STRINGFELLOW SUPERFUND SITE

COMMUNITY INVOLVEMENT PLAN

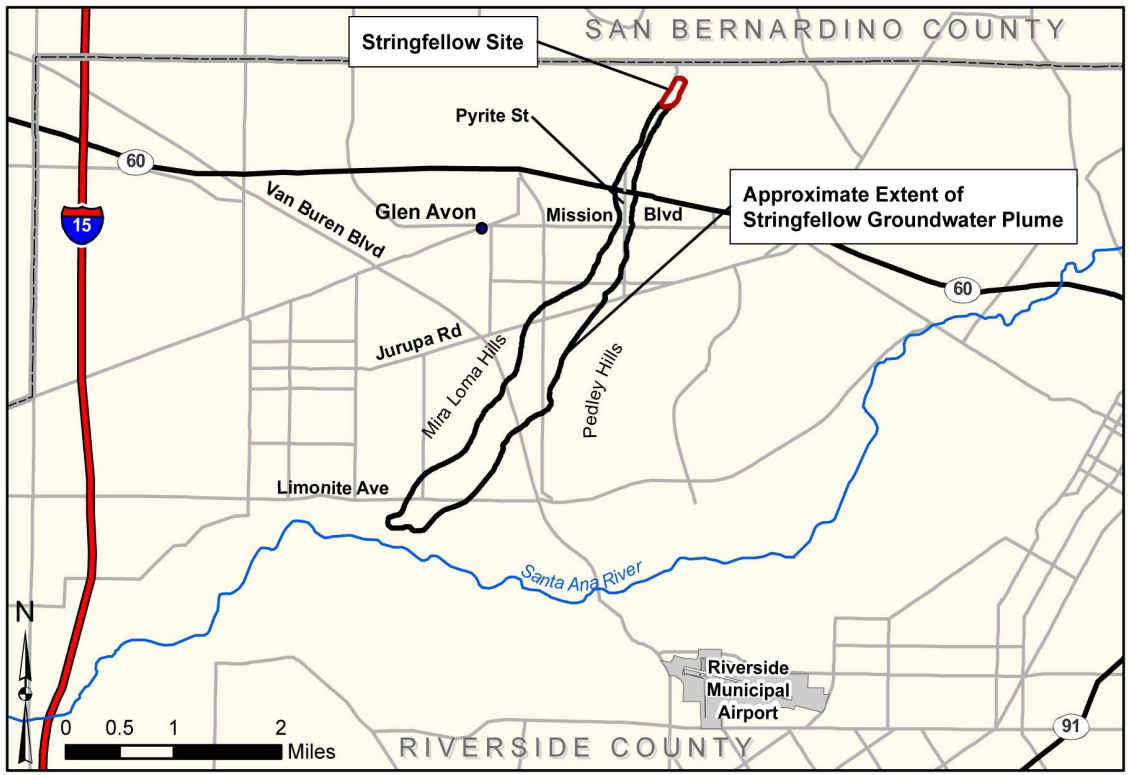
United States Environmental Protection Agency

SEPTEMBER 2016

COMMUNITY INVOLVEMENT PLAN ORGANIZATION

INTRODUCTION

The goal of this Community Involvement Plan (CIP) is to encourage and facilitate community engagement throughout the Stringfellow Superfund Site (Site) cleanup. The U.S. Environmental Protection Agency (USEPA) and the community will join in participatory two-way communication by applying the tools described in this plan. Active public involvement is crucial to the success of any project. USEPA's community involvement activities at the Site are designed to inform the public of all cleanup activities and include the community in the decision-making process. At this Site, USEPA defines the "community" as those individuals and entities who have an interest in or are impacted by the Site. This is generally limited to residents of Jurupa Valley. USEPA also recognizes that other stakeholders, including local, state and federal agencies, may have an interest in this Site. This CIP is based on a series of community interviews conducted with the affected community and other stakeholders in accordance with USEPA's Superfund community involvement and cleanup guidance. The CIP is a "living document," meaning that it can be updated or revised over the course of the Site cleanup to reflect long-term changes in the community.



Location of the Stringfellow Superfund Site

THE COMMUNITY

COMMUNITY INVOLVEMENT AT THE STRINGFELLOW SUPERFUND SITE

Active and participatory community involvement is an important part of the cleanup process and it is also a requirement of Superfund law. Community involvement is regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as "Superfund." This CIP follows the community involvement requirements found under the Superfund Amendment and Reauthorization Act of 1986 (SARA) §117 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) §300.430. USEPA's Community Involvement Program is designed to facilitate participation of community members throughout the cleanup process, including the investigation phase and the remedy selection phase. USEPA works closely with the California Department of Toxics and Substances Control (DTSC) and other agencies to provide community involvement staff throughout the Superfund process.

COMMUNITY PROFILE

History of the Site (Jurupa Valley)

The City of Jurupa Valley was incorporated on July 1, 2011. The city covers a 44-square mile area encompassing the communities of Jurupa Hills, Mira Loma, Glen Avon, Pedley, Indian Hills, Belltown, Sunnyslope, Crestmore Heights, and Rubidoux. It borders San Bernardino County to the north, Riverside to the south and east, and Eastvale to the west. A portion of the Santa Ana River traverses the southern portion of the city.

Jurupa Valley is rich in history dating back hundreds of years. "Jurupa" in Jurupa Valley derives its name from the first inhabitants of the area, Native Americans who called "Jurupa" their home.

Stringfellow Superfund Site, photo courtesy of USEPA

Jurupa Valley today is a mix of high and low-density residential development, rural farming and other agricultural activities, and commercial retail and industrial activity. Two primary transportation corridors traverse the Jurupa Valley area: Interstate 15 which runs north and south, and State Route 60 (SR 60) which runs east and west. In recent years, residential development and economic activity has increased, in particular in the areas adjacent to Interstate 15 and SR 60.

Demographics

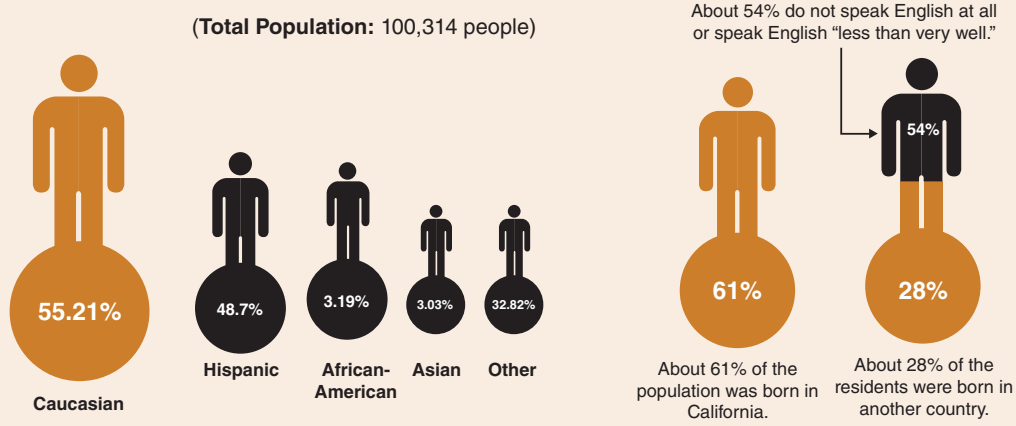
Jurupa Valley was incorporated after the 2010 United States Census, but it is possible to determine an estimate of the demographics by summing up the results from the census-designated places of Glen Avon, Mira Loma, Pedley, Rubidoux, and Sunnyslope.

COMMUNITY ISSUES, CONCERNS & DISCUSSION

In the summer of 2015, USEPA conducted community interviews with interested individuals by phone and in Jurupa Valley. For a full list of the interview questions, please refer to the Appendices. Interviewees were asked a variety of questions about their personal history, their understanding of the Stringfellow Superfund Site, and their preferred methods of communication regarding the Site. These interviews provided USEPA with useful, valuable information that has been incorporated into the CIP.

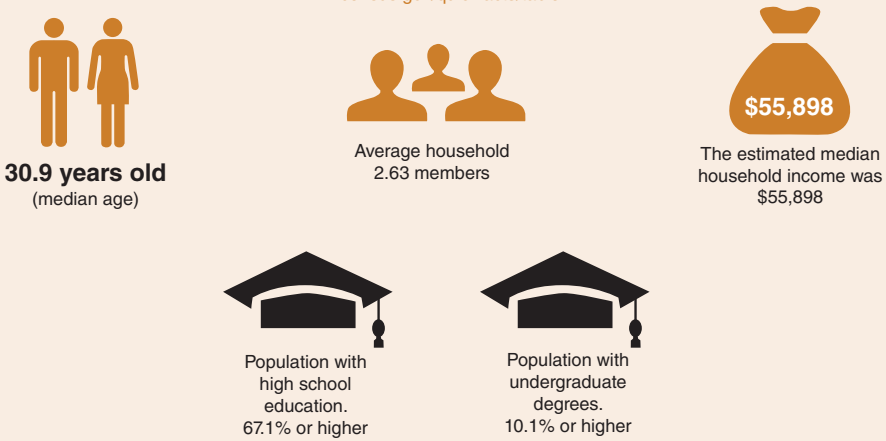
Existing knowledge or some experience with the Stringfellow Superfund Site was relatively

JURUPA VALLEY CITY DEMOGRAPHICS



Source of racial and workforce demographic data: the 2010 United States Census.

Source of all additional demographic data: www.city-data.com/city/jurupa-California.html
www.census.gov/quickfacts/table



The Center for Community Action and Environmental Justice, photo courtesy of USEPA

Environmental Justice

Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies.

Meaningful involvement means that:

1. Potentially affected community members have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health
2. The public's contribution can influence the regulatory agency's decision
3. The concerns of all participants involved will be considered in the decision making process
4. The decision makers seek out and facilitate the involvement of those potentially affected

At the Stringfellow Superfund Site, USEPA recognizes Environmental Justice concerns. The Site team strives to ensure that all activities are looked at through the lens of environmental justice, and that the community is treated fairly and equitably. Residents who live near the Stringfellow Superfund Site have a right to clean water and protected natural resources. USEPA will work to continuously incorporate environmental justice initiatives in the work done at the Site.

For more information on USEPA's Environmental Justice Program, visit:

USEPA Environmental Justice Plan 2014:
http://www.epa.gov/environmentaljustice/resources/policy/plan-ej-2014/plan-ej-overview.pdf

USEPA Region 9 Environmental Justice Tools and Resources:
http://www.epa.gov/region09/ej/tools-resources.html

EJSCREEN

An EJSCREEN analysis conducted for the Stringfellow Superfund Site in 2015 demonstrated environmental justice concerns in this community, where all 12 indicators were at the 80th percentile or above compared to the rest of the United States. EJSCREEN is an environmental justice mapping and screening tool. It uses environmental indicators of a community to indicate potential exposures, and demographic factors to indicate potential susceptibility.

common among interviewees. The general consensus was that because of the growing population of new residents in the area, residents may not be aware of USEPA's ongoing cleanup activities or the history of the Stringfellow Site. It was apparent from the interviews that the cleanup work conducted to date has been well received, supported, and appreciated by the population who is aware of the Site and its history.

While the interviewees and their responses were diverse, comments from the stakeholder interviews can be grouped into three main categories: Site History and Environmental Cleanup, Community Involvement, and Method of Communication. The following provides a summary for each of these categories.

Comments/Issues Directly From Community Interviews

Site History and Environmental Cleanup

Interviewees were all familiar, to some extent, with the Site from the history of the contamination through the ongoing remediation efforts. There was a general feeling of comfort and confidence with the ongoing efforts to cleanup and monitor the site. Concerns raised by community members primarily were related to the growth of the community. These concerns included new community members' general awareness of the Site and the influence of contamination and/or exposure for the existing population and future development.

Community Involvement takes action, photo courtesy of CCAEJ

Community Involvement

The majority of the interviewees currently receive regular information regarding the Site, and some receive information indirectly through local contacts who receive regular updates.

Although many of the interviewees were aware of the Stringfellow Advisory Committee (SAC) meetings (more information on page 6), only some of them had attended these meetings in the past and only a few attend on a regular basis.

Public awareness was a concern raised by many of the interviewees, who believe the community needs to be educated on the history of the Site, cleanup work that has been completed, and current and future efforts to cleanup the Site.

Photo of the Stringfellow Advisory Committee, photo courtesy of USEPA

Stringfellow Advisory Committee

Stringfellow Advisory Committee (SAC) is a group of dedicated people who meet regularly to exchange environmental information and discuss workable long-term solutions for the Stringfellow Site. SAC has been meeting regularly since the 1980s.

Meetings generally occur quarterly at the DTSC Stringfellow Information Center 10247 Bellegrave Avenue, Suite 131, Mira Loma, CA 91752.

Minutes of the meetings are available on the DTSC website. Contact USEPA or DTSC staff for more information.

Method of Communication

Overall, public awareness of the Stringfellow Site and the remediation efforts needs to be increased to reach the growing population of the region. As mentioned, the community has new residents and business owners who have moved into the area and may not know about the Site. Site information need to be presented so it does not create panic or confusion among the public. It could be presented through classroom education, community meetings for the general public, and specific meetings with city staff and elected officials.

E-mails were the primary form of communication requested by interviewees for information on the Site. Attachments such as fact sheets, meeting announcements and minutes, and newsletters could be included in the e-mails. Placing information in the local newspaper and mailers was also suggested. Social media was another suggestion shared by a few interviewees.

The suggested frequency of updates was mixed, and ranged from once a month to annually. The information should be easy to understand because the general public may not want to know or understand the technical aspects of the remediation effort.

Interviewees requested community meetings be held in the evening after work hours, specifically Tuesday, Wednesday, and Thursday, with a few suggestions to consider the weekend;

Photo of the Stringfellow Superfund Site, photo courtesy of USEPA

Saturday, or in the mornings on the weekdays to accommodate the senior population. It was suggested by a number of interviewees that information should be available and distributed in both English and Spanish, and that meetings should have an interpreter to help connect with the Spanish speaking population.

COMMUNITY RESOURCES

City of Jurupa City Hall
City Hall
8930 Limonite Avenue
Jurupa Valley, CA 92509
(951) 332 – 6464, Fax: (951) 332 – 6995
www.jurupavalley.org/

California Center for Community Action and Environmental Justice (CCAEJ)
7701 Mission Boulevard
Jurupa Valley, CA 92509
(951) 360 – 8451, Fax: (951) 360 – 5950
http://www.ccaej.org/

JCSD
Water and Sewer Services
11201 Harrel Street
Jurupa Valley, CA 91752
(951) 685 – 7434
www.jcsd.us/

Rubidoux CSD
Water and Sewer Services
3590 Rubidoux Boulevard
Jurupa Valley, CA 92509
(951) 684 – 7580
www.rcsd.org/

City of Jurupa Valley City Hall, photo courtesy of City of Jurupa Valley

Useful Links

Environmental Justice Plan 2014:
http://www.epa.gov/environmentaljustice/resources/policy/plan-ej-2014/plan-ej-overview.pdf

Region 9 Environmental Justice Tools and Resources:
http://www.epa.gov/region09/ej/tools-resources.html

THE COMMUNITY INVOLVEMENT ACTION PLAN

USEPA spoke with 15 key stakeholders representing a cross section of the community and conducted interviews in July, August, and October 2015. These interviews significantly contributed to the creation of this CIP, determining how USEPA will continue to develop communication regarding the Stringfellow Superfund Site.

Ongoing Communication

USEPA will continue to work with DTSC and the community to ensure that any important update or information regarding the Site is shared directly with the public. It has been made clear in interviews that an ongoing USEPA presence is important to the community as it demonstrates USEPA's continued efforts in the remediation of the Site. The community has been supportive and appreciative of USEPA and encourages updates and sharing of information as well as continued coordination with DTSC.

Communication Tools

The community members expressed a preference for a combined approach to information sharing. This means that USEPA will use various methods to provide the community with information, including through printed material and at public meetings. The most common tools that USEPA will implement are fact sheets, community meetings, briefings with city officials, print and social media, and education. These communication tools would continue to promote collaboration and establish a deeper connection between USEPA and the community.

USEPA and DTSC are committed to using various methods to provide the community with information and to communicate the progress of the cleanup with the public.

Fact Sheets

USEPA will continue to coordinate with DTSC to develop and distribute fact sheets. Fact sheets provide the public with regular updates on the cleanup, upcoming community meetings, and

Community Discussion with the Public, photo courtesy of USEPA

other pertinent information. The fact sheets will be clear and easy to read, (in both English and Spanish) and contain graphics when necessary. Fact sheets have been and will continue to be distributed via e-mail and post mail to all recipients on the DTSC maintained mailing list. In addition, the fact sheets will continue to be made available on the internet.

Interviewees suggested a video could be made available to help educate the public on the history of the Stringfellow Site, the progress of the cleanup efforts, and current and future cleanup and monitoring efforts. The Jurupa Mountain Discovery Center was identified as a useful resource and education center for these types of activities.

Community Meetings

The Stringfellow Advisory Committee (SAC) has members from local, state, and federal agencies; elected officials; and the community. Meetings are held quarterly at 10:00 a.m. on the third Wednesday of January, April, July, and October at:

Stringfellow Information Center
10247 Bellegrave Avenue #131
Mira Loma, California 91752

In addition to the SAC meetings at the DTSC Stringfellow Field Office and Information Center, USEPA will host public meetings for community members to learn about the Site and the cleanup efforts and to provide the public with an opportunity to ask questions about the Stringfellow Site. Meetings will be held at a central location that is easily accessible. A Spanish-speaking interpreter and translated materials will be available for the public. These meetings can be held at the Jurupa Valley City Hall or at whatever location is most convenient for the majority of the community. The community has stated a preference for weekday evening meetings.

State of California Department of Toxic Substances Control Stringfellow Field Office, photo courtesy of USEPA

The following locations have been used in the past for public meetings:

- Glen Avon Elementary School
- Memorial Park
- Stringfellow Information Center

Briefing with City Officials

USEPA will brief the Jurupa Valley City Manager and the City Council upon their request for information or in correspondence with relevant Site cleanup information.

Print and Social Media

USEPA will use The Press-Enterprise, a daily Riverside County newspaper, to publicize important information or to give public notice related to the Site.

In addition to the fact sheets, USEPA will provide information for the public on the Stringfellow web page.

Community Outreach and Education

Educating and informing the public on the history of the Stringfellow Site, progress of the cleanup efforts, and current and future cleanup and monitoring efforts was a reoccurring comment received from the stakeholders due to the population growth within the region. Efforts to reach these new community members will be made through previously discussed communication tools.

Public Comment Periods

The public comment period is a time during which USEPA accepts comments from the public on proposed actions and decisions. This enables citizens to participate in the administrative decision-making process. The community will be notified of public comment periods through fact sheets and/or public notices. At the request of the community, USEPA will implement an extended public comment period of 60 days for the Stringfellow Superfund Site.

Information Repositories

An information repository has been established at the Glen Avon Regional Library near Jurupa Valley. This information repository includes copies of Site deliverables (e.g., work plans and reports), monitoring and progress reports, CIP, and other data and information designated by USEPA. These documents may be reviewed during normal library hours, which are Mondays and Thursdays from 10:00 a.m. – 6:00 p.m.,

Jurupa Mountains Discovery Center, photo courtesy of USEPA

Glen Avon Regional Library, photo courtesy of USEPA

Tuesdays and Wednesday from 10:00 a.m. – 8:00 p.m., and Saturday from 10:00 a.m. – 2:00 p.m.[1] A complete copy of the Administrative Record is also available for review by community members, and is maintained by USEPA at its regional office in San Francisco.

Information Repository Locations:

Glen Avon Regional Library
9244 Galena Street
Riverside, CA 92509
(951) 685 – 8121

USEPA Region 9 Record Center
75 Hawthorne Street
San Francisco, CA 94105
(415) 820 – 4700

Key Contacts

USEPA Region 9

Daewon Rojas-Mickelson
Remedial Project Manager
U.S. EPA, Mail Code SFD-7-3
75 Hawthorne Street
San Francisco, CA 94105
(415) 947 – 4191
rojas-mickelson.daewon@epa.gov

Viola Cooper
Community Involvement Coordinator
U.S. EPA, Mail Code SFD-6-3
75 Hawthorne Street
San Francisco, CA 94105
(415) 972 – 3243
cooper.viola@epa.gov

California Department of Toxic Substances Control

Peter Bailey
Project Manager
(916) 255 – 6552
peter.bailey@dtsc.ca.gov

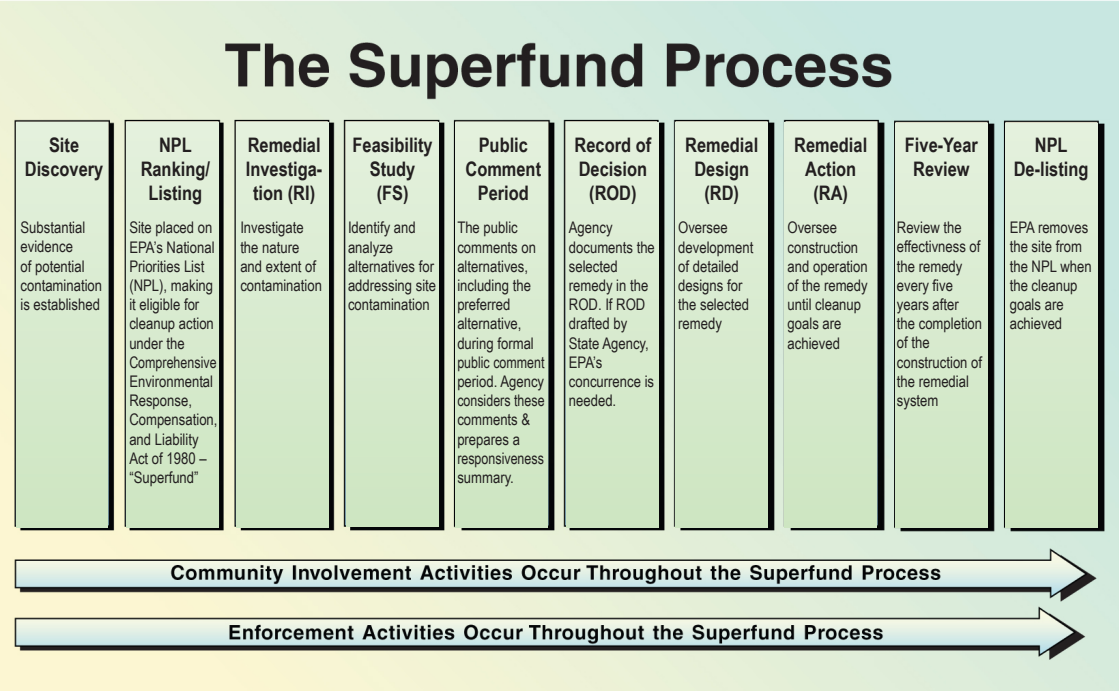
Jesus Cruz
Public Participation Specialist
(866) 495 – 5651 or
(916) 255 – 3315
jesus.cruz@dtcs.ca.gov

[1]Library times listed as of fall 2015. Check with the individual library to confirm operating hours.

APPENDICES

OVERVIEW OF THE SUPERFUND CLEANUP PROCESS

The Superfund cleanup process begins with site discovery or notification to USEPA of possible releases of hazardous substances. Sites are discovered by various parties, including citizens, state agencies, and USEPA regional offices. USEPA then evaluates the potential for a release of hazardous substances from the site through the steps shown below.



STRINGFELLOW SUPERFUND TECHNICAL OVERVIEW

The Stringfellow Superfund Site is located in the City of Jurupa Valley, California.

From 1956 until 1972, a Class I hazardous waste disposal facility operated on a 17-acre area in Pyrite Canyon, north of State Route 60 (SR 60). During the course of operations, approximately 34 million gallons of liquid hazardous waste were deposited in unlined evaporation ponds. The wastes were primarily from metal finishing, electroplating, and pesticide production, which included spent acids and caustics, metals, solvents, and pesticide byproducts.

Heavy rainfall caused the disposal ponds to overflow in 1969, resulting in a discharge of contamination into Pyrite Creek. In 1978, heavy rains again threatened to cause the ponds to overflow and the Santa Ana Regional Water Quality Control Board (SARWQCB) authorized an 800,000-gallon wastewater release to prevent a massive uncontrolled release. Between 1975 and 1980, approximately 6.5 million gallons of liquid wastes were removed from the facility and transported off-site for disposal.

The Site is currently geographically divided into four zones for purposes of investigation and cleanup activities. Zones 1-3 include the former disposal ponds and an area approximately 1 mile downgradient of the ponds; Zone 4 includes an approximately 3.5 mile long area downgradient of Zone 3, south of SR 60, extending to the Santa Ana River. In addition to these four zones, the USEPA is conducting investigations in two areas adjacent to the Site to determine if additional contaminant sources exist. The first area, known as EPA Investigation Area 1 (EPA Area 1), is located west of Pyrite Creek and includes Pyrite Quarry and adjacent properties. The second area, known as EPA Investigation Area 2 (EPA Area 2), is located east of Pyrite Creek in an area where the manufacture and testing of rocket propellants may have taken place.

ENVIRONMENTAL AND REGULATORY ACTIVITIES

Releases from the former disposal ponds and groundwater flow resulted in contamination of Pyrite Creek and local groundwater. Federal, state, and local agencies have taken action to cleanup the soil and groundwater in the area. A summary timeline for Site history, regulatory activities, and cleanup activities, is included on pages 21 and 22.

Stringfellow was listed by USEPA on the Superfund National Priorities List (NPL) on September 8, 1983. The state regulatory agencies involved with response and cleanup activities at the Site include SARWQCB and DTSC (which was formerly known as the California Department of Health Services, Toxic Substances Control Division). In 1983, DTSC assumed responsibility for maintenance of the Site. At the time, there were no court findings holding the state of California (State) liable under federal or state law, and USEPA was the oversight agency. The district court issued a final judgment against the State on September 17, 1998 and assigned the State 100 percent liability under state law and 65 percent liability under federal law. This liability finding became final when the State dismissed its appeal of this judgment in April 2002.

Between 1983 and 1990, USEPA adopted four interim Records of Decision (RODs) which explains and specifies the cleanup actions that have guided subsequent cleanup efforts:

- The first ROD (1983) directed completion of several initial activities, including fencing, erosion control, interim source control, and off-site hauling and disposal of contaminated liquids.
- The second ROD (1984) directed construction of an on-site pretreatment plant to treat contaminated groundwater.
- The third ROD (1987) directed installation of a groundwater barrier system in the lower canyon area (Zone 3) and installed surface channels to prevent surface water from entering (Zone 1).
- The fourth ROD (1990) directed dewatering of the original disposal area (Zone 1A), the installation of a groundwater extraction system to treat volatile organic compounds (VOCs) in the community area (the Community Wellhead Treatments System [CWTS] in Zone 4).

Stringfellow Superfund Site, photo courtesy of USEPA

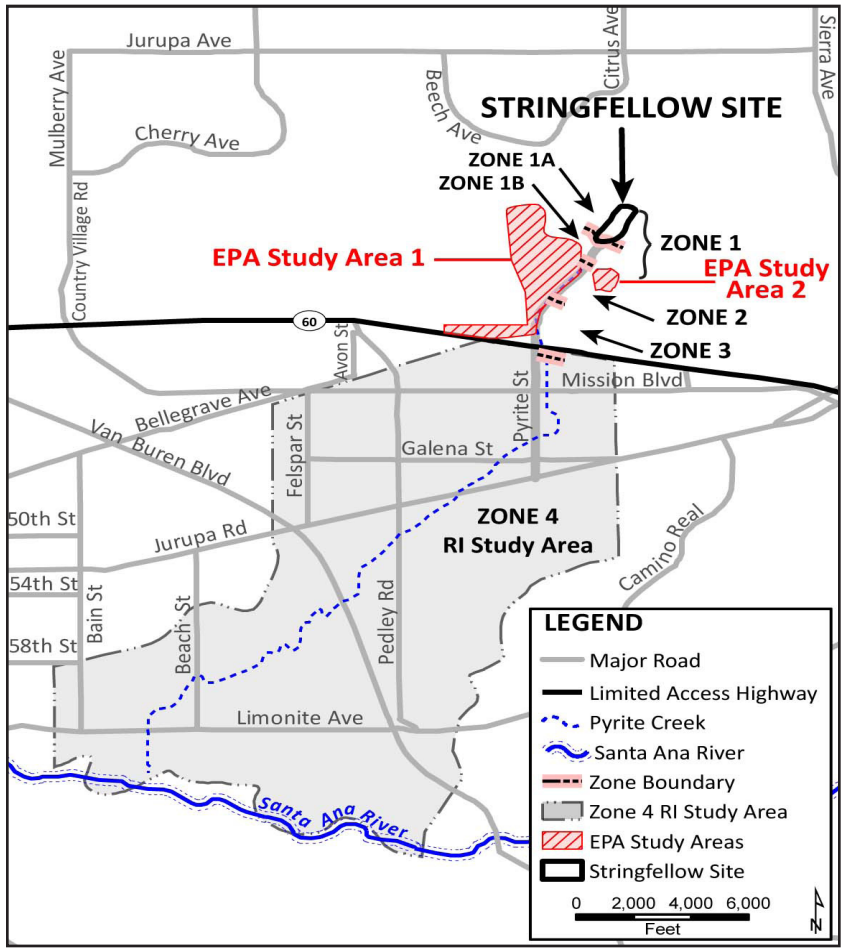
In the process of implementing these interim RODs, USEPA and DTSC installed hundreds of groundwater monitoring wells, extraction wells, and several treatment plants to contain and cleanup contaminated groundwater migrating from Zones 1 to 4. Contaminated groundwater is extracted from Zones 1, 2, 3, and 4 and treated at the Pre-Treatment Plant (PTP) and two other water treatment facilities operating at the Site.

ADDITIONAL INFORMATION ON STRINGFELLOW SITE CLEANUP ACTIVITIES

USEPA determined that the interim cleanup remedies in Zones 1 through 4 were protective of human health in the 2001, 2006, and 2011 Five-Year Reviews. USEPA will prepare the next Five-Year Review in 2016. The current remedies are protective because the exposure pathways of greatest concern to public health are being controlled. Recommendations from the Five-Year Review that are currently being implemented by DTSC include optimizing the existing groundwater extraction system to prevent contaminated groundwater from flowing from the Site.

Ongoing Investigations and Remediation

DTSC and USEPA are currently conducting investigations of Zone 4 and EPA Area 1 and 2, respectively. USEPA's investigation of these two contaminant source areas will be completed in 2017. The purpose of DTSC's investigation in Zone 4 is to determine the extent of the contamination and identify possible cleanup methods. This investigation work will continue into 2017. A feasibility study (FS) report will be produced that includes information from both DTSC's and USEPA's investigations. The FS report helps EPA decide its cleanup plan and documents the development and analysis of cleanup alternatives. Once cleanup options are evaluated USEPA will produce a proposed plan document that highlights key aspects of the FS, describes cleanup alternatives and explains rationale for EPA selecting its preferred alternative. When EPA's proposed plan for cleanup is completed, EPA will provide the public an opportunity to comment on the preferred alternative and explain how it can participate in the remedy selection process. A public comment period on the proposed cleanup plan of 30 days is planned for 2019. After USEPA has addressed public comments on its proposed plan, a final cleanup will be selected. In addition to the Zone 4 remedy, this cleanup plan will incorporate all previously selected interim remedies. After the cleanup plan is finalized, construction of the selected remedies will begin; construction is planned for 2023.



Area Map Showing the Four different Zones and the EPA Study Areas.

GLOSSARY

Most of the terms defined below are used in this Community Involvement Plan. Definitions were taken from the Superfund glossary on the USEPA website at **http://www.epa.gov/superfund/programs/reforms/glossary.htm.**

1,4-Dioxane: Also known as p-dioxane, is used to dissolve cellulose acetate, resins, oils, and waxes. It is also used to maintain 1,1,1-trichloroethane and other chlorinated solvents. This chemical is found in lacquers, paints, varnishes, and fumigants.

Administrative Record: A file which is maintained and contains all information used by the lead agency to make its decision on the selection of a response action under CERCLA. This file is to be available for public review and a copy is to be established at or near the Site, usually at one of the information repositories. Also, a duplicate file is held in a central location, such as a Regional or State office.

Administrative Settlement Agreement and Order on Consent (AOC): A legal document signed by USEPA and an individual, business, or other entity that formalizes an agreement reached between USEPA and Potentially Responsible Parties (PRPs) where PRPs will conduct all or part of a cleanup action at a Superfund site; cease or correct actions or processes that are polluting the environment; or otherwise comply with USEPA-initiated regulatory enforcement actions to resolve site contamination. The AOC describes actions that PRPs are required to perform.

Aquifer: An underground geological formation, or group of formations containing water. Aquifers are sources of groundwater for wells and springs.

Clay Cap: A layer of material, such as clay or a synthetic material, used to prevent rainwater from penetrating and spreading contaminated materials. The surface of the cap is generally mounded or sloped so that water will drain by gravity.

Cleanup: *Cleanup* is the term used for actions taken to deal with a release or threat of release of a hazardous substance that could affect humans and/or the environment. The term is sometimes used interchangeably with the terms *remedial action, removal action, response action, or corrective action.*

Stringfellow Superfund Site, photo courtesy of USEPA

Community Involvement Plan (CIP): A document that identifies techniques used by USEPA to communicate effectively with the public during the Superfund cleanup process at a specific site. This plan describes the site history, nature and history of community involvement, and concerns expressed during community interviews. In addition, the plan outlines methodologies and timing for continued interaction between the agencies and the public at the site.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (commonly known as Superfund): This law, enacted by Congress on December 11, 1980, created the Superfund program. Specifically, CERCLA (1) established prohibitions and requirements concerning closed and abandoned hazardous waste sites, (2) provided for liability of persons responsible for releases of hazardous waste at these sites, and (3) established a trust fund to provide for cleanup when no responsible party could be identified.

Containment: A remediation method that seals off all possible exposure pathways between a hazardous disposal site and the environment.

Contamination: Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use.

Downgradient: A downward slope that causes groundwater to move toward lower elevations. Wells downgradient of contaminated groundwater sources are prone to receiving pollutants.

Stringfellow Superfund Site - Rock Samples, photo courtesy of USEPA

Evaporation Ponds: Ponds where the liquid portion of wastes is transferred into the atmosphere, leaving behind solid wastes.

Explanation of Significant Differences (ESD): A revision of the Superfund cleanup plan and addendum to the Record of Decision to incorporate additional findings and related changes to the Remedial Action.

Extraction Well: A well that pumps groundwater so that it can be treated.

Feasibility Study (FS): Description and analysis of the potential cleanup alternatives for a Superfund site and recommendation of a cost-effective alternative.

Five-Year Review: A periodic review of a Superfund site conducted after a response action has been initiated. The purpose of a five-year review is to evaluate whether the response action remains protective of public health and the environment.

Granular Activated Carbon (GAC): Commonly used in the treatment of contaminated water. Is effective in removing organic compounds, as well as, taste and odor compounds.

Groundwater: The supply of fresh water found beneath the surface of the earth.

Hazardous Waste: A waste that poses a potential hazard to human health or the environment.

Human Health Risk Assessment: A study conducted to evaluate the likelihood that a given exposure or series of exposures may have damaged or will damage the health of individuals.

Information Repository: A file containing current information, technical reports, and reference documents regarding a Superfund site. The information repository is usually located in a public building that is convenient for local residents, such as a public school, city hall, or library.

Monitoring Well: A well drilled to collect groundwater samples to determine amounts, types, and distribution of contaminants in the groundwater.

National Contingency Plan (NCP): The basic policy directive for federal response actions under CERCLA. It sets out the organizational structure and procedures for responding to releases of hazardous substances, pollutants, and contaminants, and contains the Hazard Ranking System and the National Priorities List as appendices.

National Priorities List (NPL): USEPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which USEPA is required to update at least once a year, is based primarily on the score a site receives from USEPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Nine Criteria: The USEPA nine criteria used to evaluate a potential cleanup remedy are (1) overall protection of human health and the environment, (2) compliance with applicable or relevant and appropriate requirements (ARARs), (3) long-term effectiveness and permanence, (4) reduction of toxicity, mobility, or volume, (5) short-term effectiveness, (6) implementability, (7) cost, (8) state acceptance, and (9) community acceptance.

Stringfellow Superfund Site, photo courtesy of USEPA

N-nitrosodimethylamine (NDMA): Produced by industry only in small amounts for research. At room temperature, it is a yellow liquid with no distinct odor. It was used to make rocket fuel, but this use was stopped after unusually high levels of this chemical were found in air, water, and soil samples collected near a rocket fuel manufacturing plant. It is used in some cosmetic and toiletry products and in cleansers.

Nitrate: A compound containing nitrogen, which can have harmful effects on humans and animals.

Operable Unit (OU): A designation for a portion of a site with defined boundaries and at which site actions are separately planned, executed, and monitored to reduce potential risk or damage to public health and the environment.

Perchlorate: A contaminant in groundwater and surface waters that originates from the dissolution of ammonium, potassium, magnesium, or sodium salts. Perchlorate is exceedingly mobile in aqueous systems and can persist for many decades under typical groundwater and surface water conditions. Sources for the contamination include chemical fertilizer and various other chemical and industrial uses. One major source of contamination is the manufacture of ammonium perchlorate for use as the oxidizer component and primary ingredient in solid propellant for rockets, missiles, fertilizers, and fireworks.

Plume: A well-defined area of dispersed contamination in an aquifer which starts at a source point and spreads vertically and laterally downgradient.

Potentially Responsible Party (PRP): An individual or company (e.g., an owner, operator, transporter, or generator of hazardous substances or hazardous waste) that is potentially responsible for the past contamination and future cleanup of a Superfund site.

Stringfellow Superfund Site, photo courtesy of USEPA

Proposed Plan: A summary of the preferred cleanup strategy, the rationale for the preference, and a review of all alternatives analyzed in the feasibility study.

Record of Decision (ROD): A public document that explains which cleanup alternative will be used at a Superfund site.

Remedial Action: The actual construction or implementation phase of a Superfund site cleanup that follows remedial design.

Remedial Design: A phase of remedial action that follows the remedial investigation/feasibility

Remedial Investigation (RI): An in-depth study designed to gather the data necessary to determine the nature and extent of contamination at a Superfund site, establish criteria for site cleanup, and identify preliminary alternatives for remedial actions.

Screening Level Ecological Risk Assessment (SLERA): A study conducted to evaluate the potential adverse effects that contaminants could have on the flora and fauna biological environment.

Superfund: The common name used for the Comprehensive Environmental Response, Compensation, and Liability Act. Superfund activities include conducting and/or supervising hazardous waste site cleanups and other remedial actions.

Trichloroethylene (TCE): A sweet-smelling industrial solvent widely used to degrease metal parts and clean electrical components. TCE rapidly evaporates when exposed to air, can penetrate soil when spilled or leaked, and can dissolve in water, resulting in contamination of aquifers. Prolonged exposures to high concentrations of TCE in air (about 50 parts per million) can result in headaches, dizziness, and sleepiness, while higher levels can result in damage to the liver and kidneys. TCE has been shown to cause liver cancer in laboratory mice and, therefore, is treated as a probable human carcinogen, although no human studies or data have confirmed this. Because of its carcinogenic potential, TCE is limited by the State of California to 5 ppb in drinking water. TCE is not readily stored in plant or animal tissues, so it is unlikely that an individual would be exposed to TCE by consuming either one.

Volatile: Ability to evaporate at room temperature.

Volatile Organic Compound (VOC): Any compound of carbon, which transitions from liquid phase to gas phase at normal room temperature.

Zone 1: Onsite/Upper Mid-Canyon Area—This zone includes the original 17-acre disposal area in the northern uppermost part of Pyrite Canyon.*

Zone 2: Mid Canyon Area—This zone is in the middle of Pyrite Canyon extending approximately 800 feet south of Zone 1.*

Zone 3: Lower Canyon Area—This zone is the lower reach of Pyrite Canyon extending approximately 2,400 feet south of Zone 2 to SR 60.*

Zone 4: Glen Avon Community—This zone includes the area of the community of Glen Avon, south of SR 60 and downstream of Pyrite Canyon, extending to the current leading edge of the groundwater plume, approximately 22,000 feet southwest of the former Stringfellow Site (Zone 1).*

***See Area Map on page 14.**

Stringfellow Superfund Site, photo courtesy of USEPA

ACRONYMS AND ABBREVIATION

µg/L	Microgram(s) Per Liter
AOC	Administrative Settlement Agreement and Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirement
CCAEJ	California Center for Community Action and Environmental Justice
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CIP	Community Involvement Plan
COC	Contaminant of Concern
CWTS	Community Wellhead Treatment System
DGI	Data Gap Investigation
DHS	California Department of Health Service
DTSC	California Department of Toxic Substances Control
EPA Area 1	EPA Investigation Area 1
EPA Area 2	EPA Investigation Area 2
ESD	Explanation of Significant Differences
FS	Feasibility Study
I-15	Interstate 15
JCSD	Jurupa Community Sanitation District
LCTF	Lower Canyon Treatment Facility
MCL	Maximum Contaminant Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NDMA	N-Nitrosdimethylamine
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OU	Operable Unit
pCBSA	Para-Chlorobenzene-Sulfonic Acid
PCG	Pyrite Canyon Group
PCTF	Pyrite Canyon Treatment Facility
PPB	Parts Per Billion
PRP	Potentially Responsible Party
PTP	Pretreatment Plant
RI	Remedial Investigation
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SAC	Stringfellow Advisory Committee
SARA	Superfund Amendment and Reauthorization Act of 1986
SARWQCB	Santa Ana Regional Water Quality Control Board
SFS	Supplemental Feasibility Study
Site	Stringfellow Superfund Site
SLERA	Screening-level Ecological Risk Assessment
SR 60	State Route 60
SVOC	Semi-Volatile Organic Compound
TANA	Technical Assistance Needs Assessment
TASC	Technical Assistance Services for Communities
TCE	Trichloroethylene
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

Stringfellow Superfund Site, photo courtesy of USEPA

TIMELINE OF ENVIRONMENTAL AND REGULATORY ACTIVITIES

Year	Activity
1956 – 1972	Mr. Stringfellow opens landfill. Site accepted 34 million gallons of industrial waste in open ponds, including spent acids, VOCs, and pesticides.
1969	Heavy rain causes overflow of industrial waste into Pyrite Creek.
1969 and 1972	Regional Water Quality Control Board (RWQCB) issued order to cease accepting wastes and demanded that measures be taken to abate ongoing release of waste from the Site. Mr. Stringfellow closed the facility.
1972	Groundwater monitoring wells downgradient from the Site showed contamination. Water supply well at Glen Avon Elementary School subsequently closed.
1978	Heavy rains required RWQCB to release 800,000 gallons of contaminated water into Pyrite Creek to prevent dam failure.
1979 – 1982	RWQCB implemented interim abatement program that included removal of all surface ponds, removal of contaminated soil, construction of subsurface and surface water drainage control, and installation of groundwater extraction wells.
1982 – 1986	California Department of Health Services (DHS) initiated health survey of Glen Avon community. Excesses were found for incidence of cancer.
1983	USEPA placed the Site on the National Priority List (NPL) making the Stringfellow Site eligible for federal Superfund monies to finance cleanup activities. ROD 1 – Included fencing of Site, extraction and offsite disposal of contaminated groundwater, and erosion control measures. The DHS and USEPA initiated extensive groundwater monitoring program. Contaminated groundwater found.

Year	Activity
1984	ROD 2 – Included design, construction, and operation of PTP. DHS began providing bottled water to approximately 400 Glen Avon residents.
1986	RI/FS report issued.
1986 – 1989	Residents connected to Jurupa Community Sanitation District (JCSD).
1987	ROD 3 – Included installation of barrier system in Zone 3 and construction of additional surface water control features.
1990	ROD 4 – Included dewatering of original disposal area in Zone 1 with groundwater extraction wells, installation of groundwater extraction system in community to contain plume, and field test soil vapor extraction system. Field test of reinjection of treated groundwater into Pyrite Canyon. PRPs designed, installed, and operated the Lower Canyon Treatment Facility (LCTF) to treat contaminated groundwater from Zone 4.
1993	USEPA issued the first five-year review report.
1996	DTSC took over day-to-day management of the Site.
1997	DTSC completed the seismic reflection study of the Site.
1998	DTSC completed construction of pipeline to convey treated PTP effluent to the Santa Ana regional industrial sewer. Potentially Responsible Parties (PRPs) designed and installed the Community Wellhead Treatment System (CWTS) to capture and treat the leading edge of the Stringfellow Site plume in Zone 4.
1998 – 2000	DTSC performed additional field investigations, including expanding the groundwater extraction system in Zone 1 and installing 30 extraction wells and 45 monitoring wells.

TIMELINE OF ENVIRONMENTAL AND REGULATORY ACTIVITIES (CONTINUED)

Year	Activity
1999	DTSC took over day-to-day management of LCTF and CWTS from the PRPs. DTSC issued a draft Supplemental FS for public comment. DTSC completed LCTF piping modification to reroute the LCTF effluent from the JCSD sanitary sewer to the Santa Ana regional industrial sewer.
2001	Perchlorate detected in groundwater samples collected from monitoring wells in Zone 4. Additional sampling and analyses of Zones 1 through 4 monitoring and extraction wells for perchlorate, 1,4-dioxane, and NDMA.
2001	Installation of VOCs emission control system on 13 tanks at the Pretreatment Plant (PTP). Special Purpose Discharge Permit was renewed to allow PTP effluent to be discharged to the Santa Ana regional industrial sewer.
2002	RWQCB renewed National Pollutant Discharge Elimination System (NPDES) Permit to allow CWTS effluent to be discharged to Pyrite Creek. Zone 1 conveyance piping and headers flushing completed. Contracted with JCSD to provide drinking water to residents impacted by perchlorate plume.
2003	Completed installation of additional monitoring and extraction wells in Zone 3 for capturing additional contamination. Completed replacement of sludge storage tanks at the PTP.
2006	USEPA issues third five-year review report.
2002 - ongoing	Maintenance and upgrades to the PTP, CWTS, and extraction wells included the replacement of sludge storage tanks and filter presses, redevelopment of extraction wells as preventive maintenance to assure continuous operation, replacement of CWTS GAC tanks, PTP storage tank painting, installation of additional sampling ports, installation of additional extraction and monitoring wells, and other activities.

Year	Activity
2007 – 2016	Bench-scale and pilot-scale testing of treatment technologies for the Pyrite Canyon Treatment Facility (PCTF) was completed in 2007 and a pilot testing summary report issued in 2008. Final recommendations for PCTF layout and design bases completed in May 2009. Construction of the PCTF began in 2013 and will be completed in 2016.
2005 – 2012	Remedial investigation/feasibility study (RI/FS) of Zone 4 perchlorate contamination. The field investigation was completed in 2008 and the final Zone 4 RI report was issued in 2011. The Draft Zone 4 FS was issued in 2012.
2009	Final SFS for Zones 1, 2 and 3 submitted.
2010	DTSC conducts Zone 4 In-Situ Bioremediation Pilot Study.
2011	USEPA issues fourth five-year review report.
2012 – 2015	DTSC conducts Blast Fracture Pilot Test and evaluation to determine if groundwater flow and capture can be increased as part of optimizing cleanup at the Site.
2012 – 2013	DTSC installed and sampled wells on Pyrite Quarry to investigate area as possible additional source of perchlorate or other contaminants.
2013 – 2015	USEPA conducts additional investigations in EPA Area 1 and EPA Area 2 to investigate possible contaminant source areas. Reports of findings are planned for 2016.
2014	USEPA and DTSC entered into a voluntary Agreement on Consent, Agreement to Perform Response Action, which details work DTSC will complete to support the fifth and final ROD for the Site and the selection of the final Site remedy. Work includes conducting a Data Gap Investigation in Zone 4, evaluation of remedial alternatives, and revision of the Draft Zone 4 FS Report for Perchlorate in Groundwater.
2015	DTSC begins the Zone 4 Data Gap Investigation.

TECHNICAL ASSISTANCE NEEDS ASSESSMENT SUMMARY

Introduction

The U.S. Environmental Protection Agency (USEPA) requested support from USEPA's Technical Assistance Services for Communities (TASC) program to conduct a Technical Assistance Needs Assessment (TANA) in conjunction with the Community Involvement Plan (CIP) update. The purpose of this needs assessment is to better understand the current unmet technical assistance needs of the Stringfellow Site community and to provide recommendations to address those needs. TASC contractors provided TANA questions to USEPA to include in the CIP stakeholder interview questionnaire, listened in on CIP interviews, and reviewed CIP interview notes to develop this summary and a set of recommendations.

Site Background and Past Community Involvement

Information about Site background and past community involvement is documented in the main body of the CIP and is not repeated here.

Perspective on Community Technical Assistance Needs

Community members and stakeholders shared their perspectives on community technical assistance needs as they related to the Stringfellow Superfund Site. Although some community members acknowledged having rocky relations with USEPA and the California Department of Toxic Substances Control (DTSC) in the past, community stakeholders that participated in CIP and TANA interviews felt fairly confident in the current status of the Site cleanup and did not have many concerns. Some community members interpreted this as a sign that the cleanup and agency relations with the community are generally going well. Despite this, community stakeholders still shared some potential technical assistance needs.

Stringfellow Superfund Site, photo courtesy of USEPA

A primary need shared by many community stakeholders that participated in CIP and TANA interviews is that general awareness and outreach could be improved. While there are some community stakeholders that are very aware of the Site history and cleanup, participants agreed that overall, the community does not have a strong understanding of the Site or the cleanup. The participants shared different potential explanations for why public awareness may be low at the Site and offered some potential solutions to increase awareness and engagement. These are summarized in the following table on the right.

In addition to receiving general updates about the Site status, some participants indicated an interest in having fact sheets or information about specific topics related to the Site. These topics include:

- The status of the contamination and groundwater plume, and whether water and residential property are safe.
- An explanation of the different spigots on residential property (e.g., the city water spigot is potable, while the well water spigot is for irrigation only).
- A simple explanation to help community members understand why visibly clean water may not be safe and still needs to be tested.
- Perchlorate study results.
- Information about para-chlorobenzene-sulfonic acid (pCBSA) health effects.

Some community participants were particularly interested in educational outreach and partnering with local schools to teach about the Stringfellow Site. One participant noted that some curriculum about positive and negative human impacts on the environment is already being developed in local schools, and it includes information about the Stringfellow Site. Additionally, many community participants suggested that USEPA and DTSC could partner with various city and community organizations to distribute Site updates and share information about the Site and its history.

Potential Explanations for Low Public Awareness and Engagement Offered by Participants	Solutions to Increase Public Awareness and Engagement Offered by Participants
There are and continue to be new residents who are unaware of the Site history	• Update the Site mailing list. • Provide periodic updates/fact sheets so residents can be aware of general Site history. • Host annual presentations or community meetings to allow for two-way communication between the community and USEPA and DTSC. • Improve accessibility of documents on DTSC's Envirostor website. • Provide Site updates to staff and councilmembers of the newly incorporated City of Jurupa Valley.
The community has diverse needs	• Provide fact sheets in English and Spanish (perhaps in different dialects of Spanish as well). • Provide a Spanish translator at community meetings. • Consider holding some meetings during the day for older community members who may not attend evening events. • Provide information in both electronic formats (e-mail, social media, websites) and traditional formats (printed flyers, bulletins, telephone calls) to accommodate community members of varying ages and who access different technologies. • Provide more information in both plain and technical language to meet the needs of the public as well as technical professionals. • Provide more succinct fact sheets that can be read in five minutes or less. • Provide information about the Site for younger community members that can be distributed through schools. • Provide multimedia displays about the Site for exhibit at the Jurupa Discovery Center.
Outreach methods may not have been effective at reaching all parts of the community	• Increase advertising for meetings, such as having flyers in the library and through other mailing lists. • Consider holding meetings (such as Stringfellow Advisory Committee (SAC) meetings) mid-week, early evening after work for greater community attendance. • Consider holding meetings in a more central location and a more community-friendly space, such as Patriot High School, the library or the Jurupa Discovery Center. • Consider having meetings start with a general session, and then have stations available in an open house format for additional conversations and follow-up questions (rather than only having an open house meeting). • Partner with the City, utility companies, schools and other organizations to distribute Site updates. • Update the Site mailing list, including creating a more targeted list of home and business addresses closest to the plume. This targeted list could be a more efficient way to provide information to those who are potentially most impacted by the contamination and cleanup.

Recommendations for Technical Assistance

TASC believes that the community would benefit from implementation of the recommendations described below. These recommendations are specific to technical assistance and could be fulfilled by USEPA and DTSC, with support from the TASC program or other technical assistance programs where appropriate.

1. Implement the strategies outlined in the Community Involvement Action Plan as described in the CIP, with the following additional considerations to further address the concern of low community awareness of the site and cleanup:
   a. Provide 1-2 plain language fact sheets or informational handouts each year to address specific topics in addition to providing a general status update. Fact sheets or handouts could include information about the five topics listed above or new topics as they are identified by community stakeholders.
   b. Host two separate community meetings when the proposed plan is released. Hold the first meeting to discuss the background and history of the Site to provide context, and then hold a second meeting approximately a month later to discuss the current status and the proposed plan.
   c. Regularly update the Site mailing list.
   d. Improve accessibility of key site documents on DTSC's Envirostor website.

Stringfellow Superfund Site, photo courtesy of USEPA

2. Check in with community stakeholders after a specified period to revisit the TANA and look at community needs. Based on community interest at that time, consider developing a community outreach plan to broaden community awareness and specifically reach out to newer residents.

STAKEHOLDER INTERVIEW QUESTIONNAIRE

Name: _____
Affiliation: _____
Date/Time: _____
Location: _____

History

1. How long have you lived/worked in this area?

2. Are you familiar with the Stringfellow Superfund Site?

3. How did you first become aware of contamination associated with the Site?

4. What is your understanding of the history of the contamination at the Stringfellow Site and it's effect on the community?

5. What are your concerns about this site? Please explain.

6. Have you spoken to anyone about your concerns? If so, who and when?

7. Do you know if anything has been done to address these concerns?

8. Are you aware of any activities that are currently underway to cleanup environmental contamination at Stringfellow?

Community Involvement

9. Are you currently receiving information about Stringfellow's environmental issues? Do you receive the fact sheets out to the community members?

10. Is the information clear and easy to understand? If not, describe the areas where you believe the community may need assistance understanding and responding to information about the site. What additional information would you like to receive?

11. Have you attended the Stringfellow Advisory Committee (SAC) meetings? If no, is there a reason why you have not attended?

12. Have you attended any community meetings regarding the cleanup activities? If no, is there a reason why you have not attended?

13. How effective do you feel these community meetings have been?

14. Do you have any suggestions to improve the effectiveness of these meetings?

15. What are the issues or areas in which the community may require assistance in order to participate meaningfully in the Superfund decision-making process? What type of assistance do you believe would be most helpful?

16. Are there particular community members or stakeholders affected by the site who may need additional assistance understanding site information and what it may mean to them? Are these stakeholder groups reached by existing organizations that serve the broader community?

Level of Confidence

17. What has your experience been with EPA and the State and any other government agencies or officials?

Communication

18. How are you currently receiving information about the site?

19. How do you feel about the level of community involvement and outreach from the Project to the residences and businesses affected by the site?

20. Do you feel you have been kept adequately informed? If not, what can be done to change this?

STAKEHOLDER INTERVIEW QUESTIONNAIRE (CONTINUED)

21. What is the best way to provide information to you? (Facebook, E-mail, Open House, Newsletters, fact sheets, community meetings, TAGs, other)

22. How frequently?

23. Have you participated in any public meetings and/or the Community Advisory Group meetings for the site?

24. If no, why not?

25. If yes, do you have any suggestions for improvement?

26. In your opinion, what days of the week (and times) are best for community meetings?

27. Are you aware of the information repository at Stringfellow?

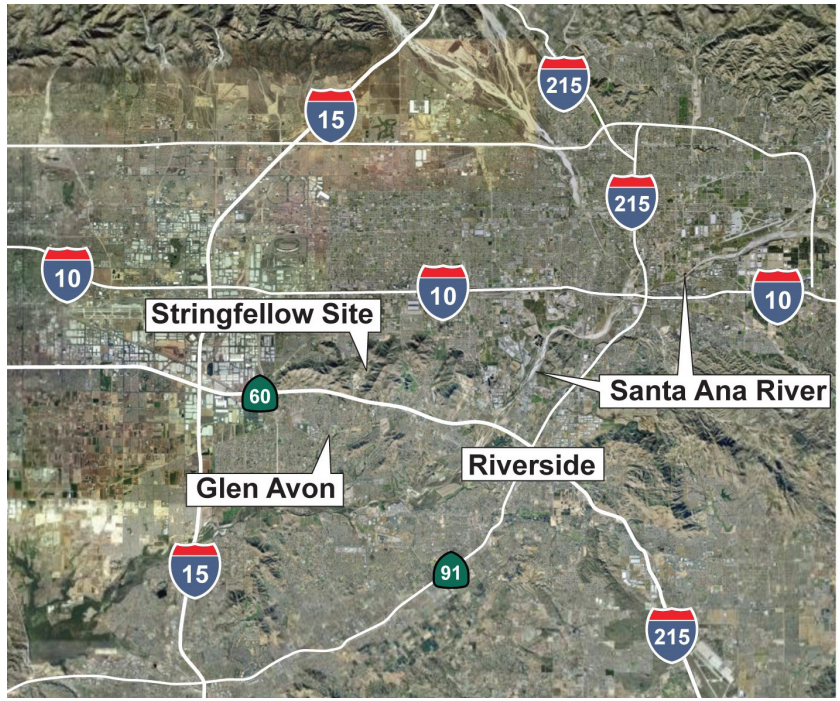
28. Is this location convenient for the community?

29. Are you interested in being on the mailing list to receive information updates on environmental cleanup activities at the Site?

30. If so, can we confirm your address (and e-mail address)?

31. Can you suggest any other individuals or groups that should be contacted for additional information or to be added to the mailing list?

32. Is there any other pertinent information you would like to share with us at this time?



Map of Superfund Projects, photo courtesy of USEPA

Stringfellow Superfund Site

Stringfellow Superfund Site
www.epa.gov/region9/stringfellow

Community Involvement Plan
September 2016