

# **SANTA MARIA LANDFILL NHIS – Win-Win for Santa Maria**

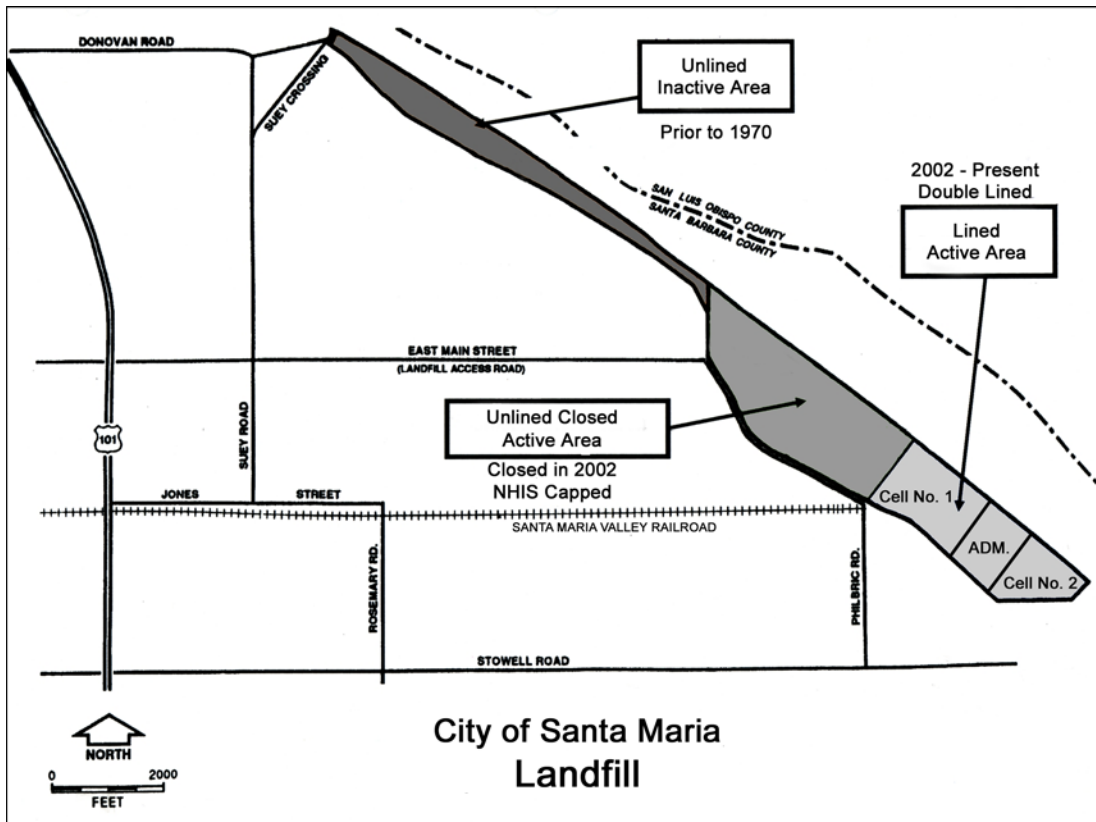
## **SUMMARY**

The Santa Maria landfill has been in operation for over 50 years. Historically, soil from the Santa Maria riverbed was used to cover portions of the landfill. In 2002, Santa Maria received approval to also use Non-Hazardous Hydrocarbon Impacted Soils (NHIS), which is soil contaminated with oil. The primary source of the NHIS has been the Nipomo-Guadalupe Dunes located in San Luis Obispo County, but material has also been received from other areas in California. The City has contracted with a private company, Central Coast Remedial Resources, Inc. (CCRRI), to coordinate the delivery of the NHIS. The generators or owners of NHIS pay to have the soil removed, and CCRRI and the City share in those collected fees. The 2007-2008 Santa Barbara County Civil Grand Jury investigated the NHIS program, including public safety, environmental impacts, financial arrangements, and legal issues. In all respects, the conclusion was that the NHIS program is safe, legal, and profitable.

## **INTRODUCTION**

The County of Santa Barbara, including the Santa Maria Valley, has not been immune from environmental catastrophes. The January 1969 Santa Barbara oil spill, caused by a Union Oil offshore drilling rig, and the closure of the Casmalia toxic waste facility in 1989, are just two examples. In the late 1990s, the first evidence of contaminated groundwater was discovered at the Guadalupe Dunes. As the contamination was the result of one of the largest oil field spills in U.S. history, Unocal, which later merged with Chevron, was ordered to remove contaminated soil from the Guadalupe Dunes. This is the primary source of the NHIS. Therefore, it is understandable that members of the Santa Maria and Guadalupe communities would be concerned about the safety of the NHIS program. The question, then, is why should Santa Maria accept that same soil to cover a portion of its landfill? This question raised concerns about public safety and environmental issues, as well as financial and legal inquiries.

The Santa Maria landfill is located adjacent to the Santa Maria River, on the east end of Main Street in the City of Santa Maria. The total size of the landfill area is 290 acres divided into three main sections used for waste disposal. The Unlined Inactive Area was used prior to 1970 and acted as a burn dump until open burning of waste was prohibited. The second area is the Unlined Closed Active Area and was used until 2002 when liners became a requirement. The third area, consisting of two cells, is the Industry-Standard Lined Active Area and is currently used. The double-lined Cell No.1 will be used until 2014, and Cell No. 2, if required, would last until 2018.



In 1996, the city was faced with a monumental challenge when it was issued a Cleanup or Abatement Order from the Central Coast Regional Water Quality Control Board (CCRWQCB). This order confirmed that contaminants had reached the groundwater basin from liquids passing through decomposing trash. The CCRWQCB threatened to close the landfill unless the city took immediate steps to stop the contamination.<sup>1</sup> These steps reduced the groundwater contamination to safe levels.

In May 2001, the CCRWQCB issued a new requirement to discontinue disposal operations at the Unlined Closed Active Area as of November 2002. Rescission of this closure was conditioned upon the creation of a regulation-compliant double-lined disposal cell, the Lined Active Area. This area was completed and ready to receive refuse in November 2002, and the operations in the Unlined Closed Active Area were stopped. However, the Unlined Closed Active Area still presented the challenge of

<sup>1</sup> The CCRWQCB specific corrective actions included:

1. Installing a gas collection system.
2. Placing an interim soil closure in the unlined "Inactive Area."
3. Creating a comprehensive water quality monitoring program.
4. Constructing a double-lined cell equipped with a leachate collection and management system.
5. Mining soil at the adjacent riverbed to ensure sufficient levee capacity from infiltrating the buried waste.
6. Adding the household hazardous waste collection facility.
7. Improving landfill operations to minimize contact runoff.

preventing leaching and runoff that could pollute the groundwater. The solution was the creation of the NHIS program designed to cap the area to prevent future contamination.

The initial authority to use the NHIS material is Title 24, California Code of Regulations, Article 2. Closure and Post-Closure Maintenance Standards for Disposal Sites and Landfills. Paragraph (1) Foundation Layer reads:

Closed landfills shall be provided with not less than two feet of appropriate materials as a foundation layer for the final cover. These materials may be soil, contaminated soil, incinerator ash, or other waste materials...

The NHIS materials are used so that the landfill can achieve final grade elevations, which will prevent surface waters from infiltrating the buried waste. As large portions of NHIS reach final grade, a landfill cap is constructed. This process is called a rolling closure, where, as the NHIS is installed and the cap created, that portion of the landfill is closed.

The entire landfill is currently anticipated to close in 2014. On January 17, 2006, the Santa Maria City Council passed a resolution (No. 2006-16) which authorized the City Manager to purchase 1,778 acres of land, known as Las Flores Ranch. This property will not only provide for future landfill operations but also for potential municipal projects, including outdoor recreational facilities which will serve the residents of the Santa Maria Valley.

## **METHODOLOGY**

The Grand Jury interviewed the Santa Maria Director of Administrative Services for a financial overview and then the Santa Maria City Attorney for all legal aspects of the program. Subsequently, the Grand Jury was given a detailed tour of the landfill and was able to observe the placing of NHIS materials and liners, which prevent the NHIS and water from permeating the landfill. During the tour, the Grand Jury interviewed the Director of Utilities, the Solid Waste Manager and an attorney who specializes in risk management. In addition, members of the Grand Jury met with the Mayor of Guadalupe, through whose city the NHIS material is transported. Members of the Grand Jury also spoke with several local citizens who have voiced concerns about the NHIS, and finally the Director of Administrative Services again, together with the Santa Maria risk manager. The Grand Jury has been provided legal and scientific documents detailing the testing which takes place, as well as the rules which the city must follow in accepting the NHIS. The Jury also was provided copies of the City of Santa Maria contract with CCRRI, the contract between the City of Santa Maria and Chevron, and the contract between the City of Guadalupe and Chevron.

## **OBSERVATIONS AND ANALYSIS**

In 2005, the City of Santa Maria and CCRRI received two environmental awards. The first was the Environmental Responsibility Award, issued by the San Diego Industrial Environmental Association. This award was granted in recognition of the cooperative nature between industry and government in solving a complicated landfill closure issue.

The Helen Putnam Award is issued by the League of California Cities and is an award for excellence. The award granted the City of Santa Maria stated the following:

The NHIS Program turned two environmentally sensitive liabilities into an innovative community asset by facilitating the construction of a new state-of-the-art solid waste disposal cell for refuse; accelerating the schedule to close the unlined portion of the City landfill; aiding in the mitigation of groundwater contamination; facilitating a locally controlled cleanup of thousands of acres of privately owned range land; saving the City millions of dollars in capital expense and allowing for the deferral of rate increases; and, providing the City an opportunity to convert 68 acres of a closed landfill site to an outdoor sports/recreation venue.

The goal of the Grand Jury was to ensure that the safety and rights of the people of Santa Maria had been adequately addressed.

### **Public Safety and Environmental Impact**

In 2003, Santa Maria obtained approval from State and local regulatory agencies to accept and bring NHIS to the landfill. The initial parameters of the approval were derived from the California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 11, Identification and Listing of Hazardous Waste, Section Range §66261.1 - §66261.126. The intent of the CCRWQCB was to be more restrictive than Title 22, which led to the current NHIS Program Acceptance Criteria (Rev. 7 – January 17, 2006) (“Acceptance Criteria”) being developed.

The Acceptance Criteria have set standards for a number of substances, including the levels of total petroleum hydrocarbon (TPH). These levels are equal to or more stringent than those set forth in Title 22.

Some NHIS material may contain Polychlorinated Biphenyls (PCB). The U.S. Department of Health and Human Services has concluded that PCBs may reasonably be anticipated to be carcinogens. As a result, the Acceptance Criteria have significantly reduced the PCB levels as allowed by Title 22.

The first PCB test is the Total Threshold Limit Concentration (TTLC), which measures mg/liter of PCBs. If the TTLC level is 1.0 mg/liter or less it is accepted, compared to 50 mg/liter allowed by Title 22. If the TTLC level is between 1.0 and 5.0 mg/liter, an additional leachability acceptance test is performed, resulting in the Soluble Threshold Limit Concentration (STLC) of no more than 0.1 mg/liter. Any soil with a PCB level greater than these limits is automatically rejected.

**PCB Acceptance Criteria**

<b>Category</b>	<b>CCR Title 22 PCB Levels</b>	<b>Acceptance Criteria</b>	<b>Additional Leachability Acceptance Test</b>
<b>TTLC</b>	<b>50 mg/l</b>	<b>1 mg/l</b>	<b>1.0 – 5.0 mg/l</b>
<b>STLC</b>	<b>5.0 mg/l</b>	<b>N/A</b>	<b>0.1 mg/l</b>

NHIS has been received from over 55 different sites in California. Prior to a site having NHIS material removed and delivered to the Santa Maria landfill, specific steps must be followed. CCRRI meets with the generator or soil owners, who take a sample of the soil. That sample is then tested at an independent laboratory to determine its content and a profile is developed.

When the trucks reach the landfill, random samples are taken of the NHIS material to again ensure that the profile of the load matches the site profile and that the acceptance criteria are being met. If soil is found not to match the profile criteria, it is not accepted at the Santa Maria landfill.

The delivery of the NHIS is carefully monitored as well. Large 18-wheel trucks are used to transport the soil and are filled to no more than 50% capacity to prevent any soil falling out of the truck. Prior to entering onto the public roadways, the trucks are driven over rumble strips to shake off any loose soil, and then workers brush the truck to remove any remaining soil. The route the trucks follow has been negotiated with local agencies, including both the Cities of Guadalupe and Santa Maria. This process can be viewed in a video posted in the NHIS section of the City of Santa Maria’s website. [<http://cityofsantamarianhis.info/about.asp>]

A number of agencies continue to monitor and approve the NHIS at the landfill, including:

- California Integrated Waste Management Board
- Santa Barbara County Public Health Department, Environmental Health Services
- Central Coast Regional Water Quality Control Board
- Santa Barbara County Air Pollution Control District
- Occupational Health and Safety Administration (OSHA)
- Department of Mining and Geology

These agencies require monitoring devices, which include surface water sampling, groundwater sampling, air monitoring, subsurface gas migration monitoring, and a load checking program. These monitoring systems must remain in place and be monitored for at least 30 years after the landfill has been closed. There are 25 groundwater wells placed around the landfill. They are monitored quarterly to ensure that none of the landfill operations are impacting the groundwater. Surface waters also are monitored during rainstorms to ensure the runoff is appropriate for discharge. All sampling results are forwarded to the CCRWQCB and are available to other agencies upon request.

The Unlined Closed and Lined Active areas are capped to prevent leaching. The construction of the cap with the NHIS is carefully crafted. The landfill itself is 5 feet above the highest groundwater level. Above the buried trash is a layer of clean soil, and above that an industry-standard flexible plastic liner with welded seams to form a contiguous layer. The purpose of the liner is to act as an impermeable barrier to prevent water from leaching contamination into the groundwater. The NHIS rests above the liner. Above the NHIS are a geosynthetic clay liner, a geocomposite drainage net, and a three-foot vegetative layer. The clay liner, drainage net and vegetative layer all are sloped to prevent rainwater and surface water from collecting and infiltrating the NHIS and buried trash.

What triggered the NHIS program was contamination from the landfill which had permeated the groundwater. That now is virtually impossible with the layers of protection covering the buried trash since rainwater is prevented from entering into the underlying landfill and leaching into the groundwater.

A side benefit to this program is that methane gas can now be captured and will be used to provide electricity for Marian Hospital.

Concern has been expressed that the landfill and the NHIS are adjacent to the Santa Maria River. That is true, but the landfill is high above the river, and the NHIS is completely encapsulated, preventing the leaching of contaminants into the river. Without the caps, there was a greater risk that toxic residue from unlined buried trash would leach into the groundwater. Concern has also been expressed that the NHIS is not necessary and that all required soil could come from the river. In fact, the amount of soil which can be removed from the river is tightly regulated, and it would take 25 years to remove enough river soil to cover the landfill. The use of river soil is impractical.

The Grand Jury was impressed with the knowledge and training of those in charge of monitoring the NHIS and landfill. They clearly are concerned about environmental impacts and public safety and are taking that concern into consideration for their plans at the landfill.

## Financial Arrangements

The oil companies pay to have the NHIS soil removed. Those payments are shared between CCRRI and the City of Santa Maria. The cost of the liners is paid directly to the City by the oil companies. The result is that there are few expenses paid by the City, so the payments are essentially pure profit. Revenue and expenses for the last three years are as follows:

<b>FYE 6/30:</b>	<b>REVENUE</b>	<b>EXPENSES</b>	<b>NET INCOME</b>
2005	\$5,569,577	\$68,539	\$5,501,038
2006	\$1,619,086	\$114,246	\$1,504,840
2007	\$4,148,986	\$280,979	\$3,868,007

The average annual net income from the NHIS program over the last three years is just over \$3.6 million. Since 2003, the City of Santa Maria has received \$14,195,192, while CCRRI has received \$11,723,656. Out of its share, CCRRI has had to pay for its own infrastructure and overhead, including vehicles, payroll, and office space.

The contract between the City of Santa Maria and CCRRI was executed in 2002, for a term of ten years, which has subsequently been extended to 2017. Once final closure has been reached, the City has an obligation to maintain and monitor the landfill for an additional 30 years. If the entire landfill had been closed as of June 30, 2007, the estimated closure cost to cover the remaining 30 years is estimated at \$17.4 million in today's dollars. On June 30, 2007, the City had \$17.7 million set aside as a reserve and invested with the City's other funds. The liability may increase as a result of future technology changes and inflation. But it is expected that the investment returns will be sufficient to cover those additional liabilities.

So, in brief, the City has set aside \$17.7 million in a separate fund to cover the estimated total closure cost of \$17.4 million. Therefore, the City has over-funded the closure fund by at least \$300,000.

In addition, the City maintains a \$15 million general liability insurance policy with a \$250,000 deductible. This insurance amount is based on actuarial calculations of past damage claims and an analysis of personal injury damage awards in the State of California covering the past several years.

The fees collected for the NHIS are exclusive of dump fees at the landfill. The profitability of the NHIS program also allows the City to minimize the fees charged for dumping.

The Grand Jury has concluded that the financial benefits of the NHIS program are significant and directly benefit the citizens of Santa Maria. The City has more than adequately covered the financial risk of closure costs. It also has carefully calculated the amount of liability insurance and has more than covered that risk.

## **Legal Concerns**

The Grand Jury looked at whether the City Council violated any laws in receiving revenue from CCRRI and the oil companies, and placing that money in the general fund to offset the costs for safety personnel.

Sections XIII C and XIII D of the California State Constitution as well as California Proposition 218 limit the City's ability to collect revenue from property related fees, taxes or assessments unless approved by the California voters. However, in the case of the NHIS, there are no property related fees, taxes, or assessments. In fact, homeowners are not involved in any of the payments. The NHIS program is a payment by an oil company for taking contaminated soil from its site and moving it to Santa Maria.

The Grand Jury can find no evidence to show that the City acted illegally in setting up the NHIS program or in collecting payments for the receipt of the NHIS. The Grand Jury believes the City Council has operated in the best interests of the citizens of Santa Maria.

Since the NHIS material originated in the Nipomo-Guadalupe Dunes in San Luis Obispo County, the initial public hearings were held there rather than in Santa Barbara County or the City of Santa Maria. Therefore, some citizens of Santa Maria believed the project was not fully disclosed. In the last two years, the City of Santa Maria, and in particular the Utilities Division, has developed and maintained a website [<http://cityofsantamarianhis.info/about.asp>] describing the NHIS program in full. This website is complete with a video demonstrating the shipment of NHIS from Guadalupe Dunes to the landfill. Furthermore, the City has responded to a number of citizen complaints with its own editorials. In spite of the City's recent efforts, a number of citizens are still unfamiliar or uncomfortable with the details of the NHIS program and how it works.

## **CONCLUSION**

The Santa Maria landfill is a case study in how creative solutions can be found to solve environmental problems within a community. The City's cooperation with industry led to the Helen Putnam Award and shows how a partnership between the two was able to solve two environmental crises. A real bonus is that the City is now bringing in over \$3.6 million a year in revenue to offset budget costs for safety personnel. Nevertheless, some citizens in Santa Maria still do not fully trust the program or understand the problems which would have existed had this program not been implemented. The City needs to continue its efforts in making the NHIS program more transparent.

## FINDING AND RECOMMENDATION

### Finding 1:

The public is not adequately informed about the risks and benefits of the NHIS program.

### Recommendation 1:

A more aggressive outreach should be made to educate the public regarding the safety and benefits of the NHIS program.

## REQUEST FOR RESPONSE

In accordance with Section 933(C) of the California Penal Code, each agency and government body affected by or named in this report is requested to respond in writing to the findings and recommendations in a timely manner. The following are the affected agencies for this report, with the mandated response period:

### City of Santa Maria – 90 days

Finding	1
Recommendation	1