

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

**SUNFLOWER ARMY AMMUNITION PLANT  
DESOTO, KS**

**May 2003**

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

PRELIMINARY FINDING OF SUITABILITY FOR EARLY TRANSFER  
FOR THE  
SUNFLOWER ARMY AMMUNITION PLANT  
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## 1.0 BACKGROUND

Sunflower Army Ammunition Plant (“Sunflower”) is a military installation comprising approximately 9,063 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 (i.e., composed of nitroglycerine, nitrocellulose, and nitroguanidine) until 1992. A history of Sunflower’s propellant production area activities is at Attachment 1.

In 1997, the U.S. Army determined Sunflower was excess to its needs and available for disposal. In September 1998, the U.S. Army, pursuant to authority of the Federal Property and Administrative Services Act of 1949 (63 Stat. 377, 40 U.S.C. §§471, et seq.) as amended, and rules, orders, and regulations issued pursuant thereto, requested the General Services Administration (GSA) to dispose of the federal property associated with Sunflower. A site map providing the legal description of the property is provided at Attachment 2.

## 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, 42 U.S.C. §9620(h)(3)(A) and §9620(h)(4)(D) (the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Covenant). However, 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 Preliminary Finding Of Suitability For Early Transfer (FOSET) is to provide the information necessary to allow the Governor of Kansas to make a preliminary determination regarding the deferral of the CERCLA Covenant requirement and the transfer of certain portions (approximately 6, 239 acres) of Sunflower prior to completion of all remedial action. A final FOSET will be prepared and made available for public comment upon the completion of a KDHE/Developer Consent Order and other agreements relating to the transfer of Sunflower (See Section 4.0 for additional information).

The early transfer will not include the following portions of Sunflower (approximately 2,824 acres):

- Areas containing explosive residue.

- Buildings/Structures and Production Equipment. All areas containing explosively contaminated buildings/structures and production equipment will be separately transferred after explosive decontamination is completed in accordance with the Department of Defense Explosive Safety Board (DDESB) Explosive Site Submission (ESS) dated June 2000. A map identifying these areas is provided at Attachment 3.
- Industrial Sewer/Process Lines and Building Foundations. All areas containing explosively contaminated industrial sewer/process lines and building foundations (if applicable) will be separately transferred. The Army will prepare a separate ESS to address explosive decontamination of the industrial sewer/process lines and building foundations. A map identifying the underground industrial sewers is provided at Attachment 8.

See Section 7.1 for additional information on Sunflower Explosive Contamination.

- Remediated Areas. This FOSET will not include those portions of Sunflower where all remedial action has been completed. Instead, the Army will provide the CERCLA Covenant that all necessary remedial action has been taken. The remediated areas will be determined by a Final Classification Report, which will be prepared pursuant to a separate Classification Agreement between the Developer and the Kansas Department of Health and Environment (KDHE), setting out the procedures, criteria, and requirements for information to be used in the determination of all current remediated properties.

### 3.0 INTENDED REUSE

In order to facilitate beneficial reuse, the State of Kansas has expressed an interest in acquiring Sunflower through a duly authorized State agency prior to the completion of all environmental remediation. The State agency will subsequently reconvey the entire property to a private developer, Kessinger/Hunter & Co., L.C., for mixed-use general development. While the State and Developer negotiations have not been finalized, it is anticipated that the redevelopment of Sunflower will be subject to and consistent with the Johnson County Comprehensive Land Use Plan for Sunflower dated July 23, 1998 (Attachment 4). The Johnson County Land Use Plan contemplates a broad spectrum of uses for the property, including residential, park/recreation, retail, commercial, light industrial, etc.

Note – a previous proposed early transfer of Sunflower contemplated the development of a “Wonderful World of Oz” theme park. There will be no theme park included in the current Sunflower redevelopment plan.

### 4.0 Future Remediation:

The Army is in the process of investigating solid waste management units and areas of concern, including the preparation of risk assessments, and remediating certain portions of Sunflower. While the Army is ultimately responsible for ensuring that any and all necessary response actions are taken at Sunflower, it is anticipated that the Developer will assume responsibility for a significant portion of the Sunflower cleanup program.

- KDHE/Developer Consent Order - Prior to completing the Sunflower early transfer, the Developer and KDHE will enter into a consent order outlining investigation and remediation to be completed on the property by the Developer. The Consent Order will identify the scope of the Developer's investigation and remediation responsibilities, cleanup standards, and requirements for environmental remediation insurance. The Developer's remediation actions will be performed in accordance with the SFAAP RCRA Hazardous Waste Management Permit and applicable federal and state laws and will be subject to oversight by KDHE.
- Army/Developer Agreement - Prior to completing the Sunflower AAP early transfer, the Army and Developer will enter into an agreement outlining investigation and remediation to be completed on the property by the Army. Specifically, the Army will agree to mitigate any explosive hazards in buildings/structures, production equipment, industrial sewers/process lines, and building foundations and will perform other environmental remediation as determined by the Army and the Developer. The Army's remediation actions will be performed in accordance with applicable federal and state laws and will be subject to oversight by KDHE and EPA Region VII.
- RCRA Hazardous Waste Management Permit – No later than 90 days prior to completing the Sunflower AAP early transfer, the Army and the Developer will request a modification to the permit issued September 30, 1991 to make the Developer the Owner and Operator. The Developer shall comply with the permit and any re-issued permit. The remediation of Sunflower pursuant to the KDHE/Developer Consent Order shall be conducted in a manner to be protective of human health and the environment and to obviate the need for further corrective action under the Sunflower RCRA Hazardous Waste Management Permit and other applicable environmental laws and regulations.
- State Agency/Developer Agreement - Prior to completing the Sunflower early transfer, the State Agency taking title to Sunflower and the Developer will enter into an agreement outlining the conditions under which the State Agency will take title to Sunflower, including but not limited to indemnification of/holding harmless the State Agency as well as the State of Kansas, consistent with the KDHE/Developer Consent Order template. A copy of the KDHE/Developer Consent Order template is also available at: <http://www.kdhe.state.ks.us/ber/index.html>.

The Army hereby acknowledges that the early transfer of any portion of Sunflower pursuant to this FOSET is conditioned upon the completion of the KDHE/Developer Consent Order, the Army/Developer Agreement, and a KDHE/EPA Region VII Memorandum of Agreement (KDHE/EPA MOA) defining roles and responsibilities for oversight of the Sunflower remediation. The KDHE/Developer Consent Order, the Army/Developer Agreement, and the KDHE/EPA MOA will follow the basic terms and conditions set forth in a consent order and agreement that were developed by KDHE, the Army and a previous State-selected Developer for the early transfer of Sunflower. The KDHE/Developer Consent Order, the Army/Developer Agreement, and KDHE/EPA MOA will be revised as necessary to reflect new site conditions and other aspects related to this proposed early transfer of Sunflower. A copy of the previous Army/Developer agreement, the KDHE/Developer consent order template, and other documents are available at [http://propertydisposal.gsa.gov/mip/army/sunflower/sunflower\\_library.asp](http://propertydisposal.gsa.gov/mip/army/sunflower/sunflower_library.asp).

## 5.0. RESPONSE ACTION ASSURANCES

5.1 The Deferred Covenant Deed shall include all necessary restrictions on the use of the property to ensure protection of human health and the environment and ensure that required government remedial investigations, response action, and oversight activities will not be disrupted by the Property Owner. A summary of the restrictions to be included in the “Deferred Covenant Deed” is provided at Attachment 5.

5.2 The ultimate sales agreement to be completed and entered into by the Government and the non-federal purchaser, whether a person or entity, shall: (1) identify the schedules for investigation and completion of all necessary response actions; and (2) 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 Army response action.

In addition, the Army acknowledges that notwithstanding any future KDHE/Developer Consent Agreement, Army/Developer Agreement, and any future RCRA Hazardous Waste Management Permit transfer, the Army remains ultimately responsible for ensuring that any and all response actions are completed to the extent required by CERCLA 120(h).

## 6.0. NATURE AND EXTENT OF CONTAMINATION IMPACTING 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 7.2 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(s) dated August 1998 and through the RCRA corrective action process. A complete list of all environmental studies is found in Attachment 6.

## 7.0 ENVIRONMENTAL CONDITIONS OF THE PROPERTY

### 7.1 EXPLOSIVE CONTAMINATION:

Some of the buildings/structures, production equipment, industrial sewer/process lines, and foundations on the property contain residue from explosive production. An explosive categorization matrix, Attachment 7, describes each building/structure explosive category. To date 1,429 buildings/structures have been disposed via thermal decomposition in accordance with the DDESB Explosive Site Submission (ESS) dated June 2000. The remaining explosive-impacted buildings/structures will be disposed by the same means. The Army is developing an ESS to address explosive decontamination of the industrial sewer/process lines and foundations. A map depicting the location of the industrial sewer/process lines that are potentially explosively-impacted is provided at Attachment 8.

Protective Measures - The explosive residue risk will be mitigated by restricting public access by use of fencing (including the 6 foot high Sunflower perimeter fence) and warning signs until such time as explosive-impacted buildings/structures and production equipment are explosively

decontaminated and restricting excavation activities until explosive-impacted industrial sewer/production lines and foundations are explosively decontaminated. These areas will not be transferred until explosive decontamination is completed in accordance with the applicable DDESB ESS.

## 7.2 SWMUs, AREAS OF CONCERN, AND NEW SWMUS:

The hazardous waste management permit issued on September 30, 1991 identified forty-nine (49) Solid Waste Management Units (SWMUs). Eighteen (18) additional SWMUs were subsequently identified from Army investigations. In addition, twenty-two (22) Areas of Concern (AOCs) have been identified from Army investigations. These AOCs do not have a documented history of the storage, release, or disposal of hazardous substances, but require further investigation because of prior use or suspected activities. These AOCs will all require a RCRA Facility Investigation, and, if necessary, a Corrective Measures Study and Remedial Action. A map and description of the SWMUs and AOCs is at attachment 9.

## 7.3 GROUNDWATER CONTAMINATION:

The main groundwater contaminants are propellant compounds 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. SWMUs which may have contaminated groundwater, within or beyond their boundaries: 1, 2, 4, 5, 6, 10, 11, 14, 16, 17, 18, 19, 21, 22, 24, 25, 30, 31, 33, 35, 36, 38, 40, 43, 44, 45, 47, 49, 53, and 54.

Protective Measures - The groundwater contamination on the property is located at depths ranging from 0.5 feet to 41.5 feet. 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 Army and Developer shall mitigate any immediate threat to human health from the groundwater through restricting groundwater usage in accordance with the Army/Developer Agreement and the KDHE/Developer Consent Order. Groundwater contamination shall be remediated to provide long-term protection of human health and the environment.

## 7.4 Soil Contamination

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 releases of hazardous constituents. Further investigation may be required to determine the extent of soil contamination within or beyond SWMU and AOC boundaries and sediment contamination.

Protective Measures - The soil contamination poses a potential threat to human health through contact with and ingestion of contaminants. The Army and the Developer shall mitigate any immediate threat to human health from soil or propellant in accordance with the Army/Developer Agreement and the KDHE/Developer Consent Order. Soil contamination and propellants shall be remediated to provide long-term protection of human health and the environment.

## 8.0 OTHER ENVIRONMENTAL CONDITIONS

### 8.1 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 is provided in Attachment 10.

### 8.2 ASBESTOS:

There is approximately 44 miles of asbestos insulated above ground steam lines. There are many areas where the asbestos insulation is friable, exposed to the weather and falling off onto the ground. Currently the risk to human health is low due to restricted public access to SFAAP. The remediation of the friable asbestos on the steam lines and in the soil under the steam lines will be addressed as part of the Army/Developer agreement (See Section 4.0).

### 8.3 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 should be assumed to have been painted with lead-based paint, unless analytical testing indicates otherwise. These structures are not intended to be used for residential purposes .

### 8.4 POLYCHLORINATED BIPHENYLS (PCBs).

There are approximately 280 electrical stations 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. Historical information regarding past releases and the concentration of the PCBs in transformers at the electrical stations is limited. The past PCB releases will be addressed as part of the KDHE/Developer Consent Order, the Army/Developer Agreement, and the RCRA Hazardous Waste Management Permit.

## 9.0 CONTENTS OF DEFERRED COVENANT DEED AND TRANSFER AGREEMENT:

Given the explosive, soil, and groundwater contamination on Sunflower, the deed transferring the property will include a no-residential-use, 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 to further investigation, study, analysis, and remediation, unless KDHE specifically approves other activities. Finally, the deed will include a provision reserving the Army's right to conduct remediation activities on the property. See Attachment 5.

## 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 13, 2003. The United States Environmental Protection Agency (EPA), Region

7, and the KDHE were also notified of the initiation of this Preliminary FOSET on February 13, 2003 and given an opportunity to provide comments. The Army received comments from 18 members of the public. The Army Response to the public comments is provided at Enclosure 11. There was extensive informal coordination with the Kansas Department of Health and Environment (KDHE) and EPA Region 7 prior to the public comment period. There were no formal comments from the KDHE or EPA Region 7 to the Preliminary FOSET. A final FOSET will be prepared and made available for public comment upon the completion of a KDHE/Developer Consent Order and other agreements relating to the Sunflower early transfer.

#### 11.0 SUITABILITY DECLARATION:

As the Department of the Army official authorized to make such determinations, I, the undersigned, conclude that all Department of the Army requirements to reach a preliminary 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 and its attachments. With the reservations, restrictions, covenants, and controls set forth in this FOSET, the Army has made a preliminary determination that the Property may be transferred in its present condition for remediation and uses contemplated under the proposed Comprehensive Land Use Plan for Sunflower that has been developed by the Board of County Commissioners for Johnson County, Kansas, without causing an unacceptable risk to human health and the environment and without interfering with the on-going Sunflower environmental response actions. A final FOSET will be submitted to the Kansas Governor upon completion of a KDHE/Developer Consent Order and other agreements relating to the Sunflower early transfer.

May 15, 2003  
Date

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

**SUNFLOWER FOSET  
LIST OF ATTACHMENTS**

1. Explosive Production History
2. Site map w/legal description of property
3. Site map depicting areas with explosively contaminated buildings, structures and foundations  
(does not include industrial sewer lines)
4. Johnson County Reuse Plan
5. Contents of Deed or Transfer Agreement
6. List of environmental studies
7. Explosive Categorization Matrix
8. Site maps depicting explosively contaminated underground industrial sewer lines
9. SWMU Map & Description
10. Hazardous substance storage activities
11. Public comments and Army Response to public comments