



## **EPA REGION 6 ANNOUNCES PROPOSED PLAN**

### **San Jacinto River Waste Pits Site**

**Harris County, Texas**

**September 2016**

# **Invitation to Comment on the Proposed Cleanup**

## **Introduction**

The United States Environmental Protection Agency (EPA) Region 6, in cooperation with the Texas Commission on Environmental Quality (TCEQ) and other Federal, State, and local agencies, has announced the release of the Proposed Plan for cleanup of the San Jacinto River Waste Pits Site located in Harris County, Texas. You have the chance to comment on the Proposed Plan for cleanup of the site, and other material in the Administrative Record file at the public meeting or by written comment as indicated below. The EPA and TCEQ welcome your views about the plans for the cleanup of this site.

The site consists of a set of impoundments built in the mid-1960s for the disposal of solid and liquid pulp and paper mill wastes, and the surrounding areas containing sediments and soils impacted by waste materials disposed in the impoundments. The northern impoundments and sand separation area, which are partially submerged in the San Jacinto River, are approximately 14 acres in size. The northern impoundments are located on the western bank of the river, north of the Interstate-10 (I-10) Bridge and the sand separation area is located to the west of the northern impoundments. The southern impoundment, less than 20 acres in size, is located on a small peninsula that extends south of I-10 (Figure 1). The wastes that were deposited in the impoundments are contaminated with polychlorinated dibenzo-p-dioxins (dioxins) and polychlorinated dibenzofurans (furans).

The site and related issues have been carefully studied. The Preferred Remedy for cleaning up the site is Alternative 6N (Full Removal of Materials Exceeding Cleanup Levels, and Institutional Controls) for the northern impoundments, sand separation and aquatic areas, and Alternative 4S (Removal and Offsite Disposal) for the southern impoundment. (Evaluation of alternatives and the preferred remedy are described on page 5 of this document).

The purpose of this response action is to implement a site-wide strategy that addresses the contaminated environmental media at the site with the primary objectives of preventing human and ecological exposure to contaminants, and preventing further migration of contaminants. The response action proposed is intended to address the threats to human health and environment.

In the Proposed Plan, the EPA presents a summary of the risks associated with the release of hazardous substances at the San Jacinto River Waste Pits Site, a summary of remedial alternatives, and the preferred alternative to address the contamination at the site.

The EPA is issuing the Proposed Plan to solicit public comment on the remedial alternatives. The Proposed Plan is being issued in accordance with and as part of its public participation responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) §117(a), 42 U.S.C. § 9617(a) and 40 CFR §300.430(f)(2). The recommendations and alternatives set forth in the Proposed Plan are based on information and documents contained in the Administrative Record file for the site. EPA will select a final remedy for the site after the public comment period has ended and the comments have been reviewed and considered. EPA may select a different alternative or a modified version of the Preferred Remedy based on new information or public comments.

The EPA Region 6 office is the lead agency for this site. The TCEQ is the support agency.

The EPA considers the following actions necessary to protect human health and the environment:

- Removal of approximately 152,000 cubic yards of material exceeding the paper mill waste cleanup goals from the northern impoundments. Materials removed will be dewatered and stabilized prior to off-site disposal at an appropriate facility. Clean fill will be placed over the remediated area to reduce intermixing of sediments to ensure remedy protectiveness. The estimated construction time is 19 months.
- Excavation of approximately 50,000 cubic yards of soil exceeding the cleanup goal to a depth of 10 feet below grade in the southern impoundment south of I-10. The estimated construction time is 7 months.
- Establish institutional controls including: 1) a waterway use restriction to prevent disturbance of the remediated area within the river from dredging or anchoring; 2) environmental covenants to restrict use of the upland remediated areas; and 3) deed notices to alert future property owners of subsurface materials.

## Site Background

Liquid and solid pulp and paper mill wastes were barged to the impoundments located north of I-10.

Records indicate chlorine was used as a bleaching agent and the pulp bleaching process formed dioxins and furans as by-products.

The northern impoundments were reported to be used between September 1965 and May 1966.

Details of the southern impoundment are less well known; however, the impoundment was likely constructed around 1964.

The Time Critical Removal Action Armored Cap was constructed between December 2010 and July 2011.

## Contaminated Media

Improper disposal of paper mill wastes have resulted in contaminated sediment, soil, and fish.

## National Priorities Listing

The site was proposed for listing on the National Priorities List on September 19, 2007, and was placed on the list effective March 19, 2008 (73 FR 14723).

## Opportunity for Comment

### Submit Written Comments

**Public Comment Period:**

**September 29 – November 28, 2016**

The EPA will accept written comments on the Proposed Plan during the public comment period. You may submit your comments to:

**Online:**

**[www.epa.gov/tx/forms/sjrwp-comments](http://www.epa.gov/tx/forms/sjrwp-comments)**

**Email:**

**R6\_San\_Jacinto\_Waste\_Pits\_Comments  
@epa.gov**

Written comments may also be postmarked no later than November 28, 2016 and addressed to:

Remedial Project Manager

U.S. EPA Region 6

1445 Ross Avenue (6SF-RA)

Dallas, Texas 75202

### Attend the Public Meeting

You are encouraged to attend the public meeting to hear about the Proposed Plan for cleaning up the site. The meeting will be held within the first 30-days of the comment period:

**October 20, 2016**

**6:30 p.m.**

**Highlands Community Center**

**604 Highland Woods Drive**

**Highlands, Texas**

## For More Information

Copies of the Proposed Plan, which describes the cleanup alternatives considered, and other relevant site reports are included in the Administrative Record file at the website and repository locations identified below.

[www.epa.gov/tx/sjrwsp](http://www.epa.gov/tx/sjrwsp)

**Harris County Public Library**  
Stratford Branch Library  
509 Stratford Street  
Highlands, Texas 77562  
(281) 426-3521

**U.S. Environmental Protection  
Agency, Region 6**  
1445 Ross Avenue, Suite 700  
Dallas, Texas 75202  
(800) 533-3508

**Texas Commission on  
Environmental Quality**  
Central File Room  
12100 Park 35 Circle, Building E  
Austin, Texas 78753  
512-239-2900



**Figure 1: Site Overview**

Modified from: Integral Consulting Inc. and Anchor QEA LLC. 2013. Remedial Investigation Report, San Jacinto River Waste Pits Superfund Site. Prepared for McGinnes Industrial Maintenance Corporation, International Paper Company, and U.S. Environmental Protection Agency, Region 6. May.

## Site Risks

Between 2010 and 2016, site-specific data were collected and evaluated as a part of the Remedial Investigation and Feasibility Study. Data were collected in order to evaluate the nature and extent of contamination, determine if the site poses a risk to human health or the environment, develop remedial alternatives to address site risks, and select a preferred remedy to cleanup site contamination. Prior to completion of the Remedial Investigation and Feasibility Study, in 2011, a Time Critical Removal Action was completed in order to stabilize and cover the northern impoundments to withstand forces sustained by the river and prevent direct human and benthic organism contact with waste materials until a permanent remedy could be selected. Since its completion in July 2011, the temporary armored cap that covers the northern impoundments has generally isolated and contained impacted material; however deficiencies have been documented as discussed in the Proposed Plan.

The human health risk assessment identified potential risk to:

- Recreational fishers from exposure to paper mill waste material at beach areas north of I-10 and ingestion of catfish, clams, or crabs
- Recreational visitors from exposure to sediment at a beach area north of I-10
- Future construction workers from exposure to paper mill waste material and soil south of I-10.

The ecological risk assessments identified potential risk north of I-10 to:

- Benthic Macroinvertebrates – Mollusks

The cleanup plan discussed in the Proposed Plan and summarized on the first page of this Proposed Plan Fact Sheet is intended to address the threats to human health and environment identified in the risk assessments. The purpose is to implement a site-wide strategy that will address the contaminated environmental media at the site with the primary objectives of preventing human and ecological exposure to contaminants, and preventing or minimizing further migration of contaminants.

## Cleanup Objectives

- 1) Prevent releases of dioxins and furans from the former waste impoundments to sediments and surface water of the San Jacinto River.
- 2) Reduce human exposure to dioxins and furans from consumption of fish by remediating paper mill waste and sediments affected by paper mill waste to appropriate cleanup levels.
- 3) Reduce human exposure to dioxins and furans from direct contact with paper mill waste, soil, and sediment by remediating affected media to appropriate cleanup levels.
- 4) Reduce exposures of benthic invertebrates (clams, crabs, etc.), to paper mill waste-derived dioxins and furans by remediating media affected by paper mill wastes to appropriate cleanup levels.

### Temporary Cap

Since its completion in July 2011, the armored cap has generally isolated the waste, but has required many repairs and extensive maintenance. The following cap deficiencies have been documented since the time of armored cap installation:

- **July 2012:** Approximately 200 square feet (ft<sup>2</sup>) of geotextile exposed (armor materials had moved down slope)
- **January 2013:** Five areas deficient in cap thickness and/or have exposed geotextile
- **December 2015:** Approximately 500 ft<sup>2</sup> of cap missing or deficient in cover (no geotextile, paper mill waste exposed to the river, and a sediment concentration measured at 43,700 ng/kg TEQ<sub>DF,M</sub>)
- **February 2016:** portions of eastern cell exposed (five areas, approximately 3 ft<sup>2</sup> each, of exposed geotextile)
- **March 2016:** additional portions of eastern cell deficient in armor cover thickness.

## Evaluation of Alternatives

The Proposed Plan discusses the relative performance of each alternative against the nine criteria and the rationale for selecting the Preferred Alternatives. These criteria include two *threshold criteria*, which require that each alternative must meet in order to be eligible for selection and five *Primary balancing criteria* used to weigh major trade-offs among alternatives, and *modifying criteria* involve state and community acceptance. The 12 alternatives are as follows, one must be selected for each area (north and south):

### North Area and Sand Separation Area:

- 1N – Armored Cap and Ongoing Operations, Monitoring, and Maintenance (No Further Action)
- 2N – Armored Cap, Institutional Controls, Ground Water Monitoring, and Monitored Natural Recovery
- 3N – Permanent Cap, Institutional Controls, Ground Water Monitoring, and Monitored Natural Recovery
- 3aN – Enhanced Permanent Cap, Institutional Controls, Ground Water Monitoring, and Monitored Natural Recovery
- 4N – Partial Solidification/Stabilization, Permanent Cap, Institutional Controls, Ground Water Monitoring, and Monitored Natural Recovery
- 5N – Partial Removal, Permanent Cap, Institutional Controls, Ground Water Monitoring, and Monitored Natural Recovery
- 5aN – Partial Removal of Materials Exceeding Cleanup Levels, Permanent Cap, Institutional Controls, Ground Water Monitoring, and Monitored Natural Recovery
- 6N – Full Removal of Materials Exceeding Cleanup Levels, Monitored Natural Recovery, and Institutional Controls.

### South Area:

- 1S – No Further Action
- 2S – Institutional Controls and Ground Water Monitoring
- 3S – Enhanced Institutional Controls and Ground Water Monitoring
- 4S – Removal and Offsite Disposal, Institutional Controls.

## Preferred Remedy

The Preferred Remedy for cleaning up the site is Alternative 6N (Full Removal of Materials Exceeding Cleanup Levels and Institutional Controls) for the northern impoundments and Monitored Natural Recovery for the Sand Separation area, and Alternative 4S (Removal and Offsite Disposal) for the southern impoundment. The Preferred Remedy provides greater permanence in comparison to the other alternatives. Less costly alternatives rely on remedies that have a higher chance of failure by leaving principal threat waste source materials in the waste pits, resulting in greater uncertainty as to their long-term effectiveness.

The EPA's preferred remedy includes full removal of contaminated materials above cleanup levels for the following reasons:

- The material is highly toxic and under baseline conditions may be highly mobile in a severe storm and therefore is considered a Principal Threat Waste.
- The location of materials, either partially submerged within the San Jacinto River (northern impoundments) or on a small peninsula on the San Jacinto River (southern impoundment), is in a river environment that is subject to dramatic change, creating concerns about the permanence of an armored cap.
- The area has a high threat of repeated storm surges and flooding from hurricanes and tropical storms, which, if the material was left in place, could result in a release of hazardous substances.
- The history of repeated armor cap maintenance as a result of floods less severe than a design 100-yr flood.

For all of these factors, the Preferred Remedy provides greater permanence in comparison to other alternatives. Less costly alternatives rely on remedies that have a higher chance of failure by leaving Principal Threat Waste materials in the waste pits, resulting in greater uncertainty as to their long-term effectiveness. The Preferred Remedy can change in response to comments received during the public comment period or new information presented to the EPA.



## Community Participation

A number of ways to meet the cleanup objectives were considered, which are described in the Proposed Plan and Administrative Record file. The EPA believes that the Preferred Remedy identified on the second page of this fact sheet will protect health and the environment and can be done without major interruption to the local community. However, before making a final decision, the EPA needs to hear public input. You are encouraged to find out more about the cleanup plan and make your views and concerns known on the options that were considered. The cleanup plan that is finally chosen will be described in a Record of Decision (ROD). The ROD will include a summary of the comments received along with EPA's responses.

## For More Information

For more specific information about the San Jacinto River Waste Pits Site or the Superfund process, please contact:

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Inquiries from the news media can be directed to the EPA Press Office at (214) 665-2200.

