

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-0115690

Owner: Northrop Grumman Guidance and Electronics Company, Inc.
Address: 2980 Fairview Park Drive, Falls Church, VA 22042

Continuing Authority: Northrop Grumman Guidance and Electronics Company, Inc.
Address: PO Box 1693 MS 1401, Baltimore, MD 21203

Facility Name: Northrop Grumman Guidance and Electronics Company, Inc.
Facility Address: 4811 West Kearney, Springfield, Missouri 65803

Legal Description: See page two
Latitude/Longitude: See page two

Receiving Stream: See page two
First Classified Stream and ID: See page two
USGS Basin & Sub-watershed No.: See page two

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

FACILITY DESCRIPTION

See page two

This permit authorizes only 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 Sections 640.013, 621.250, and 644.051.6 of the Law.

July 1, 2013
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

June 30, 2018
Expiration Date

John Madras, Director, Water Protection Program

FACILITY DESCRIPTION (continued).

Northrop Grumman Guidance & Electronics Company, Inc. (Northrop Grumman) was formally known as Litton Systems, Inc. (facility). Manufacturing operations were discontinued in 2007 and the buildings were razed. There are no longer any industrial operations at the site. Current site activity is limited to work being conducted under a Consent Decree and Settlement between the State of Missouri and Northrop Grumman entered June 1, 2011. Under the Consent Decree, Northrop Grumman is undertaking remediation of on-site and off-site impacted soil and will conduct a feasibility study for groundwater, with an agreement to negotiate in good faith to implement a groundwater remedy. An Interim Remedial Measure is also being implemented for the extraction and treatment of groundwater.

OUTFALL #002 – NAICS 562910

This outfall discharges stormwater run-off from the North portion of the property.

Legal Description: NE ¼, SW ¼, Sec. 6, T29N, R22W, Greene County

UTM Coordinates: X = 466446, Y = 4122273

Receiving Stream: Unnamed tributary to Clear Creek (U) (Off-site sinkhole North of the facility, groundwater)

First Classified Stream: Little Sac River (1381) 303(d)

USGS Basin & Sub-watershed No.: (10290106-0204)

OUTFALL #005 – NAICS 562910

This outfall discharges stormwater run-off from the South portion of property.

Legal Description: SE ¼, SW ¼, Sec 6. T29N, R22W, Greene County

UTM Coordinates: X = 466457, Y = 4121817

Receiving Stream: Unnamed tributary to Rainer Branch (U)

First Classified Stream and ID: Clear Creek (P) (1409)

USGS Basin & Sub-watershed No.: (10290106-0204)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PAGE NUMBER 3 of 7

PERMIT NUMBER MO-0115690

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #002</u>						
Flow	MGD	*		*	once/quarter***	24 hr. estimate
Total Suspended Solids	mg/L	*		*	once/quarter***	grab
pH	SU	**		**	once/quarter***	grab
Oil & Grease	mg/L	*		*	once/quarter***	grab
Trichloroethylene (TCE)	µg/L	*		*	once/quarter***	grab
Copper, Total Recoverable	µg/L	*		*	once/quarter***	grab
Iron, Total Recoverable	µg/L	*		*	once/quarter***	grab
Manganese, Total Recoverable	µg/L	*		*	once/quarter***	grab
Lead, Total Recoverable	µg/L	*		*	once/quarter***	grab
Zinc, Total Recoverable	µg/L	*		*	once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2013. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED PART I OF THE STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 4 of 7	
					PERMIT NUMBER MO-0115690	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #005</u>						
Flow	MGD	*		*	once/quarter***	24 hr. estimate
Total Suspended Solids	mg/L	*		*	once/quarter***	grab
Settleable Solids	mL/L	*		*	once/quarter***	grab
pH – Units	SU	**		**	once/quarter***	grab
Oil & Grease	mg/L	*		*	once/quarter***	grab
Trichloroethylene (TCE)	µg/L	*		*	once/quarter***	grab
Barium, Total Recoverable	µg/L	*		*	once/quarter***	grab
Chromium (VI), Total Recoverable	µg/L	*		*	once/quarter***	grab
Copper, Total Recoverable	µg/L	*		*	once/quarter***	grab
Iron, Total Recoverable	µg/L	*		*	once/quarter***	grab
Manganese, Total Recoverable	µg/L	*		*	once/quarter***	grab
Lead, Total Recoverable	µg/L	*		*	once/quarter***	grab
Zinc, Total Recoverable	µg/L	*		*	once/quarter***	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>OCTOBER 28, 2013</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.
- *** See quarterly sampling below:

Sample discharge at least once for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I standard conditions dated October 1, 1980, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.

3. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

4. Report as no-discharge when a discharge does not occur during the report period.

5. Water Quality Standards

- (a) To the extent required by law, discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

C. SPECIAL CONDITIONS (continued)

6. These requirements do not supersede nor remove liability for compliance with county and other local ordinances.
7. Good housekeeping practices shall be maintained on the site to keep solid waste from entry into waters of the state.
8. All fueling facilities present on the site shall adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers.
9. Hazardous wastes that are transported, stored, or used for maintenance, cleaning or repair shall be managed according to the provisions of the Missouri Hazardous Waste Laws and Regulations.
10. The permittee shall develop and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must be prepared and implemented within 90 days of permit issuance. The SWPPP must be kept on-site and should not be sent to DNR unless specifically requested. The SWPPP must be reviewed and updated, if needed, every five (5) years or as site conditions change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document:

Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators, (Document number EPA 833-B-09-002) published by the United States Environmental Protection Agency (USEPA) in February 2009.

The SWPPP must include the following:

- a. A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter storm water. Minimum BMPs are listed in SPECIAL CONDITION #11.
 - b. The SWPPP must include a schedule for twice per month site inspections and brief written reports. The inspections must include observation and evaluation of BMP effectiveness. Deficiencies must be corrected within seven (7) days and the actions taken to correct the deficiencies shall be included with the written report, including photographs. Any corrective measure that necessitates major construction may also need a construction permit. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to DNR personnel upon request.
 - c. A provision for designating an individual to be responsible for environmental matters.
 - d. A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of DNR.
11. Permittee shall adhere to the following minimum Best Management Practices:
 - a. Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
 - b. Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
 - c. Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMP's such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. 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.
 - d. Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
 - e. Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.
 12. The purpose of the SWPPP and the BMPs listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.
 14. All spills must be cleaned up within 24 hours or as soon as possible. Oil or hazardous substance releases, not characterized in this permit, that leave the property of the facility must be reported to the department at the earliest practicable moment, but no greater than 24 hours after the spill occurs. A record of each reportable spill shall be retained with the SWPPP and made available to the department upon request.

C. SPECIAL CONDITIONS (continued)

The department may require the submittal of a written report detailing measures taken to clean up a spill within 5 days of the spill. The report must include the type of material spilled, volume, date of spill, date clean-up completed, clean-up method, and final disposal method. If the spill occurs outside of normal business hours, or if the permit holder cannot reach regional office staff for any reason, the permit holder is instructed to report the spill to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436. Leaving a message on a department staff member voice-mail does not satisfy this reporting requirement. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the Noncompliance Reporting requirement found in Standard Conditions Part I.

D. Benchmarks

The following benchmarks are considered necessary to protect existing water quality and should not be exceeded during discharges resulting from a precipitation event exceeding 0.1 inches during a 24-hour period. The BMPs at the facility should be designed to meet the benchmarks during rainfall events up to the 10-year, 24-hour rain event. The benchmarks do not constitute numeric effluent limitations. **Benchmark exceedances alone, therefore, are not a permit violation.** If a sample exceeds a benchmark value a review of the facilities SWPPP and BMPs shall take place to determine whether corrective action is needed to reduce that pollutant in the stormwater discharge. This evaluation must be kept on file with the SWPPP. Failure to evaluate and improve BMPs to address benchmark exceedances is a permit violation.

BENCHMARK TABLE: OUTFALL #002

Parameter	Benchmark Values
Copper, Total Recoverable	1,300 µg/L
Iron, Total Recoverable	498 µg/L
Manganese, Total Recoverable	90 µg/L
Lead, Total Recoverable ‡	15 µg/L
Zinc, Total Recoverable	5,000 µg/L
Trichloroethylene	5.0 µg/L
Total Suspended Solids	100 mg/L
Oil & Grease	10 mg/L

BENCHMARK TABLE: OUTFALL #005

Parameter	Benchmark Values
Copper, Total Recoverable	21 µg/L
Lead, Total Recoverable ‡	15 µg/L
Zinc, Total Recoverable	165 µg/L
Settleable Solids	1.0 mL/L
Total Suspended Solids	100 mg/L
Oil & Grease	10 mg/L

‡ The benchmark values of some metals are dependent on water hardness.

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF RENEWAL WITH MODIFICATION
OF
MO-0115690
NORTHROP GRUMMAN GUIDANCE & ELECTRONICS COMPANY, INC.

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for an Industrial Facility.

Part I – Facility Information

Facility Type: IND
Facility SIC Code(s): 9999, NAICS 562910

Facility Description:

Northrop Grumman Guidance & Electronics Company, Inc. (Northrop Grumman) was formally known as Litton Systems, Inc. (facility). The site was a former manufacturing facility that produced printed circuit boards (SIC Code #3672). The past manufacturing facility was in operation from the mid-1960s and discontinued operations in August 2007.

Waste historically generated at the facility included chlorinated solvents, acids, and metals. These wastes were discharged to various wastewater management units located on site. In 1982, this facility was connected to the City of Springfield sanitary sewer system and received pretreated wastewater from 1982 to present. The various wastewater management units have since been closed.

Stantec Consulting (Stantec), formerly SECOR International Inc., on behalf of Northrop Grumman, has prepared a Remedial Design/Remedial Action Work Plan (Work Plan) as part of a continued phase approach to address soil and groundwater impacts associated with the facility. The Work Plan documents planned soil remediation activities at selected Areas of Concern (AOC), and describes design and construction activities that will be completed to address soil impacted with volatile organic compounds (VOCs), most notably Trichloroethene (TCE) and soils impacted with metals, most notably copper.

For the life of this site specific operating permit and future site specific operating permits, remedial work shall be conducted at this site in accordance with the Work Plan and any addendum or amendments, which are approved by the department's Hazardous Waste Program and in accordance with the Consent Decree and Settlement between the State of Missouri and Northrop Grumman entered June 1, 2011. Remedial activities are anticipated to include: (1) installation and operation of an electrical resistive heating (ERH)/soil vapor extraction (SVE) system in and around selected AOC to volatilize and remove VOC from the impacted soils; (2) installation of engineered barriers in and around selected AOC to address soils impacted with metals; (3) engineering controls to prevent direct contact with copper impacted soils and reduce storm water infiltration through the affected AOC. Additional remedial measures may be included for other AOCs as future feasibility studies are completed.

Temporary erosion and sedimentation control measures (e.g. rock bags, silt fences, rip-rap, and temporary vegetation) have been installed to prevent soil erosion and discharge of soil-bearing water run-off to adjacent properties due to earthwork activities. These controls will be inspected, repaired, and maintained during the remedial activities. In order to conduct remedial activities, earthwork activities include but are not limited to: clearing, grubbing, elevation and trench excavation, filling, and grading. Also, construction of storm water swale(s) and ditches is included.

Since the last permit renewal, manufacturing operations were discontinued in 2007 and the buildings were razed. There are no longer any industrial operations at the site. Current site activity is limited to work being conducted under a Consent Decree and Settlement between the State of Missouri and Northrop Grumman entered June 1, 2011. Under the Consent Decree, Northrop Grumman is undertaking remediation of on-site and off-site impacted soil and will conduct a feasibility study for groundwater, with an agreement to negotiate in good faith to implement a groundwater remedy. An Interim Remedial Measure is also being implemented for the extraction and treatment of groundwater.

OUTFALL #001 – Removed.

Northrop Grumman and department HWP staff have indicated that Outfall #001 is receiving stormwater run-off from off-site properties. Due to this, Outfall #001 is being removed. However, department staff is establishing Outfall #005, listed below.

OUTFALL #003 – Outfall #003 was never officially established in any department issued operating permit. During a January 10, 2008, meeting between Northrop Grumman officials and department staff, it was determined that Northrop Grumman, or contractors on their behalf, would eliminate the means by which stormwater run-off discharged to the sinkhole on the Southeast portion of the property. The means by which stormwater run-off was discharging to the sinkhole on the Southeast portion of the property has been partially removed with the remaining being capped. BMPs and other means now exist to divert the stormwater run-off flow to Outfall #002. Therefore, this outfall is no longer applicable.

OUTFALL #004 – Outfall #004 was never officially established in any department issued operating permit. This outfall was previously proposed by the U.S. EPA to determine if Outfall #002 was receiving stormwater run-off from off-site sources. Due to the fact that Outfall #002 location has been modified to a location where off-site sources cannot influence, this outfall has been determined not applicable.

REASONS FOR MODIFICATION

Northrop Grumman requests/suggests:

- Groundwater criteria are used when calculating limits for both Outfall #002 and Outfall #005. The previous permit listed a sink hole as the receiving stream for Outfall #002.
- That numeric daily and monthly average limitations be replaced by daily benchmark values. The EPA Multi-Sector General Permit (MSGP) implements daily benchmarks.
- That iron and manganese be removed from the permit for both Outfalls 002 and 005 citing 1- groundwater criteria for these parameters are based on drinking water organoleptic properties (e.g., taste, odor, color, and non-aesthetic effects), rather than health effects and 2- that the EPA also considers such organoleptic criteria as secondary Maximum Contaminant Levels (MCLs) that are non-enforceable guidelines for the drinking water program.
- That MDNR modify numeric TSS effluent limits from Outfalls #002 (15 mg/L as a monthly average and 20 mg/L as a daily average) and #005 (100 mg/L as a monthly average and 50 mg/L as a daily average) to reflect values consistent with nearby and comparable discharges and the MSGP. Additionally, permits for the Neosho Hugh Robinson Airport (MO-0135666) and Kerr-McGee Chemical Corporation (MO-0117331), both of which discharge to a losing stream, have no numeric TSS limit.

The department can justify using the groundwater (GRW) criteria for Outfall #002 to derive benchmark values since the receiving stream is a sink hole (groundwater). However, since Outfall #005 discharges to an unnamed tributary to Rainer Branch and is also less than 2 miles away from a losing stream, both GRW and AQL criteria are applicable to calculate benchmarks for this outfall, whichever is more protective.

The department must be consistent when establishing limits or benchmarks for stormwater discharges. Consistent with the EPA MSGP, the department is granting use of daily benchmark values equal to applicable criteria and short-term (acute) averaging periods.

Both iron and manganese have Water Quality Standard and the determination conducted on 16 data sets concluded that discharges from Outfall #002 have the potential to affect water quality. Most importantly, there are substantial numbers of certified domestic wells surrounding Outfalls #002 and #005 which are used for human consumption. The two closest domestic wells are merely 0.2 and 0.3 miles away from the outfalls. For these reasons, the request cannot be granted. Manganese and iron are known to be naturally occurring in this area; however, until such time that the applicant provides site-specific criteria in accordance with 10 CSR 20-7.031(R), the criteria established and required in the Standards are applicable.

10 CSR 20-7.015(4)(B)(2) established the 20 mg/L daily maximum and 15 mg/L monthly average limit for TSS for losing stream. However, there is no regulatory basis established for TSS limits or benchmarks for stormwater associated with industrial activities other than what is addressed in the US EPA Multi-sector General Permit (MSGP). Since both outfalls are stormwater outfalls, a benchmark of 100 mg/L that is consistent with stormwater associated with industrial activities will be established.

SWPPPs and BMPs are control measures. A review of the facility's DMR showed that established BMPs were not able to consistently achieve previous numeric limitations. The department expects the benchmark approach in combination with iterative and justified BMP improvements to protect applicable beneficial uses during the next permit cycle.

Application Date: 11/2/2012
 Expiration Date: 05/01/2013

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
002	0.55	BMPs	Stormwater	~ 0.4 to sinkhole
005	0.056	BMPs	Stormwater	~1.7

Water Quality History:

TMDL: Little Sac River; Approved Aug. 9, 2006. The U.S. Environmental Protection Agency, or EPA, approved the TMDL document for Little Sac River, WBID 1381, in Greene and Polk counties. 303(d)-listed pollutant: Fecal coliform. The facility does not contribute to the impairment. For more information, please visit <http://dnr.mo.gov/env/wpp/tmdl/1381-l-sac-r-record.htm>

Comment:

NAICS 562910 Remediation Services

This industry comprises establishments primarily engaged in one or more of the following:

- (1) Remediation and cleanup of contaminated buildings, mine sites, soil, or ground water;
- (2) Integrated mine reclamation activities, including demolition, soil remediation, waste water treatment, hazardous material removal, contouring land, and re-vegetation; and
- (3) Asbestos, lead paint, and other toxic material abatement.

Part II – Operator Certification Requirements

Not Applicable; This facility is not required to have a certified operator.

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Subsurface Water [10 CSR 20-7.015(7)]:
 All Other Waters [10 CSR 20-7.015(8)]:

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC***
Groundwater	Sinkhole	---	GRW	10290106-0204
Little Sac River		1381		
Unnamed tributary to Rainer Branch	U	---	General Criteria	
Rainer Branch	U	---	General Criteria Losing (~ 2.5 miles from Outfall #005)	
Clear Creek	P	1409	LWW, AQL, WBC**	

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

** - UAA has not been conducted.

*** - Hydrologic Unit Code

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Unnamed tributary to Rainer Branch (U)	0.0	0.0	0.0
Sinkholes	N/A	N/A	N/A

MIXING CONSIDERATIONS:

Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].

Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

Not Applicable;

ANTI-BACKSLIDING:

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- All limits in this Factsheet are at least as protective as those previously established; therefore, backsliding does not apply. Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44. The previous permit limits were established in error, the TSS limits established in the permit previously was based on limits for POTW for losing stream. However both Outfalls #002 and #005 are stormwater outfalls. This renewal establishes limits appropriate for stormwater discharges. Additionally, the water quality standard used for Outfall #002 previously was for the protection of AQL. Considering the receiving stream for this outfall is a sink hole (groundwater), protection of GRW is more appropriate to use to calculate limits. Thus, limits may appear higher and lower on some parameters than the previously established values.

There will be no changes to industrial activates onsite or the composition of the stormwater discharge as a result of this renewal. The benchmark concentrations and required corrective actions are protective of the applicable water quality standards.

ANTIDegradation:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

- Renewal no degradation proposed and no further review necessary.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(3)(B)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIOSOLIDS & SEWAGE SLUDGE:

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: <http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

Not applicable;
This condition is not applicable to the permittee for this facility.

APPLICABLE PERMIT PARAMETERS:

Effluent parameters contained in Factsheets and Missouri State Operating Permits are obtained from Technology Based Effluent Limit (TBEL), Missouri's Effluent Regulations [10 CSR 20-7.015], Missouri's Water Quality Standards [10 CSR 20-7.031], previous Missouri State Operating Permits, and from Operating Permit Applications.

COMPLIANCE AND ENFORCEMENT:

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Not Applicable;
The permittee/facility is not currently under Water Protection Program enforcement action.

PRETREATMENT PROGRAM:

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

Not Applicable;

The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

Applicable;

A RPA was conducted on appropriate parameters. However, due to the change to benchmarks, no data from the RPA was used in drafting this permit.

REMOVAL EFFICIENCY:

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

Not Applicable;

Influent monitoring is not being required to determine percent removal.

SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):

Sanitary Sewer Overflows (SSOs) are defined as an untreated or partially treated sewage release are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSO's have a variety of causes including blockages, line breaks, and sewer defects that allow excess storm water and ground water to (1) enter and overload the collection system, and (2) overload the treatment facility. Additionally, SSO's can be also be caused by lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations.

Additionally, Missouri RSMo §644.026.1 mandates that the Department require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities.

Not applicable;

This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Not Applicable;

This permit does not contain a SOC.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when:

(1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

Applicable;

A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

VARIANCE:

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable;

This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the department to release into a given stream after the department has determined to total amount of pollutant that may be discharged into that stream without endangering its water quality.

Applicable;

Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(C_s \times Q_s) + (C_e \times Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration

Cs = upstream concentration

Qs = upstream flow

Ce = effluent concentration

Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

WLA MODELING:

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

Not Applicable;

A WLA study was determined not applicable by Department staff.

WATER QUALITY STANDARDS:

Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones.

Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Not Applicable;

At this time, the permittee is not required to conduct WET test for this facility.

40 CFR 122.41(M) - BYPASSES:

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the head works. A bypass, which includes blending, is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

Not Applicable;

This facility does not bypass.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

Not Applicable;
 This facility does not discharge to a 303(d) listed stream.

Part V – Effluent Limits Determination

Outfall #002

This outfall discharges into a sinkhole. Therefore, the GRW criterion will be utilized when calculating benchmark values.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	*		*	NO	
TOTAL SUSPENDED SOLIDS	MG/L	*		*	YES	20/15
pH	SU	6.5 – 9.0		6.5-9.0	NO	
OIL & GREASE	MG/L	*		*	NO	
TRICHLOROETHYLENE (TCE)	µG/L	*		*	NO	
COPPER, TOTAL RECOVERABLE	µG/L	*		*	YES	22/10
IRON, TOTAL RECOVERABLE	µG/L	*		*	YES	541/224
MANGANESE, TOTAL RECOVERABLE	µG/L	*		*	YES	92/37
LEAD, TOTAL RECOVERABLE	µG/L	*		*	YES	21/8
ZINC, TOTAL RECOVERABLE	µG/L	*		*	YES	180/78

OUTFALL #002 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **Total Suspended Solids (TSS).** A benchmark value of 100 mg/L has been established.
- **pH.** pH shall be in the range of 6.5 – 9.0 in accordance with [10 CSR 20-7.031(4)(E)]. pH is to be measured in pH units and is not to be averaged.
- **Oil & Grease.** A benchmark value of 10 mg/L has been established for this conventional pollutant for protection of aquatic life.
- **Trichloroethylene (TCE).** A benchmark value of 5.0 µg/L has been established.
- **Chromium (VI), Total Dissolved.** REMOVED. There are no GRW criteria for this parameter.
- **Copper, Total Recoverable.** A benchmark value of 1,300 µg/L has been established.
- **Iron, Total Recoverable.** A benchmark value of 498 µg/L has been established.
- **Manganese, Total Recoverable.** A benchmark value of 90 µg/L has been established.
- **Lead, Total Recoverable.** A benchmark value of 15 µg/L has been established.
- **Zinc, Total Recoverable.** A benchmark value of 5,000 µg/L has been established.

Outfall #005

The facility's 5-year DMR for Outfall #005 showed NO DISCHARGE and one quarter DMR non-receipt (6/30/08).

This outfall discharges to an unnamed tributary of Rainer Creek. The receiving stream is also less than 2 miles away from a losing stream. Therefore, both the AQL and GRW criteria will be applicable when calculating benchmark values, whichever is more protective.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	*		*	NO	
TOTAL SUSPENDED SOLIDS	MG/L	*		*	YES	100/50
SETTLABLE SOLIDS	M/L/L	*		*	YES	1.5/1.0
pH	SU	6.5 – 9.0		6.5 – 9.0	NO	
OIL & GREASE	MG/L	*		*	YES	15/10
TRICHLOROETHYLENE (TCE)	µG/L	*		*	NO	
BIARIUM, TOTAL RECOVERABLE	µG/L	*		*	NO	
CHROMIUM (VI), TOTAL RECOVERABLE	µG/L	*		*	NO	
COPPER, TOTAL RECOVERABLE	µG/L	*		*	YES	22/11
IRON, TOTAL RECOVERABLE	µG/L	*		*	NO	
MANGANESE, TOTAL RECOVERABLE	µG/L	*		*	NO	
LEAD, TOTAL RECOVERABLE	µG/L	*		*	YES	151/75
ZINC, TOTAL RECOVERABLE	µG/L	*		*	YES	180/90

OUTFALL #005 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **Total Suspended Solids (TSS).** A benchmark value of 100 mg/L has been established.
- **Settleable Solids.** A benchmark value of 1.0 mL/L has been established.
- **pH.** pH shall be in the range of 6.5 – 9.0 in accordance with [10 CSR 20-7.031(4)(E)]. pH is to be measured in pH units and is not to be averaged.
- **Oil & Grease.** A benchmark value of 10 mg/L has been established for this conventional pollutant for protection of aquatic life.
- **TCE.** The previous permit had monitoring requirement for this pollutant. Due to the fact that the remediation activities being conducted at this site include soil remediation for TCE and due to the cycle's absence of data, it is staff's best professional judgment that this parameter remains to have a monitoring requirement.
- **Barium, Total Recoverable.** This outfall discharges to an unclassified tributary and the discharge location is less than 2.0 miles to a losing stream. Barium has a 2,000 µg/L criterion for the protection of groundwater (GRW) [10 CSR 20-7 Table A]. Previous permit had monitoring only requirement for this pollutant. Due to the cycle's absence of data, it is staff's best professional judgment that this parameter remains to have a monitoring requirement.
- **Chromium (VI), Total Recoverable.** This outfall discharges to an unclassified tributary and the discharge location is less than 2.0 miles to a losing stream. Both AQL and GRW standard are applicable to calculate limits, whichever is more stringent. Chromium VI has a chronic criterion of 10 µg/L and an acute criterion of 15 µg/L for the protection of AQL [10 CSR 20-7 Table A]. Previous permit had monitoring only requirement for this pollutant. Due to the cycle's absence of data, it is staff's best professional judgment that this parameter remains to have a monitoring requirement.
- **Copper, Total Recoverable.** A benchmark value of 21 µg/L has been established.

- **Iron, Total Recoverable.** Iron is known to be naturally occurring in this area; however, until such time that the applicant provides site specific criteria in accordance with [10 CSR 20-7.031(R)], the criteria established and required in the Standards are applicable. This outfall discharges to an unclassified tributary and the discharge location is less than 2.0 miles to a losing stream. Therefore, both AQL and GRW criteria are applicable, whichever is more stringent. The previous permit had monitoring only requirement for this pollutant. It is staff's best professional judgment that this parameter remains to have a monitoring requirement due to the cycle's absence of data.

The protection of AQL = 1,000 µg/L while protection of GRW = 300 µg/L (chronic) [10 CSR 20-7 Table A]. The protection of GRW is more stringent than AQL and therefore will be used to calculate limits during the next permit cycle. No data has been submitted with the application for Outfall #005 due to insufficient flow during rainfall events and no data from DMR due to "no discharge" to require a waste load allocation to be calculated.

- **Manganese, Total Recoverable.** The facility requests that this parameter be removed from the permit. Their justification was that GRW criteria for Mn are based on drinking water organoleptic properties (e.g., taste, odor, color, and non-aesthetic effects) rather than health and that the EPA considers such organoleptic criteria as Secondary Maximum Contaminant Levels (MCLs) that are non-enforceable guidelines for drinking water program.

This outfall discharges to an unclassified tributary and the discharge location is less than 2.0 miles to a losing stream. Additionally, there is Water Quality Standard for Mn which is 50 µg/L (chronic) for the protection of GRW as established in 10 CSR 20-7 Table A. Therefore, it is the staff's best professional judgment that this parameter remains to have a monitoring requirement until more data have been collected and a determination has been conducted.

- **Lead, Total Recoverable.** A benchmark value of 15 µg/L has been established.
- **Zinc, Total Recoverable.** A benchmark value of 165 µg/L has been established.

Part VI – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PERMIT SYNCHRONIZATION:

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the department to explore a watershed based permitting effort at some point in the future.

At this time, the permittee has chosen to renew their permit for five years. Permit should be synchronized by watershed in June 2019.

PUBLIC NOTICE:

The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- The Public Notice period for this operating permit was from 05/10/2013 to 06/10/2013. No responses were received.

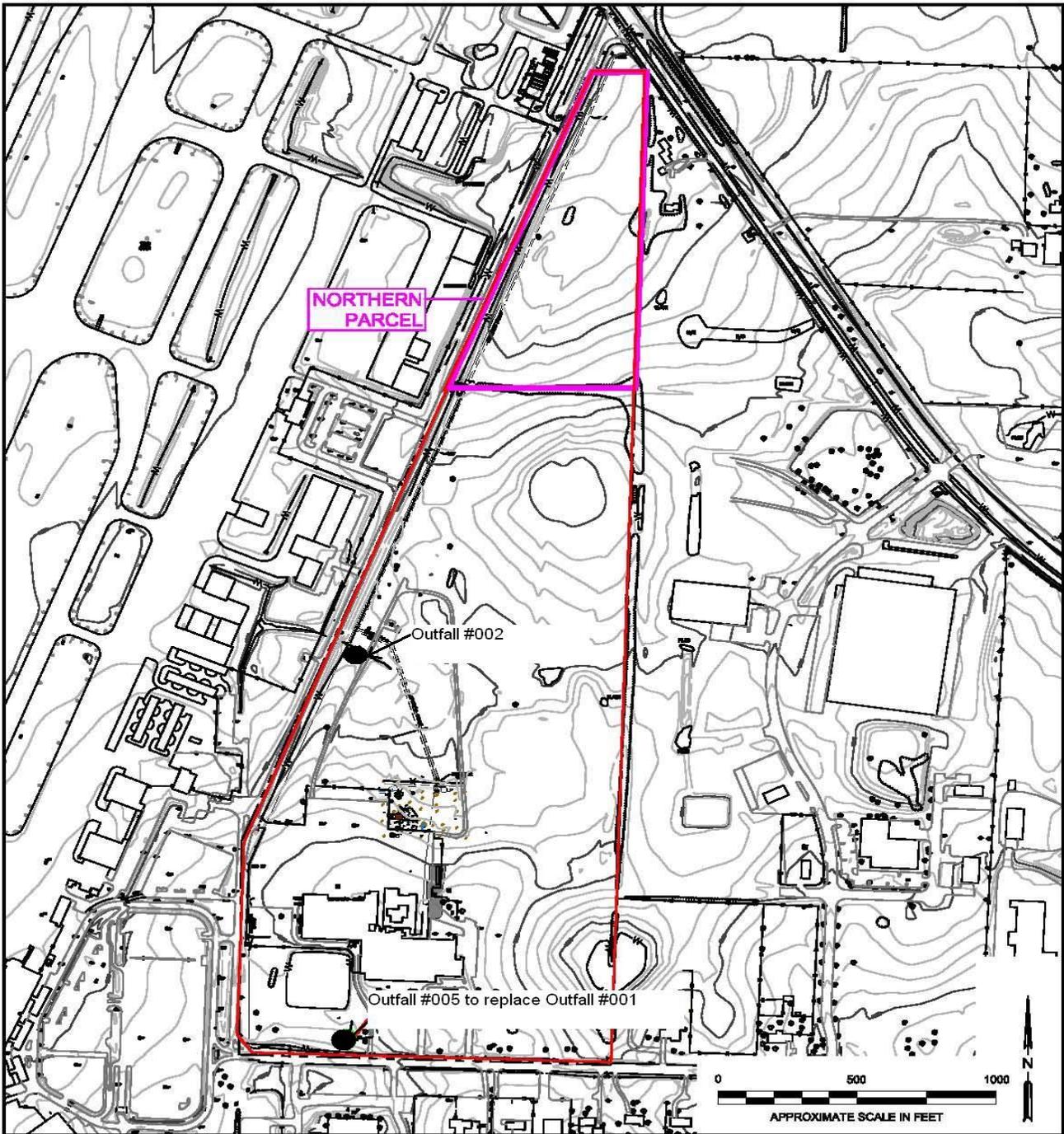
DATE OF FACT SHEET: APRIL 26, 2013

COMPLETED BY:

JOY JOHNSON, ENVIRONMENTAL SPECIALIST III
NPDES PERMITS UNIT
WATER PROTECTION PROGRAM
joy.johnson@dnr.mo.gov

Part VII – Appendix

APPENDIX A – OUTFALL LOCATION:



 400 BRUNS LANE SPRINGFIELD, ILLINOIS 62702 PHONE: (217) 698-7247 FAX: (217) 698-8538	FOR:		ATTACHMENT:	
	FORMER LITTON SYSTEMS, INC FACILITY		SITE PLAN	
JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
61OT.08023.00	GH	MD		12/20/07



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
**FORM A – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT
 UNDER MISSOURI CLEAN WATER LAW**

AP 13675

FOR AGENCY USE ONLY

CHECK NUMBER

DATE RECEIVED

FEE SUBMITTED

11/2/12

0 \$B

Note ▶ PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:

- An operating permit and antidegradation review public notice
- A construction permit following an appropriate operating permit and antidegradation review public notice
- A construction permit and concurrent operating permit and antidegradation review public notice
- A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required)
- An operating permit for a new or unpermitted facility Construction Permit # _____ NOV 02 2012
- An operating permit renewal: permit # MO- 0115690 Expiration Date May 1, 2013
- An operating permit modification: permit # MO- Reason: _____

RECEIVED

1.1 Is the appropriate fee included with the application? (See instructions for appropriate fee) YES NO

2. FACILITY

NAME Northrop Grumman Guidance and Electronics Company, Inc.		TELEPHONE WITH AREA CODE (410) 993-7080	
ADDRESS (PHYSICAL) 4811 West Kearney		CITY Springfield	STATE MO
		ZIP CODE 65803	FAX (410) 981-1946

3. OWNER

NAME Northrop Grumman Guidance and Electronics Company, Inc.		E-MAIL ADDRESS N/A	TELEPHONE WITH AREA CODE (703) 280-2900
ADDRESS (MAILING) 2980 Fairview Park Drive		CITY Falls Church	STATE VA
		ZIP CODE 22042	FAX

3.1 Request review of draft permit prior to public notice? YES NO

4. CONTINUING AUTHORITY

NAME Northrop Grumman Guidance and Electronics Company, Inc.		TELEPHONE WITH AREA CODE (410) 993-7080	
ADDRESS (MAILING) PO Box 1693 MS 1401		CITY Baltimore	STATE MD
		ZIP CODE 21203	FAX (410) 981-1946

5. OPERATOR

NAME Northrop Grumman Guidance and Electronics Company, Inc.		CERTIFICATE NUMBER N/A	TELEPHONE WITH AREA CODE (410) 993-7080
ADDRESS (MAILING) PO Box 1693 MS 1401		CITY Baltimore	STATE MD
		ZIP CODE 21203	FAX (410) 981-1946

6. FACILITY CONTACT

NAME Adam Saylor		TITLE Sr. Environmental Engineer	TELEPHONE WITH AREA CODE (410) 993-7080
			FAX (410) 981-1946

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)

001 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ _____ County
 UTM Coordinates Easting (X): _____ Northing (Y): _____
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 NE 1/4 SW 1/4 Sec 6 T 29N R 22W GRE County
 UTM Coordinates Easting (X): _____ Northing (Y): _____

003 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ _____ County
 UTM Coordinates Easting (X): _____ Northing (Y): _____

005 SE 1/4 SW 1/4 Sec 6 T 29N R 22W GRE County
 UTM Coordinates Easting (X): _____ Northing (Y): _____

7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

001 – SIC _____ and NAICS _____ 002 – SIC 9999 and NAICS 562910
 003 – SIC _____ and NAICS _____ 005 – SIC 9999 and NAICS 562910

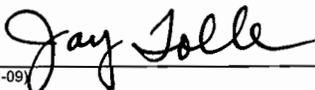
8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION
(Complete all forms that are applicable.)

- A. Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? YES NO
 If yes, complete Form C (unless storm water only, then complete U.S. Environmental Protection Agency Form 2F per Item C below).
- B. Is your facility considered a "Primary Industry" under EPA guidelines: YES NO
 If yes, complete Forms C and D.
- C. Is application for storm water discharges only? YES NO
 If yes, complete EPA Form 2F. Form C is being submitted in lieu of Form 2F as directed by MDNR.
- D. Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.
- E. Is wastewater land applied? If yes, complete Form I. YES NO
- F. Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? YES NO
 If yes, complete Form R.

9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions.
(PLEASE SHOW LOCATION ON MAP. SEE 8.D ABOVE).

NAME City of Springfield\Springfield Branson National Airport			
ADDRESS 2300 N. Airport Blvd	CITY Springfield	STATE MO	ZIP CODE 65802

10. I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law to the Missouri Clean Water Commission.

NAME AND OFFICIAL TITLE (TYPE OR PRINT) Jay Tolle Sector Manager, Environmental Resources	TELEPHONE WITH AREA CODE (410) 765-0402
SIGNATURE 	DATE SIGNED 10/29/12

MO 780-1479 (01-09)

BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.

Submittal of an incomplete application may result in the application being returned.

HAVE YOU INCLUDED:

- Appropriate Fees?
- Map at 1" = 2000' scale?
- Signature?
- Form C, if applicable?
- Form D, if applicable?
- Form 2F, if applicable?
- Form I (Irrigation), if applicable?
- Form R (Sludge), if applicable?



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
FORM C – APPLICATION FOR DISCHARGE PERMIT –
MANUFACTURING, COMMERCIAL, MINING,
SILVICULTURE OPERATIONS, PROCESS & STORM WATER

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

TE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY
 Northrop Grumman Guidance and Electronics Company, Inc.

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER
 MO-0115690

1.20 THIS IS A NEW FACILITY AND WAS CONSTRUCTED UNDER MISSOURI CONSTRUCTION PERMIT NUMBER (COMPLETE ONLY IF THIS FACILITY DOES NOT HAVE AN OPERATING PERMIT).

2.00 LIST THE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES APPLICABLE TO YOUR FACILITY (FOUR DIGIT CODE)

A. FIRST SIC Code 9999; NAICS Code 562910 B. SECOND _____

C. THIRD _____ D. FOURTH _____

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST)	_____ 1/4	_____ 1/4	SEC _____	T _____	R _____	_____ COUNTY
	002 NE 1/4	SW 1/4	SEC 6	T29N	R22W	Greene County
	005 SE 1/4	SW 1/4	SEC 6	T29N	R22W	Greene County

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

OUTFALL NUMBER (LIST)	RECEIVING WATER
Outfall 002	Off-site sinkhole - North of facility's property
Outfall 005	Unnamed tributary to Rainer Branch

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS

Northrop Grumman Guidance & Electronics Company, Inc. (Northrop Grumman) was formerly known as Litton Systems, Inc. The site was a former manufacturing facility that produced printed circuit boards (former SIC Code #3672). The past manufacturing facility was in operation from the mid-1960s and discontinued operations in August 2007. There are no longer any active manufacturing operations at the site.

Site activity is limited to work being conducted under a Consent Decree and Settlement (Consent Decree) between the State of Missouri and Northrop Grumman entered June 1, 2011. Under the Consent Decree, Northrop Grumman is undertaking remediation of on-site and off-site impacted soils and will conduct a feasibility study for groundwater, with an agreement to negotiate in good faith to implement a groundwater remedy. An Interim Remedial Measures (IRM) is also being implemented for the extraction and treatment of groundwater.

Remedial technologies to address soil impacts include: (1) installation and operation of an electrical resistive heating (ERH)/soil vapor extraction (SVE) system in and around selected areas of concern (AOCs) to volatilize and remove volatile organic compounds (VOCs) from the impacted soils; and, (2) installation of engineered barriers in and around selected AOCs to address soils impacted with metals. Additional measures such as installation of engineering controls and implementation of best management practices (BMPs) have been completed and are regularly upgraded to limit potential impact to storm water.

2.40 CONTINUED

C. EXCEPT FOR STORM RUNOFF, LEAKS OR SPILLS, ARE ANY OF THE DISCHARGES DESCRIBED IN ITEMS A OR B INTERMITTENT OR SEASONAL?

YES (COMPLETE THE FOLLOWING TABLE) NO (GO TO SECTION 2.50)

1. OUTFALL NUMBER <i>(list)</i>	2. OPERATION(S) CONTRIBUTING FLOW <i>(list)</i>	3. FREQUENCY		4. FLOW				C. DURATION <i>(in days)</i>
		A. DAYS PER WEEK <i>(specify average)</i>	B. MONTHS PER YEAR <i>(specify average)</i>	A. FLOW RATE <i>(in mgd)</i>		B. TOTAL VOLUME <i>(specify with units)</i>		
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	

2.50 MAXIMUM PRODUCTION

A. DOES AN EFFLUENT GUIDELINE LIMITATION PROMULGATED BY EPA UNDER SECTION 304 OF THE CLEAN WATER ACT APPLY TO YOUR FACILITY?

YES (COMPLETE B.) NO (GO TO SECTION 2.60)

B. ARE THE LIMITATIONS IN THE APPLICABLE EFFLUENT GUIDELINES EXPRESSED IN TERMS OF PRODUCTION (OF OTHER MEASURE OF OPERATION)?

YES (COMPLETE c.) NO (GO TO SECTION 2.60)

C. IF YOU ANSWERED "YES" TO B. LIST THE QUANTITY THAT REPRESENTS AN ACTUAL MEASUREMENT OF YOUR MAXIMUM LEVEL OF PRODUCTION, EXPRESSED IN THE TERMS AND UNITS USED IN THE APPLICABLE EFFLUENT GUIDELINE AND INDICATE THE AFFECTED OUTFALLS.

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS <i>(list outfall numbers)</i>
A. QUANTITY PER DAY	B. UNITS OF MEASURE	C. OPERATION, PRODUCT, MATERIAL, ETC. <i>(specify)</i>	

2.60 IMPROVEMENTS

A. ARE YOU NOW REQUIRED BY ANY FEDERAL, STATE OR LOCAL AUTHORITY TO MEET, ANY IMPLEMENTATION SCHEDULE FOR THE CONSTRUCTION, UPGRADING OR OPERATION OF WASTEWATER TREATMENT EQUIPMENT OR PRACTICES OR ANY OTHER ENVIRONMENTAL PROGRAMS THAT MAY AFFECT THE DISCHARGES DESCRIBED IN THIS APPLICATION? THIS INCLUDES, BUT IS NOT LIMITED TO, PERMIT CONDITIONS, ADMINISTRATIVE OR ENFORCEMENT ORDERS, ENFORCEMENT COMPLIANCE SCHEDULE LETTERS, STIPULATIONS, COURT ORDERS AND GRANT OR LOAN CONDITIONS.

YES (COMPLETE THE FOLLOWING TABLE) NO (GO TO 3.00)

1. IDENTIFICATION OF CONDITION AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
				A. REQUIRED	B. PROJECTED
Consent Decree and Settlement, Case Number 10-04268—CV-S-DGK, entered 6/1/11	All		Remediation of on-site and off-site soil impacts and performing a feasibility study for groundwater remediation. Projected completion date is 2016 for soils and to be determined for groundwater.	N/A	Soils 2016

B. OPTIONAL: YOU MAY ATTACH ADDITIONAL SHEETS DESCRIBING ANY ADDITIONAL WATER POLLUTION CONTROL PROGRAMS (OR OTHER ENVIRONMENTAL PROJECTS THAT MAY AFFECT YOUR DISCHARGES) YOU NOW HAVE UNDER WAY OR ARE YOU PLANNING. INDICATE WHETHER EACH PROGRAM IS NOW UNDER WAY OR PLANNED, AND INDICATE YOUR ACTUAL OR PLANNED SCHEDULES FOR CONSTRUCTION.

MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED.

3.10 BIOLOGICAL TOXICITY TESTING DATA

DO YOU HAVE ANY KNOWLEDGE OR REASON TO BELIEVE THAT ANY BIOLOGICAL TEST FOR ACUTE OR CHRONIC TOXICITY HAS BEEN MADE ON ANY OF YOUR DISCHARGES OR ON RECEIVING WATER IN RELATION TO YOUR DISCHARGE WITHIN THE LAST THREE YEARS?

YES (IDENTIFY THE TEST(S) AND DESCRIBE THEIR PURPOSES BELOW.) NO (GO TO 3.20)

3.20 CONTRACT ANALYSIS INFORMATION

WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

YES (LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF AND POLLUTANTS ANALYZED BY EACH SUCH LABORATORY OR FIRM BELOW.) NO (GO TO 3.30)

A. NAME	B. ADDRESS	C. TELEPHONE (area code and number)	D. POLLUTANTS ANALYZED (list)
TestAmerica Laboratories, Inc.	2417 Bond Street University Park, IL 60484	(708)534-5200	Trichloroethylene Barium Copper Iron Lead Manganese Zinc Oil&Grease Total Suspended Solids
Pace Analytical Services, Inc.	9608 Loiret Blvd. Lenexa, KS 66219	(913)599-5665	
Consulting Analytical Services International, Inc.	2804 E. Battlefield Road Springfield, MO 65804	(417)882-1017	Chromium

3.30 CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)

Jay Tolle Sector Manager, Environmental Resources

TELEPHONE NUMBER WITH AREA CODE

(410) 765-0402

SIGNATURE (SEE INSTRUCTIONS)

Jay Tolle

DATE SIGNED

10/29/12

PLEASE PRINT OR TYPE. You may report some or all of this information on separate sheet instead of completing these pages.
 (Use the same format)
 SEE INSTRUCTIONS

FORM C
 TABLE 1 FOR 3.00 ITEM A AND B

OUTFALL NO.
 002

Grab sampling was done pursuant to MDNR direction.

INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				3. UNITS (specify if blank)				4. INTAKE (optional)			
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Biochemical Oxygen Demand (BOD)												
B. Chemical Oxygen Demand (COD)												
C. Total organic Carbon (TOC)												
D. Total Suspended Solids (TSS)	16.0				8.625		4	mg/l				
E. Ammonia (as N)												
F. Flow	VALUE 456,195		VALUE		VALUE 334,565			Gallons		VALUE		
G. Temperature (winter)	VALUE Ambient		VALUE		VALUE			°C		VALUE		
H. Temperature (summer)	VALUE Ambient		VALUE		VALUE			°C		VALUE		
I. pH	MINIMUM 7.5	MAXIMUM 8.5	MINIMUM	MAXIMUM			4	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results for at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS				5. INTAKE (optional)			
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION		B. MAXIMUM 30 DAY VALUE (1) CONCENTRATION		C. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(2) MASS	(2) MASS	(2) MASS	(2) MASS	(2) MASS	(1) CONCENTRATION				(2) MASS		
A. Bromide (24959-67-9)		X												
B. Chlorine Total Residual		X												
C. Color		X												
D. Fecal Coliform		X												
E. Fluoride (16984-48-8)		X												
F. Nitrate-Nitrate (as N)		X												

Long term averages were calculated by averaging the results of data recorded during the last four quarterly sampling events.

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)				
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS	
G. Nitrogen Total Organic (as N)		X											
H. Oil and Grease		X											
I. Phosphorus (as P) Total (7723-14-0)		X											
J. Sulfate (as SO ₄) (14808-79-8)		X											
K. Sulfide (as S)		X											
L. Sulfite (as SO ₃) (14265-45-3)		X											
M. Surfactants		X											
N. Aluminum Total (7429-90-5)		X											
O. Barium Total (7440-39-3)	X		.048					0.0425		mg/l	N/A	N/A	N/A
P. Boron Total (7440-42-8)		X											
Q. Cobalt Total (7440-48-4)		X											
R. Iron Total (7439-89-6)	X		0.26					0.1148		mg/l	N/A	N/A	N/A
S. Magnesium Total (7439-95-4)		X											
T. Molybdenum Total (7439-98-7)		X											
U. Manganese Total (7439-96-5)	X		0.0081					0.0065		mg/l	N/A	N/A	N/A
V. Tin Total (7440-31-5)		X											
W. Titanium Total (7440-32-6)		X											

Long term averages were calculated by averaging the results of data recorded during the last four quarterly sampling events.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS			5. INTAKE (optional)			
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)			A. CONCEN- TRATION	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION		(2) MASS		
METALS, AND TOTAL PHENOLS													
1M. Antimony, Total (7440-36-9)		X											
2M. Beryllium, Total (7440-41-7)		X											
3M. Magnesium, Total (7439-95-4)		X											
4M. Molybdenum, Total (7439-98-7)		X											
5M. Tin, Total (7440-31-5)		X											
6M. Titanium, Total (7440-32-6)		X											
7M. Mercury, Total (7439-97-6)		X											
8M. Selenium, Total (7782-49-2)		X											
9M. Thallium, Total (7440-28-0)		X											
10M. Phenols, Total		X											
RADIOACTIVITY													
(1) Alpha Total		X											
(2) Beta Total		X											
(3) Radium Total		X											
(4) Radium 226 Total		X											

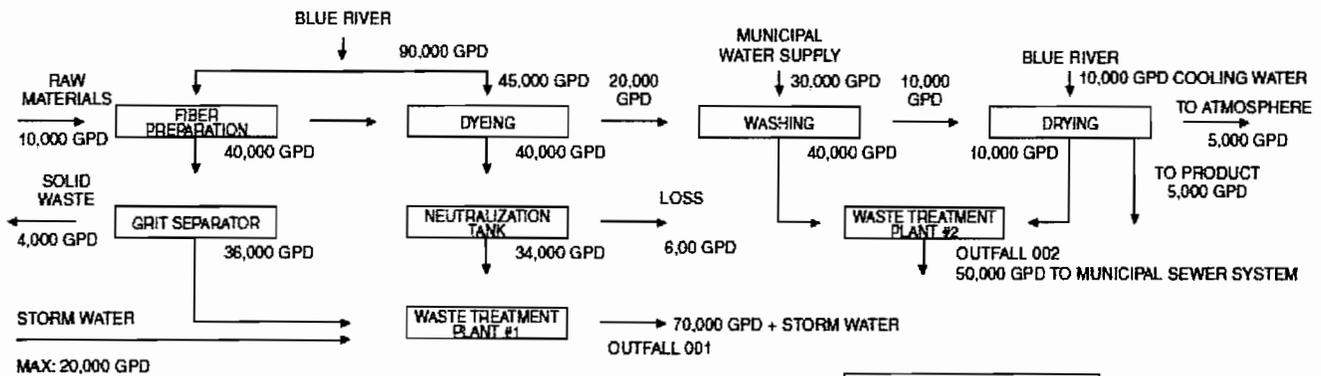
**INSTRUCTIONS FOR FILLING OUT APPLICATION FOR DISCHARGE
PERMIT FORM C – MANUFACTURING, COMMERCIAL,
MINING AND SILVICULTURE OPERATIONS.**

All blanks must be filled in when the application is submitted to the appropriate regional office (see map). The form must be signed as indicated.

This application is to be completed only for wastewater facilities with a discharge. Include any facility with possibility of discharge, even if normally there is no discharge. If this form is not adequate for you to describe your existing operation, then sufficient information should be attached so that an evaluation of the discharge can be made.

- 1.00 Name of Facility – By what title or name is this facility known locally?
- 1.10 and 1.20 Self-explanatory.
- 2.00 List in descending order of significance the four digit Standard Industrial Classification (SIC) codes that best describe your facility in terms of the principal products or services you produce or provide. Also, specify each classification in words.

SIC code numbers are descriptions that may be found in the "Standard Industrial Classification Manual" prepared by the Executive Office of the President, Office of Management and Budget, that is available from the Government Printing Office, Washington, D.C. Use the current edition of the manual. If you have any questions concerning the appropriate SIC code for your facility, contact the Missouri Department of Natural Resources Regional office in your area (see map).
- 2.10 Point of discharge should be given in terms of the legal description of the waste treatment plant, location or sufficient information so that it may be located by the Missouri Clean Water Commission staff.
- 2.20 Receiving Water – the name of the stream to which the discharge is directed and any subsequent tributary until a continuous flowing stream is reached.
- 2.30 Self-explanatory.
- 2.40 A. The line drawing should show generally the route taken by water in your facility from intake to discharge. Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water and storm water runoff. You may group similar operations into a single unit labeled to correspond to the more detailed listing. The water balance should show average and maximum flows. Show all significant losses of water to products, atmosphere, discharge and public sewer systems. You should use actual measurements whenever available; otherwise, use your best estimate. An example of any acceptable line drawing appears below.



NOTE: AVERAGE FIGURES SHOWN ARE 60 PERCENT OF MAXIMUM FLOW RATES.

SCHEMATIC OF WATER FLOW
BROWN MILLS, INC.
CITY, COUNTY, STATE

B. List all sources of wastewater to each outfall. Operations may be described in general terms (for example, "dye-making reactor" or a distillation tower"). You may estimate the flow contributed by each source if no data is available, and for storm water, you may use any reasonable measure of duration, volume or frequency. For each treatment unit, indicate its size, flow rate and retention time, and describe the ultimate disposal of any solid or liquid wastes not discharged. Treatment units should be listed in order and you should select the proper code from Table A to fill in column 3B for each treatment unit. Insert "XX" into column 3B if no code corresponds to a treatment unit you list.

TABLE A – CODES FOR TREATMENT UNITS

PHYSICAL TREATMENT PROCESSES

1-A	.....Ammonia Stripping	1-M	.....Grit Removal
1-B	.....Dialysis	1-N	.....Microstraining
1-C	.....Diatomaceous Earth Filtration	1-O	.....Mixing
1-D	.....Distillation	1-P	.....Moving Bed Filters
1-E	.....Electrodialysis	1-Q	.....Multimedia Filtration
1-F	.....Evaporation	1-R	.....Rapid Sand Filtration
1-G	.....Flocculation	1-S	.....Reverse Osmosis (Hyperfiltration)
1-H	.....Flotation	1-T	.....Screening
1-I	.....Foam Fractionation	1-U	.....Sedimentation (Settling)
1-J	.....Freezing	1-V	.....Slow Sand Filtration
1-K	.....Gas-Phase Separation	1-W	.....Solvent Extraction
1-L	.....Grinding (Comminutors)	1-X	.....Sorpton

CHEMICAL TREATMENT PROCESSES

2-A	.....Carbon Absorption	2-G	.....Disinfection (Ozone)
2-B	.....Chemical Oxidation	2-H	.....Disinfection (Other)
2-C	.....Chemical Precipitation	2-I	.....Electrochemical Treatment
2-D	.....Coagulation	2-J	.....Ion Exchange
2-E	.....Dechlorination	2-K	.....Neutralization
2-F	.....Disinfection (Chlorine)	2-L	.....Reduction

BIOLOGICAL TREATMENT PROCESSES

3-A	.....Activated Sludge	3-E	.....Pre-Aeration
3-B	.....Aerated Lagoons	3-F	.....Spray Irrigation/Land Application
3-C	.....Anaerobic Treatment	3-G	.....Stabilization Ponds
3-D	.....Nitrification-Denitrification	3-H	.....Trickling Filtration

OTHER PROCESSES

4-A	.....Discharge to Surface Water	4-C	.....Reuse/Recycle of Treated Effluent
4-B	.....Ocean Discharge Through Outfall	4-D	.....Underground Injection

SLUDGE TREATMENT AND DISPOSAL PROCESSES

5-A	.....Aerobic Digestion	5-M	.....Heat Drying
5-B	.....Anaerobic Digestion	5-N	.....Heat Treatment
5-C	.....Belt Filtration	5-O	.....Incineration
5-D	.....Centrifugation	5-P	.....Land Application
5-E	.....Chemical Conditioning	5-Q	.....Landfill
5-F	.....Chlorine Treatment	5-R	.....Pressure Filtration
5-G	.....Composting	5-S	.....Pyrolysis
5-H	.....Drying Beds	5-T	.....Sludge Lagoons
5-I	.....Elutriation	5-U	.....Vacuum Filtration
5-J	.....Flotation Thickening	5-V	.....Vibration
5-K	.....Freezing	5-W	.....Web Oxidation
5-L	.....Gravity Thickening		

2.40 C. A discharge is intermittent unless it occurs without interruption during the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes or other similar activities. A discharge is seasonal if it occurs only during certain parts of the year. Fill in every applicable column in this item for each source of intermittent or seasonal discharges. Base your answers on actual data whenever available; otherwise, provide your best estimate. Report the highest daily value for flow rate and total volume in the "Maximum Daily" columns. Report the average of all daily values measures during days when discharge occurred within the last year in the "Long Term Average" columns.

2.50 A. All effluent guidelines promulgated by EPA appear in the Federal Register and are published annually in 40 CFR Subchapter N. A guideline applies to you if you have any operations contributing process wastewater in any subcategory covered by BPT, BCT, or BAT guidelines. If you are unsure whether you are covered by a promulgated effluent guideline, check with your Missouri Department of Natural Resources' Regional Office. You must check yes if an applicable effluent guideline has been promulgated, even if the guideline limitations are being contested in court. If you believe that a promulgated effluent guideline has been remanded for reconsideration by a court and does not apply to your operations, you may check no.

B. An effluent guideline is expressed in terms of production (or other measure of operation) if the limitations are expressed as mass of pollutant per operational parameter; for example, "pounds of BOD per cubic foot of logs from which bark is removed," or "pounds of TSS per megawatt hour of electrical energy consumed by smelting furnace." An example of a guideline not expressed in terms of a measure of operation is one which limits the concentration of pollutants.

C. This item must be completed only if you checked yes to item B. The production information requested here is necessary to apply effluent guidelines to your facility and you may not claim it as confidential. However, you do not have to indicate how the reported information was calculated.

Report quantities in the units of measurement used in the applicable effluent guideline. The figures provided must be a measure of actual operation over a one month period, such as the production for the highest month during the last twelve months, or the monthly average production for the highest year of the last five years, or other reasonable measure of actual operation, but may not be based on design capacity or on predictions of future increases in operation.

2.60 A. If you check yes to this question, complete all parts of the chart, or attach a copy of any previous submission you have made containing the same information.

B. You are not required to submit a description of future pollution control projects if you do not wish to or if none is planned.

3.00 These items require you to collect and report data on the pollutants discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that part. The following general instructions apply to the entire item.

GENERAL INSTRUCTIONS. Part A requires you to report at least one analysis for each pollutant. Part B requires you to mark "X" in either the "Believe Present" column or the "Believe Absent" column (column 2A or 2B, Part B) based on you best estimate, and test for those which you believe to be present. Part C requires you to list any of a group of pollutants which you believe to be present, with a brief explanation of why you believe it to be present. (See specific instructions on the form and below Parts A through C).

Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, maintenance chemicals, intermediate and final products and byproducts, and any previous analyses known to you of your effluent or of any similar effluent. (For example, if you manufacture pesticides, you should expect those pesticides to be present in contaminated storm water runoff.) If you would expect a pollutant to be present solely as a result of its presence in your intake water, you must mark "Believe Present" but you are not required to analyze for that pollutant. Instead, mark an "X" in the "Intake" column.

REPORTING. All levels must be reported as a concentration and as total mass. You may report some or all of the required data by attaching separate sheets of paper. (Use the following abbreviations in the columns headed "Units" (column 3, Part A, and column 4, Part B).

CONCENTRATION

ppm	.....	parts per million
mg/L	.....	milligrams per liter
ppb	.....	parts per billion
ug/L	.....	micrograms per liter

MASS

lbs	.....	pounds
ton	.....	tons (English tons)
mg	.....	Milligrams
g	.....	grams
kg	.....	kilograms
T	.....	tonnes (metric tons)

If you measure only one daily value, complete only the "Maximum Daily Values" columns and insert "1" into the "number of analyses" columns (columns 2A and 2B, Part A, and columns 3A and 3D, Part B). The Missouri Department of Natural Resources may require you to conduct additional analyses to further characterize your discharges.

For composite samples, the daily value is the total mass or average concentration found in a complete sample taken over the operating hours of the facility during a 24 hour period; for grab samples, the daily value is the arithmetic or flow-weighted total mass or average concentration found in a series of at least four grab samples taken over the operating hours of the facility during a 24 hour period.

If you measure more than one daily value for a pollutant, determine the average of all values within the last year and report the concentration and mass under the "Long Term Average Values" columns (column 2C, Part A, and column 3C, Part B), and the total number of daily values under the "Number of Analyses" columns (column 2D, Part A, and column 3D, Part B). Also, determine the average of all daily values taken during each calendar month, and report the highest average of all daily values taken during each calendar month, and report the highest average under the "Maximum 30 Day Values" columns (column 2B, Part A, and column 3B, Part B).

SAMPLING. The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater. You may contact your Missouri Department of Natural Resources' Regional Office for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative of your normal operation, to the extent feasible, with all processes which contribute wastewater in normal operation and with your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit or at any site adequate for the collection of a representative sample.

Grab and composite samples are defined as follows:

GRAB SAMPLE. An individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.

COMPOSITE SAMPLE. A combination of at least eight sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24 hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

ANALYSIS. You must use test methods promulgated in 40 CFR Part 136; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding times, preservation techniques and the quality control measures which you used.

If you have two or more substantially identical outfalls, you may request permission from the Missouri Department of Natural Resources to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If your request is granted by the Missouri Department of Natural Resources, on a separate sheet attached to the application form, identify which outfall you did test and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

REPORTING OF INTAKE DATA. You are not required to report data under the "Intake" columns unless you wish to demonstrate your eligibility for a "net" effluent limitation for one or more pollutants, that is, an effluent limitation adjusted by subtracting the average level of the pollutant(s) present in your intake water. National Pollutant Discharge Elimination System (NPDES) regulations allow net limitations only in certain circumstances. To demonstrate your eligibility, under the Intake columns report the average of the results of analyses on your intake water (if your water is treated before use, test the water after it is treated), and attach a separate sheet containing the following for each pollutant:

1. A statement that the intake water is drawn from the body of water into which the discharge is made. (Otherwise, you are not eligible for net limitations.)
 2. A statement of the extent to which the level of the pollutant is reduced by treatment of your wastewater. (Your limitations will be adjusted only to the extent that the pollutant is not removed.)
 3. When applicable, a demonstration of the extent to which the pollutants in the intake vary physically, chemically, or biologically from the pollutants contained in your discharge. For example, when the pollutant represents a class of compounds. Your limitations will be adjusted only to the extent that the intake pollutants do not vary from the discharged pollutants.
- 3.00 Part A must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water or storm runoff. However, at your request, the Missouri Department of Natural Resources may waive the requirements to test for one or more of these pollutants, upon a determination that testing for the pollutant(s) is not appropriate for your effluent.
- Use composite samples for all pollutants in this part, except use grab samples for pH and temperature. See discussion in instructions above for definitions of the columns in Part A. The "Long Term Average Values" column (column 2C) and "Maximum 30 Day Values" column (column 2B) are not compulsory but should be filled out if data is available.
- 3.00 Part B must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water or storm runoff.
- Use composite samples for all pollutants you analyze for in this part, except use grab samples for residual chlorine, oil and grease and fecal coliform. The Long Term Average Values column (column 3C) and Maximum 30 Day Values column (column 3B) are not compulsory but should be filled out if data is available.
- 3.00 List any pollutants in Table B that you believe to be present and explain why you believe them to be present in part C. No analysis is required, but you have analytical, you must report it.

TABLE B – TOXIC POLLUTANTS AND HAZARDOUS SUBSTANCES REQUIRED TO BE IDENTIFIED BY APPLICANTS IF EXPECTED TO BE PRESENT

TOXIC POLLUTANT	HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES
Asbestos	Dichlorvos	Nalad
	Diethylamine	Napthenic acid
HAZARDOUS SUBSTANCES	Dimethylamine	Nitrotoluene
	Dintrobenzene	Parathion
Acetaldehyde	Diquat	Phenolsulfonate
Allyl alcohol	Disulfoton	Phosgene
Allyl chloride	Diuron	Propargite
Amyl acetate	Epichlorohydrin	Propylene oxide
Aniline	Ethion	Pyrethrins
Benzonitrile	Ethylene diamine	Quinoline
Benzyl chloride	Ethylene dibromide	Resorcinol
Butyl acetate	Formaldehyde	Strontium
Butylamine	Furfural	Strychnine
Captan	Guthion	Styrene

TABLE B – (continued)

HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES
Carbaryl	Isoprene	2, 4, 5-T (2,4,5-Trichloro- phenoxyacetic acid)
Carbofuran	Isopropanolamine	TDE (Tetrachlorodiphenyl ethane)
Carbon disulfide	Kelthane	2, 4, 5-TP (2-(2,4,5-Trichloro- phenoxy) propanoic acid)
Chlorpyrifos	Kepone	Trichlorofon
Coumaphos	Malathion	Triethanolamine
Cresol	Mercaptodimethur	Triethylamine
Crotonaldehyde	Methoxychlor	Uranium
2,4-D (2,4-Dichloro- Phenoxyacetic acid)	Methyl mercaptan	Vanadium
Diazinon	Methyl parathion	Vinyl acetate
Dicamba	Mevinphos	Xylene
Dichlobenil	Mexacarbate	Xylenol
2,2-Dichloropropionic acid	Monethyl amine	Zirconium
	Monomethyl amine	

3.10 Self-explanatory. Additional information may be requested by the Missouri Department of Natural Resources.

3.20 Self-explanatory.

3.30 The Clean Water Act provides for severe penalties for submitting false information on this application form.

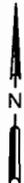
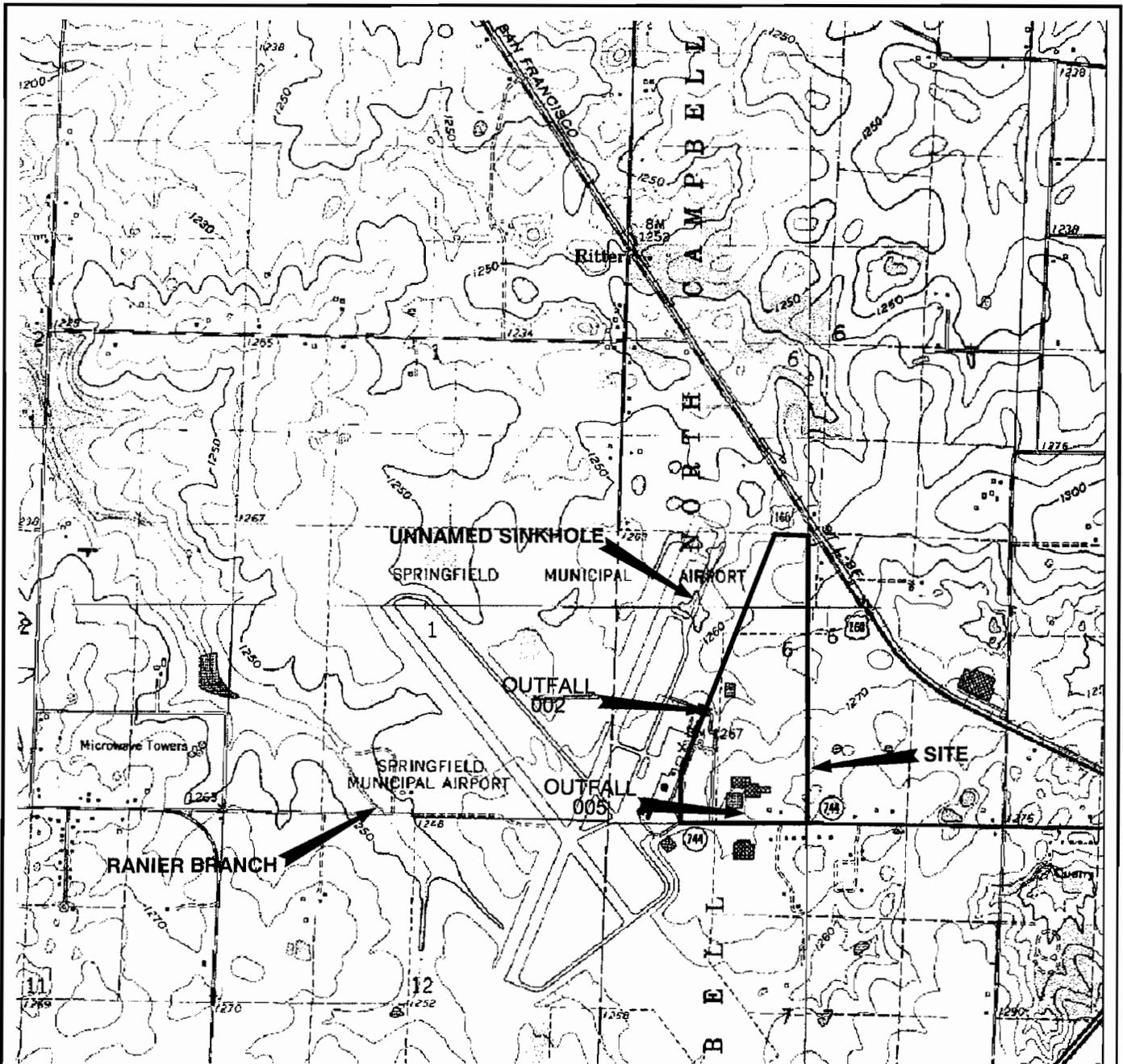
Section 309(c)(2) of the Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application . . . shall upon conviction, be punished by a fine of no more \$10,000 or by imprisonment for not more than six months, or both.

All applications must be signed as follows and the signature must be original.

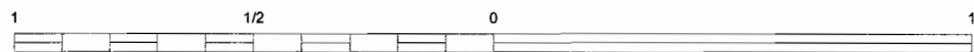
- A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
- B. For a partnership or sole proprietorship, by a general partner or the proprietor.
- C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

FIGURE 1
SITE LOCATION MAP

Northrop Grumman Guidance and Electronics Company, Inc.
4811 West Kearney
Springfield, MO 65803



MISSOURI



SCALE IN MILE



SCALE IN FEET


Stanlec
 3223 SOUTH MEADOWBROOK, SUITE C
 SPRINGFIELD, ILLINOIS 62702
 PHONE: (217) 698-7247 FAX: (217) 698-8538

FOR:
**NORTHROP GRUMMAN GUIDANCE &
 ELECTRONICS COMPANY, INC.**
 4811 WEST KEARNEY
 SPRINGFIELD, MO 65803

SITE LOCATION MAP

FIGURE
1

JOB NUMBER: 18260XXX
 DRAWN BY: GM
 CHECKED BY: GM
 APPROVED BY: MD
 DATE: 10/25/2012

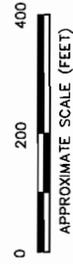
FIGURE 2
SITE DRAINAGE AREAS

Northrop Grumman Guidance and Electronics Company, Inc.
4811 West Kearney
Springfield, MO 65803



LEGEND:

- SITE PROPERTY LINE
- ← SURFACE WATER FLOW DIRECTION
- DRAINAGE AREA 1
- DRAINAGE AREA 2



Starbuck
3223 SOUTH MEADOWS BLVD., SUITE C
SPRINGFIELD, ILLINOIS 62711
PHONE: (217) 886-7247 FAX: (217) 898-6338

FOR:
NORTHROP GRUMMAN GUIDANCE &
ELECTRONICS COMPANY, INC.
4811 WEST KEARNEY
SPRINGFIELD, MO 65803
JOB NUMBER: 112600000 DRAWN BY: GM

CHECKED BY: GM APPROVED BY: MD

SITE MAP SHOWING DRAINAGE AREAS
FIGURE 2
DATE: 10/25/2012

APPENDIX A
DRAINAGE FLOW ESTIMATES

Northrop Grumman Guidance and Electronics Company, Inc.
4811 West Kearney
Springfield, MO 65803

Calculation of storm water discharge draining to Outfall 002

Est. area drained to Outfall 002 = 1,425,000 sq. ft.

Estimated paved area draining to Outfall 002 = 458,000 sq. ft.

Assumptions: All former building footprint areas drainage flows to Outfall 002.

Calculations: Percentage of total area that is paved=
= 458,000 sq. ft. / 1,425,000 sq. ft.
≈ 32%

Percentage of total area that is vegetative cover over clay=
= 100% - 32%
= 68%

Per the Rational Equation, $Q = 7.48 * C * i * A / 12$ where:

C = Weighted Runoff Coefficient
i = Rainfall (inches/rainfall event)
A = Drainage area (sq. ft.)
Q = Storm water Runoff (gallons)

The following Rational Equation Runoff Coefficients were obtained from typical factors in the Handbook of Environmental Engineering, Corbitt, 1990:

C for asphalt or concrete paved areas (0.70-0.95) = Use 0.83
C for vegetative cover/clay areas (heavy soil-grade 2-7%) = Use 0.20

Weighted Runoff Coefficient, C =
= $(0.32 * 0.83) + (0.68 * 0.20) \approx 0.4016$

Q = $7.48 * 0.4016 * i * 1,425,000 \text{ sq. ft.} / 12$
≈ $356,769 * i$ (inches of rainfall during rain event)

Calculation of storm water discharge draining to Outfall 005

Est. area drained to Outfall 005 including decorative pond=330,000 sq. ft.
Estimated area of decorative pond=40,000 sq. ft.

Assumptions: Decorative pond does not overflow during storm events.

Calculations: Total area of drainage basin less decorative pond area=
= 330,000 sq. ft. – 40,000 sq. ft.
= 290,000 sq. ft.

Percentage of total area (less pond area) that is vegetative cover over clay=
= 100%

Per the Rational Equation, $Q = 7.48 * C * i * A / 12$ where:

- C = Weighted Runoff Coefficient
- i = Rainfall (inches/rainfall event)
- A = Drainage area (sq. ft.)
- Q = Storm water Runoff (gallons)

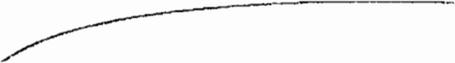
The following Rational Equation Runoff Coefficients were obtained from typical factors in the Handbook of Environmental Engineering, Corbitt, 1990:

C for vegetative cover/clay areas (heavy soil-grade 2-7%)= Use 0.20

Weighted Runoff Coefficient, C = 0.20

Q = $7.48 * 0.20 * i * 290,000 \text{ sq. ft.} / 12$
= $36,153 * i$ (inches of rainfall during rain event)

NORTHROP GRUMMAN



Electronic Systems
Post Office Box 1693, MS 1401
Baltimore, Maryland 21203

October 31, 2012

Mr. Chris Wieberg
Chief, Operating Permits Section
Water Protection Program
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

Re: Permit Renewal Application
Missouri Operating Permit Number MO-0115690
Northrop Grumman Guidance and Electronics Company, Inc.
4811 West Kearney
Springfield, Missouri

Dear Mr. Wieberg:

On behalf of Northrop Grumman Guidance and Electronics Company, Inc. (Northrop Grumman) attached please find a permit renewal application for Operating Permit MO-0115690 associated with the former Northrop Grumman manufacturing facility located at 4811 West Kearney, Springfield, Missouri. Since the last permit renewal, manufacturing operations were discontinued in 2007 and the buildings were razed. There are no longer any industrial operations at the site.

Current site activity is limited to work being conducted under a Consent Decree and Settlement (Consent Decree) between the State of Missouri and Northrop Grumman entered June 1, 2011. Under the Consent Decree, Northrop Grumman is undertaking remediation of on-site and off-site impacted soils and will conduct a feasibility study for groundwater, with an agreement to negotiate in good faith to implement a groundwater remedy. An Interim Remedial Measure (IRM) is also being implemented for the extraction and treatment of groundwater.

Remedial technologies to address soil impacts include: (1) installation and operation of an electrical resistive heating (ERH)/soil vapor extraction (SVE) system in and around selected areas of concern (AOCs) to volatilize and remove volatile organic compounds (VOCs) from the impacted soils, and (2) installation of engineered barriers in and around selected AOCs to address soils impacted with metals. Additional measures such as installation of engineering controls and implementation of best management practices (BMPs) are complete and are regularly upgraded to limit potential impact to storm water. These Stormwater improvement features have been documented within Discharge Monitoring Reports submitted to Mr. Kevin Hess at the Southwest Regional Office.

Remedial activities at this site are being conducted with oversight from Mr. Evan Kifer with the Superfund Section of the Missouri Department of Natural Resources (MDNR) Hazardous Waste Program.

As a result of ongoing remedial activities described above, we believe that discharged water quality has improved at the site. Thus, constituent concentrations (Form C, effluent characteristics) at the site reported in the 2006 permit application have likely decreased or stayed the same. In this renewal application, we have updated the applicable parameters in Form C with available site data including those measured quarterly as required by our permit. Therefore, data provided in the application should be sufficient for renewing operating permit requirements. Please note that data for the Outfall 005 location was not provided due to insufficient flow during rainfall events, which prohibited the collection of a sample.

Since the last permit renewal, all primary industry activities (SIC Code: 3672) have been discontinued and all structures housing previous industrial activities have been razed. Therefore, we would like to request a meeting with representatives from MDNR's Operating Permits Section and Hazardous Waste Program to discuss permit requirements, technical questions regarding permit limit derivations and the possibility of administering work related to stormwater controls under MDNR's Superfund program.

Please feel free to contact Mr. Adam Saylor on (410) 993-7080 if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Jay Tolle". The signature is written in a cursive, flowing style.

Jay Tolle, Sector Manager
Environmental Resources
Electronic Systems

Enclosures

cc:

Adam Saylor (Northrop Grumman)
Donna Kreis (Northrop Grumman)
Jeff Kuzemchak (Northrop Grumman)