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Hanford Site Storm Water Comprehensive Site Compliance Evaluation Report for the Reporting Period July 1, 1996 through June 30, 1997

C. J. Perkins
Waste Management Federal Services, Inc.,
Northwest Operations,
Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

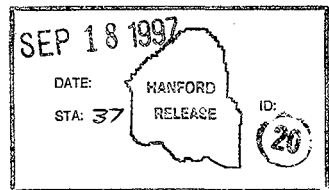
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Abstract: This document contains the results of inspections of the storm water outfalls listed in WHC-SD-EN-EV-021, Rev. 1, *Hanford Site Storm Water Pollution Prevention Plan*.

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Jamie Bialaya 9/18/97
Release Approval Date

Approved for Public Release

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ACRONYMS

BHI	Bechtel Hanford, Inc.
BMP	Best Management Practice
DYN	DynCorp Tri-Cities Services, Inc.
EPA	U.S. Environmental Protection Agency
NPDES	National Pollutant Discharge Elimination System
PNNL	Pacific Northwest National Laboratory
PPT	Pollution Prevention Team
RL	U.S. Department of Energy, Richland Operations Office
SWCSCE	Storm Water Comprehensive Site Compliance Evaluation
SWPPP	Storm Water Pollution Prevention Plan
WMFSNW	Waste Management Federal Services, Inc., Northwest Operations

HANFORD SITE COMPREHENSIVE SITE COMPLIANCE EVALUATION REPORT

1.0 INTRODUCTION

On September 9, 1992, the U.S. Environmental Protection Agency (EPA) issued General Permit No. WA-R-00-000F, *Authorization to Discharge Under the National Pollutant Discharge Elimination System (NPDES) for Storm Water Discharges Associated with Industrial Activity* to the U.S. Department of Energy, Richland Operations Office (RL).

RL submitted a Notice of Intent to comply with this permit to EPA in conformance with the General Permit requirements on October 1, 1992. On February 14, 1994, EPA issued a *Storm Water General Permit Coverage Notice* and assigned WA-R-00-A17F as the Hanford Site's National Pollutant Discharge Elimination System (NPDES) storm water permit number.

The *Hanford Site Storm Water Pollution Prevention Plan (SWPPP)* (WHC 1996a) was certified by J. E Rasmussen, Director Environmental Assurance, RL, on September 24, 1996, in compliance with Part IV.B(i) of the General Permit.

As required by General Permit No. WA-R-00-000F (WA-R-00-A17F), Section IV, Part D, Section 4.c, an annual report must be developed by RL and retained on site to verify that the requirements listed in the General Permit are being implemented. The previous *Hanford Site Storm Water Comprehensive Site Compliance Evaluation Report* (WHC 1996b) addressed the period from July 1995 through June 1996.

This document fulfills the requirement to prepare an annual report and contains the results of inspections of the storm water outfalls listed in the SWPPP (WHC 1996a). This report also describes the methods used to conduct the *Storm Water Comprehensive Site Compliance Evaluation* (SWCSCE) as required in Part IV, Section D.4.c in the General Permit; summarizes the results of the compliance evaluation; and documents significant leaks and spills.

The reporting year for this SWCSCE report is July 1, 1996 through June 30, 1997.

2.0 METHODOLOGY

The Pollution Prevention Team (PPT) members in each area surveyed the storm water outfalls to determine the discharge status. In addition, the 183-N Facility chlorine use areas were inspected for the conditions identified in Section 8.4 of the SWPPP.

Appendix 1 contains a list of the PPT members, the outfalls each team member inspected, and the inspection dates.

Appendix 2 contains the Hanford Site SWCSCE results. These reports are based upon site inspections performed by the cognizant PPT member. The

inspections consisted of a walk-around of the site, observation of physical and topographical features, including signs of change and/or erosion, evaluation of potential contamination, and effectiveness of applicable Best Management Practices (BMP) for the site.

Appendix 3 contains an updated list of significant spills and leaks as defined in the General Permit.

3.0 RESULTS

Corrective actions have been identified for the storm water outfalls that were determined during inspection to require additional action to minimize the potential discharge of pollutants to the Columbia River as a result of storm water runoff. Those outfalls that were identified as being NPDES permitted for industrial process discharge were removed from this SWCSCE report and the current SWPPP, but will be monitored for changes in permit status.

The Pacific Northwest National Laboratory (Pacific Northwest) operates and maintains research and development laboratories (SIC 8731) and is not subject to the storm water regulations. However, the Pacific Northwest contributes to the SWCSCE and SWPPP as a BMP for potential outfalls associated with laboratory operations within the 300 Area. A review of the 300 Area outfalls A, B, and D was performed and did not reveal any activities or operations, or spills of hazardous substances that would contribute pollutants to the Columbia River.

Outfall J-15 (100 F Area) was not included as part of this evaluation. The PPT members for Pacific Northwest have historically inspected this outfall. Pacific Northwest maintains two vacant facilities, WBF-1 and WBF-2, which are adjacent to outfall J-15 (boat ramp). There are not current or historical operations associated with these facilities that could contribute pollutants to outfall J-15. Pacific Northwest further recommends that this outfall be deleted from the SWCSCE and SWPPP since the storm water regulations do not apply to this location.

In addition to the SWCSCE, the PPT participated in a surveillance of implementation of the SWPPP conducted by Mr. Randy Krekel of RL on August 14, 1997. The results of this surveillance indicate that:

- numerous SWPPP requirements are not specifically incorporated into Hanford contractor manuals or procedures
- other requirements in the SWPPP appear to be unfulfilled
- some of the SWPPP requirements/commitments are viewed by the contractors as outdated or unnecessary.

An effort is underway by the PPT to review the SWPPP in detail to identify all requirements/commitments and then assess the necessity of the requirements/commitments. The SWPPP will then be revised to specify only the needed requirements.

4.0 REFERENCES

WHC, 1996a, *Hanford Site Storm Water Pollution Prevention Plan*, WHC-SD-EN-EV-021, Rev. 1, Westinghouse Hanford Company, Richland, Washington.

WHC, 1996b, *Hanford Site Storm Water Comprehensive Site Compliance Evaluation Report*, WHC-SD-ENV-EE-001, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

APPENDIX 1

POLLUTION PREVENTION TEAM MEMBERS

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HANFORD SITE POLLUTION PREVENTION TEAM MEMBERS
Report Period 07/01/96 to 06/30/97

Member: T. J. Lazarski (Tom)	Company: PNNL Office Phone: 376-7632
Responsibilities: 300 Area Storm Water Outfalls A,B,D	Inspection Dates: 7/21,22/97

Member: B. P. Atencio (Brad)	Company: PNNL Office Phone: 376-8662
Responsibilities: 300 Area Storm Water Outfalls A,B,D	Inspection Dates: 7/21,22/97

Member: J. P. Zoric (Joe)	Company: BHI Office Phone: 373-4315
Responsibilities: 100 B/C Area Storm Water Outfalls A, B, C 100 D Area Storm Water Outfalls A, B 100 F Area Storm Water Outfalls B, C, F, G, H 100 H Area Storm Water Outfalls A, C, D, E, F, G, H, I, J 100 K Area Storm Water Outfalls A, B, E, F, G 100 N Area Storm Water Outfalls D, E, F, G, I, J, K, L 100 Area Spills and Releases	Inspection Dates: 8/14/97 8/14/97 8/14/97 8/18/97 8/14/97 8/18/97

Member: J. G. Woolard	Company: BHI Office Phone: 372-9649
Responsibilities: 100 B/C Area Storm Water Outfalls A, B, C 100 D Area Storm Water Outfalls A, B 100 F Area Storm Water Outfalls B, C, F, G, H 100 H Area Storm Water Outfalls A, C, D, E, F, G, H, I, J 100 K Area Storm Water Outfalls A, B, E, F, G 100 N Area Storm Water Outfalls D, E, F, G, I, J, K, L 100 Area Spills and Releases	Inspection Dates: 8/14/97 8/14/97 8/14/97 8/18/97 8/14/97 8/18/97

Member: M. R. Gunter (Michelle)	Company: DYN Office Phone: 372-3960
Responsibilities: 300 Area Storm Water Outfalls E-I 300 Area Spills and Releases 100 B/C Area Storm Water Outfall E 100 D Area Storm Water Outfall C	Inspection Dates: 6/27/97 6/30/97 6/30/97

Member: C. J. Perkins (Craig)	Company: WMFSNW Office Phone: 372-8042
Responsibilities: Compilation of Comprehensive Site Compliance Evaluation Report	

APPENDIX 2

STORM WATER COMPREHENSIVE SITE COMPLIANCE EVALUATION RESULTS

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Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 B/C Area Figure A-1, Sheet 2	A	1	Storm water runoff could flow over riprap to close proximity of the river. The riprap is located in the area of the 116-C-4 Outfall. This area is posted as "Underground Radioactive Material." On the terrace above the riprap is a roped-off area that is posted "Danger - Keep Away." The riprap creates a channel toward the river and is comprised of irregularly shaped 0.3 to 0.9 meter (one to three feet) diameter rocks. The riprap is approximately six meters (20 feet) wide and is moderately sloped to the river.	Underground radioactive material	Riprap acts as BMP to decrease runoff velocity and stabilize slope. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 B/C Area Figure A-1, Sheet 2	B	2	Storm water runoff could flow over riprap to within meters of the river. The riprap is in the area of the 116-B-8 Outfall which has been demolished and covered with dirt. On the terrace above the riprap is a 9 x 9 meter (30 x 30 foot) roped-off area that is posted "Contamination Area." This site is identified in the Quarterly Environmental Radiological Survey Summary (WHC-SP-0665-11). The riprap is comprised of irregularly shaped 0.3 to 0.9 meter (one to three feet) diameter rocks. The riprap and extensions of the bank created several channels that come together half-way down the bank to form a single riprap channel approximately 12 meters (40 feet) wide that leads to the river.	Surface radioactive material	This outfall has been demolished and covered with dirt. There is no access to the river. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 B/C Area Figure A-1, Sheet 3	C	3	At the top of the gently-to-moderate sloped bank, above the flume, is the concrete outfall structure. This area is labeled on selected maps as the "116-B-7 Outfall." It is fenced and posted as "Contamination Area." This site is identified in the Quarterly Environmental Radiological Survey Summary (WHC-SP-0665-11). The configuration of the outfall structure is such that storm water coming in contact with the interior of the structure would not overflow to the bank and reach the river.	Surface radioactive material	There is no pathway for the surface contamination to reach the river. No action required.
100 B/C Area Figure A-1, Sheet 3	E	5	Storm water runoff would come in contact with Building 181B and surrounding materials. The north side of the facility is in direct contact with the river. A gravel/asphalt parking lot is located on the south side. Storm water runoff from the parking lot could drain towards the river through a hole in a concrete retaining wall which extends from the east side of 181B. Transformers located to the southeast of Building 181B have secondary containment that drained to the former inlet screen backwash trench. This drain line was sealed in August 1996.	None identified	No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 D Area Figure A-4, Sheet 2	A	1	A concrete flume, which is labeled on selected maps as "116-DR-5," extends from the bank into the river. The flume is surrounded by natural vegetation and river rock. The concrete walls would channel storm water flow into the river. The river bank is moderately sloped. The area up-slope of the flume is posted as "Underground Radioactive Material."	Underground radioactive material	The area posted as containing underground radioactive material is stabilized. No action required.
100 D Area Figure A-4, Sheet 2	B	2	A concrete flume, which is labeled on selected maps as "116-D-5" outfall, formerly called 1904-D, extends from the bank into the river. The concrete walls could channel storm water flow into the river. At the river's edge, concrete has been crudely poured into the flume in an apparent attempt to cover the flume and block flow. The flume is surrounded by natural vegetation and river rock. The river bank is moderately sloped. The portion of the flume up-slope of the river bank has been backfilled and is covered within vegetation. This area is posted as "Underground Radioactive Material Area." The portion of the outfall structure on the terrace above the flume is posted as a "Contamination Area."	Surface and underground radioactive material	There is no pathway for the contamination to reach the river. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 D Area Figure A-4, Sheet 3	C	3	Storm water runoff may come in contact with Building 181-D and surrounding materials. North side of the building is in direct contact with the river. A gravel parking lot and electrical transformers are located on the south side of the facility. Two nearby large transformers, classified as "PCB Contaminated" (50-499 ppm PCBs), are provided with secondary containment. Four smaller non-PCB transformers do not have secondary containment but due to their location and condition would not be expected to be a pollutant source.	None identified	No action required
100 F Area Figure A-6, Sheet 3	B	4	The 118-F-5 Area is located 154 meters (500 feet) from a drainage channel to the river. The area appears as a flattened burial mound and is covered with gravel. Buried waste at this site is covered by approximately 4.5 meters (15 feet) of clean material. Posted as "Underground Radioactive Material."	Underground radioactive material	No source of contamination. Underground radioactive material stabilized with gravel. No action required.
100 F Area Figure A-6, Sheet 4	C	5	Located outside the NE corner of 107-F is an area covered with gravel that slopes gently toward the river. Some of the graveled area is posted as "Underground Radioactive Material."	Underground radioactive material	Underground radioactive material stabilized with gravel. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 F Area Figure A-6, Sheet 4	C	6	The gravel lot has been built-up over an area identified on some maps as the "Animal Waste Leaching Trench." The area is posted as "Underground Radioactive Material."	Underground radioactive material	No action required. Underground radioactive material stabilized with gravel.
100 F Area Figure A-6, Sheet 4	F	9	A concrete flume extended from the riverbank into the river. The concrete walls could channel storm water runoff flow. The flume is surrounded by river rock and the riverbed. According to facility maps, the flume was previously a discharge point for cooling water from 107-F. The outfall is labeled 116-F-8 and is deactivated. Up-slope of the outfall is an area posted as "Underground Radioactive Material".	Underground radioactive material	Underground radioactive material has been stabilized. No action required.
100 F Area Figure A-6, Sheet 4	G	11	A concrete flume extends from the riverbank into the river. The concrete walls could channel storm water runoff flow. The flume, which is labeled as the "PNNL Outfall" on some site maps, is surrounded by river rock and riverbed. Up-slope of the outfall is an area posted as "Underground Radioactive Material."	Underground radioactive material	Underground radioactive material has been stabilized. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 F Area Figure A-6, Sheet 5	H	12	An open 20 centimeter (eight inch) diameter vertical pipe extends from the ground in an area to the north of the demolished 181-F Intake Facility. The area surrounding the pipe is covered by rock and natural vegetation. The pipe was probably once connected to the demolished 181-F Intake Facility. H-12 and H-13 are collocated; however, only one pipe could be identified in the field.	None identified	No action required. This point source conveyance will not be included in future inspections as there is no storm water or pollutant source.
100 F Area Figure A-6, Sheet 5	H	13	Another open 20 centimeter (eight inch) diameter vertical pipe extends from the ground in an area to the north of the demolished 181-F Intake Facility. The area surrounding the pipe is covered by rock and natural vegetation. The pipe was probably once connected to the demolished 181-F Intake Facility. H-12 and H-13 are collocated; however, only one pipe could be identified in the field.	None identified	No action required. This point source conveyance will not be included in future inspections as there is no storm water or pollutant source.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 F Area Figure A-6, Sheet 6	J	15	Storm water runoff drains to the river via a paved boat ramp, which is adjacent to the WBF-1 and WBF-2 Buildings. The area is moderately sloped and consists of parking and roadways that are gravel. This outfall results from non-industrial sources. Building vacated in FY 1996. Outfall was not inspected.	None identified	No action required.
100 H Area Figure A-5, Sheet 2	A	1	A 13 centimeter (five inch) diameter pipe is present that could discharge to a 3-sided concrete dry well. A natural drainage channel is visible that extends from the dry well to the River. The area is gently sloped with dirt, river rocks and natural vegetation, which includes a couple of trees. Believed to be a Hanford Irrigation District weir box left from the pre-Manhattan Project era.	None identified	No surface or process source exists. No action required. This point source conveyance will not be included in future inspections as there is no source of contamination.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 H Area Figure A-5, Sheet 2	C	3	An open 30 centimeter (12 inch) diameter pipe is embedded in a concrete square located at the top of the river bank. It has been identified as a culvert draining the upland side of the adjacent road. The upper portion of the bank is steeply sloped and has a natural ravine that extends from the head of the pipe. The lower portion is moderately sloped toward the river. The area is covered with river rock and natural vegetation.	None identified	No action required.
100 H Area Figure A-5, Sheet 2	D	4	Storm water runoff could flow over the remnants of the demolished 116-H-5 structure. The remnants include concrete steps and large concrete blocks. Additional rock has been placed as riprap on the slope. The bank is moderately sloped until the steep wall of the large concrete blocks. Below the concrete blocks, the bank is relatively flat. The area on the terrace above the river is posted as "Underground Radioactive Material."	Sediments, underground radioactive material	Riprap acts as BMP to decrease runoff velocity and stabilize slope. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 H Area Figure A-5, Sheet 2	E	5	Storm water runoff could flow over the riprap to within feet of the river. According to the maps, the riprap was probably placed over the remnants of the demolished 116-H-5. The riprap is moderately sloped with virtually no vegetation. The area on the terrace above the river is posted as "Underground Radioactive Material."	Sediments, underground radioactive material	Riprap acts as BMP to decrease runoff velocity and stabilize slope. No action required.
100 H Area Figure A-5, Sheet 3	F	6	A 33 centimeter (thirteen inch) diameter "closed" corrugated pipe is embedded in a square concrete block located at the top of the river bank. The end of the pipe has a piece of sheet metal covering the majority of the opening. It has been identified as a culvert draining the upland side of the adjacent road. The bank below is moderately sloped with natural vegetation.	None identified	No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 H Area Figure A-5, Sheet 3	G	7	Storm water runoff could flow from a gravel roadway and terrace area through an erosion area that surrounds a concrete headwall on the river bank, draining the upland side of the adjacent road. Erosion begins within feet of the gravel roadway and has removed rock and soil behind the concrete headwall. Near the roadway the bank is steeply sloped. Below the headwall the bank is moderately sloped to the river. The bank is covered with natural vegetation.	Sediments	Natural vegetation and gravel on bank acts as BMP to decrease runoff velocity and stabilize slope. No action required.
100 H Area Figure A-5, Sheet 3	H	8	A 33 centimeter diameter "closed" corrugated pipe is embedded in a square concrete block located near the top of the river bank. The end of the pipe has a piece of sheet metal covering the majority of the opening. It has been identified as a culvert draining the upland side of the adjacent road. The bank below is moderately sloped with natural vegetation.	None identified	No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 H Area Figure A-5, Sheet 3	I	9	A 15 centimeter (six inch) diameter pipe of unknown origin extends horizontally out of the river bank. The discharge point is approximately 3 meters (10 feet) below the top of the bank. The pipe does not appear to be supported and is not covered or capped. It is believed to be an old storm water culvert from construction days. The bank is moderately sloped with natural vegetation.	None identified	No action required.
100 H Area Figure A-5, Sheet 3	J	10	A 46 centimeter (18 inch) diameter corrugated pipe of unknown origin extends horizontally out of the river bank. The discharge point is near the top of the bank and approximately 40 meters (131 feet) from the river. The pipe does not appear to be supported and is not covered or capped. The upper portion of the bank is moderately sloped and is covered with river rock and dirt. The lower portion of the bank is gently sloped with natural vegetation.	Sediments	Natural vegetation on bank acts as BMP to decrease runoff velocity and stabilize slope. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 H Area Figure A-5, Sheet 4	L	13	An area of the river bank near Well 99-42 was covered with rubble, including wood and metal debris. The metal debris, a potential pollutant source, was removed during FY-97. The bank is moderately steep and is covered predominantly with river rock.	None identified	Metal debris that was a potential contaminant source has been removed. This point source conveyance will not be included in future inspections as there is no contaminant source. No action required.
100 K Area Figure A-2, Sheet 2	A	1	A 41 cent (16 inch) culvert is present west of 100-K perimeter access road and east of 107-KE access road. Outfall is the floodplain just north of the perimeter access road. Areas potentially drained from this culvert are posted as radiological "Contamination Areas." No source of runoff other than from precipitation is expected.	Surface radioactive material	Outfall is approximately 320 meters (1,050 feet) from the river and not a storm water discharge to the river. No action required.
100 K Area Figure A-2, Sheet 2	A	2	A 41 centimeter (16 inch) culvert is present south of 100-K perimeter access road around the 107-KE retention basins. Outfall is the floodplain just north of perimeter access road. Areas potentially drained from this culvert are posted as "Contamination Areas." No source of runoff other than from precipitation is expected.	Surface radioactive material	Outfall is approximately 200 meters (656 feet) from the river and is not a storm water discharge to the river. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 K Area Figure A-2, Sheet 2	B	3	An eroded trench located immediately north and east of the 1908-K outfall structure. Erosion is due to overflow during maximum water usage when the 100-K reactors were running. Since the reactors are no longer running, the overflow trench is no longer in use. Posted as "Contamination Area." Point source conveyance B-3 and E-9 are located within the floodplain between 181-KW and 181-KE facilities. This entire area down to just above the river is posted as a "Contamination Area." The river back along this area will be added to future inspections.	Surface radioactive material	There is no discharge to the trench. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 K Area Figure A-2, Sheet 3	E	9	Two 41-centimeter (16-inch) culverts are present that could drain the area south of 100-K perimeter access road around the 107-KW retention basins. The outfall is the floodplain just north of perimeter access road. Areas potentially drained from this culvert are posted as "Contamination Areas." No source of runoff other than from precipitation is expected. Point source conveyance B-3 and E-9 are located within the floodplain between 181-KW and 181-KE facilities. This entire area down to just above the river is posted as a "Contamination Area." The river back along this area will be added to future inspections.	Surface radioactive material	150 meters (492 feet) from the river. No action required.
100 K Area Figure A-2, Sheet 3	F	10	A 41-centimeter (16-inch) culvert is present that could drain the area south of 100-K perimeter access road just east of 181-KW access road. The outfall is the floodplain just north of perimeter access road. Areas potentially drained from this culvert are not in contamination areas, although the outfall is in a contamination area.	Surface radiative material	Outfall is approximately 160 meters (525 feet) from the river. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 K Area Figure A-2, Sheet 3	F	12	A 1.21 meter x 1.21 meter x 1.83 meter (4' x 4' x 6') basin is present in the deck of 181-KW pier. A 61 centimeter (24 inch) pipe extends east to the embankment and out to the river. Asbestos-wrapped pipes are present on the deck. The basin is not permitted like its 181-KE counterpart and is not capped. Runoff from 108-KW pier surfaces is expected to outfall directly to the river.	Asbestos-wrapped pipes	Asbestos abatement (encapsulation of the piping) is completed at this location. No source of contaminants. No action required.
100 K Area Figure A-2, Sheet 2	F	13	A 3-in. diameter pipe (raw water drain line) with a valve adjacent to the 181-KW fence is present on the east side.	None identified	181-KW Building is deactivated. Discharge from pipe is unlikely and there is no storm water or pollutant sources. No action required. This point source conveyance will not be included in future inspections.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 K Area Figure A-2, Sheet 2	G	11	A 41-centimeter (16-inch) culvert is present that could drain the area south of 100-K perimeter access road at north west corner of 100-K controlled area, with outfall west of 181-KW access road. Neither the outfall itself nor the areas potentially drained from this culvert are in radiological surface contamination areas.	None identified	Outfall is approximately 120 meters (394 feet) from the river. No source of contamination. No action required. This point source conveyance will not be included in future inspections.
100 N Area Figure A-3, Sheet 3	D	8	Erosion point in terrace that drains from the terrace above the riverbank. Drains to E-9. Potential drainage from adjacent gravel area and asphalt area surrounding 107N via local gutters.	Sediments	Repair erosion point. Storm water gutter cleaned out last year as a result of last inspection. However, additional action is required to repair the erosion point. This BMP should be scheduled with repair actions for E-9 and E-10.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 N Area Figure A-3, Sheet 3	E	9	Major erosion point in terrace that drains to riverbank. Potential drainage from adjacent gravel area and asphalt area surrounding 107N via local gutters. Storm water gutter has failed since last inspection in this area so storm water runs into this erosion point. Noted deterioration since last inspection.	Sediments	See D-8. Additional actions required to repair erosion point. This BMP should be scheduled with repair actions for D-8 and E-10.
100 N Area Figure A-3, Sheet 3	E	10	Erosion point in terrace that drains to riverbank. Potential drainage from adjacent gravel area and asphalt area surrounding 107N via local gutters.	Sediments	See D-8. Additional action required to repair erosion point. This BMP should be scheduled with repair actions for D-8 and E-9.
100 N Area Figure A-3, Sheet 3	F	11	Five centimeter (two inch) pipe. Previously used in leak detection system for 1304-N tank. Status: This system is deactivated and is not expected to be a storm water source.	Potential Radiological contamination inside pipe	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 N Area Figure A-3, Sheet 3	F	12	Four centimeter (1½ inch) pipe that was previously used in leak detection system for 1304-N tank. Status: This system is deactivated and is not expected to be a storm water source.	Potential Radiological contamination inside pipe	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.
100 N Area Figure A-3, Sheet 3	F	13	15 centimeter (six inch) pipe. Drain for 1304-N Tank. Status: Valve closed. Pipe is deactivated and is not expected to be a source of storm water.	Potential Radiological contamination inside pipe	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.
100 N Area Figure A-3, Sheet 3	G	14	Flume for outfall from 1908-N diversion system to river. Status: Outfall 008 has been discontinued and is no longer permitted under NPDES.	Sediments	No action required.
100 N Area Figure A-3, Sheet 4	I	16	2.54 centimeter (one inch) plastic pipe. Previously used as inlet for river water sampling. Status: deactivated. Could not locate this pipe during the annual inspection. No evidence that the pipe is still located in this area or contributes as a point source.	None identified	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 N Area Figure A-3, Sheet 4	I	17	Five centimeter (two inch) iron pipe. Status: Deactivated. Could not locate this pipe during the annual inspection. No evidence that the pipe is still located in this area or contributes as a point source.	None identified	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.
100 N Area Figure A-3, Sheet 4	I	18	1.3 centimeter (0.5 inch) plastic pipe. Previously used as inlet for river water sampling. Status: Deactivated. Could not locate this pipe during the annual inspection. No evidence that the pipe is still located in this area or contributes as a point source.	None identified	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.
100 N Area Figure A-3, Sheet 4	I	19	30 centimeter (12 inch) culvert drains from south of 181-N to the riverbank. Status: Receives drainage from terrace above.	None identified	No action required.
100 N Area Figure A-3, Sheet 4	I	20	Ten centimeter (four inch) iron pipe. Status: Active. Discharges storm water to rip-rap at top of river bank. Source is from non-contaminated terrace above.	None identified	No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 N Area Figure A-3, Sheet 4	I	21	Ten centimeter (four inch) iron pipe (drain line for raw water). Status: This system is deactivated and is not expected to be a storm water source.	None identified	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.
100 N Area Figure A-3, Sheet 4	I	22	Five centimeter (two inch) iron pipe. Previously used for return line of sampling water received from river water sampling. Status: This system is deactivated and is not expected to be a storm water source.	None identified	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.
100 N Area Figure A-3, Sheet 4	J	23	30 centimeter (12 inch) pipe with screen. Pipe was drain line to raw water supply piping to 182N. Status: This system is deactivated and is not expected to be a storm water source.	None identified	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.
100 N Area Figure A-3, Sheet 4	J	24	30 centimeter (12 inch) pipe, capped. Believed to be a drainage line from 181-N. Status: This system is deactivated and is not expected to be a storm water source.	None identified	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
100 N Area Figure A-3, Sheet 4	J	25	30 centimeter (12 inch) pipe. Believed to be a drainage line from 181-N. Status: This system is deactivated and is not expected to be a storm water source.	None identified	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.
100 N Area Figure A-3, Sheet 4	K	26	6.35 centimeter (2½ inch) pipe. Pipe was drain line to raw water piping in 182N. Status: Deactivated process piping that is not expected to be a storm water source. Raw water return from 182-N.	None identified	No action required. This point source conveyance will be removed from future inspections as there is no storm water source.
100 N Area Figure A-3, Sheet 4	L	27	15 centimeter (six inch) aluminum pipe. Status: Deactivated process piping. 182-N water tank system. Could not locate this pipe during the annual inspection. No evidence that the pipe is still located in this area or contributes as a point source.	None identified	No action required. This point source conveyance will be removed from future inspections.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
300 Area Figure A-7, Sheet 2	A	1	An underground pipe drains storm water from the roadway area between the north side of Building 331-C and the south side of Building 331 to an open trench that runs east to west between Buildings 331-D and 331-E. The open trench is piped to a culvert passing beneath a gravel roadway and the perimeter fence. The discharge is approximately 35 meters (115 feet) from the river. The bank is moderately sloped with natural vegetation. This outfall results from non-industrial sources.	None identified	No direct discharge. No action required.
300 Area Figure A-7, Sheet 2	B	2	Located southeast of Building 331, a 38 centimeter (15 inch) diameter pipe in a drainage ditch allows runoff from the paved parking area, which has a large gravel border, to drain to the river. The bank is moderately sloped with natural vegetation. This outfall results from non-industrial sources. The outfall is approximately 78 meters (256 feet) from the river bank.	None identified	No direct discharge. No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
300 Area Figure A-7, Sheet 2	D	4	Storm water from the paved parking area located northeast of Building 331 flows out a channelled opening in the concrete curb and a 30 centimeter (12 inch) pipe into a ditch, draining under a graveled road in a 38 centimeter (15 inch) pipe to another ditch with a 30 centimeter (12 inch) pipe heading toward the river. The outfall is approximately 80 meters (263 feet) from the river. The area is gently sloped with natural vegetation. This outfall results from non-industrial sources.	None identified	No direct discharge. No action required.
300 Area Figure A-7, Sheet 3	E	5	New parking lot was installed in 1994 with grass planted between the parking area and the river to reduce runoff.	None identified	Periodic visual inspections will be performed to assess runoff. No action required.
300 Area Figure A-7, Sheet 3	F	6	A sump that received the 309 Process sewer discharge has been abandoned in-place. Runoff will not enter this sump because of a raised concrete slab. When the new parking lot was constructed in 1994, grass was planted between the parking lot and the river to reduce runoff.	None identified	No action required.

Map Reference No.	General Discharge Location to River	Potential Point Source Conveyance	Description/Current Status Inspection Date:	Potential Storm Water Pollutant Sources	Best Management Practice(s)
300 Area Figure A-7, Sheet 3	G	7	Storm water runoff could flow from an area at the eastern end of Locust Street over a dirt road that slopes gently towards the river. The road provides access to the river and the 312 Intake structure. Lower portions of the bank are gently sloped and covered with natural vegetation.	None identified	Will perform periodic visual inspection to assess runoff. No action required.
300 Area Figure A-7, Sheet 3	H	8	A steeply sloped bank east of the 315 Building has significant erosion. There are four distinct erosion areas in which storm water flows towards the river. High river levels in 1997 thinned the natural vegetation on the lower portion of the bank. There is a partial retaining wall along the river. In September 1996, rocks were placed along the perimeter fence to reduce the velocity of the runoff down the bank, and as a result, reduce erosion.	Sediments	Periodic visual inspections will be performed to assess runoff. No action required.
300 Area Figure A-7, Sheet 3	I	9	Storm water runoff from the area around Buildings 3769 and 3770 and the adjacent roadway could flow eastward through a natural ravine that slopes gently toward the river. Railroad ties are placed end-to-end adjacent to the roadway to reduce the runoff and erosion from this area. The ravine is covered with rock and dirt as well as natural vegetation.	Sediments	Periodic visual inspections will be performed to assess runoff. No action required.

APPENDIX 3
HANFORD SITE LIST OF SIGNIFICANT SPILLS AND LEAKS

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100-B/C, D, F, H, K, N and 300 AREAS

Report Period: July 1, 1996 to June 30, 1997*

* - Recorded below are all significant spills and significant leaks of toxic or hazardous pollutants that have occurred during the reporting period.

Definitions: Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of reportable quantities.

Date (month/day/yr)	Spill	Leak	Location (as indicated on site map)	Description				Response Procedure		Preventive Measures Taken
				Type of Material	Quantity	Source, if known	Reason	Amount of Material Recovered	Material No Longer Exposed to Storm Water (Y/F)	
None Reported										