

Attachment A

Detailed Summary of 3rd Permit Review for Keller Canyon Landfill

OVERVIEW

The land use permit (LUP) for the Keller Canyon Landfill (KCL) requires periodic review, or “permit review”, of the KCL to assess compliance with conditions of approval (COA) and determine if new or modified conditions should be considered. This report describes the results of the third such permit review. As part of this review, eight public hearings were held before the County Planning Commission (CPC) from October 2017 through May 2019. The initial hearing was held on October 25, 2017, and the last CPC hearing was held on May 22, 2019. Over the 18-month permit review process, residents living in the adjacent neighborhood brought up various issues associated with the landfill, including odor, dust, noise, visual impacts, seagulls (bird control), and litter complaints. The landfill operator worked diligently to address the issues through the CPC’s direction. A detailed summary of the CPC’s review of the LUP is found in Exhibit A. Staff reports to the CPC (Exhibits B-I) were prepared in accordance with LUP condition 11.1 and the Permit Review Criteria (Exhibit J), approved by the Board in 1995. The CPC recommended the Board NOT pursue modifications to the conditions of approval (COAs). The CPC voted to recommend that the Board of Supervisors accept the Permit Review Reports (Exhibits B - I) and direct Department of Conservation and Development (DCD) staff to schedule the next permit review in three years and convene a hearing in one year before the CPC to review KCL operations in the interim.

HISTORY OF PRIOR KCL PERMIT REVIEWS

The first permit review process began in 2014 and was fully concluded in September 2015. In accordance with the approved Permit Review Criteria (Exhibit J), the Board added five new conditions and modified 82 of the existing conditions due to the approvals granted in response to the initial permit review process. The modifications to the LUP conditions better reflect the established landfill operations in the context of present day environmental and regulatory settings. The first permit review process began with staff compiling information called for in Part I of the Permit Review Criteria in order to prepare the permit review staff report presented to the CPC in October 2014. That report provided substantive information about the 22-year operational and regulatory history since the landfill opened in 1992, as well as other information called for in the Criteria. It was accompanied by a Compliance Status Table exhibit that addressed each of the existing conditions of approval. In December 2014, the Board approved modifications to conditions to explicitly allow for certain materials that were being used as alternative daily cover (ADC) at the landfill. The permit review was continued to March 2015, as an open public hearing because the Board directed staff to provide additional information they wanted to consider before acting on the remaining recommended modifications. Staff was directed to research and report back on several separate but related items pertaining to on-site material recovery, a City of Pittsburg proposal to take over as the Local Enforcement Agency (LEA), potential County fee/surcharge revenue impacts expected to result if the direct haul restrictions were approved, and any California Environmental Quality Act (CEQA) implications resulting from approving the new and modified conditions of approval.

In response to Board direction, staff prepared a detailed report on the KCL permit review for the March 3, 2015 meeting. The open public hearing was continued to March 31, 2015, and then again to July 21, 2015, at the request of the District V Supervisor. At the July 2015 meeting, the Board continued the item once more to September 22, 2015, so that the District V Supervisor could participate in the decision-making process. Staff's report to the Board in September 2015 presented detailed explanations on the additional topics mentioned above. The Board was presented with two options for new and modified conditions to consider. The primary difference between the two options were the proposed new conditions, where one version allowed loads of mixed construction and demolition (C&D) material suitable for recovery at local transfer stations to be direct hauled to the landfill contingent upon the implementation of certain on-site waste recovery, and the other option required those C&D loads go through a transfer station first. The Board approved the option that prohibited the direct haul of materials that would be potentially recovered if first delivered to a transfer station in accordance with previously approved Board policy that had not been formerly integrated into the LUP. However, the Board approval allowed a grace period of 18 months for the four new direct haul conditions to take effect in March 2017. The landfill operator developed documentation and implemented the tasks necessary to comply with the new conditions.

The second permit review process started in October 2016. Staff reviewed the existing conditions of approval for KCL's LUP, and those that were modified in September 2015. Staff reviewed KCL's existing LUP conditions in accordance with the Board-approved Permit Review Criteria and concluded that no new or modified conditions needed to be recommended to the Board. A substantial amount of time was dedicated to researching and compiling information, as well as working with the landfill operator and other governmental agencies to prepare the permit review report and associated exhibits that were presented to the CPC. At the October 2016 CPC hearing, the public hearing was opened and testimony was taken. The few public speakers in attendance supported staff's recommendation to the CPC and also spoke favorably of the new conditions the Board previously approved related to the direct haul of C&D material. The Board accepted the second permit review on November 1, 2016.

THIRD PERMIT REVIEW - COUNTY PLANNING COMMISSION HEARINGS: OCTOBER 2017 - MAY 2019

Eight public hearings were held before the CPC from October 2017 through May 2019. The initial hearing was held on October 25, 2017, at which some of the residents living in the adjacent neighborhood brought up various issues associated with the landfill, including odor, dust, noise, visual impacts, seagulls (bird control), and litter complaints. Based on the public concerns and additional questions from the CPC that required further time for staff to review, the hearing was continued to December 6, 2017. Staff prepared a supplemental but comprehensive staff report to address each of the concerns brought up by the local residents. Each of the concerns that were raised, staff addressed by citing the applicable condition of approval, the issue or concern raised, a basis for determining condition of approval compliance and then staff's response to each item. At the December 2017 meeting, the CPC took additional testimony from residents who had not spoken at the October meeting, and the operator shared a presentation of landfill operations that included some rebuttal to previous comments from the public. The CPC began deliberations amongst the Commissioners but determined to continue the item a second time to January 10, 2018.

As part of the December 2017 hearing deliberations, the CPC requested staff to research other landfills and solid waste facilities to determine what other facilities have used or were using to address odor issues. Staff reached out to other regulatory agencies to ask the inspectors of landfills, compost facilities, and transfer stations, what, if anything worked on odors. Staff found the most common practice amongst solid waste facilities was to employ a misting system, similar to what had been used at KCL. The misting system is an odor control device that attempts to mask potential landfill odors but can sometimes create a new chemical smell. Another observation common among solid waste facilities was that landfill odors are seasonal, heavier in the winter and more rare in the summer. Installing additional landfill gas (LFG) collection wells was another measure to reduce odors, which also happens to coincide with the seasons. After hearing staff's report and accepting further testimony from the public, the CPC continued the hearing a third time to April 11, 2018. This continuation was intended to see what effect the odor control measures might have on the local community after implementation.

Prior to the April 2018 hearing, staff continued to have many discussions with the landfill operator about odors, visual and noise impacts. Through these discussions that included staff from the City of Pittsburg, KCL engaged their engineers and odor experts to put together an Odor Mitigation Summary, wind direction data, and design plans to relocate a new disposal cell 0.5 miles south of the then-existing disposal cell and further away from the Jacqueline Drive neighborhood. As odor complaints became a primary issue at the April 2018 hearing, the landfill operator presented their Odor Mitigation Summary to the public and CPC, which, as stated, included plans to relocate the disposal cell further away from the impacted neighborhood. The operator stated that they were investing almost nine million dollars in 2018 to construct the new disposal cell, install new LFG wells, hiring odor experts, adjusting operations, and increasing the amount of daily cover being used. Unfortunately, the primary odor source was likely anaerobic compost material that came from the West County organics processing facility, which had been disposed in the active disposal cell located at the northern edge of the landfill's permitted disposal area and very close to the Jacqueline Drive neighborhood. That material was sent to KCL starting in late 2016 and continued going to the landfill through Spring of 2017. The CPC continued the item to July 11, 2018, and staff was directed to prepare a status update informing the CPC and other interested parties about the landfill's progress on the proposed odor mitigations. KCL ultimately installed 26 new LFG wells in April and May of 2018, as part of the landfill's normal springtime operations.

After the April 2018 CPC hearing, an article in the San Francisco Chronicle was published that reported on material that was sent to KCL back in 2010-2011 from Hunters Point Naval Shipyard (HPNS). According to the article, former HPNS employees stated that potentially radioactive soil was trucked to landfills across California due to allegations of inadequate screening of outgoing loads starting in 2011 as well as possible falsification of records. Although radiation detecting portal monitors may be used sporadically at some other landfills, that is not the case at KCL. Keller Canyon Landfill continuously uses portal monitors, which are specifically designed to detect radiation and they are now tested on a weekly basis. However, at the Board's direction, County staff prepared a brief report related to the allegations. DCD and Contra Costa Environmental Health (CCEH) staff went to the Board on May 1, 2018, where the District V Supervisor's Office requested a community meeting be held for residents of Pittsburg

and Bay Point, with representatives from applicable federal, state and local agencies on hand to discuss the on-going investigation and future potential testing for radioactive material. CCEH organized this community meeting, which was held on June 21, 2018, at the Ambrose Community Center in Bay Point. Experts from the Radiologic Health Branch of the state Department of Public Health, US Navy, San Francisco Regional Water Quality Control Board (RWQCB), and other state and local agencies were in attendance to speak and/or answer questions. Representatives of the Navy and Department of Public Health gave technically detailed presentations on the types of radiation and types of radioactive material found at the HPNS, as well as the detailed process for examining and transporting material offsite. After all the presentations, questions from the audience were answered by the appropriate agency. The HPNS material and the County's findings are discussed in detail below.

The permit review hearing before the CPC continued in July 2018. As part of staff's direction from the April 2018 hearing, the CPC requested staff to research the effectiveness of installing tree lines/breaks to mitigate odors, and look at potential odor issue solutions from industry associations such the Solid Waste Association of North America (SWANA). Staff researched SWANA's available publications for odor mitigations and specifically landfill odors. Landfills close at the end of the day by adding daily cover or alternative daily cover, which KCL is required to do for vector control, litter control and odor management, under the land use permit and Solid Waste Facility Permit (SWFP). Staff's research on the SWANA website provided some descriptions, programs, and industry awards, but also found common effective tools for odor management that include:

- A. Landfill gas (LFG) extraction system / use of vertical LFG wells;
- B. Converting or burning excess LFG through power plant or flares;
- C. Using odor control / minimizing system (e.g. misters) at the active face; and
- D. Application of Daily cover or Alternative Daily Cover. SWANA's technical policy about Daily Cover, is to apply six-inches of compacted soil.

Staff's research reinforced the validity of previously suggested actions from the operator as the most likely effective odor mitigation and control strategy, which relies on proven methods, including relocating the disposal cell one half mile further from the nearest residences. However, the CPC continued the hearing a fifth time to October 24, 2018, again to monitor landfill operations and improvements. Active disposal of waste began in the new disposal cell in the middle of September 2018.

During the April and July permit review updates, the CPC requested staff to continue researching the effectiveness of installing tree lines/breaks to mitigate odors. At the October 2018 hearing, Staff presented a feasibility assessment that was authored by KCL in March 2017. The assessment discussed installing physical barriers to contain dust/odors at Sunshine Canyon Landfill (SCL) in Southern California. The feasibility assessment researched using vegetative and physical barrier systems to address odor and dust issues at SCL. It was found that vegetative barriers such as tree-lined windbreaks of either single row or multiple rows of varied species may be effective in controlling windblown dust, but physical barriers such as earthen berms would be more effective addressing odor and visual impacts. Staff could not find any studies that confirmed planting a tree line or vegetative windbreak would alleviate potential odor issues.

At the October 2018 hearing, staff also presented a new online complaint form to account for litter complaints. In July of 2018, three litter complaints were submitted to the LEA and/or DCD staff. Staff visited the complainant and after reviewing the photo evidence, staff confirmed the litter had blown off-site and was not contained within the landfill's buffer area, as previously thought. The landfill operator was made fully aware of the situation and took precautionary steps to control wind-blown litter on-site, so it would not end up escaping from landfill property. However, the litter complaints prompted staff to create the new online complaint form that allows for the uploading of multiple digital photos per complaint. If a litter complaint is submitted, the same recipients that receive odor complaints also receive the litter complaint, including LEA staff and landfill personnel.

At both the July and October CPC hearings, a continued concern raised by attendees and residents was about the soil material that came from HPNS and the potential that some of the material was radioactive. Staff advised this was a separate issue from the permit review, and CCEH was taking the lead for that investigation. The issue was continually discussed at each hearing and staff updated the CPC and public of the County hiring a consultant to perform a forensic audit and draft a technical memorandum. The permit review was continued a sixth time to February 13, 2019. However, before going back to the CPC in February, the District V Supervisor requested that an update on the permit review be provided to the Board. Staff prepared a Board Order and brought the item to the Board on December 11, 2018. The Board also took testimony from the public and then directed staff to continue the permit review hearing under the CPC's purview.

At the February 2019 hearing, additional testimony was taken from the public, but the landfill operator and staff suggested that the permit review be extended through the spring and possibly the summer of 2019. Due to community concerns raised throughout the entire permit review, staff recommended the permit review be extended before moving on to holding permit reviews every three years, per the conditions of approval. The landfill operator discussed plans to install 20 new LFG wells in the spring and the additional time would allow the operator to continue working with arborists on a preliminary landscape plan for planting trees and examining proper irrigation systems. Having staff report back to the CPC later in May would keep the public and local community apprised of progress and improvements at the landfill. Staff would take the opportunity to monitor the effectiveness of existing recent improvements for odor mitigation, before a determination would be made about the potential need to add or modify conditions in the LUP. The CPC continued the hearing a seventh time to May 22, 2019.

By May 2019, the permit review had spanned two winters. Some major improvements were implemented in late 2018: a new disposal cell was relocated further back in the canyon and a new blower skid was installed to enhance the landfill gas collection system. Since disposal activity moved to the back, an intermediate cap cover was also installed on the front cell. All the improvements seemed to have aided in overall odor reduction. The landfill operator intends to place a final cover on that front disposal cell in order to fully cap it, and prefers not to return to the front disposal cell. In order to permanently abandon use of the front disposal cell, the remaining air space (disposal capacity) will need to be recaptured in the rear of the canyon, however, recapturing air space will involve a significant amount of work, and regulatory

approvals, including an LUP modification that the operator intends to actively pursue. The CPC acted diligently to continue the permit review, working with staff, and listening to the needs of the local residents. The CPC's proactive efforts to address community concerns aided in prompting the operator's response to installing improvements to date, which included planting the trees for screening (see details below). The third annual permit review was continued approximately every three months, since the initial hearing held on October 25, 2017. The continued hearings each allowed for further testimony to be taken from local residents, other interested parties, and the landfill operator.

At the May 2019 CPC meeting, staff recommended that the CPC recommend the Board NOT make modifications to the conditions of approval. The CPC closed the public hearing and voted to recommend that the Board of Supervisors not pursue modification to the COAs, accept the Permit Review Reports (Exhibits B - I) direct DCD staff to schedule the next permit review in three years, and convene a hearing in one year before the CPC to review KCL operations in the interim. The CPC also recommended staff bring this permit review to the Board following the conclusion of the separate investigation managed by Contra Costa Health Services into allegations that unauthorized waste from the former Hunters Point Naval Shipyard was disposed of at KCL. A report on the outcomes of that investigation were presented to the Board in December 2020 (as further detailed below), clearing the way for this permit review to proceed.

TREE SCREENING PLAN

The landfill operator hired a certified arborist and designed a preliminary tree-screening plan to obscure visibility of the access road and potential future disposal activity. Staff from the City of Pittsburg met with the operator and suggested planting two different species, Sequoia sempervirens (Coast Redwood) and Quercus lobata (Coast Live Oak). The tree screening plan was designed for planting the Coast Redwoods north of the access road as well as in strategic spots northeast of the landfill gas power plant and east of the large litter fences to shield landfill operations for residents in the Jacqueline Drive neighborhood. Live oaks would be planted higher in elevation, south of the main access road. Coast Redwoods typically grow twice as fast as live oaks, but at maturity the oaks will screen a wider area due to their vast canopies. A camouflaged water tank was installed for irrigation, which is refilled periodically with the existing on-site water trucks. The screening plan called for planting approximately 100 trees. The operator maintained a small nursery of trees to supplement the few trees that did not fully take.

Trees were only planted on land owned by Republic Services because the operator was unable to obtain neighboring landowner's approval to plant trees closer to the nearby residential neighborhood.

On May 1, 2019, the operator held an open house at the landfill's administration building to share the tree screening plan with residents and get their feedback. The operator reached out to a number of residents that have actively participated in the prior CPC meetings, but unfortunately no residents attended. However, County and City of Pittsburg staff, as well as staff from the District V Supervisor's office attended and received the presentation provided by the acting General Manager and arborist consultant.

ODORS

The landfill operator has and continues to implement numerous improvements to address odors potentially migrating off-site. The operator has contracted with odor experts, installed odor suppression devices, and routinely monitors/inspects potential on-site sources, such as leachate tanks or the landfill gas power plant. The landfill operator continues to conduct regular odor investigations on- and off-site in response to complaints. The operator also conducts routine odor patrols through the nearby residential neighborhood. The operator ceased using the odor suppression devices (mistlers) in 2017 in response to feedback from the local residents. Below is a yearly breakdown of odor complaints submitted for the past five years, since the County uploaded an online odor complaint form. By the end of 2018, the landfill operator ceased disposing material in the northern-most (front) disposal cell, closest to the Jacqueline Drive residential neighborhood. The operator received emergency funding from the parent company, Republic Services, Inc. (Republic) to build a new disposal cell one-half mile south near the back of the canyon. Disposal activities have been moved away from the front of the landfill for approximately the past three years and the front disposal cell has been temporarily capped. The operator does not intend to ever go back to the front cell and is working on proposing a permit modification to reclaim the lost air space (disposal capacity) and permanently capping the front cell. Since 2019, there has been a substantial decline in odor complaints evidenced by the numbers provided below.

ODOR COMPLAINTS

2016: 57 complaints

2017: 143 complaints

2018: 168 complaints

2019: 38 complaints

2020: 20 complaints

2021: 1 complaint (to date)

HUNTERS POINT NAVAL SHIPYARD MATERIAL

CCEH acting as the LEA worked with DCD, state and federal agencies in coordination with the landfill operator to investigate if any potentially radioactive HPNS waste material was disposed at KCL. In May 2018, CCEH put out a Request for Qualifications / Proposals in order to contract with a consultant to recommend the most appropriate means of assessing whether radioactive material that may have been disposed at KCL. County staff collaborated with the City of Pittsburg, the landfill operator, and a representative of the local community to select the most qualified consultant to investigate on the County's behalf. TRC Solutions was selected and started a forensic audit (document review) in the fall of 2018 and concluded in May 2019.

Documents reviewed by TRC included special waste authorizations, soil analytical data reports, Hunters Point work plans and reports, Standard Operating Procedures, portal monitor calibration records, and landfill data to ascertain whether radiologically contaminated materials were received at KCL from HPNS. In addition, site visits were performed at both KCL and HPNS in April 2019. TRC concluded, in their forensic audit Technical Memorandum, that it was very unlikely that radiological materials from HPNS were disposed of at KCL. The forensic audit Technical Memorandum was published on the CCEH website in September 2019.

The goal of the forensic audit was to investigate the potential presence of radioactive and hazardous landfill waste at KCL. TRC concluded that it is very unlikely that radiological materials originating from HPNS were disposed at KCL. Shortly after the forensic audit Technical Memorandum was published, staff and TRC began discussions about staging a community meeting to report findings that would be formally presented to the local community. Community meeting preparations took substantially longer due to the pandemic and other factors. On November 9, 2020, CCEH staff and TRC conducted a virtual community meeting to present TRC's findings to the local community and to provide the Board with feedback on the community's response to these findings. The November 9, 2020, community meeting can be found at <https://cchealth.org/z/video/eh-solid-waste-keller-110920.mp4>.

Based on TRC's analysis and conclusion that it is very unlikely that radiological materials of concern were disposed of at Keller Canyon, CCEH staff recommended to NOT conduct environmental field sampling for the purposes of obtaining greater certainty that no radiologically contaminated material from Hunters Point was received at Keller Canyon. CCEH staff formally presented the forensic audit Technical Memorandum and community meeting findings to the Board on December 15, 2020. The Board agreed with CCEH's recommendation and accepted the Technical Memorandum and CCEH staff's report.