

US EPA ARCHIVE DOCUMENT

**FINDING OF SUITABILITY
FOR EARLY TRANSFER
(FOSET)**

**SUNFLOWER ARMY AMMUNITION PLANT
DESOTO, KS**

February 2005

**ENVIRONMENTAL MANAGEMENT OFFICE
SUNFLOWER ARMY AMMUNITION PLANT (SFAAP)
DESOTO, KANSAS**

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FOR THE
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1.0 BACKGROUND

Sunflower Army Ammunition Plant (“Sunflower”) is a military installation comprising approximately 9,065 acres of land. It is located near the city of DeSoto, Johnson County, Kansas. In 1941, the United States of America (hereinafter sometimes referred to as the “Government” or “Grantee”) acquired ownership of the Sunflower site. Sunflower was subsequently constructed on the site and used by the U.S. Army to manufacture propellants until 1992. In 1997, the U.S. Army determined Sunflower was excess to its needs and available for disposal.

In February 2003, the Army prepared a preliminary Sunflower Finding of Suitability for Early Transfer (“Preliminary Sunflower FOSET”) to provide the information necessary for the Governor of Kansas to make a preliminary determination regarding the transfer of certain portions of Sunflower prior to completion of all remedial action. The Governor approved the Preliminary Sunflower FOSET on July 24, 2003. The Preliminary Sunflower FOSET noted that a final FOSET would be prepared upon the development of a KDHE/Developer Consent Order and other agreements relating to the transfer of Sunflower. The Army has prepared this final FOSET to complete the transfer of Sunflower. A copy of the Preliminary Sunflower FOSET and the Governor’s approval is available at:

http://propertydisposal.gsa.gov/mip/army/sunflower/sunflower_library.asp, or at:
http://www.sfaap.net/Sunflower_Preliminary_FOSET.htm.

In October 2004, legislation was enacted to authorize the U.S. Army in consultation with the General Services Administration to convey Sunflower to an entity selected by the Johnson County Board of Commissioners. A copy of the Sunflower transfer legislation is provided at Enclosure 1 (“Sunflower Act”). The purpose of the conveyance is to facilitate the re-use of the property for economic development and revitalization. Sunflower Redevelopment, LLC (“Developer”) has been selected by Johnson County as the entity to acquire Sunflower. As part of the property transfer, the Developer will assume responsibility for cleaning up environmental contamination and conducting a munitions response to address any explosive hazards on approximately 5,342 acres of property at Sunflower AAP. The environmental cleanup will be performed pursuant to a Consent Order issued by the Kansas Department of Health and Environment (“KDHE”). The munitions response will be performed in accordance with Department of Defense Explosive Safety Board (“DDESB”) requirements. See Section 5.0 for additional information.

2.0 PURPOSE

When a federal agency transfers real property, the deed must contain a covenant warranting that all remedial action necessary to protect human health and the environment has been taken before the date of transfer. The Governor of the State may approve the deferral of the

CERCLA Covenant requirement pertaining to federal property that is not listed on the National Priorities List (“NPL”). See 42 U.S.C. §9620(h)(3)(C). The purpose of this Finding Of Suitability for Early Transfer (“FOSET”) is to provide the information necessary to allow the Governor of Kansas to make a determination regarding the deferral of the CERCLA Covenant requirement and the transfer of Sunflower prior to completion of all remedial action.

3.0 PROPERTY DESCRIPTION

Sunflower includes approximately 9,065 acres. A generic map of Sunflower is at Enclosure 2. This property includes approximately 3,723 acres where no hazardous substance releases have occurred and, therefore, no remedial action is required. The FOSET does not include these portions of Sunflower. The EPA Region VII will prepare a Statement of Basis identifying those portions of Sunflower where no additional remedial action was required. Upon approval of the Statement of Basis, the Army will provide the CERCLA Covenant that all necessary remedial action has been taken.

The Sunflower property includes approximately 2,826 acres, which potentially contain munitions constituents (i.e., explosive residues from past propellant manufacturing operations) present in high enough concentrations to pose an explosive hazard. The Preliminary Sunflower FOSET stated that the early transfer would not include areas containing explosive residue. These areas would be transferred after the required munitions response actions were completed. The Army and the Developer subsequently negotiated an agreement to have the Developer conduct the required munitions responses at Sunflower. Therefore, the Sunflower early transfer will include portions of Sunflower containing explosive residues with appropriate protective measures to ensure protection of human health and the environment. See Section 8.1 for additional information.

4.0 INTENDED REUSE

The Johnson County Board of Commissioners has selected Sunflower Redevelopment, LLC as the entity to acquire Sunflower. The purpose of the Sunflower conveyance is to facilitate the re-use of the property for economic developments and revitalization. The redevelopment of Sunflower will be subject to and consistent with the Johnson County Comprehensive Land Use Plan for Sunflower dated July 23, 1998. This Land Use Plan contemplates a broad spectrum of uses for the property, including residential, park/recreation, retail, commercial, light industrial, etc. A copy of the Johnson County Comprehensive Land Use Plan is available at: http://propertydisposal.gsa.gov/mip/army/sunflower/sunflower_library.asp, or http://www.sfaap.net/Sunflower_Final_FOSET.

5.0 FUTURE REMEDIATION

The Army and the Developer have negotiated the following documents to address the future remediation of Sunflower:

- Army/Developer Contract – The Army/Developer Contract sets forth the requirements for the investigation and remediation of environmental and explosive contamination at Sunflower. The Sunflower Act allows the Army to contract with the

entity selected by Johnson County, the Developer. Under the Army/Developer Contract, the environmental remediation will be conducted in accordance with the KDHE/Developer Consent Order and all applicable federal and state laws. In addition, the munitions response actions will be performed in accordance with the Explosive Safety Submission (“ESS”) approved by the DDESB. A copy of the draft Army/Developer Contract Statement of Work is provided as Enclosure 3.

- KDHE/Developer Consent Order – The Consent Order identifies the scope of the Developer’s investigation and remediation responsibilities and cleanup standards. Currently, the Army has been conducting remedial investigations and remedial actions in accordance with the SFAAP RCRA Hazardous Waste Management Permit. The Developer’s investigations and remediation actions will satisfy the requirements in the SFAAP RCRA permit, RCRA §3004(u) and (v) and CERCLA. The Sunflower remediation will be performed in accordance with applicable federal and state laws and will be subject to oversight by KDHE. In addition, the Army will monitor the Sunflower remediation to ensure compliance with the Army/Developer Contract. A copy of the draft KDHE/Developer Consent Order is provided at Enclosure 4
- ESS and ESS Amendment – In June 2000, the DDESB approved an ESS that identifies the procedures for investigation and completion of munitions response actions for above ground buildings and structures. The Army has prepared a draft ESS Amendment that provides updated information regarding the proposed Sunflower transfer and identifies procedures for investigation and completion of explosives response actions for foundations and sewer lines. The explosive remediation will be subject to oversight by the Army. The maps depicting the buildings, foundations, and sewer lines that pose an explosive hazard are provided at Enclosure 2. A copy of the ESS and draft ESS Amendment is provided at Enclosure 5.
- Army/KDHE Agreement – The Army and KDHE have prepared an agreement outlining the Army’s obligation to ensure that all remedial action is completed. Under this agreement the Army will remain ultimately responsible for ensuring that any and all necessary response actions are taken at Sunflower. If the Developer is unable to complete the work under the Consent Order or the Army is unable to perform its obligations under the Army/Developer Contract, the Army will cleanup Sunflower in accordance with Part II of the Sunflower RCRA Hazardous Waste Management Permit dated September 30, 1991. A copy of Army/KDHE Agreement is provided at Enclosure 6.

These documents provide the basic framework for ensuring that the Sunflower environmental and explosives remediation is completed in accordance with all applicable laws and regulations.¹

¹ The Preliminary Sunflower FOSET referenced the following documents:

- **KDHE/United States Environmental Protection Agency Region VII (“EPA”) Memorandum of Agreement (KDHE/EPA MOA)** – The Preliminary Sunflower FOSET was conditioned upon

6.0 RESPONSE ACTION ASSURANCES

The Sunflower early transfer will include the following response action assurances:

- The Deferred Covenant Deed shall include all necessary restrictions on the use of the property to ensure protection of human health and the environment. A summary of the environmental protection provisions to be included in the “Deferred Covenant Deed” is provided at Enclosure 7.
- The Deferred Covenant Deed shall ensure that the Property Owner will not disrupt required remedial investigations, response actions, and oversight activities. A summary of the restrictions to be included in the “Deferred Covenant Deed” is provided at Enclosure 7.
- The Consent Order (Enclosure 4, Exhibit 9) identifies the schedules for investigation and completion of the environmental response actions. The Army/Developer contract requires all munitions response actions to be completed within four years from the award of contract.
- The Army/Developer Contract Statement of Work (Enclosure 3) and the Army/KDHE Agreement (Enclosure 6) require the Army to submit a budget request to the Director of the Office of Management and Budget that adequately addresses schedules for investigation and completion of all necessary response actions.

These documents provide the response action assurance required by CERCLA Section 120(h)(3)(C)(ii). In addition, the Army acknowledges that notwithstanding the Army/Developer Contract or the Consent Order, the Army remains ultimately responsible for ensuring that any and all response actions are completed to the extent required by CERCLA Section 120(h).

completion of KDHE/EPA MOA defining roles and responsibilities for oversight of the Sunflower remediation. On _____, the KDHE/EPA MOA was finalized.

- **RCRA Hazardous Waste Management Permit** – The Preliminary Sunflower FOSET noted no later than 90 days prior to completing the Sunflower early transfer, the Army and Developer will request a modification to the permit to make the Developer the Owner and Operator. However, it has been determined that the Army will remain as an Operator on the SFAAP RCRA Hazardous Waste Permit even after the permit is modified for the Developer to become the Owner and Operator of the Permit. If the Developer is unable to complete the work under the Consent Order or the Army is unable to perform its obligations under the Army/Developer Contract, the Army will cleanup Sunflower in accordance with the Sunflower RCRA Hazardous Waste Management Permit.
- **State Agency/Developer Agreement** –The Preliminary Sunflower FOSET stated that prior to completing the Sunflower early transfer, the State Agency and the Developer would enter into an agreement outlining the conditions under which the State Agency will take title to Sunflower. The Sunflower Act allows the transfer of Sunflower directly to a developer selected by the Johnson County Board of Commissioners.

7.0 ENVIRONMENTAL CONDITION OF THE PROPERTY

Based on investigations, studies, and documentation, the Army has identified certain portions of Sunflower that contain hazardous substances that will require further investigation and response actions (See Section 8.2 below for additional information). This information was obtained as a result of a complete search of Army Department files developed during the Sunflower Environmental Baseline Survey dated August 1998 and through the RCRA Corrective Action process. A complete list of all environmental studies is found in Enclosure 8.

7.1 EXPLOSIVES HAZARDS

The Sunflower property includes approximately 2,826 acres, which potentially contain Munitions Constituents² (MC) from past propellant manufacturing operations present in high enough concentrations to pose an explosive hazard. Such MC is known to be present in buildings/structures, production equipment, industrial sewer/process lines, and foundations. In June 2000, the DDESB approved an ESS that identified the procedures for investigation and completion of munitions response actions for above ground buildings and structures. To date 1,429 buildings/structures have been disposed via thermal decomposition in accordance with the ESS. There are 109 explosive-impacted buildings/structures remaining that will be disposed of by the Developer pursuant to the Army/Developer Contract in accordance with the ESS. Any asbestos containing material (e.g., transite siding and roofing felt) will be removed from the buildings/structures to the extent practicable prior to thermal decomposition.

The Army has prepared a draft ESS Amendment that provides updated information regarding the proposed Sunflower transfer and identifies procedures for munitions response actions for foundations and sewer lines. There are approximately 2.2 million square feet of foundations, 162,000 linear feet of underground pipe, and 26,000 feet of above ground process/sewer lines that potentially contain MC in high enough concentrations to pose an explosive hazard. Under the Army/Developer Contract, the Developer will perform the explosive decontamination of the foundations and sewer lines in accordance with a DDESB-approved ESS Amendment.

Protective Measures – The Developer will mitigate any potential explosive hazards associated with the Sunflower Property by use of the perimeter fencing and warning signs and procedures to control unauthorized access to the Sunflower Property. In addition, the Developer will limit any excavation activities in areas with industrial sewer/production lines and foundations that pose a potential explosive hazard to munitions response actions required by the ESS or ESS Amendment. These measures will remain in place until such time as the necessary munitions response actions are completed. The maps depicting the areas at Sunflower that pose a potential explosive hazard are provided at Enclosure 2. A copy of the explosive safety deed restriction is provided at Enclosure 7.

² **Munitions Constituents (MC).** Any materials originating from unexploded ordnance (UXO), discarded military munitions (DMM), or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions. (10 U.S.C. 2710(e)(3)).

7.2 SOIL CONTAMINATION

There are 67 Solid Waste Management Units (“SWMUs”) and 22 Areas of Concern (“AOCs”) that have been identified from Army investigations. The main soil contaminant is Lead, along with propellant compounds including Nitrocellulose, Nitroglycerine, and Nitroguanidine. Small pieces of propellant may be present on the ground or in shallow soil. Sediments in drainage ditches and streams may be contaminated from past releases of hazardous constituents. Further investigation may be required to determine the extent of soil and sediment contamination within or beyond SWMU and AOC boundaries. The map depicting the location of the Sunflower SWMUs and AOCs is provided at Enclosure 2.

Protective Measures - The soil contamination poses a potential threat to human health through contact with and ingestion of contaminants. The Developer shall mitigate any immediate threat to human health from soil by limiting public access and restricting excavation activities until the soil contamination has been remediated. The remediation of the Sunflower soil contamination and propellants will provide long-term protection of human health and the environment. A copy of the excavation deed restriction is provided at Enclosure 7.

7.3 GROUNDWATER CONTAMINATION

The groundwater contamination has been detected at depths ranging from 0.5 feet to 41.5 feet in a limited portion of the site. The main groundwater contaminants are substances resulting from the degradation of propellants including nitrates, sulfates, and metals. Groundwater contamination has migrated outside certain SWMU boundaries inclusive of SWMUs 13, 27, 41, and 48. Further investigation is required to determine the extent of groundwater contamination within or beyond SWMU and AOC boundaries. Additional SWMUs, which may have contaminated groundwater, within or beyond their boundaries are: 2, 3, 4, 6, 7, 8, 9, 10, 12, 11, 14, 15, 16, 17, 18, 19, 21, 22, 24, 25, 30, 31, 33, 35, 36, 39, 40, 42, 43, 45, 47, 48, 49, 53, 54, 58, 64, 65 and 67.

Protective Measures - The groundwater contamination poses a potential threat to human health through contact with and ingestion of contaminated groundwater or to the environment if discharged to surface water. The Developer shall mitigate any immediate threat to human health from the groundwater through restricting groundwater usage. The remediation of the Sunflower groundwater contamination will provide long-term protection of human health and the environment. A deed restriction for groundwater usage shall be used until the contaminated groundwater is remediated to acceptable levels. A copy of the groundwater deed restriction is provided at Enclosure 7.

7.4 STORAGE, RELEASE, OR DISPOSAL OF HAZARDOUS SUBSTANCES

There are no ongoing hazardous substance storage activities at Sunflower. A summary of the buildings or areas in which hazardous substances were stored for more than one year, released, or disposed of in excess of 40 CFR 373 reportable quantities is provided in the attached Hazardous Substance Storage, Release, and Disposal Table (Enclosure 9).

7.5 PETROLEUM AND PETROLEUM PRODUCTS

There is evidence of past storage, release, or disposal of petroleum or petroleum products on the SFAAP Property. Recorded or suspected releases of petroleum or petroleum products may have occurred at SWMUs 7, 8, 9, 21, 32, 36, 38, 58, 65, 67, and AOCs 4, 8, 9. The AST/UST sites were cleaned up under the AST/UST removal program. The non-AST/UST sites have been cleaned-up under the installation restoration program or will be cleaned up as part of the Sunflower environmental remediation.

7.6 ASBESTOS

There were approximately 40 miles of asbestos insulated above ground steam lines at Sunflower. The remediation of the friable asbestos on the steam lines and in the soil under the steam lines was completed in December 2004. There is asbestos containing material (ACM) in and on the buildings on the property. The ACM includes transite siding, flooring, roofing, wallboard and pipe insulation. These buildings are scheduled to be demolished and any ACM in or on the buildings will be disposed by the Developer in accordance with applicable laws and regulations. The deed will include an asbestos warning and covenant (Enclosure 7).

7.7 LEAD-BASED PAINT (LBP)

Virtually all structures (e.g., buildings and tanks) at SFAAP were constructed before 1978. All painted surfaces on structures built before 1978 are presumed to have lead-based paint, unless analytical testing indicates otherwise. These buildings are scheduled to be demolished and any LBP in and on the buildings will be disposed by the Developer in accordance with applicable laws and regulations. The deed will include a lead-based paint warning and covenant (Enclosure 7).

7.8 POLYCHLORINATED BIPHENYLS (PCBs)

There were approximately 280 electrical stations (transformer pads) located at Sunflower that had one or more transformers containing oil with various concentrations of polychlorinated biphenyls (PCBs) that have operated since the 1940's. All transformers with PCB concentrations greater than 50 parts per million were removed from Sunflower by December 1999, Contract # DAAA09-95-G-0002, Delivery Order # 0007. All transformers, except those used by the City of DeSoto for operation of the Drinking Water Treatment Plant and Well Field, were removed from Sunflower by October 2003, Contract # DAAA09-01-G-0009, Delivery Order # 0013. The past PCB releases at the 280 electrical stations, main electrical switchyard, and transformer storage areas were cleaned up by March 2004 under the Toxic Substances Control Act with oversight and approval by EPA Region VII.

7.9 RADIOLOGICAL MATERIALS

Based upon a review of existing records, historical use, and available information, there is no evidence that radiological materials were stored on the SFAAP Property.

7.10 RADON

Radon surveys were conducted in 78 buildings on the property. Radon was detected at or above the EPA residential action level of 4 picocuries per liter (pCi/L) in three of these buildings (Buildings # 214, 323, and 9898).

8.0 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ANALYSIS

The environmental impacts associated with the proposed transfer of the property have been analyzed in accordance with the National Environmental Policy Act. The results of this analysis are documented in the Environmental Assessment (“EA”) with Finding of No Significant Impact (“FONSI”) titled *Proposed Property Disposal of Sunflower Army Ammunition Plant, December 1999*, and the *Supplemental EA with FONSI, January 2004*.

9.0 CONTENTS OF DEFERRED COVENANT DEED

Given the munitions constituents, soil, and groundwater contamination on Sunflower, the deed transferring the property will include explosive safety, excavation, and groundwater restrictions pending completion of remediation activities. In addition, the property will have interim restrictions limiting activities in or adjacent to SWMUs or AOCs for further investigation, study, analysis, and remediation, unless KDHE specifically approves other activities. The deed will also have a provision reserving the Army’s right to conduct remediation activities on the property. A copy of the deed environmental protection provisions is provided at Enclosure 7.

10.0 REGULATORY/PUBLIC COORDINATION

The Army provided public notice of its contemplated use of the Early Transfer Authority and its intent to request approval by the Governor of Kansas of covenant deferral, by publishing a notice in local newspapers, on February 23, 2005 (the Kansas City Star and Lawrence Journal World). The EPA and the KDHE were also notified of the initiation of this FOSET on February 23, 2005 and given an opportunity to provide comments. Regulatory/public comments received during the public comment period will be reviewed and incorporated, as appropriate. A copy of the regulatory/public comments and the Army Response will be included at Enclosure 10.

11.0 SUITABILITY DECLARATION

As the Department of the Army official authorized to make such determinations, I conclude that all Department of the Army requirements to reach a Finding of Suitability for Early Transfer of the Property to conduct remediation and redevelop the property for mixed use, general development, non-residential property have been met subject to the reservations, restrictions, covenants, and controls discussed in this FOSET. With the reservations, restrictions, covenants, and controls set forth in this FOSET, the Army has made a determination that the Property may be transferred in its present condition for remediation and uses contemplated under

the Johnson County Comprehensive Land Use Plan, without causing an unacceptable risk to human health and the environment and without interfering with the on-going Sunflower environmental response actions.

Date

Raymond J. Fatz
Deputy Assistant Secretary of the Army
(Environment, Safety, and Occupational Health
OASA (Installations and Environment))

**SUNFLOWER FOSET
LIST OF ATTACHMENTS**

1. Sunflower Transfer Legislation
2. Sunflower Maps (Site, Explosive & Environmental)
3. Draft Army/Developer Contract Statement of Work
4. Draft KDHE/Developer Consent Order is located at <http://www.kdhe.state.ks.us/ber/index.html> or http://www.sfaap.net/Sunflower_Final_Foset.htm
5. ESS and Draft ESS Amendment
6. Draft Army/KDHE Agreement
7. Draft Deed Environmental Protection Provisions
8. List of Sunflower Environmental Studies
9. Hazardous Substance Storage, Release, and Disposal Table
10. Public Notices; Regulator/Public Comments; and Army Response