeping Operations and Maintenance Plan".

4.6.G The MS4 Operator shall have procedures for proper disposal of waste removed from the MS4 structures and areas of jurisdiction.
This waste, shall include at minimum, if applicable to the permittee:

1. Street sweeper spoils and washout.
2. Accumulated sediment.
3. Dredged materials.
4. Floatables, trash and litter.
5. Leaves, other organic matter; and
6. Other debris.

See addendum MCM #6-2 "Municipal Pollution Prevention, Good Housekeeping Operations and Maintenance Plan".

4.6.H The MS4 Operator shall maintain and utilize the following procedures at minimum for the washing of all municipal vehicles and equipment (if applicable to the MS4):

1. Use of any soap or detergent shall only be where there is connection to sanitary sewer or equivalent; and

2. Any wash or rinse water that contains pollutants such as salt, oils, grease, sediment, grass clippings, lawn chemicals, or pesticides shall not be discharged to waters of the state or the MS4 system without appropriate treatment.
3. Any washing or rinsing activities shall be conducted in an appropriate area so the water is treated. This area(s) shall be marked on the map of the facility.

Most City vehicles are washed at a commercial car wash. The larger vehicles are washed inside of the Public Works Building either at 1111 W. Kathryn St. or 1010 S. Eaglecrest St., so the wash water runoff goes to the floor drain and not to the storm sewer system.

See addendum "MCM #6-2" Municipal Pollution Prevention, Good Housekeeping Operations and Maintenance Plan".

4.6.I The MS4 Operator shall maintain written explanation of the controls, procedures, inspection schedules, and explanation of tracking of these controls. Tracking may be done by retaining inspection reports or checklists.

See addendum MCM #6-2 "Municipal Pollution Prevention, Good Housekeeping Operations and Maintenance Plan".

Individual Stormwater Pollution Prevention Plans or one overarching Operations and Maintenance Manual for all applicable MS4 facilities may be used to comply with this requirement. If a unified document is used, each individual site shall be familiar with the document, and a copy shall be present on each site referenced in the document or available electronically.

See addendum MCM #6-2 "Municipal Pollution Prevention, Good Housekeeping Operations and Maintenance Plan".

Annually, the MS4 Operator shall evaluate the results, controls, and inspection procedures to ensure compliance with these requirements and determine if changes are needed. This evaluation may also aid in finding priority areas or pollutants in relation to MCM 3, or adding more education in relation to MCM 1.

If not maintained in a separate document, include reviews of site inspections here.				
Date(s) of review	Location(s) inspected	Were issues found?	Were changes made?	Is follow-up needed?
TBD	**TBD**	**TBD**	**TBD**	**TBD**

Since the annual review and evaluation date(s) for the results, controls, and inspection procedures to ensure compliance with these requirements and determine if changes are needed, have yet to be determined, that information will be included when preparing the annual MS4 Stormwater Management Program Report for submittal to the Department.

4.6.J The MS4 Operator shall maintain procedures to determine if there are impacts to water quality for new flood management projects, if applicable. Any flood management projects shall require the protection of water quality in the standards that are used to plan, design, build, and maintain stormwater infrastructure.

Flood management projects are those projects developed or designed to reduce flooding.

Historically, the City of Nixa has avoided areas prone to flooding because these areas were predominantly developed decades ago when there was little, to no, development planning regulations or procedures in place to address stormwater runoff.

Though City staff, have, from time to time, addressed a minor flooding issue here and there, in 2021 the City has budgeted for its first "Flood Management Project" per say. This is a project designed to stop neighborhood flooding of several yards and basements in a very old part of town.

This project has been in the planning stage for a few years. It takes time to not only sell this idea to administration but, the homeowners as well. Just acquiring easements alone is a daunting process. This project has been awarded to a local contractor that is scheduled to start fall of 2021. Every effort to protect water quality during and after the construction of this project is of high priority.

As the City takes on more and more of these "Flood Management Projects" in the future, staff will incorporate the protection of water quality in the standards that are used to plan, design, build, and maintain stormwater infrastructure.

Have there been any such flood management projects to review?		
Year	Yes/no	If yes, the location(s)
2021	YES	Cherry St. / Market St. project
2022		
2023		
2024		

2025		

4.6.K Existing permittees: Shall evaluate the current Stormwater Management Program including training, inspection procedures, and other municipal operation procedures to ensure compliance with these requirements. Any changes necessary to be in compliance with this permit shall be completed within one (1) year of this permit issuance.

4.6.L Newly regulated permittees: Shall develop this program. The Management Plan shall describe the pollution prevention/ good housekeeping plan and scheduled implementation. Development of this program shall be completed within the first five (5) years of the permit issuance.

4.6.M Using adaptive management, all MS4 Operators shall review their Municipal Operations Program, at minimum, annually and update implementation procedures as necessary within the permit requirement. Any additional BMPs shall be acknowledged in the annual report.

Since the annual review date(s) for MCM 6 have yet to be determined, that information will be included when preparing the annual MS4 Stormwater Management Program Report for submittal to the Department.

Annual review of MCM 6			
Year being reviewed	Date of review	Reviewer(s)	Were changes made and noted above?
2021	**TBD**	**TBD**	**TBD**

2022	**TBD**	**TBD**	**TBD**
2023	**TBD**	**TBD**	**TBD**
2024	**TBD**	**TBD**	**TBD**
2025	**TBD**	**TBD**	**TBD**

B. Benefits of a Pollution Prevention/Good Housekeeping Program

The pollution Prevention/Good Housekeeping Operations is a key element of Stormwater Management Program. This measure requires the examination and subsequently altered actions to help ensure a reduction in the amount and type of pollutant that: (1) collects on streets, parking lots, open spaces, storage, and vehicle maintenance areas, all of which are discharged into local waterways; and (2) result from actions such as street maintenance, environmentally damaging municipal land development and flood management practices, or poor maintenance of storm sewer systems. While this measure is meant primarily to improve or protect receiving water quality by altering municipal activities, facility operations and property management, the City of Nixa can also realize cost savings from such things as spill prevention (thus reducing clean-up costs), inventory control, and re-use/recycling of materials.

C. City Operation and Maintenance

The city will implement an Operation and Maintenance program. The main intent of the program is the prevention of pollutant runoff from municipal operations. To achieve this, the city will check all facilities for possible illicit discharges. For example, some of the floor drains may be connected to a storm sewer and if someone were to pour something down the drain that is considered a pollutant; it then becomes an illicit discharge. The Operation and Maintenance program will follow guidance in the City's Operation and Maintenance Manual. The manual will consider the following topics:

1. List and locations of all City owned and operated municipal operating facilities.
2. Description of the facilities and activities they perform.
3. Identification of all activities that may cause pollutant runoff.
4. Determination of Best Management Practices (BMPs) that could mitigate the risk of pollutant runoff. This will include spill prevention and control facilities for materials such as paint, solvents, petroleum products, chemicals, toxic or hazardous substances, and substances regulated under the Resource Conservation and Recovery Act (RCRA) or the

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

5. Required annual training by the City on BMPs for each facility.
6. Inspection requirements.
7. Implementation of the City wide (all City of Nixa owned/or operated facilities) Spill Prevention and General Response Plan; The City will also, as part of its Spill prevention program, implement additional environmentally enhancing practices for each City facility, for example:

   Materials/Supplies acquisition, storage, and usage, including
   - Material description,
   - Maximum quantity kept on hand,
   - Allowable storage times, and
   - Storage location.

D. Program BMPs

#1 Municipal Operation and Maintenance (O & M) Plan

Description: In year 1 (2022) of this permit cycle, the City will finalize the development of a Municipal Operations and Maintenance Plan. This O&M Plan will be evaluated annually for effectiveness by the O & M Plan committee. In year 5 (2026) this entire plan will be reviewed and updated because of the information obtained from the annual evaluations.

Measurable Goals: To prevent chemicals, sediment, solid or hazardous waste from leaving our municipal operations facilities and becoming stormwater pollution. The City will record and track all O & M inspections completed, potential pollution issues discovered, and corrective actions taken. Any facilities deemed a hotspot as result of information gathered from these inspections, will be inspected more frequent to eliminate any chance of potential discharges. This inspection data will be reviewed annually and will be used to help evaluate the effectiveness of this BMP.

Rational for BMP: Permit Requirement

Parties Key to Implementation: Personnel from all City Municipal facilities.

#2 City of Nixa Employee Stormwater Operation & Maintenance (O & M) Plan Committee

Description: In year 1 (2022) of the current permit cycle, the City assembled an O & M Plan committee made up entirely of city staff. This committee will meet twice annually throughout this permit cycle. This committee will continue to meet

to review the Plan for effectiveness and these meeting will also serve as the continuous employee training program for this plan.

Measurable Goal: To staff this committee with at least one staff member representative from all City municipal facilities effected by this plan, to permit them to have a voice in the policy and to help train everyone else at their facility or department on the O & M Plan. The city will record the number and names of attendees, what review items were discussed, what was decided and what actions were taken.

The City will continue to implement an employee training program regarding stormwater quality issues and municipal good housekeeping procedures. This training program will be an integral part of these committee meetings and will serve to educate all employees on the stormwater pollution prevention requirements and best management practices that are in place.

The city will continue to utilize the "After the Storm" video training material as provided by the Environmental Protection Agency,

> *See addendum MCM #3-13 copy of "After the Storm" training material. Furthermore, the city will continue to utilize the "Municipal Storm Water Pollution Prevention Best Management Practices, Employee Training" material series,*
>
> *See addendum MCM #3-11 copy of the "Municipal Storm Water Pollution Prevention Best Management Practices, Employee Training" material.*

Rational for BMP: In order to achieve the most effectiveness from this Municipal O & M Plan, it needs buy in from all parties involved. So, to achieve that buy in, these representatives will be given a voice in the development and application of the Plan, to ensure that the BMPs contained therein are properly addressed and maintained.

Parties Key to Implementation: Departmental representatives listed above.

#3. Municipal Operation Facilities Inspections

Description: Inspections of City owned & operated public municipal operation facilities. These inspections are completed specifically for the discovery of any Illicit Discharge including any onsite sewage discharge that might be present.

Measurable Goal: In past years the city has inspected all: 46 City owned public Municipal Operation facilities annually. Now that the MS4 permit requirements have gotten so involved, our actual likely obtainable goal will be to inspect 50% annually. Priority areas will be inspected more frequently as to ensure that any illicit discharges are discovered as early as possible. The city will record and track all inspections completed including the number of discharges found and eliminated annually to evaluate the effectiveness of this BMP.

See addendum MCM #3-5 example of City of Nixa Municipal Operations Inspection form and list of facilities. *This BMP will work hand in hand with MCM #3 Illicit Discharge Detection and Elimination chapter of the SWMP;*

See addendum MCM #6-2 the City's Municipal Operation and Maintenance plan.

Rational for BMP: These boots on the ground inspections of the municipal operations facilities listed above are how we accomplish what the city considers to be the ultimate "Measurable Goal", to discover and eliminate stormwater pollutants.

Parties Key to Implementation: MS4 Coordinator, Asst. Public Works Inspector, other trained stormwater inspectors.

E. Chapter Summery Table

BMP ID #	BMP	Measurable Goal	Activity	Due Date	Responsible Party

1	O & M Plan	Prevent chemicals, sediment, solid or hazardous waste from leaving our municipal operation facilities	Finalize and implement Evaluate effectiveness Review for update	2022 2022-2026 2026	O & M Committee members
2	O & M Committee	Give employees a chance to have a voice in the policy and to help with training	Assemble an O & M Plan committee made up entirely of city staff Meet bi-annually Evaluate effectiveness	2022 2022-2026 2022-2026	O & M Committee members
3	Inspections	Inspect 50% annually	Inspect City owned & operated public municipal operation facilities Evaluate effectiveness	2022-2026 2022-2026	Public Works Inspector, Asst. Public Works Inspector, other City staff

PART IV- LAND DISTURBANCE, ILLICIT DISCHARGE & EROSION CONTROL

Section 110 PURPOSE, GOALS AND OBJECTIVES

A. PURPOSE: The purpose of this section is to protect the health, safety and general welfare of the citizens of Nixa and protect the Waters of the City and Waters of the State through the regulation to the maximum extent practicable of non-storm water discharges to the storm drainage system as required by federal and state law. This section establishes uniform requirements for land disturbance activities in order to control the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process.

B. GOALS AND OBJECTIVES: The goal of the regulation is to effectively minimize erosion and discharge of sediment by application of Best Management Practices (BMP's).

This goal can be attained by meeting the following objectives:

1. Stabilize disturbed areas as soon as possible by re-establishing sod, other forms of landscaping, and completing proposed structures, pavements and storm drainage systems.

2. To regulate the contribution of pollutants to the MS4 by storm water discharges by any user.

3. To prohibit illicit connections and discharges to the MS4.

4. To establish legal authority to carry out all inspection, surveillance, monitoring, and enforcement procedures necessary to ensure compliance with this ordinance.

Section 111 DEFINITIONS

For the purposes of this section, the following words shall have the definitions hereinafter set forth:

"Accepted" or "Acceptance" means a determination by the Director or designee that the documents under review meets the minimum applicable standards.

Authorized Enforcement Agency: City of Nixa.

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to storm water, receiving waters, or storm water conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act: The federal Water Pollution Control Act (33 U.S.C. δ 1251 et seq.), and any subsequent amendments thereto.

Construction Activity: Activities subject to NPDES Construction Permits. These include construction projects resulting in land disturbance of one acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating and demolition.

Director: Means the Director of Public Works of the City of Nixa, Missouri, or the Director's authorized representative.

Discharge: means any substance disposed, deposited, spilled, poured, injected, seeped, leached, pumped, dumped, leaked, or placed by any means such that it can reasonably be expected to enter, intentionally or unintentionally, into the Waters of the City or Waters of the State, or on any area draining directly or indirectly into the MS4.

Erosion: The wearing away of land due to the action of gravity, wind, water or other mechanical forces.

Hazardous Materials: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Discharge: Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in Section 25-116 of this ordinance.

Illicit Connections: An illicit connection is defined as either of the following:

- Any drain or conveyance, whether on the surface or subsurface that allows an illegal discharge to enter the storm drain system including but not limited to any conveyances that allow any non-storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or,

- Any drain or conveyance connected from a commercial or industrial land use to the storm drain system that has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Land Disturbance Permit: The document issued by Public Works approving the SWPPP and sediment erosion control plan thus authorizing land disturbance activity in accordance with the SWPPP.

Land Disturbance: Any activity that exposes soil including clearing, grubbing, grading, excavating, filling and other related activities.

MS4: Municipal Separate Storm Sewer System.

Municipal Separate Storm Sewer System (MS4): The system of conveyances (including sidewalks, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, berms, stream beds, open fields, parking lots, impervious surfaces used for parking, man-made channels, or storm drains) owned and operated by the City of Nixa and designed or used for collecting or conveying storm water, and that is not used for collecting or conveying sewage.

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit: A permit issued by EPA (or by the State of Missouri under authority delegated pursuant to 33 USC δ 1342 (b)) that authorizes the discharge of pollutants to the waters of the United States, whether the permit is applicable on an individual, group or general area-wide basis.

Non-Storm Water Discharge: Any discharge to the storm drain system that is not composed entirely of storm water.

Person: Any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

Pollutant: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coli form and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing and building or structure; and noxious or offensive matter of any kind.

Premises: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Responsible party: The property owner or person authorized to act on the property owner's behalf; or any person allowing, causing or contributing to a violation of the Code.

Sediment: Mineral or organic matter generated as a result of erosion.

Sediment & Erosion Control Plan: A written plan (including drawings or other graphic representations) that is designed to minimize the accelerated erosion and sediment runoff at a site during construction activities.

Storm Drainage System: Publicly-owned facilities by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Storm Water (stormwater): Any surface or shallow subsurface flow, runoff, or drainage consisting entirely of water from rainstorm or frozen precipitation events.

Storm Water Pollution Prevention Plan (SWPPP): A plan developed by a qualified professional engineer or person certified in erosion and sediment control to establish controls to limit erosion and transport of sediment and other pollutants from the site. The plan shall include BMPs in accordance with the City's Technical Specifications, Land Development Code and City code of ordinances.

SWPPP: Storm Water Pollution Prevention Plan.

Wastewater: Any water or other liquid, other than uncontaminated storm water, discharged from a facility.

Watercourse: Any body of water, including, but not limited to lakes, ponds, rivers, streams, and bodies of water which are delineated by the City of Nixa.
Water Quality Standards: The standards, required under the Clean Water Act, which Missouri has adopted to control and remedy water pollution (10 CSR 20-7.031). Water quality standards have three parts: water used classifications, water quality criteria, and an anti-degradation policy.

Waters of the City: Any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, sinkholes, springs, wetlands, wells and channels, and other bodies of surface or subsurface waters, natural or artificial, lying within the boundaries of the City of Nixa, Missouri.

Waters of the State: Any water, surface or underground, lying within the boundaries of the City of Nixa, Missouri over which the Missouri Department of Natural Resources has authority with respect to Clean Water Law.

Section 112 SCOPE AND AUTHORITY

This section shall apply to all water entering the storm drain system generated on any developed and undeveloped lands unless specifically exempted. The provisions in this section shall be administered and enforced by the Director. The Director shall have the authority to develop and implement procedures, forms, policies, design and construction standards and interpretations for administering the provisions of this section.

Section 113 COMPATIBILITY WITH OTHER REGULATIONS

This ordinance is not intended to modify or repeal any other ordinance, rule, regulation, or other provision of law. The requirements of this ordinance are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards of human health or environment shall control.

Section 114 EROSION AND SEDIMENT CONTROL

The Responsible Party shall control site erosion and the release of sediment and other pollutants resulting from land disturbance activities to the Maximum Extent Practicable (MEP) utilizing Best Management Practices (BMPs). The Responsible Party shall ensure that BMPs are designed, constructed and maintained during land disturbance activities.

Section 115 PERMIT REQUIRED

A. PERMIT REQUIRED: A Land Disturbance Permit is required for all land disturbance activity affecting one (1) acre or greater, cumulatively, throughout the duration of the development. The Responsible Party shall obtain a Land Disturbance Permit from the Public Works Director prior to commencing land disturbance activity. A Land Disturbance Permit is not generally required for land disturbance activity of less than one (1) acre, cumulatively, throughout the duration of the development. However, a Land Disturbance Permit may be required if the Director determines that there is significant potential for deposition of sediment that is in violation of this section or the land disturbance activity is within close proximity to valuable resource waters. Regardless of land disturbance size, a Land Disturbance Permit is required if the land disturbance is located twenty-five feet (25') or less from the boundary of a spring, rim of a sinkhole, cave entrance, wetland, watercourse, stream buffer or one hundred (100) year FEMA identified floodplain. The Director shall provide written notice of the need for a permit to the Responsible Party or person conducting the land disturbance activities. The Responsible Party shall obtain a Land Disturbance Permit from the Public Works Department prior to commencing or resuming land disturbance activity.

B. PERMIT PROCEDURES: The following items must be received prior to issuance of a Land Disturbance Permit:

1. An approved grading, SWPPP, and sediment and erosion control plan.

2. A performance bond or other security.

3. A copy of the General Operating Permit

The submittal and approval procedure is as follows: Subdivisions, Commercial and Other Sites; The sediment and erosion control plan shall be submitted for review along with the plans for the proposed improvements: and Land Disturbance permit for subdivisions will be issued by the Director after approval of the plans for the subdivision improvements.

In addition, 10 CSR 20-6.200 requires land disturbance activities of one acre or more to obtain a Missouri State Operating Permit to discharge stormwater. The permit requires Best Management Practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits may only be obtained by means of the Department of Natural Resources ePermitting system available online at www.dnr.mo.gov/env/wpp/wpermit/help.htm. See www.dnr.mo.gov/env/wpp/wtormwater/sw-land-disturb-permits.htm for more information.

C. PLAN REQUIREMENTS: Plans must be prepared by and bear the seal of an engineer registered to practice in the State of Missouri. Plan requirements are set forth in the Stormwater Planning and Design Section (page 123) and in this Section.

Plans will not be required in the following cases:

1. Grading associated solely with a single family residence and which is exempt from the permit requirement except as provided in Section 25-115

2. Grading or filling of less than 1 acre if located outside of allowable building areas and not located within 25 feet of a spring, sinkhole, wetland, or watercourse.

In these instances, a Land Disturbance permit can be issued following an inspection of the site by a representative of the Planning Department if it does not reveal any conditions which would warrant preparation of a detailed plan in the opinion of the Planning Department.

D. SECURITY REQUIREMENTS: Upon approval of the Land Disturbance Permit and prior to issuance of a Land Disturbance Permit, the Public Works Department shall require the developer to post a security in the form of a cash bond, cash or equivalent approved by the Director of Finance of not less than 150% of the value of all work to be done under the grading plan and SWPPP. For land disturbance permits which do not include the construction of public improvements related to subdividing land under the jurisdiction of the Subdivision Regulations, chapter 23 of the Nixa City code, or construction of permanent building or structures, under jurisdiction of the Land Development Code, chapter 23, (i.e. where only grading

work is included, such as a borrow pit or pond) the only type of security which will be accepted will be a cash bond. If the bond, letter or credit or other security document is placed in default, or the insurance is terminated or not maintained at a satisfactory level, then no further permits or approvals, including building permits, shall be issued for the developer's property located in the development for which the security was given, until the improvements are completed to the satisfaction of the City. Any portion of the deposit not expended or retained by the City hereunder shall be refunded when the land disturbance is completed and the soil and drainage conditions are stabilized to the satisfaction of the City.

Section 116 WORK EXEMPT FROM PERMIT

A Land Disturbance Permit shall not be required in the following instances, provided that no change in drainage patterns or sedimentation onto adjacent properties will occur:

1. Grading of land for farming;
2. Nurseries;
3. Gardening or similar agricultural or horticultural use; and
4. Grading activities in quarries and permitted sanitary landfills.

No Land Disturbance Permit is required for the following activities, provided they are less than one (1) acre of cumulative land disturbance, are not located within twenty-five feet (25') of the boundary of a spring, rim of a sinkhole, cave entrance, wetland, watercourse, stream buffer or one hundred (100) year FEMA identified floodplain and do not cause a violation of the Missouri Clean Water Law or Water Quality Standards:

1. Grading and repair of existing roads or driveways;

2. Cleaning and routine maintenance of roadside ditches or utilities;

3. Utility construction where the width of the disturbed area for trench excavation and backfill is twenty feet (20') or less;

4. Emergency construction required to repair or replace roads, utilities, or other items affecting the general safety and well being of the public; and

5. Land disturbance for single family residences not part of an overall subdivision plan.

For emergency construction activities which would otherwise be required to obtain a permit and for which remedial construction will take more than fourteen (14) calendar days, application for the Land Disturbance Permit must be made within three (3) calendar days from the start of construction.

Section 117 GENERAL DESIGN GUIDELINES.

The following items must be considered in preparing a sediment and erosion control plan.

A. TEMPORARY vs. PERMANENT CONTROLS: The greatest potential for soil erosion occurs during construction. Temporary controls are those which are provided for the purpose of controlling erosion and containing sediment until construction is completed. Temporary controls include straw or hay bale dikes, silt fences, erosion control blankets etc., which are not needed after the area is stabilized. Permanent controls consist of riprap, concrete trickle channels, detention basins, etc., which will remain in place through the life of the development. It is possible for the same facility to serve both a temporary and permanent purpose. The difference between temporary and permanent erosion control should be clearly recognized in preparing a sediment and erosion control plan.

B. SHEET FLOW vs. CONCENTRATED FLOW: In areas where runoff occurs primarily as sheet flow, containment of sediment is relatively simple. In these areas straw or hay bales, silt fences and vegetative filter areas can be very effective. Where concentrations of flow occur, containment of sediment becomes more difficult as the rate and volume of flow increases. In these areas more sophisticated controls such as sedimentation basins must be provided.

C. SLOPE: Control of erosion becomes progressively more difficult as the slope of the ground increases. Areas with steeply sloping topography, and cut and fill slopes must be given special consideration.

D. SOILS AND GEOLOGIC SETTING: Area soils and the geologic setting must be considered in preparing the plan and any special considerations deemed necessary for a particular site provided.

E. ENVIRONMENTALLY SENSITIVE AREAS: Where construction occurs within the vicinity of permanent streams, springs, sinkholes, lakes or wetland, special attention must be given to preventing discharge of sediment.

Section 118 DESIGN STANDARDS AND CRITERIA.

A. GRADING:

1. Maximum Grades: Cut or fill slopes shall not exceed 3:1; 4:1 slopes are preferred where possible.

2. Maximum Height: Cut or fill slopes shall not exceed 15 feet in vertical height unless a horizontal bench area at least 5 feet in width is provided for each 15 feet in vertical height.

3. Minimum Slope: Slope in grassed areas shall not be less than 1 percent.

4. Construction Specifications: Construction for streets must comply with specifications set forth by the City of Nixa Planning Department. For all other areas, construction specifications stating requirements for stripping, materials, subgrade compaction, placement of fills, moisture and density control, preparation and maintenance of subgrade must be included or referenced on the plans, or accompanying specifications submitted.

5. Spoil Areas: Broken concrete, asphalt and other spoil materials may not be buried in fills within proposed building or pavement areas. Outside of proposed building and pavement areas, broken concrete or stone may be buried in fills, provided it is covered by a minimum of 2 feet of earth. Burying of other materials in fills is prohibited.

6. Stockpile Access: Location of proposed stockpile areas shall be outlined on the plans, and specifications for proper drainage included.

7. Borrow Areas: The proposed limits of temporary borrow areas shall be outlined in the plans and a proposed operating plan described on the grading plan. Temporary slopes in borrow areas may exceed the maximums set forth above. At the time that borrows operations are completed, the area shall be graded in accordance with the criteria set forth above, and reseeded.

B. SEDIMENT CONTAINMENT:

1. Existing Vegetative Filter Area: Existing vegetative filter areas may be used where:

* Unconcentrated sheet flow occurs;

* An area of existing vegetation a minimum of 25 feet in width can be maintained between the area to be graded and a property line, watercourse, sinkhole, spring, wetland or classified lake;

* Existing ground slope is no greater than 5:1 (20 percent);

* The existing vegetative growth is of sufficient density and in sufficiently good condition to provide for filtration of sediment.

2. Containment areas constructed of hay or straw bales, or silt fence may be provided in areas where:

* Unconcentrated sheet flow occurs;

* An area of existing vegetation, a minimum of 25 feet in width cannot be maintained between the area to be graded and a property line, watercourse, sinkhole, spring, wetland or classified lake;

* Existing ground slope is no greater than 5:1 (20 percent);

* Concentration flow from an area no greater than 1 acre occurs and a minimum volume of 100 cubic feet per acre is contained behind the dike.

* Either cereal grain straw or hay may be used for bale dikes.

* Silt fence may be used in lieu of hay or straw bales.

* Straw/hay bake dikes and silt fences are temporary practices.

3. Temporary Containment Berms: Temporary containment berms may be provided for areas where concentrated flow from areas greater than 1 acre and less than 5 acres occurs. Temporary containment berms must contain a volume of 1000 cubic feet per acre of drainage area. Temporary containment berms and accumulated sediment may be completely removed after the tributary area is stabilized, and must be removed prior to final acceptance and release of escrow.

4. Sedimentation Basin: Sediment basins shall be provided for all areas where concentrated flow occurs from an area of 5 or more acres. Sediment basins shall be designed to detain the runoff from 1 inch of rainfall, for a period of at least 24 hours. Runoff shall be calculated using the methods contained in Chapter 2 of TR-55 (Reference 11), using the recommended curve number for newly graded areas from Table 2-2a.

Note: For construction sites in Nixa, an average value of runoff volume from 1 inch of rainfall is approximately 1000 cubic feet per acre, using a curve number of 90, as indicative of a Type B & C soils. This value may be used in sizing sediment basins or the runoff volume determined using the values from Figure 2-1 of TR-55.

a. Sediment basins shall be provided with: an outflow structure consisting of:

* A flow restriction device which provides for the required detention time,

* An outfall pipe sized to carry the maximum estimated outflow rate,

* Protective structures at the pipe outlet to prevent crushing or damage of the end of the pipe,

* Protective structures to prevent blockage of the pipe with debris,

* Erosion protection at the pipe outlet.

b. An overflow spillway capable of discharging the peak flow rate for the annual 4% annual probability (25-year) storm while maintaining a minimum freeboard of 1 foot. Overflow spillways may be sodded where the depth of flow at the crest is limited to no greater than 6" and outlet channel velocities do not exceed 5 feet per second for the minor (5- year) storm. Overflow spillways not meeting these restrictions must be constructed of riprap, concrete or other approved, non-erodible material.

C. EROSION PROTECTION:

1. Seeding and Mulching: (Also see “Seeding” in this Chapter)

a. Permanent Seeding: Permanent seeding fertilizer and mulch shall be applied at the rate set forth in Drawing G-1 or according to other specifications which are approved with the Grading Permit. Permanent seeding seasons are from March 1 to May 15, and August 15 to October 15.

b. Mulching: Where slopes are less than 4:1, cereal grain mulch is required at the rate of 100 pounds per 1000 square feet (4500 pounds per acre). Cereal grain mulch shall meet the requirements of Section 802 of the State Specifications (Reference 17) for Type 1 mulch. Where slopes are 4:1 or greater Type 3 mulch ("hydromulch") meeting the requirements of Section 802 of the State Specifications (Reference 17) shall be used.

c. Temporary Seeding: Whenever grading operations are suspended for more than 30 calendar days between permanent grass or seeding periods all disturbed areas must be reseeded with temporary cover according to Drawing G-1. Temporary seeding season runs from May 15 to November 15.

d. Overseeding: During the winter season (November 15 to March 1) temporary seed and mulch shall be placed on all completed areas or areas where grading is suspended for more than 30 days. During this period seed, mulch and soil amendments shall be applied at the following rates:

* Lime: 100% of specified quantity.
* Fertilizer: 75% of specified quantity.
* Seed: 50% of specified quantity.
* Mulch: 100% of specified quantity.
* Per Drawing G-1

e. Maintenance: Seeded areas must be maintained for one year following seeding.

2. Cut and Fill Slopes: Cut and fill slopes shall be protected from erosion by construction of straw bale dikes, silt fences, diversion berms, or swales along the top of the slope. Where drainage must be carried down the slopes, pipe drains, concrete flumes, riprap chutes, or other impervious areas must be provided. Suitable erosion control measures such as riprap stilling basins, must be provided at the bottom of the slope. Diversions shall be maintained until permanent growth is firmly established on the slopes.

3. Channels and Swales: Permanent channels and swales shall be provided with a stabilized invert consisting of one of the following materials:

a. Sod: Where the average velocity of flow is 5 feet per second or less and there is no base flow, the channel shall be lined with sod. The remainder of the channel slopes shall be seeded and mulched as provided above.

b. Erosion Control Blanket: Commercial erosion control blankets may be used in lieu of sod provided that samples are submitted and approved by the City Planner. The guaranteed maintenance period shall be one year.

c. Non-erosive lining: In grass channels where base flow occurs, a non-erosive low- flow channel of riprap or concrete must be provided. Low flow channels shall have a minimum capacity of 5 cubic feet per second. Other suitable non-erosive materials may be specified with approval of the City Planner. For channels which have an average velocity of 5 feet per second or greater a non- erosive lining of riprap concrete or other approved material must be provided.

4. Storm Sewer and Culvert Outlets: Erosion protection shall be provided at storm sewer and culvert outlets. Minimum erosion protection shall consist of a concrete toe wall and non-erosive lining. Flared end sections and headwalls are not required, but may be provided at the discretion of the designer to meet grading or aesthetic requirements. The required length of non- erosive lining will not be decreased where flared end sections or headwalls are provided unless calculations and data to support the decrease in length are submitted and approved. Non-erosive lining shall consist of riprap, unless otherwise specified and approved. Field stone, gabions, or Riprap shall extend to the point at which average channel velocity for the peak flow rate from the minor (5-year) storm has decreased to 5 feet per second maximum The length of riprap to be provided shall be as follows:

Average outlet velocity less than 5 feet per second: L = 3 times the pipe diameter or culvert width.

Average outlet velocity less than 5-10 feet per second: L = 5 times the pipe diameter or culvert width.

Average outlet velocity greater than 10 feet per second: Use MHTD standard energy dissipater headwall (Reference 17) or approved equal.

5. Curb Openings: Where drainage flows from paved areas to grass areas through curb openings erosion protection shall be provided.

6. Ditch Checks and Drop Structures: In grass channels, grades and velocities may be controlled by use of ditch checks and drop structures. Riprap ditch checks may be required in natural channels where average velocity for the peak flow rate from the minor storm exceeds 5 feet per second for post-development conditions.

7. Spillways: Erosion protection must be provided at spillways and outlet structures for detention ponds. Erosion protection shall extend to the point where flow has stabilized and average velocity in the outlet channel is 5 feet per second or less.

D. TEMPORARY VEHICLE TRACKING PAD: A minimum of one temporary vehicle tracking pad is required at each site. Additional tracking pad's may be provided if approved. The location of each tracking pad shall be shown on the plan. Only tracking pads designated on the sediment and erosion control plan may be used. Barricades shall be maintained if necessary to prevent access at other points until construction is complete. Temporary Vehicle Tracking Pad's shall be constructed of crushed limestone meeting the following specifications.

* Temporary vehicle tracking pad's shall be a minimum of 25 feet wide and 50 feet long.

* Minimum thickness of crushed limestone surface shall be 2" to 4" inch diameter rock (rocks 6" and larger shall be avoided because they can become lodged between dual tires on trucks) is to be used, with a minimum thickness of 12 inches. Additional 2 inch lifts of crushed limestone shall be added at the discretion of the City if the surface of the initial drive deteriorates or becomes too muddy to be effective.

E. CLEANING STREETS: Streets both interior and adjacent to the site shall be completely cleaned of sediment at the end of construction and prior to release of security.

F. DUST CONTROL: The contractor will be required to use water trucks to water haul roads and construction areas to minimize dust leaving the site when conditions warrant.

G. SEQUENCING AND SCHEDULING: Costs of sediment and erosion control can be minimized if proper consideration is given to sequencing and scheduling construction. Any special sequencing and scheduling considerations should be noted in the grading plan. A detailed schedule must be received from the contractor at the Pre-Construction Conference.

Section 119: INSPECTION

A. By submitting a Land Disturbance permit the applicant consents to inspections of the proposed development site and all work in progress. The Director shall be allowed to enter the property of the responsible party as deemed necessary to make regular inspections.

B. A copy of the Land Disturbance permit and SWPPP must be available on site for inspection by the Director.

C. The Director shall make inspections as hereinafter required in Subsection D and shall either approve that portion of the work completed or shall notify the Responsible Party wherein the work fails to comply with the plan as approved.

D. In order to obtain required inspections, the responsible party shall notify the Director at least two (2) working days **before** the following required inspections:

1. Initial erosion and sediment control measures placement.

2. Site Clearing.

3. Rough Grading.

4. Removal or substantial modification of any erosion and sediment control measure or practice.

5. Final landscaping.

E. The Responsible Party shall provide a qualified inspector to conduct inspections on a weekly basis or within forty-eight (48) hours of a half inch (1/2”) or greater rain event.

The log of such inspections shall be maintained on site and available for review by the City upon request. Prior to final acceptance of the project a copy of the inspection log must be provided to the Director for permanent record.

F. The purpose of inspections will be to determine the overall effectiveness of the SWPPP plan and shall be used to identify the need for additional control measures. The need for changes to the plan as identified by the inspections shall be provided to the Responsible Party in writing.

G. In the event work does not conform to the permit or conditions of approval or to the approved plan or to any instruction of the Director, notice to comply shall be given to the Responsible Party in writing. After a notice to comply is given, the Responsible Party shall be required to make the corrections within the time period determined by the Director. If an imminent hazard exists, the Director shall require that the corrective work begin immediately.

Section 120 ENFORCEMENT AND PENALTIES

A. Stop-Work Order; Revocation of Permit

1. In the event that the Responsible Party holding a Land Disturbance Permit pursuant to this ordinance violates the terms of the permit, or implements site development in such a manner as to materially adversely affect the health, safety, welfare, or safety of persons residing or working in the neighborhood or development site, the Director may suspend or revoke the Land Disturbance Permit and issue a stop-work order.

2. For the purpose of this ordinance, a stop work order is validly posted by posting a copy of the stop work order on the site of the land disturbance activity in reasonable proximity to a location where the land disturbance activity is taking place. A copy of the order, in the case of work for which there is a permit, shall be mailed to the address listed by the Responsible Party on the permit. In the case of work for which there is no permit, a copy of the order shall be mailed to the person listed as the owner of the property on the tax records of Christian County Missouri.

3. No person is permitted to continue or permit the continuance of work in an area covered by a stop work order, except work required to correct deficiencies with respect to an erosion or sediment control measure and as authorized by the Director.

4. Forty-eight (48) hours after posting a stop work order, the Director, if the conditions specified in the stop work order to resume work have not been satisfied, may issue a notice to the Responsible Party that the City of Nixa will perform work necessary to comply with this regulation. The City of Nixa may go on the land and commence work after forty-eight (48) hours from issuing the notice of intent. The costs incurred by the City of Nixa to perform this work shall be charged against the performance security.

B. Violation and Penalties

1. No Responsible Party, owner, or land user shall construct, enlarge, alter, repair, or maintain any grading, excavation, or fill, or cause the same to be done, contrary to or in violation of the terms of this ordinance.

2. Any Responsible Party, owner or land user violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof, shall be fined not more than one thousand dollars ($500.00) for each offense, and each day during which any violation of any of the provisions of this ordinance is committed, continued or permitted, shall constitute a separate offense.

3. Any waiver of a violation of this ordinance by the Director shall not be deemed or construed by the Responsible Party to constitute a waiver of any prior or succeeding violation of this ordinance.

4. The City Attorney may seek any appropriate remedy to cause the removal of such sediment including, but not limited to, an injunction, revocation proceedings or any and all permits, licenses, and termination of utility services.

Section 121 DISCHARGE PROHIBITIONS

A. Prohibition of Illegal Discharges: No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters containing any pollutants, other than storm water. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

1. The following discharges are exempt from discharge prohibitions established by this ordinance: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl spaces pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water.

2. Discharges or flow from firefighting, and other discharges specified in writing by the City of Nixa as being necessary to protect public health and safety.

3. Discharges associated with dye testing, however this activity requires a verbal notification to the City of Nixa Public Works Director prior to the time of the test.

4. The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the United States Environmental Protection Agency (EPA), provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

B. Prohibition of Illicit Connections:

1. The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

2. This prohibition expressly includes, without limitation, illicit connections made I the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

3. A person is considered to be in violation of this ordinance if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

4. Improper connections in violation of this ordinance must be disconnected and redirected, if necessary, to an approved onsite wastewater management system or the sanitary sewer system upon approval of the City of Nixa.

5. Any drain or conveyance that has not been documented in plans, maps or equivalent, and which may be connected to the storm sewer system, shall be located by the owner or occupant of that property upon receipt of written notice of violation from the City of Nixa Public Works Director requiring that such locating be completed. Such notice will specify a reasonable time period within which the location of the drain or conveyance is to be determined, that the drain or conveyance be identified as storm sewer, sanitary sewer or other, and that the outfall location or point of connection to the storm sewer system, sanitary sewer system or other discharge point be identified. Results of these investigations are to be documented and provided to the City of Nixa Public Works Director.

Municipal Pollution Prevention-Good Housekeeping Operation and Maintenance Plan

CONTENTS

A. Purpose

The City of Nixa is a regulated small MS4 Phase II permit holder, and is required to develop and implement a Municipal Operation and Maintenance (O & M) Plan as part of the SWMP. This document serves as that O & M Plan.

As required, the O & M Plan lists procedures to minimize stormwater pollution from high impact activities. The O & M Plan includes appropriate Pollution Prevention and Good Housekeeping procedures for all of the following operations, activities, and/or types of facilities that are owned and/or operated by the City.

1) Stormwater collection and conveyance system, including catch basins, piping, channels, ditches and culverts.

2) Deicing and snow removal on roads and parking lots.

3) Storage, washing and maintenance of vehicle fleets and fueling facilities.

4) External building maintenance, including cleaning and painting.

5) Proper application of fertilizer, pesticides and herbicides on "parks and open spaces" as well as sediment and erosion control, landscape maintenance and vegetation disposal, and trash management for those areas.

6) Stormwater protection at material storage areas, heavy equipment storage areas and maintenance areas.

7) Any other facilities that would have a reasonable potential to discharge contaminated stormwater runoff.

This Plan applies to all City of Nixa Employees at all City owned/operated Municipal Operation Facilities (see complete list at the end of this document).

B. Stormwater Collection and Conveyance System

This section addresses the stormwater collection and conveyance systems, to the extent that the City is responsible for the Operation and Maintenance. It does not cover any privately held or owned stormwater collection system (i.e. the Villas at Wicklow). MCM #3, the Illicit Discharge Detection and Elimination Chapter and MCM #5, the Post-Construction Stormwater Management Chapter of the City's Stormwater Management Plan (SWMP) address the overall maintenance and monitoring of the stormwater collection and conveyance system in greater detail.

Due to the sheer size of the City's overall stormwater system (8.48 square miles; 51 miles of total stormwater system; 16 miles of culverts and pipes; 11.6 miles of trickle channel; 147 acres of basins and 2427 manholes, inlets, outlets, junction boxes, weir structures, curb inlet boxes and grated inlet boxes currently within our stormwater map GPS database) it is virtually impossible to inspect every lineal foot, basin or every inlet/outlet structure, pipe and ditch even once annually. The City has developed a map outlining the method for dividing the City into 5 sections, one of which to be inspected each year of the MDNR stormwater permit cycle, so as to inspect all 5 sections once each permit cycle. *See addendum MCM #6-1-1 Copy of this inspection outline map.*

The stormwater collection and conveyance system includes catch basins (detention/retention), piping and other facilities used for stormwater conveyance.

1) Catch Basins: Most catch basins have a storage area at the bottom to trap sediments, debris, and other particles that can settle out of stormwater, that would otherwise cause clogging of downstream piping and washing of these solids into the surface water and ultimately to the final receiving waters. When the catch basin is approximately 50 percent full of sediment, sediment can begin to wash into stormwater piping.

a) Clean catch basins when they are half full or when the sediment and debris is within 18 inches of the bottom of the outlet pipe, or at any time the flow of stormwater is impeded. Any dredged material, accumulated sediment, and other debris is hauled to the vacant property at the City's Wastewater Treatment facility where it can be stockpiled and protected with the proper BMP until such time as it can be either utilized elsewhere or incorporated into the fill material at this location. Any liquids or floatables are collected and deposited into an oxidation ditch at the City's Wasterwater Treatment Facility where they are drained for treatment.

The City's will inspect approximately 20% (one section) of these basins once annually. The goal is to inspect and maintain every structure/asset/facility within the stormwater system at a minimum of once during the permit cycle.

b) The City will record the date, location, maintenance actions taken and the approximate amount of sediment and debris removed (if applicable) on every basin inspected and addressed.

c) Additionally, anytime an issues arises and is either discovered by City field staff or information is received from a citizen, the City will take appropriate action to remediate each issue, no matter which section of the City it is in.

2) Stormwater Piping: Stormwater piping (other than private piping or private driveway culverts) should be maintained in a good, clean and functioning condition.

a) Piping should be inspected regularly and repaired & cleaned as needed so as not to impede the free flow of stormwater. Any dredged material, accumulated sediment, and other debris is hauled to the vacant property at the City's Waste Water Treatment facility where it can be stockpiled and protected with the proper BMP until such time as it can be either utilized elsewhere or incorporated into the fill material at this location. Any liquids or floatables are collected and deposited into an oxidation ditch at the City's Wasterwater Treatment facility where they are drained for treatment.

The City will inspect approximately 20% (one section) of the City's stormwater piping annually. The goal is to inspect and maintain every structure/asset/facility within the stormwater system at a minimum of once during the permit cycle.

b) The City will record the date, location, approximate lineal footage, maintenance actions taken and the amount of sediment and debris removed (if applicable) on each section of piping inspected and addressed.

c) Additionally, anytime an issues arises and is either discovered by City field staff or information is received from a citizen, the City will take appropriate action to remediate each issue, no matter which section of the City it is in.

3) Stormwater inlet boxes: Stormwater inlet boxes (whether curb inlet, grated inlet, area inlet or other) should be maintained in a good, clean and functioning condition. There are a total of 2427 manholes, inlets, outlets, junction boxes, weir structure, curb inlet boxes and grated inlet boxes currently within our stormwater map GPS database.

a) Inlet boxes are and will continue to be inspected, cleaned and repaired on a regular basis, so as not to impede the free flow of stormwater. Any dredged material, accumulated sediment, and other debris is hauled to the vacant property at the City's Waste Water Treatment facility where it can be stockpiled and protected with the proper BMP until such time as it can be either utilized elsewhere or incorporated into the fill material at this location. Any liquids or floatables are collected and deposited into an oxidation ditch at the City's Wasterwater Treatment facility where they are drained for treatment.

The City will inspect 20% (one section) of the City's stormwater inlet boxes annually. The goal is to inspect and maintain every structure/asset/facility within the stormwater system at a minimum of once during the permit cycle.

b) The City will record the date, location, box number, maintenance actions taken and the amount of sediment and debris removed (if applicable) on each inlet box inspected and addressed.

c) Additionally, anytime an issues arises and is either discovered by City field staff or information is received from a citizen, the City will take appropriate action to remediate each issue, no matter which section of the City it is in.

4) Roadside Ditches

The following BMPs or equivalent measures are required for activities related to the maintenance of roadside ditches:

a) Inspect roadside ditches to identify sediment accumulations and areas of localized erosion.

b) Keep ditches free of rubbish and debris.

c) Conduct ditch maintenance (seeding, fertilizer application, and mowing) when most effective, usually in late spring and/or early fall.

d) Do not apply fertilizer unless needed to maintain vegetative growth.

e) Do not leave material from the ditch cleaning on roadway surfaces.

f) Sweep and remove dirt and debris that remains on the pavement at the completion of ditch cleaning operations.

g) Segregate clean materials from suspect or contaminated materials. Non-contaminated soils may be handled as "clean soils" and non-contaminated vegetative matter can be composted. Any dredged material, accumulated sediment, and other debris is hauled to the vacant property at the City's Waste Water Treatment facility where it can be stockpiled and protected with the proper BMP until such time as it can be either utilized elsewhere or incorporated into the fill material at this location. Any floatables are hauled and deposited into an oxidation ditch at the City's Wasterwater Treatment Facility.

The liquid and floatable are drained for treatment through the wastewater treatment facility and the solids are allowed to dry and are disposed of as described above.

Suspected contaminated or contaminated material removed are be tested and handled according to the Dangerous Waste Regulations unless testing indicates that it is not dangerous waste.

h) Remove vegetation only when flow is blocked or excess sediments have accumulated.

i) Establish vegetation from the edge of the pavement if possible or at least from the top of the slope of the ditch.

j) The City will inspect approximately 20% (one sector) of the City's roadside ditches annually. The goal is to inspect and maintain the roadside ditches in one sector each year of the stormwater permit cycle so as to cover the entire system at a minimum of once during the that cycle.

k) The City will record the date, location, approximate lineal footage, maintenance actions taken and the amount of sediment and/or debris removed (if applicable) on each section of ditch inspected and addressed.

l) Additionally, anytime an issues arises and is either discovered by City field staff or information is received from a citizen, the City will take appropriate action to remediate each issue, no matter which sector of the City it is in.

5. Other Stormwater Facilities: Other facilities can include both structural and non-structural stormwater facilities, such as green stormwater infrastructure elements including trees, vegetation, and soil.

a) All of these facilities require routine maintenance to ensure their functionality is maintained. Frequency and level of maintenance varies based on the facility location, function, and exposure to impacts.

b) The City will record the date, location, description of facility and maintenance actions taken on each facility inspected and addressed.

c) Additionally, anytime an issues arises and is either discovered by City field staff or information is received from a citizen, the City will take appropriate action to remediate each issue, no matter which section of the City it is in.

The NPDES permit requires the City of Nixa to develop a storm sewer system map showing the locations of all known storm drain outfalls, labeling the receiving waters, and delineating the areas contributing runoff to each outfall. This map is for all practical purposes is complete and is available online at www.nixa.com/stormwater or a printed paper copy is must be available on request at 1111 W. Kathryn St.

Additionally, the NPDES Permit requires the City of Nixa to conduct field inspections and visually inspect for illicit discharges at all known outfalls that discharge to surface waters. The City of Nixa will visually inspect, at a minimum, 50% of all known outfalls each year of current permit, and develop and implement procedures to identify and remove illicit discharges (see IDDE Manual). Records of inspections and follow-up activities will be maintained.

C. Deicing and Snow Removal

1) Snow Removal: Snow removal is preferred to de-icing with chemicals.

2) Selecting Deicers: Select deicers and anti-icers that result in the least adverse environmental impact. Apply only as needed using minimum quantities. Where feasible and practical, use roadway deicers such as calcium magnesium acetate, potassium acetate, or similar materials that cause less adverse environmental impact than and sodium chloride.

3) Maintenance After Deicing: Increase maintenance of stormwater structures as necessary. Sweep or clean up excessive accumulated (un-dissolved) deicing and anti-icing materials and grit from roads as soon as possible after the road surface clears.

D. Street Sweeper Cleaning & Sweepings Disposal

The operation & maintenance of street sweepers, if not conducted properly, can contribute to stormwater pollution. Pollutants, such as sediments, oil and trash may be picked up by rain and end up in local waterways, affecting the environment. All sweeper waste must be disposed of properly: take waste directly to a permanent disposal site, or to a secure temporary storage area.

The goal of this section is to provide guidance for municipal employees to help prevent stormwater pollution.

1) Procedures

a) Sweeper Wash Out

• Follow Heavy Equipment & Vehicle Maintenance procedure for washing procedures.

b) Sweepings Disposal

• Do not empty sweeper hoppers, even temporarily, onto areas near storm drains or surface water bodies or where wind or rain could wash the debris into the storm sewer system or scatter the debris.

• Temporary storage area for debris should be protected from wind, rain and surface runoff (when applicable).

• Disposed of properly any swept dirt or debris from traffic accidents.

• Dispose of sweeper debris at a designated dump site or by contract waste removal company (such as a roll off dumpster) to be properly disposed of in a land fill.

2) Employee Training

a) Train applicable employees on this section, including information on how to avoid and report spills. Conduct refresher training periodically.

3) Records

a) *The following records could be used to document activities performed:*

• *Employee's training*

• *Sweeper logs containing information on what streets are swept, lane miles swept, and number of loads dumped with approximate weight recorded.*

4) Possible Pollutants to watch for

a) Fine-grained sediment

b) Organics

c) Oil & Grease

d) Trash

e) Road Salt

f) Metals

g) Toxins

5) Good Housekeeping

a) Temporary covers/tarps

b) Employee Training

c) Proper cleanup and disposal procedures

d) Dry cleaning methods

e) Stormwater retrofits

6) Related Procedures

a) Heavy Equipment/Vehicle Maintenance

b) Spill Prevention and Response

c) Vehicle Fueling

E. Storage, Washing and Maintenance of Vehicles and Equipment

Pollutants released while washing vehicles and equipment include surfactants, petroleum hydrocarbons, toxic organic compounds, oils and greases (floatables), nutrients, metals, and suspended solids. These pollutants must not be discharged to the storm drainage system or directly into receiving waters.

1) Vehicle and Equipment Storage: Ensure that stored vehicles are not leaking oil or other fluids where they may be washed into storm drains.

2) Vehicle and Equipment Washing: Wastewater from cleaning vehicles and equipment must be collected to be properly treated. This wash water waste shall not be allowed to discharge into the Stormwater system.

a) Conduct indoor vehicle and equipment washing in an area with floor drains that are plumbed to the sanitary sewer (or an underground holding tank that can be cleaned out regularly to prevent overflows) to prevent the wash water from flowing outside and entering the storm drainage system.

i) These underground storage tanks are on occasion pumped out and the waste (solids, liquid and floatables) are deposited into an oxidation ditch at the City's Wasterwater Treatment Facility. The liquid and floatable are drained for treatment through the wastewater facility and the solids are allowed to dry and are disposed of.

b) Conduct outdoor vehicle and equipment washing in a designated wash area (wash pad) that drains to a sump (like a grit separator) or a catch basin and then can be pumped out to be disposed of in the sanitary sewer or; another appropriate wastewater treatment or; recycling system. This wash area must be clearly marked.

3) Vehicle and Equipment Maintenance: The following BMPs or equivalent measures are required of all facilities engaged in automotive repair and maintenance activities:

a) Employees must be educated annually about the need for careful handling of automotive fluids. Employees that routinely change or handle these fluids must be trained in spill prevention and cleanup (see addendum MCM#6-3 Spill Prevention and General Response Plan). All training must be documented.

b). Spill cleanup materials, such as rags and absorbent materials, must always be kept close at hand when changing oil and other fluids (see addendum MCM #6-3 Spill Prevention and General Response Plan). Soiled rags and other cleanup material must be properly disposed of or professionally cleaned and reused.

c) Whenever practicable, all maintenance and repair activities must be conducted indoors.

d) Drain all fluids that have the potential to leak from wrecked vehicles, and equipment when they arrive. Store and dispose of fluids properly.

e) If the work must be performed outdoors or at a mobile location such as a construction site, drip pans or other containment devices must be used beneath the vehicle or equipment to capture all spills and drips.

f) Make sure all outside materials that have the potential to leak or spill to the drainage system are covered, contained, or moved to an indoor location.

g) Maintenance and repair areas cannot be hosed down. Instead, they must be swept weekly or more often as needed to collect dirt, and spills must be wiped up with rags and other absorbent materials. If pressure washing is necessary, the wastewater must be collected and disposed of properly. It cannot be discharged to the stormwater drainage system.

h) Drains located inside buildings should be connected to the sanitary sewer (with prior approval by Wastewater Superintendent) or a holding tank that is pumped on a regular basis so as to not over flow and create an illicit discharge.

i) If extensive staining and oily sheen is present, absorbent pillows or booms must be used in or around catch basins and properly maintained to prevent oil from entering the stormwater drainage system.

F. Building Exterior Maintenance

1) Pressure Washing: Eliminate or minimize building exterior pressure washing whenever possible. Avoid soap when pressure washing; use heat, steam and/or water pressure instead (see addendum MCM #3-14 Best Management Practices for Pressure Washing and Impervious Surface Cleaning-Draft).

a) If pressure washing with cold water and the building exterior is not coated with lead-containing paint or other hazardous material, it is okay discharge the wash water to a storm drainage system.

Otherwise, collect the wash water for appropriate disposal in the local sanitary sewer or offsite as a hazardous waste. Install berms to keep contaminated wash water from entering storm drainage system.

b) If the job generates a lot of sediment or debris, lay filter fabric on the ground or; install a commercial filter basin insert in the drain inlet to catch the debris or; at the very least, install silt sock or silt fence to catch the sediment and debris. Dispose of this accumulated sediment and debris appropriately.

c) When washing loading docks or drain trenches, berm the area and/or block the drain. Collect the wash water in containers. Let solids settle before decanting liquid and skim floatable objects off the top. Dispose of wash water in the sanitary sewer or floor drain plumbed to a holding tank or; if the water contains hazardous materials (e.g. metals, paint), manage it as hazardous waste.

d) Don't allow wash water to soak into landscaping unless you have made arrangements with grounds staff. Collect wash water for discharge to sanitary sewer. Obtain permission from the Wastewater Superintendent to discharge to sanitary sewer during construction-related activity.

2) Use of Solvents or Cleaners: Avoid the use of acids, solvents, soap or detergents whenever possible. Even products that are labeled "biodegradable" are not allowed to enter storm drains.

a) If soap or detergents must be used, collect your wash water using berms, plastic and other means. Dispose of wash water into a sanitary sewer unless the building is coated in lead paint. If you are washing surfaces coated with lead paint, collect and take a sample of the wash water. If the lead concentration exceeds 3 ppm, the wash water cannot be disposed into the sanitary sewer. It must be managed as hazardous waste.

b) If you must use solvents, collect the wastewater for disposal as hazardous waste.

G. Application of Fertilizer and pesticides

Avoid fertilizer and pesticide application whenever possible. If pesticides or herbicides are used, they must be carefully applied in accordance with label instructions and the Federal Insecticide, Rodenticide and Fungicide Act (FIFRA) and applicable State laws. Maintain appropriate vegetation, properly apply fertilizer where necessary, or consider the use of pest resistant varieties when possible.

1) Application of Pesticides: Choose the least toxic pesticide that is capable of reducing the infestation to acceptable levels.

Conduct any pest control during the life stage when the pest is most vulnerable. For example, if it is necessary to use some Bacillus thuringiensis (microbe naturally found in soil, proteins that are toxic to immature insect larvae) application to control tent caterpillars, it must be applied before the caterpillars form their cocoons or it will be ineffective. The pest control method should be site-specific rather than using a generic one size fits all method. When necessary to use, apply pesticides according to the directions on the label and use the following BMPs:

a) Conduct spray applications according to specific label directions and the applicable local and state regulations.

b) Do not apply pesticides (outdoors) if it is raining or immediately before expected rain (unless the label directs such timing).

c) Ensure that the pesticide application equipment is capable of immediate shutoff in the event of an emergency.

d) Do not apply pesticides within 100 feet of open waters including wetlands, ponds, streams, sloughs, or any drainage ditch or channel that leads to open water. Take care to avoid contamination or site disturbance during applications.

e) Never apply pesticides in quantities that exceed the manufacturer's instructions.

f) Mix pesticides and clean the application equipment under cover in an area where accidental spills will not enter surface water or ground water and will not contaminate the soil.

2) Storage of Pesticides:

a) Store pesticides in enclosed areas or in covered impervious containment.

b) Do not hose down the paved areas to a storm drain or conveyance ditch.

c) Ensure that pesticide-contaminated waste materials are kept in designated covered and contained areas, and disposed of properly.

d) Rinsate (water containing low concentrations of contaminants, resulting from the cleaning of containers etc.) should be used as product or recycled into product.

3) Application of Fertilizer

a) Ensure that all fertilizers are applied by properly trained personnel. Document and keep all training records.

b) For commercial and industrial facilities, ensure that fertilizers are not applied to grass swales, filter strips, or buffer areas that drain to sensitive receiving waters.

H. Material and Equipment Storage

1) Outdoor Storage of Materials

This section applies outdoor storage and transfer of solid raw materials, byproducts, or products such as but not limited to gravel, sand, salts, topsoil, compost, sawdust, wood chips, and other stockpiled materials typically stored outside.

a) Cover and contain materials to prevent erosion whenever possible. Erosion results in stormwater contamination and loss of valuable product.

b) Sweep paved storage areas daily or more often as necessary to collect and dispose of loose solid materials. Do not hose down the material storage areas if the discharge will flow into a storm drainage conveyance system.

c) Whenever practicable, store materials inside a building or on a covered outdoor paved area, preferably surrounded by a berm.

d) Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, visqueen or equivalent) over the material. Anchor sheeting to prevent contact with rainfall.

For large stockpiles that cannot be covered:

i) Install containment devices, such as a berm or a low wall around the perimeter of the pile and at any catch basins as needed to prevent erosion of the stockpiled material and to prevent discharge of leachate from the stockpiled material off the site or to the storm drainage system.

ii) Ensure that contaminated stormwater is not discharged directly to catch basins without being conveyed through a treatment BMP.

2) Storage of Contaminated Soils

This section applies to the storage of soils contaminated with toxic organic compounds, petroleum products, or metals (see addendum #6-3 Spill Prevention and General Response Plan)

a) Cover or enclose the storage area for the contaminated soils and contain it with a curb, dike, or berm constructed around the material storage area if possible.

b) Sweep paved storage areas daily or more often as needed. Stock cleanup materials such as brooms, dust pans, and vacuum cleaners near the storage area.

c) Regularly inspect and maintain catch basins and other drainage systems on the site to prevent contaminated materials from leaving the site and entering storm drainage system.

3) Outdoor Portable Container Storage

The following applies to outdoor portable containers used to store accumulated food wastes, vegetable or animal grease, used automotive fluids, liquid feedstock or cleaning compounds, chemicals, or dangerous wastes (liquid or solid), and contaminated stormwater.

a) Wherever possible, store containers on a paved surface under a roof or other appropriate cover or in a building.

b) Store materials in a leak-proof container with a tight-fitting lid.

c) All containers must have labels identifying their contents. Apply labels and position containers so labels are clearly visible. If the material is hazardous waste, it should have a hazardous waste label.

d) Place drip pans beneath all taps on mounted containers and at all potential drip and spill locations during the filling and unloading of containers.

e) Inspect container storage areas regularly for corrosion, structural failure, spills, leaks, overfills, and failure of piping systems. Check containers daily for leaks and spills. Replace containers, and replace and tighten bungs in drums as needed.

f) Secure drums in a manner that prevents accidental spillage, pilferage, or any unauthorized use.

g) Keep the minimum amount of materials necessary on hand to prevent large quantities of liquids on site.

4) Hazardous Material

A **hazardous material** is any item or agent (biological, chemical, radiological, and/or physical), which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

Hazardous materials are defined and regulated in the United States primarily by laws and regulations administered by the U.S. Environmental Protection Agency (EPA), the U.S. Occupational Safety and Health Administration (OSHA), the U.S. Department of Transportation (DOT), and the U.S. Nuclear Regulatory Commission (NRC). Each has its own definition of a "hazardous material."

OSHA defines hazardous waste as any substance or chemical which is a "health hazard" or "physical hazard," including: chemicals which are carcinogens, toxic agents, irritants, corrosives, sensitizers; agents which act on the hematopoietic system; agents which damage the lungs, skin, eyes, or mucous membranes; chemicals which are combustible, explosive, flammable, oxidizers, pyrophorics, unstable-reactive or water-reactive; and chemicals which in the course of normal handling, use, or storage may produce or release dusts, gases, fumes, vapors, mists or smoke which may have any of the previously mentioned characteristics. (Full definitions can be found at 29 Code of Federal Regulations (CFR) 1910.1200.)

EPA incorporates the OSHA definition, and adds any item or chemical which can cause harm to people, plants, or animals when released by spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment. (40 CFR 355 contains a list of over 350 hazardous and extremely hazardous substances.)

DOT defines a hazardous material as any item or chemical which, when being transported or moved in commerce, is a risk to public safety or the environment, and is regulated as such under its Pipeline and Hazardous Materials Safety Administration regulations (49 CFR 100-199); which includes the Hazardous Materials Regulations (49 CFR 171-180). In addition, hazardous materials in transport are regulated by the International Maritime Dangerous Goods Code; Dangerous Goods Regulations of the International Air Transport Association; Technical Instructions of the International Civil Aviation Organization; and U.S. Air Force Joint Manual, Preparing Hazardous Materials for Military Air Shipments.

NRC regulates materials that are considered hazardous because they produce ionizing radiation, which means those materials that produce alpha particles, beta particles, gamma rays, x-rays, neutrons, high-speed electrons, high-speed protons, and other particles capable of producing ions. This includes "special nuclear material," by-product material, and radioactive substances. (See 10 CFR 20).

Hazardous Materials Disposal

Hazardous materials are required to be handled/removed by professionals who are responsible for and properly qualified to manage such materials. This includes managing hazardous materials at any point in their life-cycle, from process planning and development of new products; through manufacture, distribution and use; and to disposal, cleanup and remediation.

For hazardous materials, also include the following:

a) Provide covered secondary containment. Alternatively, the storage area shall be paved and surround by a berm or dike and covered. The dike must be high enough to hold a volume of 110 percent of the total volume of the enclosed container(s). The area must be sloped to drain into a dead-end sump for the collection of leaks and small spills.

b) Ensure that the storage of reactive, ignitable, or flammable liquids complies with federal or state regulations and the International Fire Code, if applicable.

c) Keep containers with hazardous materials inside a building unless this is impractical due to site constraints or the requirements of the International Fire Code and the regulatory agencies list above.

5) Storage of Liquids in Permanent Aboveground Storage Tanks

This section applies to aboveground storage tanks that contain liquids (excluding uncontaminated water) including, but are not limited to, aboveground heating oil tanks and gasoline and diesel tanks. Design containment areas around the tank so that potential stormwater contamination can be minimized and managed. Locate and design tanks to prevent and minimize stormwater contamination as follows:

a) To prevent stormwater contamination, install secondary containment or a double-walled tank. Add safeguards against accidental releases, including guards around the tanks to protect them from vehicle or forklift damage, and place tags on valves to reduce human error.

b) Locate permanent tanks in an impervious (Portland cement concrete or equivalent) secondary containment area.

c) Surround the secondary containment area with dikes or provide double walled tanks approved by the Underwriters Laboratory (UL). Design the dike to be of sufficient height to provide a containment volume of either 110 percent of the total volume of the enclosed tank(s).

d) Secondary containment must be emptied regularly to prevent contaminated liquid from overflowing into the drainage system.

e) If the tank containment area is not covered, equip the outlet from the spill-containment sump with a shutoff valve, which is normally closed. The valve should only be opened to convey contaminated stormwater to an approved treatment system or disposal facility or to convey uncontaminated stormwater to the storm drainage system.

f) Place adequately sized drip pans beneath all mounted taps and locations where drips and spills might occur during the filling and unloading of tanks.

g) Include a tank overfill protection system to minimize the risk of spillage during loading.

h) Inspect tank containment areas regularly to identify problems (e.g., cracks, corrosion, leaks) with components such as fittings, pipe connections, and valves. Document and keep all inspection records.

6) Parking Lot Maintenance and Storage of Vehicles and Equipment

This section applies to parking lots and areas where vehicles or equipment are stored outside. The following BMPs or equivalent measures are required for activities related to the parking and storage of vehicles and equipment:

a) Sweep or vacuum parking lots, storage areas and driveways regularly to collect dirt, waste, and debris. Properly dispose of the collected solid waste.

b) Do not hose down or pressure wash areas that drain to the storm drainage system or to the surface water ultimately receiving drainage water.

c) Make sure all outside materials that have the potential to leak or spill to the storm drainage system are covered, contained, or moved to an indoor location.

I. OTHER CITY FACILITIES

1) Cleaning and Maintenance of City Swimming Pool

a) Swimming pool water may be discharge into the City's storm sewer system only after it has been properly de-chlorinated.

J. A LIST OF ALL MUNICIPAL OPERATIONS THAT ARE IMPACTED BY THIS OPERATION AND MAINTENANCE PROGRAM.

101	PUBLIC WORKS CAMPUS #1	1010 N. EAGLECREST ST.
102	PUBLIC WORKS CAMPUS #2	1111 W. KATHRYN ST.
103	PARKS DEPT. (OLD CITY HALL) "REMOVED"	106 E. MT. VERNON ST.
104	ROTARY PARK (OLD CITY PARK)	N. FORT ST.
105	OLD SHOP BUILDING	203 E. ST. LOUIS ST.
106	STREET DEPARTMENT STORAGE BUILDING "A"	972 S. OLD RIVERDALE RD.
107	WASTE WATER STORAGE BUILDING "B"	972 S. OLD RIVERDALE RD.
108	OLD DOG POUND BUILDING "C" "REMOVED"	972 S. OLD RIVERDALE RD.
109	WASTE WATER TREATMENT FACILITY	972 S. OLD RIVERDALE RD.
110	POLICE DEPARTMENT SHOOTING RANGE	972 S. OLD RIVERDALE RD.
111	COMPOST BUILDING #2	972 S. OLD RIVERDALE RD.
112	NEW DOG POUND BUILDING #1	972 S. OLD RIVERDALE RD.
113	CITY HALL/FINANCE/P&Z	715 W. MT. VERNON ST.
114	UTILITY BILLING DEPARTMENT	707 W. CENTER CIRCLE
115	POLICE DEPARTMENT	715 W. CENTER CIRCLE
116	NIXA COMMUNITY CENTER (PARKS DEPT.)	701 N. TAYLOR WAY
201	WELL #1	203 E. ST. LOUIS ST.
202	WELL #2	GENE ST. (MDNR monitoring equipment)
203	WELL #3	702 N. HILL ST.
204	WELL #4	308 W. TOWER ST.
205	WELL #5	911 W. MT. VERNON ST.
206	WELL #6	727 E. MT. VERNON ST.
207	WELL #7	514 S. NICHOLAS RD. (HIGH SCHOOL)
208	WELL #8	1240 W. TRACKER RD.
209	WELL #9	1355 E. NORTH ST. (HIGH POINTE)
210	WELL #10	S. NORTON RD.
301	ESPY SUB-STATION	350 S. GREGG RD.
302	DOWNTOWN SUB-STATION	101 N. NEW ST.
303	TRACKER SUB-STATION	476 W. CHRISTOPHER DR.
304	NORTHEAST SWITCHING STATION	1661 N. MONET RD.
401	A & J PRINTING (REMOVED)	1113 N. KENNETH ST.
402	BENTWATER	821 W. MYRA DR.
403	BLUEBIRD HILLS	1667 N. MALLARD DR.
404	CITY CENTER SOUTH (REMOVED)	716 W. MT. VERNON ST.
405	COBBLE CREEK	865 S. OZARK ST.
406	THOMAS SCHOOL (REMOVED)	105 N. RICE ST.
407	FAIRFIELD ESTATES (REMOVED)	401 N. MARIE ST.
408	FOREST SOUTH (BYPASSED/OFF LINE)	409 S. WHITE ASH ST.
409	INDUSTRIAL PARK	711 W. KATHRYN ST.
410	INMAN SCHOOL	1300 N. NICHOLAS RD.

411	KELBY CREEK	362 S. WATERSTONE BEND
412	KELTNER (REMOVED)	113 ASPEN DR.
413	MAPLEDALE (REMOVED)	935 N. MAIN ST.
414	NORTH EAST REGIONAL	941 E. MT. VERNON
415	NORTH WEST REGIONAL	801 W. TRACKER RD.
416	OAKMONT	1321 W. WOODCASTLE DR.
417	ROLLING HILLS	1120 W. INMAN RD.
418	SUPER 8 MOTEL	419 N. MC CROSKEY ST.
419	TIMBER CREEK	938 TIMBER SPRINGS RD.
420	WASSON #1 (REMOVED)	411 N. MILTON DR.
421	WASSON #2	940 W. NORTHVIEW RD.
422	WELLINGTON PARK	1352 W. BERKSHIRE AVE.
423	WICKLOW (REMOVED)	1577 N. MAPLES RD.
424	RAINTREE (REMOVED)	913 DABNEY ST.
425	GREENBRIAR (REMOVED)	N. FLORA ST.
426	SPRINGMANOR (REMOVED)	390 NIANGUA DR.
427	COMMUNITY CENTER (REMOVED)	701 N. TAYLOR WAY

101 – 116 General Operation Facilities;

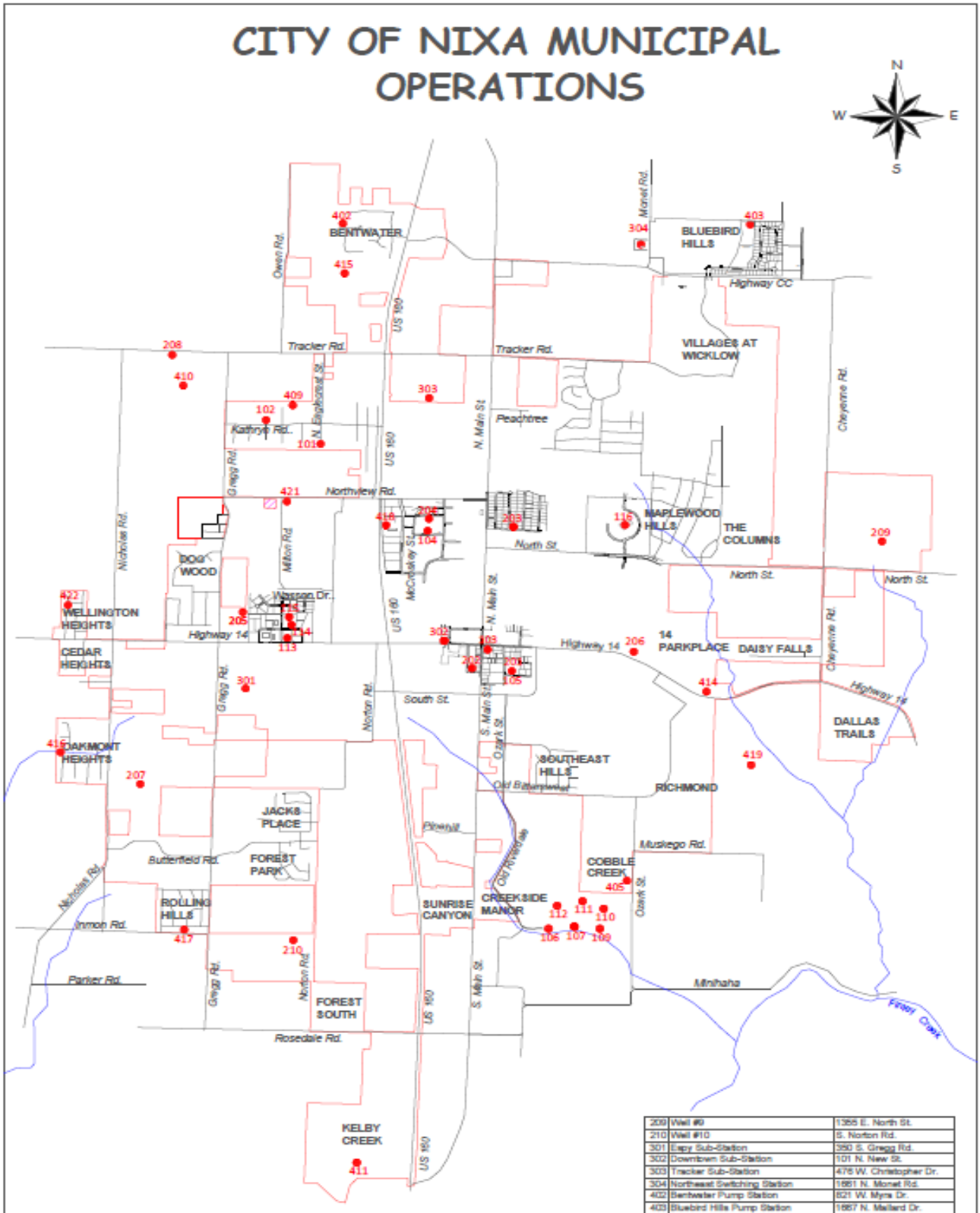
201 – 210 Water Well and Tower sites;

301 – 304 Electric Sub-station and Switching-station sites;

401 – 427 Sewage Pump Station sites;

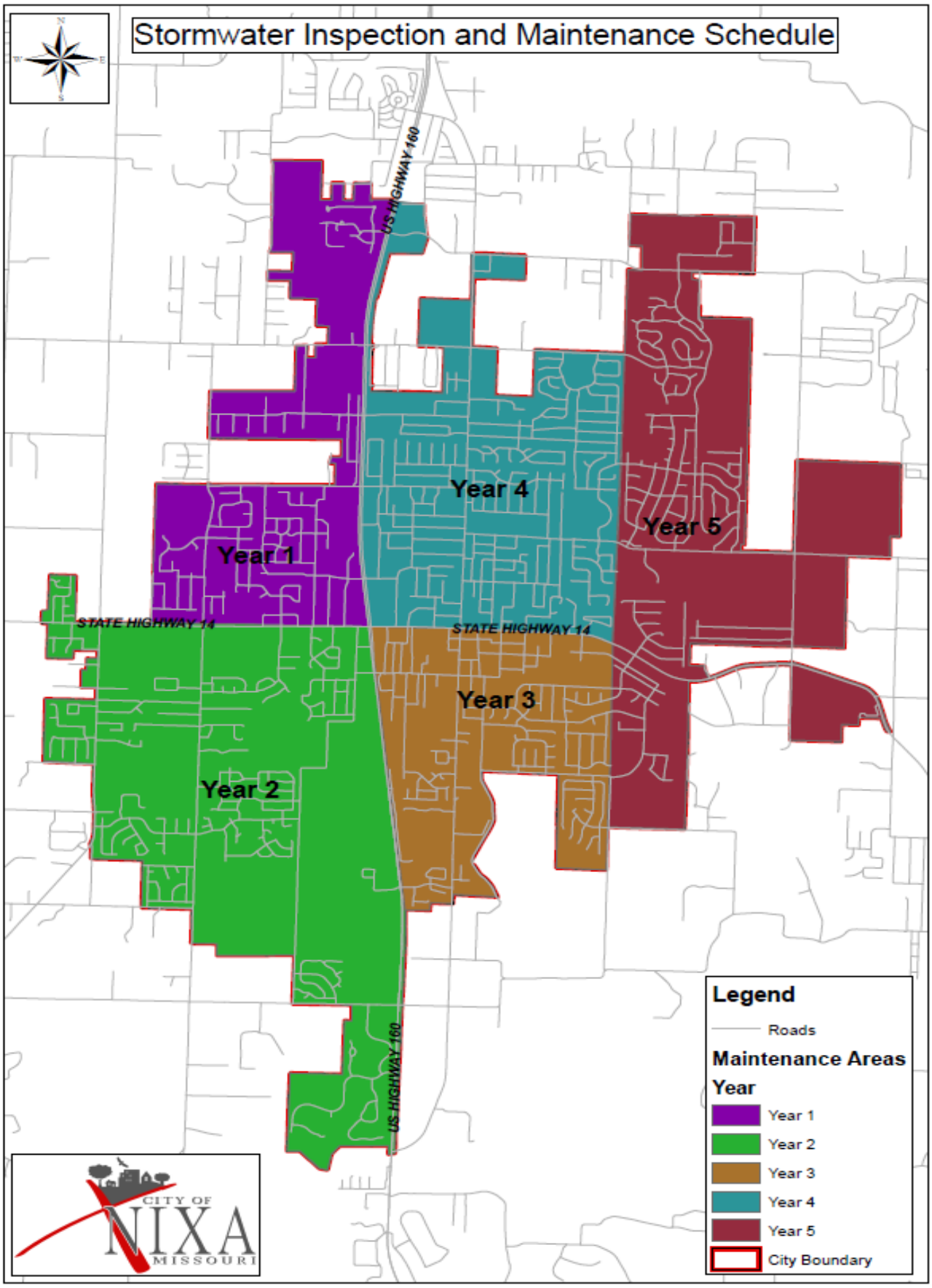
(Removed)-no longer exists.

CITY OF NIXA MUNICIPAL OPERATIONS



101	Public Works Campus #1	1010 N. Eaglecrest St.	113	City Hall/Finance/ P & Z	715 W. Mt. Vernon St.	405	Cobble Creek Pump Station	995 S. Ozark St.
102	Public Works Campus #2	1111 W. Mt. Vernon St.	114	Utility Billing Department	707 W. Center Circle	409	Industrial Park Pump Station	711 W. Kathryn St.
103	Parks Dept. (Old City Hall)	108 E. Mt. Vernon St.	115	Police Department	715 W. Center Circle	410	Inman School Pump Station	1300 N. Nicholas Rd.
104	Rotary Park (Old City Park)	N. Fort St.	116	Nixa Community Center	701 N. Taylor Way	411	Kelby Creek Pump Station	362 S. Waterstone Bend
105	Old Shop Building	203 E. St. Louis St.	201	Well #1	203 E. St. Louis St.	414	Northeast Regional Pump Station	941 E. Mt. Vernon St.
106	Street Dept. Storage Bldg A	972 Old Riverdale Rd.	202	Well #2	Gene St.	415	Northwest Regional Pump Station	801 W. Tracker Rd.
107	Wastewater Storage Bldg B	972 Old Riverdale Rd.	203	Well #3	702 N. Hill St.	416	Oakmont Pump Station	1321 W. Woodcastle Dr.
108	Old Dog Pound Building	972 Old Riverdale Rd.	204	Well #4	308 W. Tower St.	417	Rolling Hills Pump Station	1120 W. Inman Rd.
109	Wastewater Treatment Plant	972 Old Riverdale Rd.	205	Well #5	911 W. Mt. Vernon St.	418	Super 8 Pump Station	419 N. Mc Crowley St.
110	Police Dept. Shooting Range	972 Old Riverdale Rd.	206	Well #6	727 E. Mt. Vernon St.	419	Timber Creek Pump Station	938 Timber Springs Rd.
111	Compost Building #2	972 Old Riverdale Rd.	207	Well #7	514 S. Nicholas rd.	421	Wasson Pump Station	940 W. Northview Rd.
112	New Dog Pound Building #1	972 Old Riverdale Rd.	208	Well #8	1240 W. Tracker Rd.	422	Wellington Park Pump Station	1352 W. Berkshire Ave.

209	Well #9	1355 E. North St.	
210	Well #10	S. Norton Rd.	
301	Espy Sub-Station	350 S. Gregg Rd.	
302	Downtown Sub-Station	101 N. New St.	
303	Tracker Sub-Station	476 W. Christopher Dr.	
304	Northeast Switching Station	1661 N. Monet Rd.	
402	Benhwater Pump Station	821 W. Myra Dr.	
403	Bluebird Hills Pump Station	1667 N. Mallard Dr.	


Stormwater Inspection and Maintenance Schedule
US HIGHWAY 160
STATE HIGHWAY 14
STATE HIGHWAY 14
US HIGHWAY 160
Year 1
Year 2
Year 3
Year 4
Year 5
Legend
Roads
Maintenance Areas
Year
Year 1
Year 2
Year 3
Year 4
Year 5
City Boundary
CITY OF
NIXA
MISSOURI

Stormwater Inspection and Maintenance Schedule

N
W
E
S

US HIGHWAY 160

Year 1

Year 2

Year 3

Year 4

Year 5

STATE HIGHWAY 14

STATE HIGHWAY 14

US HIGHWAY 160

CITY OF NIXA MISSOURI

Legend

Roads

Maintenance Areas

Year

- Year 1
- Year 2
- Year 3
- Year 4
- Year 5
- City Boundary

ADDENDUM MCM #6-2

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0028037
Owner:	City of Nixa
Address:	PO Box 395, Nixa, MO 65714
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Nixa WWTF
Facility Address:	972 South Old Riverdale Rd., Nixa, MO 65714
Legal Description:	SW¼, SE¼, Sec. 30, T27N, R21W, Christian County
Latitude/Longitude:	+3700480 / -09316262
Receiving Stream:	Finley Creek (P)
First Classified Stream and ID:	Finley Creek (P) (2352)
USGS Basin & Sub-watershed No.:	(11010002 - 030004)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - POTW - SIC #4952 - **Certified "A" Operator Required**
Oxidation ditches / Tertiary filters / Biological-Chemical phosphorus removal / Ultraviolet disinfection / sludge holding tank / sludge dewatering / sludge composting / sludge and compost is land applied
Design population equivalent is 40,000.
Design flow is 4 MGD.
Actual flow is 1.7 MGD.
Design sludge production is 1,317 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

February 5, 2010 — Effective Date
March 5, 2010 — Revised Date

Mark N. Templeton, Director, Department of Natural Resources

February 4, 2015 — Expiration Date

Scott B. Totten, Acting Director Water Protection Program

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

General Operating Permit

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No:	MOR040067
Owner:	City of Nixa
Address:	715 West Mt. Vernon NIXA, MO 65714
Continuing Authority:	City of Nixa 715 West Mt. Vernon NIXA, MO 65714
Facility Name:	Nixa Small MS4
Facility Address:	715 West Mt. Vernon NIXA, MO 65714
Legal Description:	See Page 2
UTM Coordinates:	See Page 2
Receiving Stream:	See Page 2
First Classified Stream - ID#:	See Page 2
USGS# and Sub Watershed#:	See Page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein.

FACILITY DESCRIPTION All Outfalls SIC #9511
All Outfalls - Stormwater discharges from Regulated Small Municipal Separate Storm Sewer Systems.

SIC 9511/NAICS 924110

This permit authorizes only wastewater, including storm water, discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System, it does not apply to other regulated areas. This permit may be appealed in accordance with RSMo Section 644.051.6 and 621.250, 10 CSR 20-6.020, and 10 CSR 20-1.020.

January 15, 2017
Issue Date

Harry D. Bozoian, Director
Department of Natural Resources

September 30, 2021
Expiration Date

Cynthia S. Davies
Regional Director, Southwest Regional Office

Spill Prevention & General Response Plan

NAME AND LOCATION OF FACILITY:

_____

For the purpose of this document, a "Hazardous Material" is defined as: Any material that, because of its quantity, concentration, physical or chemical characteristics, may pose a hazard to human health or the environment. Hazardous materials include the following categories: Flammable or Combustible, Toxic, Corrosive, Oxidizers, Aerosols and Compressed Gases.

Spill Prevention:

The following are general requirements for any hazardous materials stored or used at this facility (named above).

General Requirements:

1. Ensure all hazardous materials are properly labeled.
2. Store, dispense, and/or use hazardous material in accordance with the manufacturer's specifications.
3. Provide secondary containment when storing hazardous material in bulk quantities (+25gl) or when manufacturer specifications require it.
4. Maintain good housekeeping practices for all hazardous materials at this facility.
5. Routine/Daily and monthly inspections of the hazardous material storage area are to generally be performed by:_____.
6. Monthly inspections of the hazardous material storage area and secondary containment (whether aboveground storage tanks or underground storage tanks) are to be logged on the Monthly Hazardous Material Inspection Log.

Spill Containment:

The primary goal of this Spill Prevention and General Response Plan is to control (stop) the source of the spill, contain any spilled material, and clean up the spill in a timely manner to minimize environmental damage and injury to persons or property.

Each facility should have a binder that contains SDS (MSDS) sheets for every chemical at that facility whether it's hand soap, floor cleaner, bleach, weed killer, gasoline, etc. This binder should be kept with the Spill Cleanup Kit. These items should be kept in a central, ease to get to, location that is clearly marked similar to a fire extinguisher location.

Always consult the SDS sheet for the specific spilled material for further containment and cleanup instructions.

Emergency Procedures:

- Immediately call 911 in the event of injury, fire or potential fire, or any spill of a hazardous material that gives rise to an emergency situation. Assess the area for any immediate dangers to your health or safety.

- If dangers to health and safety are present move away from the area and notify your supervisor.

- In the event of a small spill, if no dangers to health and safety are present, notify your supervisor and start Spill Response (contain the spill and secure the area).
- In the event of a large spill, a properly trained employee should:
  - Notify the appropriate Emergency personnel as directed above. Your supervisor should assess additional Emergency notification needs (i.e. police & fire).
  - Retrieve the spill kit from the closest location (if there are more than one).
  - Assess the size of the leak or spill and any immediate threat of the spill reaching floor/storm drains or permeable surfaces in the area. If there is an immediate threat to floor/storm drains and there are no safety concerns, then attempt to block the spill from coming in contact with the floor/storm drain or permeable surface. If no drain covers are available, then try to use absorbent material (cat litter, saw dust, sand, dirt, sock booms, rags, etc.) or any other means available to stop the spill from getting into the drains or to any permeable surfaces.
  - If there is no immediate threat to the floor/storm drains or permeable surfaces, or after controlling the spill, put on protective gear (gloves, goggles, protective clothing, etc.) and plug the leak.
  - Once the spill has been contained, the source has been identified and stopped and any immediate threat to floor/storm drains or permeable surfaces has been minimized, commence spill cleanup procedures.

Disposal of cleanup materials from a large or small spill should be handled by trained personnel, in accordance with the Safety Data Sheets specific to the spilled material, as long as it is safe to do so. All contaminated cleanup material and media shall be containerized, properly labeled (contents and date of collection) safely transported back to protective facility and properly stored until such time as it can be properly disposed of.

If the contaminated cleanup material and media is too large to containerize, it may be placed on a large sheet of plastic and then covered with plastic so as to contain it until such time it may be hauled off and disposed of properly.

Also see Nixa Fire Protection District document 206 Emergency Response Procedures.

Spill Reporting:

Missouri state law requires the responsible party (spiller) to report Hazardous Material releases greater than 50 gallons to the Missouri Department of Natural Recourses at 573-634-2436 at the earliest practical moment upon discovery. If the release is from underground storage tanks, the reportable quantity is 25 gallons or more. Further, federal law (EPA) requires the responsible party to report ANY release of Hazardous Material if it reaches or threatens any waterway, within 15 minutes of discovery of the spill or release, to the National Response Center at (800) 424-8802. The definition of waterway includes sewers, groundwater, wetland, lakes, creeks, streams, rivers and areas that may not have running water in them at the time, such as ditches that drain into other waterways. Both agencies will want to know WHAT WAS SPILLED, HOW MUCH WAS SPILLED AND WHERE IT WAS SPILLED.

Chlorine: the reportable amount of chlorine spill is10 pounds. Liquid chlorine weighs approximately 1.5 times the amount of water. **Water** weighs 8.34 PPG X 1.5 = 12.51 PPG for Liquid Chlorine.

Spill Tracking:

Any spills greater than one pint must be entered into the Spill Log. If a large catastrophic spill occurs, attach additional pages to describe the event (if needed). Include known or possible causes, areas affected, as well as the method and effectiveness of the cleanup. For small spills (one pint or less), it is sufficient to clean up the spill, dispose of the cleanup material properly and to take measures to prevent a repeat occurrence.

Spill Response:

Only persons trained on this plan shall respond to a spill. If a spill is reportable there should be no less than 2 (as many as needed) trained persons respond for containment and cleanup. If a spill is less than one gallon on hard surface (concrete or pavement) or less than 5 gallons on dirt or soil, chances are one Spill Response Trained person can contain and cleanup without help. Any spill larger than described above will likely take more than one person to contain and cleanup.

Training:

All personnel that may respond to a spill (large or small) need to be trained on the contents and procedures in this plan annually. All training is to be recorded on the provided Training Log.

Plan Management:

Each Superintendent /Department Head, or their designee, shall administer this plan and will be responsible for updating and including any required documentation.

Monthly Inspection Sheet Date:_____

Acceptable	Unacceptable	
☐	☐	**#1. LIDS AND LABELS?** Have all lids and caps have been returned to their proper Place? Do all containers have legible labels?
☐	☐	**#2. SIGNS OF SPILLS OR LEAKS?** Is there any evidence that a spill or leak has occurred? If so, was the spill or leak properly cleaned up? Was the Spill Log filled out for that incident? Are there any lingering housekeeping issues?
☐	☐	**#3. ANY ALARMS OR SENSOR ISSUES (if applicable)?** Have there been any alarm conditions or warning codes on control panels in the past month? Is the sensor system up and working at time of inspection (test if applicable)? When was the last time the sensor was serviced (if applicable)?
☐	☐	**#4. NEW HAZARDOUS MATERIALS?** Has any new hazardous material been introduced to this facility? Have SDS sheets been provided for any new products? Have you assessed how to store and handle this new product safely? Has the new hazardous material information been added to the inventory sheet in this plan?
☐	☐	**#5. SPILL KIT COMPLETE?** Have any items been used from the spill kit in the past month? If items are missing, is there an associated entry in the Spill Log? Are there any items missing that need to be replaced and/or are on order? Is the spill kit stored where it is supposed to be or has it been moved to a new location? Is there a sufficient supply of daily cleanup materials?
☐	☐	**#6. ITEMS FIXED?** Have all deficiencies previously noted (last month) been addressed or made acceptable?

If any part of the above inspection categories is deemed "unacceptable" then that item is to be marked "unacceptable" and described on the sheet provided for that explanation.

Describe any issues (deficiencies, failures, corrective action taken) as noted on the Monthly Inspection Sheet. Please note dates and times.

Employee Hazardous Material Spill Training Log

Employee Name (print name)	Department	Date Of Training

Site Map

(This map should reflect the location of spill kits, inside floor drains, storm drains, and hazardous material storage areas in your facility.)

CITY OF NIXA MUNICIPAL OPERATIONS STORMWATER INSPECTION REPORT

GENERAL INFORMATION: Pg.1

Facility Name:	PUBLIC WORKS CAMPUS #1	Data Base #	101
Physical Address:	1010 N. EAGLECREST ST.	Date Of Inspection:	11/16/20

INSPECTOR'S INFORMATION:

Inspector's Name: Danny Newell	Inspector's Signature: D. S. NEWELL
Inspector's Title: Public Works Inspector	
Inspector's Contact Information: 417-725-2353 / PO Box 395, Nixa, Mo. 65714	
Inspector's Qualifications: CISEC #329	

TYPE OF INSPECTION:

Regular annual, Pre-storm, During storm, Post storm

WEATHER INFORMATION:

Date of most recent storm event:	11/12/20	Approximate Duration (Hrs):	
Approximate precipitation amount (Inches):	0.87		

Weather at time of inspection: Clear Cloudy Rain Sleet Snow

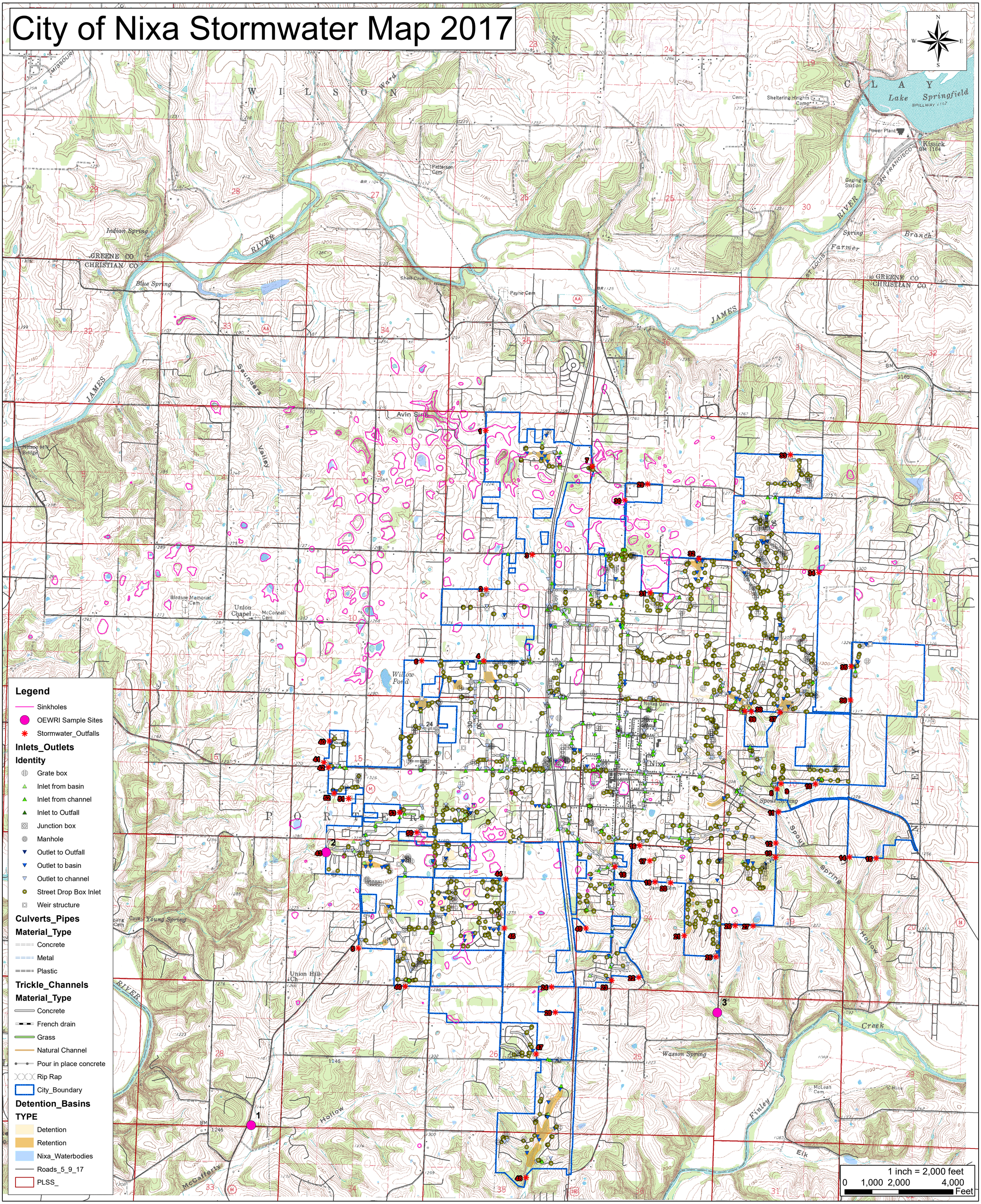
Are there any discharges at this time in danger of leaving the site?	YES	NO

If YES, describe:

Comments, Observations, Actions Taken, Corrective Actions Needed:

No issues at time of inspection

City of Nixa Stormwater Map 2017



ADDENDUM MCM #3-5

CITY OF NIXA MUNICIPAL OPERATIONS STORMWATER INSPECTION REPORT			
GENERAL INFORMATION:			Pg.1
Facility Name:	PUBLIC WORKS CAMPUS #1	Data Base #	101
Physical Address:	1010 N. EAGLECREST ST.	Date Of Inspection:	11/10/16
INSPECTOR'S INFORMATION:			
Inspector's Name: Danny Newell		Inspector's Signiture: D. S. NEWELL	
Inspector's Title: Public Works Inspector			
Inspector's Contact Information: 417-725-2353 / PO Box 395, Nixa, Mo. 65714			
Inspector's Qualifications: CISEC #329			
TYPE OF INSPECTION:			
Regular annual, Pre-storm, During storm, Post storm			
WEATHER INFORMATION:			
Date of most recent storm event: 11/07/16		Approximate Duration (Hrs):	
Approximate precipitation amount (Inches): 0.25			
Weather at time of inspection: Clear Cloudy Rain Sleet Snow			
Are there any discharges at this time in danger of leaving the site?		YES	NO
If YES, describe:			

Comments, Observations, Actions Taken, Corrective Actions Needed:
There are no obvious signs of illicit discharges at this time. No trash or debris that could
that could be considered a stormwater pollutant. However, there are a few 55 gallon
drums of Flourosilicic acid being stord out doors. There are 2 large containers of salt
brine and one large calcium cloride container on site however they all appear to be
empty at this time. The main storage lot contains electric department equipment,
utility poles, single and three phase transformers, concrete vaults and pads.

ROW #	2016-2017 MS4 CITY OF NIXA MUNICIPAL OPERATIONS LIST		Date Inspected	Date Notified	Date of Compliance
	FACILITIES	ADDRESS			
101	PUBLIC WORKS CAMPUS #1	1010 N. EAGLECREST ST.			
102	PUBLIC WORKS CAMPUS #2	1111 W. KATHRYN ST.			
103	PARKS DEPT. (OLD CITY HALL) "REMOVED"	106 E. MT. VERNON ST.			
104	ROTARY PARK (OLD CITY PARK)	N. FORT ST.			
105	OLD SHOP BUILDING	203 E. ST. LOUIS ST.			
106	STREET DEPARTMENT STORAGE BUILDING "A"	972 S. OLD RIVERDALE RD.			
107	WASTE WATER STORAGE BUILDING "B"	972 S. OLD RIVERDALE RD.			
108	OLD DOG POUND BUILDING "C" "REMOVED"	972 S. OLD RIVERDALE RD.			
109	WASTE WATER TREATMENT FACILITY	972 S. OLD RIVERDALE RD.			
110	POLICE DEPARTMENT SHOOTING RANGE	972 S. OLD RIVERDALE RD.			
111	COMPOST BUILDING #2	972 S. OLD RIVERDALE RD.			
112	NEW DOG POUND BUILDING #1	972 S. OLD RIVERDALE RD.			
113	CITY HALL/FINANCE/P&Z	715 W. MT. VERNON ST.			
114	UTILITY BILLING DEPARTMENT	707 W. CENTER CIRCLE			
115	POLICE DEPARTMENT	715 W. CENTER CIRCLE			
116	NIXA COMMUNITY CENTER (PARKS DEPT.)	701 N. TAYLOR WAY			

ROW #	2016-2017 MS4 CITY OF NIXA MUNICIPAL OPERATIONS LIST		Date Inspected	Date Notified	Date of Compliance
	WELL & TOWER SITES	ADDRESS			
201	WELL #1	203 E. ST. LOUIS ST.			
202	WELL #2	GENE ST. *			
203	WELL #3	702 N. HILL ST.			
204	WELL #4	308 W. TOWER ST.			
205	WELL #5	911 W. MT. VERNON ST.			
206	WELL #6	727 E. MT. VERNON ST.			
207	WELL #7	514 S. NICHOLAS RD. (HIGH SCHOOL)			
208	WELL #8	1240 W. TRACKER RD.			
209	WELL #9	1355 E. NORTH ST. (HIGH POINTE)			
210	WELL #10	S. NORTON RD.			

* *This well is no longer in use as a City well, it contains MoDNR monitoring equipment.*

ROW #	2016-2017 MS4 CITY OF NIXA MUNICIPAL OPERATIONS LIST		Date Inspected	Date Notified	Date of Compliance
	ELECTRICAL SUB-STATIONS	ADDRESS			
301	ESPY SUB-STATION	350 S. GREGG RD.	06/20/17	n/a	06/20/17
302	DOWNTOWN SUB-STATION	101 N. NEW ST.	06/20/17	n/a	06/20/17
303	TRACKER SUB-STATION	476 W. CHRISTOPHER DR.	06/28/17	n/a	06/28/17
304	NORTHEAST SWITCHING STATION	1661 N. MONET RD.	06/28/17	n/a	06/28/17

ROW #	2016-2017 MS4 CITY OF NIXA MUNICIPAL OPERATIONS LIST		Date Inspected	Date Notified	Date of Compliance
	SEWAGE PUMP STATIONS	ADDRESS			
401	A & J PRINTING (REMOVED)	1113 N. KENNETH ST.			
402	BENTWATER	821 W. MYRA DR.			
403	BLUEBIRD HILLS	1667 N. MALLARD DR.			
404	CITY CENTER SOUTH (REMOVED)	716 W. MT. VERNON ST.			
405	COBBLE CREEK	865 S. OZARK ST.			
406	THOMAS SCHOOL (REMOVED 4/14)	105 N. RICE ST.			
407	FAIRFIELD ESTATES (REMOVED)	401 N. MARIE ST.			
408	FOREST SOUTH (BYPASSED/OFF LI	409 S. WHITE ASH ST.			
409	INDUSTRIAL PARK	711 W. KATHRYN ST.			
410	INMAN SCHOOL	1300 N. NICHOLAS RD.			
411	KELBY CREEK	362 S. WATERSTONE BEND			
412	KELTNER (REMOVED)	113 ASPEN DR.			
413	MAPLEDALE (REMOVED 12/11)	935 N. MAIN ST.			
414	NORTH EAST REGIONAL	941 E. MT. VERNON			
415	NORTH WEST REGIONAL	801 W. TRACKER RD.			
416	OAKMONT	1321 W. WOODCASTLE DR.			
417	ROLLING HILLS	1120 W. INMAN RD.			
418	SUPER 8 MOTEL	419 N. MC CROSKEY ST.			
419	TIMBER CREEK	938 TIMBER SPRINGS RD.			
420	***WASSON (REMOVED)	411 N. MILTON DR.			
421	WASSON	940 W. NORTHVIEW RD.			
422	WELLINGTON PARK	1352 W. BERKSHIRE AVE.			
423	WICKLOW (REMOVED)	1577 N. MAPLES RD.			
424	RAINTREE (REMOVED)	913 DABNEY ST.			
425	GREENBRIAR (REMOVED)	N. FLORA ST.			
426	SPRINGMANOR (REMOVED)	390 NIANGUA DR.			
427	COMMUNITY CENTER (REMOVED)	701 N. TAYLOR WAY			

ADDENDUM MCM #3-11

MUNICIPAL STORMWATER POLLUTION PREVENTION

Danny Newell, CISEC, ACI

THE CLEAN WATER ACT

- The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but this Act was reorganized and expanded in 1972 at which time the "Clean Water Act" became it's official name.

THE CLEAN WATER ACT

- Under the CWA, the Environmental Protection Agency (EPA) has implemented pollution control programs such as setting wastewater standards for the industry. They have also set water quality standards for all contaminants in surface water.

- The CWA is the primary federal law in the United States governing water pollution.

THE CLEAN WATER ACT

- The Act established the goals of eliminating releases to water of high amounts of toxic substances, eliminating additional water pollution by 1983, and ensuring that surface waters would meet standards necessary for human sports and recreation by 1985.

- Congress chose to define the waters covered by the Act broadly. Although the Act prohibits discharges into "navigable waters" the Act defines "navigable waters" as "the waters of the United States" and makes it clear that the term "navigable" is of limited importance.

POINT SOURCES

- The 1972 Act introduced a permit system for regulating point sources of pollution. Point sources include:

- Industrial facilities (including manufacturing, mining, oil and gas extraction, and service industries).

- Municipal governments and other government facilities (such as military bases).

- Some agricultural facilities, (such as animal feed lots).

POINT SOURCES

- Point sources may not discharge pollutants to surface waters without a permit from the National Pollution Discharge Elimination System (NPDES).

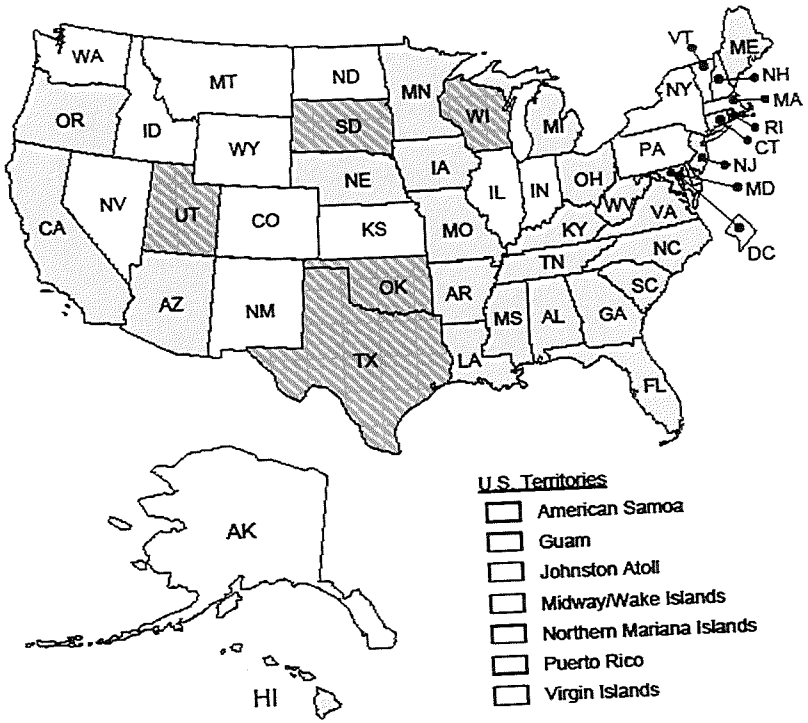
- This system is managed by the EPA in partnership with the state environmental agencies.

- Within this permit system the Municipal Separate Storm Sewer System (MS4) was developed as the result of amendments to the Act in 1987.

States that regulate MS4 facilities

- The EPA has authorized 45 states (Missouri included) to issue permits, through the Department of Natural Resources directly to the discharging MS4 facility and to regulate the MS4 program.

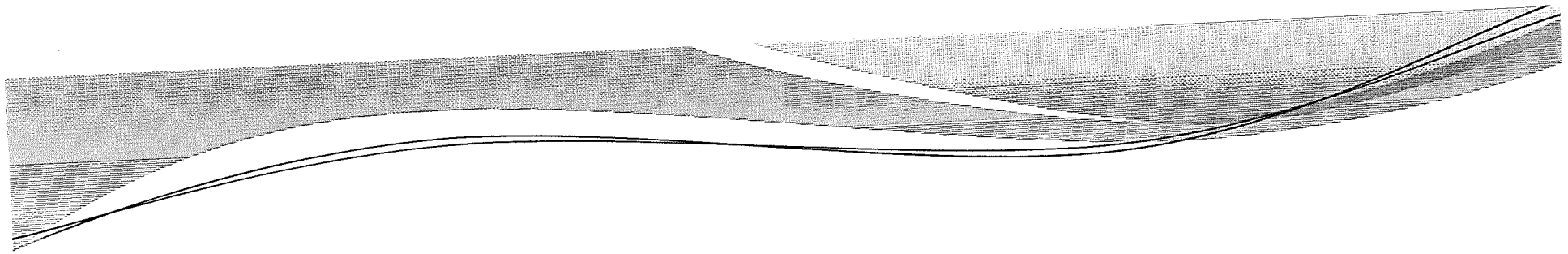
State NPDES Program Authority



NON-POINT SOURCES

- Congress exempted some water pollution sources from the point source definition in the 1972 CWA.

- These sources were therefore considered to be non-point sources that were not subject to the permit program.



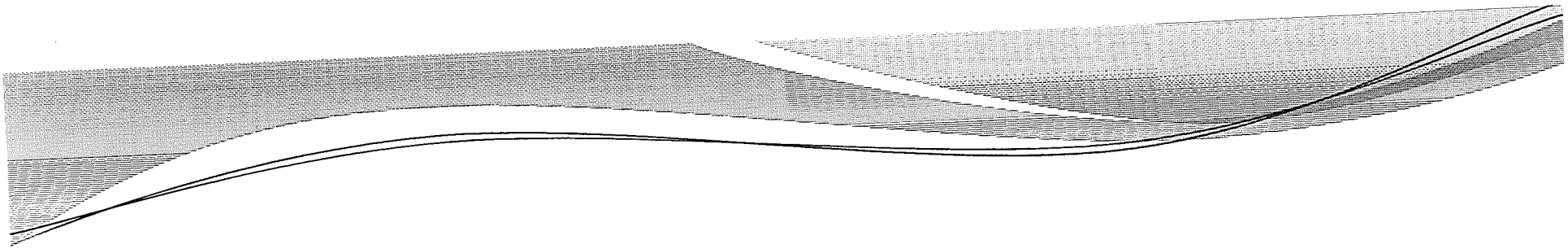
- Agricultural storm water discharges and irrigation return flows were specifically exempted from the permit requirements.

- Congress, however, provided support for research programs through the U.S. Department of Agriculture to improve runoff management practices on farms.

- Storm water runoff from industrial sources, municipal storm drains, and other sources were not specifically addressed in the 1972 CWA.

- EPA declined to include urban and industrial storm water discharges in the NPDES permit program and consequently were sued by an environmental group.

- The courts ruled that these storm water discharges must be covered by the permit program.



- In the Water Quality Act of 1987, Congress responded to the storm water problem by requiring that the industrial storm water discharges and the Municipal Separate Storm Sewer Systems obtain NPDES permits by specific deadlines.

- This permit program has been implemented in phases. Phase I & Phase II.

- Phase I included the Large MS4's (systems that are located in an incorporated place or county with a population of 250,000 or more) and;

- Medium MS4's (systems that are located in an incorporated place or county with a population of 100,000 to 249,999).

- The Phase I MS4's became regulated in 1990.
- There are 3 Phase I communities in Missouri: Springfield, K.C., and Independence.
- The Metropolitan St. Louis Sewer District successfully petitioned on behalf of the City of St. Louis to be regulated under Phase II.

- Phase II includes small MS4's (systems that are located in an incorporated place or county with a population of 10,000 or more) which of course, is where the City of Nixa falls.

- Phase II MS4's became regulated in March 2003, and required the small MS4's to have a storm water management program in place by March 10, 2008.

- Within these same permit regulations, the City of Nixa (being a regulated small MS4), is required to also develop Pollution Prevention Good Housekeeping procedures for our Municipal Operations and develop an Environmental Awareness, Annual Employee Training Program.

- There are 152 small MS4 programs in the state of Missouri.

- Having said all of that sets the stage for how we arrived at the training video that we are going to see today entitled: Storm Watch, Municipal Storm Water Pollution Prevention.

- This video is designed to show employees how to spot an Illicit Discharge within our own Municipal Operations and around town.

- An Illicit Discharge as defined is: a storm drain that has measurable flow during dry weather containing pollutants and/or pathogens (a bacterium or virus). A measurable flow without pollutants is simply a discharge.

- The other side of this two headed coin is Sediment and Erosion control, on which the video touches briefly, however, that's another day, another meeting, and another video.

STORM SEWER, NO DUMPING, DRAINS TO RIVER!

Storm Watch

Municipal Storm Water POLLUTION PREVENTION

Employee Quiz

Name _____

Dept. _____ Date _____

The following questions all have multiple choice answers. Please check the best answer for each question.

1. If a piece of equipment has to be washed or steam cleaned outdoors, how should this be done?

   a. on a fully contained impervious pad
   b. over bare dirt so it will be absorbed
   c. over a storm drain inlet
   d. in or next to a drainage ditch

2. When using an outdoor solid waste receptacle, which of the following are required?

   a. leave lids or covers closed while not in use
   b. move the receptacle indoors
   c. locate the receptacle on bare ground?
   d. all of the above

3. Which of the following materials or operations outdoors can cause storm water pollution?

   a. a spill or leak of diesel fuel
   b. an open container of paint
   c. a metal grinding operation
   d. a broken hydraulic line
   e. all of the above

4. Which of the following are **not** considered Good Housekeeping practices?

   a. sweeping up outdoor work areas
   b. keeping unused containers closed and sealed
   c. protecting materials from exposure to the weather
   d. secondary containment structures

5. If materials are stored outdoors, they may be temporarily covered with a waterproof tarp under what circumstances?

   a. the tarp is regularly checked for tears or loosening
   b. the tarp is at least twice as large as the material being covered
   c. the material is stored as far as possible from vehicle traffic
   d. the material is in open containers

6. Under what conditions is it OK to hose down a spill into a storm drain or ditch?

   a. if the material is non-hazardous
   b. if it is raining
   c. if your supervisor approves it
   d. if it is done immediately after the spill
   e. none of the above

7. If a lawn mower has to be greased outdoors, which of the following would help protect storm water?

   a. perform the operation during dry weather
   b. spread a drop cloth underneath the equipment
   c. wear safety glasses and rubber gloves
   d. all of the above

8. If a dump truck has a leaking hydraulic line, what should be done?

   a. drain it immediately or move indoors
   b. notify the storm water coordinator
   c. put a water-proof tarp over it temporarily
   d. lock and tag it out

9. Even if you cannot immediately clean up a spill due to the hazards involved, which of the following must be done to help protect storm water?

   a. notify the emergency coordinator or storm water coordinator
   b. evacuate the facility
   c. shut down all operations
   d. locate the applicable MSDS for the spilled material

10. What are the practices that protect storm water called?

    a. EPAs
    b. MSDSs
    c. SOPs
    d. BMPs

11. A spill or leak should be cleaned up promptly because....

    a. absorbents work better on fresh spills
    b. spills can be spread by wind or vehicle traffic
    c. it is usually more convenient to do the clean-up quickly
    d. the spill will evaporate if not cleaned up quickly

12. Under what conditions can tools or equipment be cleaned over a storm drain inlet or in a drainage ditch?

    a. during dry weather
    b. if your supervisor approves it
    c. after consulting the Storm Water Pollution Prevention Plan
    d. if the tool or equipment are cleaned with water only: no detergents or solvents
    e. none of the above

13. Under what conditions should accumulated rainwater be drained from a secondary containment structure?

    a. the rain water is clean and uncontaminated
    b. during dry weather only
    c. it is less than half full
    d. all of the above

14. If a vehicle had a ruptured hydraulic hose and was leaking fluid, which of the following would be most appropriate?

    a. cover it with a tarp
    b. move it indoors
    c. wash it down with soapy water
    d. none of the above

15. If a fertilizer spreader caused some fertilizer to fall on a paved area, what would be the best way to deal with it?

    a. hose it into the storm drain
    b. notify the EPA
    c. sweep or blow it back onto a vegetated area
    d. ignore it

Storm Watch — Municipal Storm Water POLLUTION PREVENTION

Acknowledgment of Training

Signature(s) below are acknowledgment that on (date) _____,

these individuals participated in a training session at the (location name) _____,

(address) _____,

given by (print trainer's name) _____,

(print trainer's title) _____.

This training session presented information on Municipal Stormwater Pollution Prevention. During this session, I viewed the visual multimedia program:

❑ **Storm Watch: Municipal Stormwater Pollution Prevention**

My signature below affirms that I was given adequate time to ask questions about my particular job activities and how I can best conduct these activities in compliance with the applicable regulations.

PRINT NAME HERE	SIGNATURE HERE

Reduce Storm Water Pollution and Save Our Precious Resource!

Storm water pollution is undoubtedly a serious cause of concern. But very few of us realize that we contribute to this kind of pollution. There are several factors, such as tipping of litter, chemical pollution, and natural pollution that lead to storm water pollution. It is the duty of each one of us to take measures to keep our waters free from pollution.

Prevention of storm water pollution can be kicked off right from your garage. The most common of all pollutants that pollute storm water is oil spills and oil leaks. It is vital that you check your car or bike, machinery and other oil run equipment for leaks or oil spills often.

Also ensure that you avoid the use of harmful chemicals or detergents for cleaning up oil spill from your garage. Instead use environmentally friendly oil spill cleaners to remove oil spills from the driveway. Oil Gone Easy Home & Driveway S-200, an eco-friendly biodegradable product will help you with this tiring task of oil spill cleanup. Used oil or fluids can be recycled. So avoid dumping into trash or in the storm water drain.

When it comes to your lawn and garden, you have to be careful with the amount of pesticides and fertilizers that you use. Recycling your yard waste and avoiding over watering your plants can help reduce storm water pollution to some extent.

While you begin with your home repair, it is better that you take care of the disposal of the construction residual. There are possibilities of spills and leakages of liquids and oils on the

construction site. Making sure that the oil spills are cleaned up immediately is essential.

Storm water pollution by driveway oil spills and domestic fuel tank spills are increasingly high, thus efficient oil spill cleaner should always be at hand. Oil Gone Easy Home & Driveway S-200 is the perfect and safe solution to prevent the disastrous consequences of oil spills.

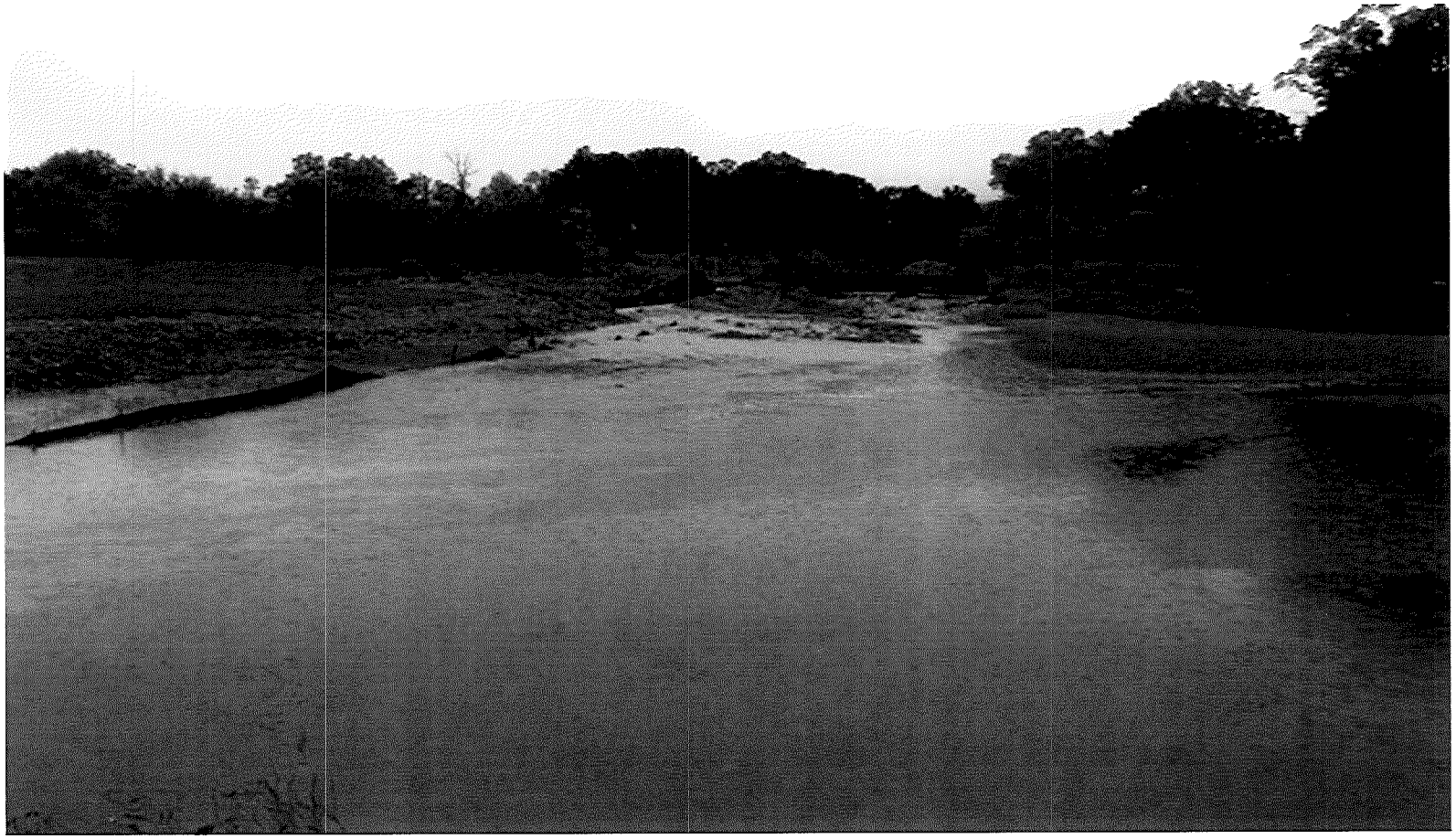
ADDENDUM MCM 3-13

AFTER THE STORM

City of Nixa

01/31/12

FLOODING!*



FLOODING!

FLOODING!*

STORMWATER*

- As important as flooding issues are, it's only a portion of the Stormwater story.

- "Rest of the story", I/I and Stormwater pollution.

INFLOW & INFILTRATION (I/I)*

- *Inflow:*

- *Infiltration:*

INFLOW & INFILTRATION

- The average daily flow through the WWTP for the last 5 years is 1,334,000 gpd (24 hrs).
- On occasion we have received between 4 & 8,000,000 gallons due to I/I.
- 13" rainfall event in September 2010, we received 11,000,000 gallons due to I/I.
- The maximum capacity of our sewer treatment facility is 11,000,000 gpd.

Recent Improvements*

- ARRA "American Recovery and Reinvestment Act"
- Missouri Street and New Street.
- CIPP (Cure In Place Pipe)
- Ongoing routine maintenance and repair.

Cure In Place Pipe*

Cure In Place Pipe*

Cure In Place Pipe*

Projected Improvements 2012*

- CIPP
- New sewer video equipment to help indentify these areas of INI.
- On going routine maintenance and repair.

THE CLEAN WATER ACT*

- 1948 The Federal Water Pollution Control Act (FWPCA)
- 1972 The Clean Water Act (CWA)
- The National Pollution Discharge Elimination System, (NPDES)

MS4*

- Municipal Separate Storm Sewer System (MS4).
- This MS4 permit program was implemented in 2 phases.
- Phase I (medium and large)
- Phase II (small)

MS4

- Is a conveyance or system of conveyances, that:
- ARE: Used to collect and/or convey stormwater;
- ARE: Owned by an incorporated public entity that discharges storwmwater to waters of the U.S.;
- ARE Not: a combined sewer; and not part of a publicly owned treatment facility (sewage treatment plant).

MS4 Permit Requirements:

"The permittee shall develop, implement, and enforce a stormwater management program (SWMP) designed to reduce the discharge of pollutants from the permittee's regulated small MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Missouri Clean Water Law."

MS4 Permit Requirements:*

"The SWMP should include best management practices; control techniques and systems, design and engineering methods; and such other provisions as the permitting authority determines appropriate for the control of such pollutants."

Stormwater System Mapping*

- Mapping of our entire stormwater system
- OUTFALLS: The City of Nixa currently has 51 discharge outfalls

SAMPLES*

OEWRI "Ozarks Environmental and Water Resources Institute"

6 Minimum Control Measures*

1: Public education and outreach on stormwater impacts;

2: Public involvement/participation;

3: Illicit discharge detection and elimination;

4: Construction site stormwater runoff control;

5: Post construction stormwater management in new development and redevelopment;

6: Pollution prevention/good housekeeping for municipal operations.

Monitoring, Recordkeeping, and Reporting

MONITORIING: "The permittee shall evaluate program compliance, the appropriateness of identified best management practices, and progress toward achieving measurable goals."

Monitoring, Recordkeeping, and Reporting*

RECORDKEEPING: "The permittee shall retain records of all activities requiring recordkeeping by the SWMP including monitoring instrumentation, copies of all reports required by the permit, discharge monitoring reports, NPDES permit, ordinances," etc., etc., etc.

Monitoring, Recordkeeping, and Reporting*

REPORTING: "The permittee shall submit annual reports, using the annual report form provided by the department (DNR), to the director by July 28 of each year of the permit term."

Inspections

- Commercial/Industrial Illicit Discharge Detection and Elimination, 731.

Inspections

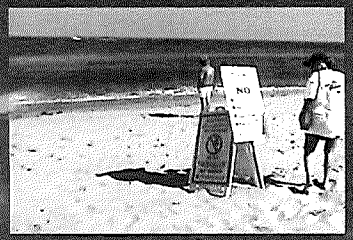
- Commercial/Industrial Illicit Discharge Detection and Elimination, 731.
- Construction site stormwater runoff control, 35.

Inspections

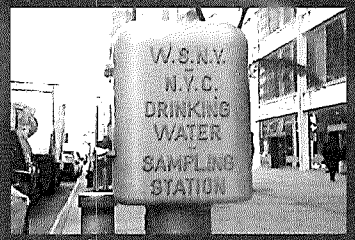
- Commercial/Industrial Illicit Discharge Detection and Elimination, 731.
- Construction site stormwater runoff control, 35.
- Pollution prevention/good housekeeping for municipal operations, 52.

After the Storm: Co-produced by EPA and The Weather Channel

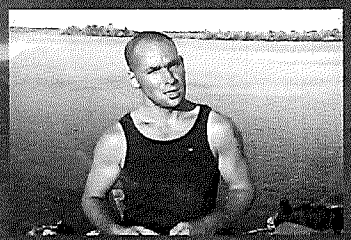
All across America people live, work and play in watersheds, without knowing it. As this DVD shows, protecting the nation's water resources will take the awareness and effort of individual citizens. Three case studies focus on the interconnections between water supply, water quality and the economic vitality and quality of life in our communities.



Santa Monica Bay, California



New York City



Gulf of Mexico

Watershed protection approaches

This DVD is intended for educational and communication purposes in classrooms, at conferences, etc. It may be aired on cable or other TV stations. Stations may air all or a portion of the program. If a portion of the program is aired, please ensure that you include in your broadcast that the program was co-produced by EPA and The Weather Channel. For additional copies of this DVD call the National Service Center for Environmental Publications at (800) 490-9198, or e-mail nscep@bps-lmit.com.

United States Environmental Protection Agency
Office of Water (4503T)
1200 Pennsylvania Ave., NW
Washington, DC 20460
EPA 841-C-06-001
December 2006
Run Time: 22 minutes
Includes closed captions

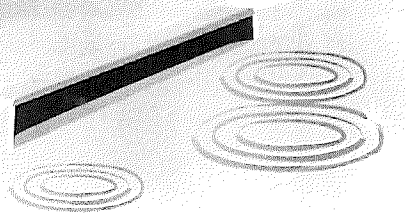
The program was co-produced by the United States Environmental Protection Agency and The Weather Channel, and was broadcast on The Weather Channel in 2004. For more information, please visit www.epa.gov/weatherchannel or send questions to EPA at: weatherchannel@epa.gov.

The material in this program has been subject to Agency technical and policy review, and has been approved by the Agency. The views expressed by individuals in the program, however, are their own, and do not necessarily reflect those of the U.S. Environmental Protection Agency. Mention of trade names, products, or services does not convey official EPA approval, endorsement, or recommendation.

After the Storm: Co-produced by EPA and The Weather Channel

CC

After the Storm



WHEN IT RAINS

For more information contact:

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps

EPA United States Environmental Protection Agency

EPA 833-B-03-002

January 2003

THE YEAR OF CLEAN WATER

Internet Address (URL) • HTTP://www.epa.gov
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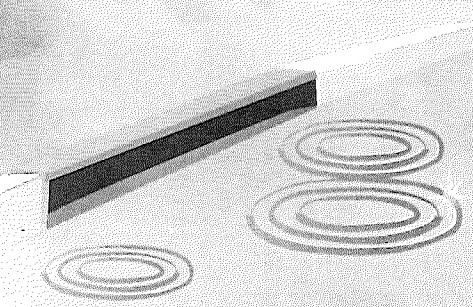
After the Storm



A Citizen's Guide to Understanding Stormwater

WHEN IT RAINS

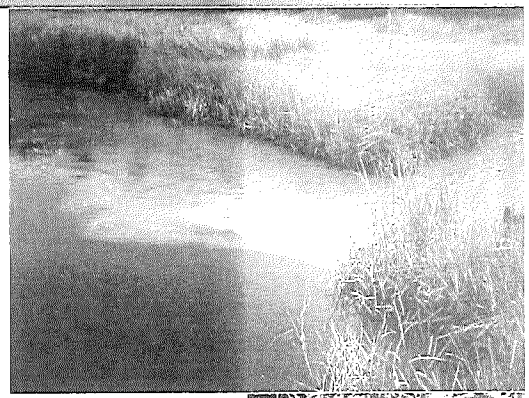
What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?

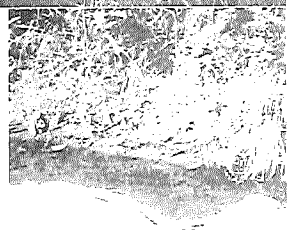
Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

The effects of pollution

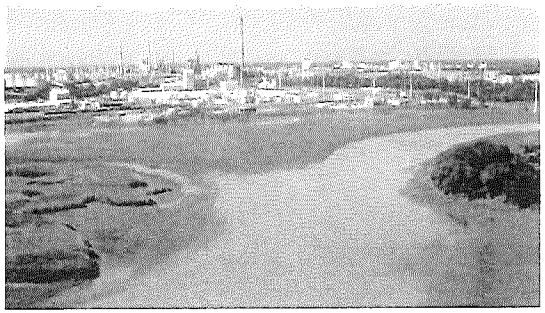


Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.



- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

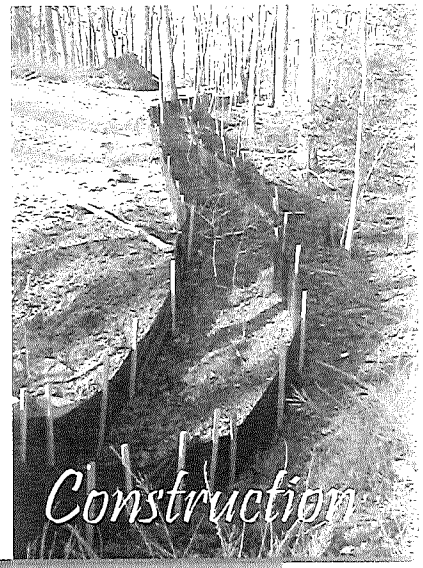


Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

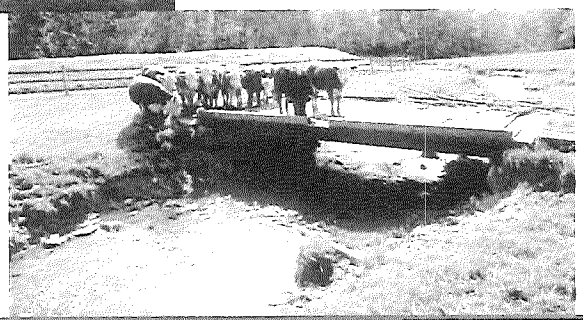
- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.



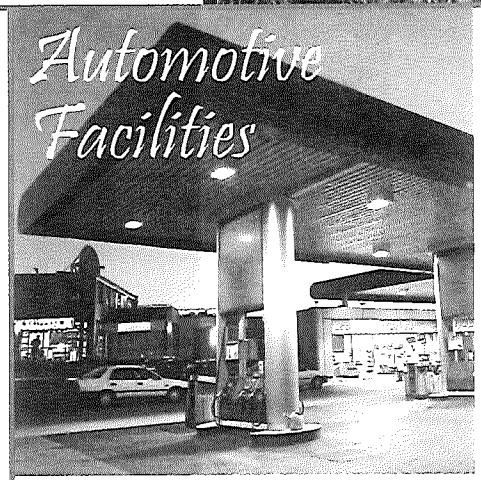
Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.



- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

Improperly managed logging operations can result in erosion and sedimentation.

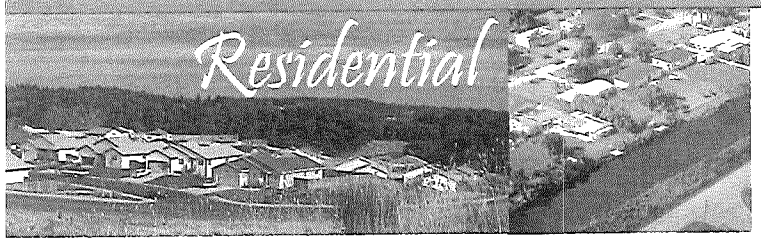
- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.



Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

Stormwater Pollution Solutions



Residential

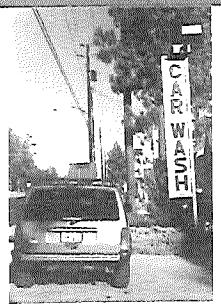
Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

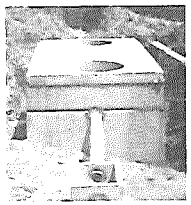
Auto care



Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

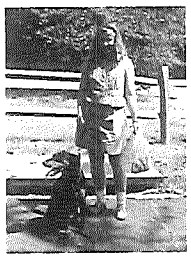
Septic systems



Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Pet waste



Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

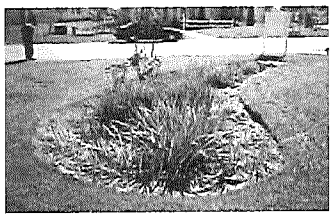
Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.



Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

WORLD WIDE WEB

- http://www.dnr.mo.gov/env/wpp/stormwater/sw-local-gov-programs.htm

- http://cfpub.epa.gov.npdes/

- *Google: NPDES, MS4.*

2017

Best Management Practices for Pressure Washing and Impervious Surface Cleaning

As a valued member of the Nixa community, we know you are vested in protecting the quality of life that your customers, residents, visitors and others expect and which keeps our economy strong. When water flows off residential, commercial and industrial yards, properties, or pavement, it flows directly into the stormwater conveyance system including drains, inlets, ditches and catch basins.

Many mistakenly believe this water gets **"cleaned"** or treated somehow before reaching our waterways. The sanitary sewer system and the stormwater conveyance system are completely separate systems; they are **not** connected. Sanitary sewer effluent does get treated, but water that flows into a storm drain goes **untreated** directly into our rivers, creeks, streams and even our drinking water source.

It is a violation of City of Nixa code, the State of Missouri Department of Natural Resources regulations and the United States Environmental Protection Agency regulations to discharge pollutants into any stormwater conveyance system or any receiving water of the state. As a responsible business within our community, we trust that you will help us prevent the discharge of harmful pollutants into the City of Nixa's stormwater conveyance system and ultimately protect the water ways that make our region enjoyable for all.

This document describes requirements for the disposal of waste and wastewater generated by the use of pressure washing equipment (mobile or otherwise) when generated within the City of Nixa. It also presents information on practical methods, known as Best Management Practices (BMPs) which may be used to protect the environment and to comply with regulatory requirements.

These requirements and BMPs apply to anyone within the City of Nixa who generates wastewater from pressure washing including; contractors that provide a pressure washing service to others; businesses that use pressure washing equipment as part of their operations or maintenance (such as cleaning heavy equipment or parking lots); and homeowners that either rent or purchase a low cost unit.

2017

CITY OF NIXA MISSOURI

What is Pressure Washing?

Pressure washing uses mechanical equipment to create a high pressure stream of water, typically ejected from a hand-held wand or nozzle. Depending on the application, pressure washing may be conducted with or without heated water or added cleaners.

Pressure washing is used to clean many things, including:

- Trucks
- Automobile fleets
- Parking lots
- Building exteriors
- Sidewalks
- Drive-thru lanes
- Heavy equipment
- Roofs
- Restaurant equipment and hood filters
- Graffiti
- Fences
- Decks, etc.

As you perform your daily activities, we ask that you, your employees and/or contractors be proactive. It is easier to prevent pollution than to try to clean it up once it has occurred. If you think there is a potential to create pollution, follow the 3C's as a general guideline:

Contain: Contain your work area by preventing water and potential pollutants from leaving your work site and reaching the stormwater conveyance system. The area around your trash dumpster should be free of accumulated trash and debris. The trash dumpster itself should be free of leaks, if it is not, contact your trash service provider and request a hole free, leak free dumpster.

Control: Better manage your work area by keeping equipment, tools and supplies organized and properly contained. Use dry cleaning methods first. Sweep up debris with a broom or use a mop to clean hard surfaces.

Capture: Clean up your work area and properly dispose of contaminated water, pollutants and debris. Use a broom, mop, or vacuum to capture any residue or pollutants that have the potential to be discharged.

2017

CITY OF NIXA MISSOURI

Regulations: To improve the quality of water we fish and swim in, not to mention drink, the City of Nixa is subject to Municipal Separate Storm Sewer System (MS4) Permit regulations mandated by MoDNR and the EPA.

The MS4 Permit requires the City of Nixa to implement elements such as a Storm Water Ordinance to reduce pollutants in stormwater runoff (directly caused by rainfall) and to effectively prohibit non-stormwater discharges. The discharge of wastewater from pressure washing, to the storm drainage system or surface waters is prohibited by this ordinance (see link to ordinance below)

Pressure Washing as Part of the Solution: Pressure washing (or Cosmetic Cleaning as it is sometimes referred to) is an activity that can help improve the quality of our waters when done properly. By cleaning surfaces (e.g. equipment, parking lots, sidewalks, buildings, etc.), collecting the wastes (water and/or debris), and properly disposing of it, there is less chance of pollutants ending up in our waterways during a heavy rain fall event.

Disposal Requirements and Prohibitions: Proper disposal of pressure washing wastewater, in compliance with environmental regulations, depends on the nature of the pollutants in it. It is the responsibility of the generator to determine the proper collection and disposal method for wastewater created by pressure washing.

Storm Drains: Discharging pressure washing wastewater into any natural body of water or any storm drainage system, which includes street curb inlets, roadside ditches, gutters, and drainage channels, within the City of Nixa is **prohibited** by Federal, State, and local laws.

Evaporation: Pressure washing wastewater that contains visible debris or residue, soap, detergent or other cleaning agents, or excessive amounts of any pollutant, may not be left on paved surfaces to evaporate, because the residue will eventually be discharged to the storm drain.

Land Disposal: Wastewater may be collected and discharged or directed onto vegetated yard areas when the wastewater does not; create a nuisance, flow into a storm drain or does not contain waste or contaminants (i.e. solvents, cleaners, oils, metals, etc.). Such discharges must soak into the ground and may not flow into the storm drain. The property owner's permission must be obtained prior to discharging or diverting wastewater to vegetated areas. **Note:** Repeated discharges to landscaped areas may result in an accumulation of contaminants, thus damaging vegetation and increasing contaminant levels in the soil.

Sanitary Sewer: Disposal of pressure washing wastewater to the sanitary sewer collection system within the city limits of Nixa is strictly prohibited.

CITY OF NIXA MISSOURI

BMP-1 Planning: Determine where you are going to discharge wastewater before starting, what collection method you will be using and how you intend to properly dispose of the wastewater generated from each cleaning activity. Identify where all storm drains are situated at the wash site.

BMP-2 Surface Pre-Cleaning: Consider using dry methods for surface pre-cleaning, such as using absorbents on small oil spots and sweeping up trash/debris/dirt before wet washing. Pre-cleaning is an activity that may reduce costs and simplify the wastewater disposal process. When using dry pre-cleaning methods, be sure to pick up pre-cleaning debris as soon as possible, so the materials do not have a chance to enter the storm drains.

BMP-3 Pressure Washing: Minimize the amount of water used during pressure washing activities, thus reducing the volume of wastewater that needs to be properly disposed. Avoid using cleaning products that contain hazardous substances (e.g. hydrofluoric acid, muriatic acid, sodium hydroxide, bleach, etc.) that can turn wastewater into hazardous waste. Acidic, caustic, and detergent cleaners may damage paved or coated surfaces.

BMP-4 Wash Water Containment & Collection: Minimize and dispose of waste properly and recycle whenever possible. Collect wash water in permanent or temporary capture facility. Decide what is the best method of collection (e.g., berms, storm drain cover mats, containment pools, vacuums/pumps, vacuum boom, inflatable pipe plug, etc.). Locate property high and low spots to determine where wash water can be pooled for collection. Do not leave areas of wash water on paved surfaces for evaporation. Sweep up any visible solids and sediments remaining after all the wash water has been collected.

Note: Inflatable pipe plugs should only be used in storm drains on private property. They are not authorized to be used in public storm drain inlets or pipes within the City of Nixa.

BMP-5 Cleaners: Avoid using solvent-based cleaners (especially chlorinated solvent cleaners).

Wastewater Disposal: The following activities within the City of Nixa require capture of wash water from pressure washing activities:

• **Transportation related cleaning -** washing fleet vehicle exteriors, mobile auto detailing, and rinsing of automobiles, recreational vehicles (RV), and boats at retail dealerships.

• **Surface related cleaning** - sidewalks, plazas, driveways, parking lots, service stations, building exteriors and walls.

• **Food service related cleaning -** restaurant parking lots, trash dumpster areas, restaurant floor mats, exhaust filters, grease filters or food trucks.

• **Engine/equipment degreasing –** any activity involving pressure washing of heavy equipment (bull dozer, wheel or track loader, dump trucks, etc.).

WASTEWATER TREATMENT: If you are considering using a wastewater recycling or pretreatment unit (e.g. oil/water separator), make sure you understand the waste streams that are generated. Identify proper disposal methods for these wastes, and consider disposal costs before starting a job. Consider contracting with a company that can provide appropriate treatment and disposal of your wastes. In some cases, you may be able to reduce the liability that comes with the generation and disposal of hazardous waste.

2017

Power washing of any Hazardous Waste Material is strictly prohibited: What is Hazardous Waste?

Hazardous waste is any waste that because of its quantity or characteristics may pose a threat to human health or the environment. Waste that exhibits specific characteristics of ignitability, corrosivity, reactivity (tendency to explode), toxicity or is listed as hazardous waste in state or federal regulations must be managed as hazardous waste.

Hazardous wastes can be liquids, sludge, solids or gases. They can be wastes from manufacturing processes or discarded commercial products. Many household wastes may also be hazardous. Certain chemicals like pesticides, cleaning agents, old paint and solvents, pharmaceuticals, fertilizer and other yard chemicals and even items like fluorescent light bulbs may pose a threat to human health and the environment if not disposed of properly.

Hazardous waste listings and definitions are located in section 40 CFR 261, Subparts C and D. incorporated and modified by 10 *CSR 25-4. See links below.*

Hazardous waste generator is defined in 40 CFR 260.10 “as any person by site, whose act or process produces a hazardous waste identified or listed in 40 CFR 261 or whose act first causes a hazardous waste to become subject to regulation.”

It is important to remember that if hazardous waste is improperly managed then the Missouri Department of Natural Resources has the authority to enforce the hazardous waste laws and regulations on any party involved in hazardous waste generation.

Disposal Options:

Businesses generating hazardous waste should contract with a licensed disposal contractor for proper removal and disposal options.

FOR MORE INFORMATION

City of Nixa Public Works Department, Danny Newell, Public Works Inspector-MS4 Coordinator at dnewell@nixa.com or (417) 725-2353; Nate Miller, Asst. Public Works Inspector, at nmiller@nixa.com or (417) 725-2353.

www.nixa.com, click “Code of Ordinances” tab, click on Technical Specification, scroll down to Part IV, Section 110 (PG 166) Land Disturbance, Illicit Discharge & Erosion Control.

Missouri Department of Natural Recourses

Power Washers of North America (PWNA) www.pwna.org

CITY OF NIXA MISSOURI

"Small Business Guide to Managing Hazardous Waste"
https://www.epa.gov/hwgenerators/managing-your-hazardous-waste-guide-small-businesses

Electronic Code of State Regulations:
http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-4.pdf

Electronic Code of Federal Regulations section 40 CFR 260: *http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr260_main_02.tpl*

Electronic Code of Federal Regulations section 40 CFR 261: *http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr261_main_02.tpl*

Special thanks to the Cities of San Diego California and Lawrence Kansas for letting the City of Nixa use information published by them and their cooperation in Stormwater protection.

Storm Drain Cover/Mat

Street Curb Inlet Cover

Vacuum Boom

Storm Drain Boom

Containment Pool

Disclaimer: The information presented in this document is intended for guidance purposes only and is not to be considered all-inclusive. The information provided may be of value as an educational or reference tool. However, we do not endorse any product that may be noted in this document. Please note that laws and regulations are subject to change. It is recommended that the applicable codes, ordinances and statutes be reviewed to verify which requirements pertain to your business. Although the material contained in this document will be routinely updated, it may not reflect recent changes in the various laws and regulations.