

Marisa Weber

From: PUBCOMMENT-OCC
Sent: Tuesday, September 02, 2014 8:18 AM
To: PUBCOMMENT-OCC2
Subject: FW: Public comment on Permit Number 1149B
Attachments: 08.29.14 Reiteration of Hearing Request1.pdf

H

From: sam@lf-lawfirm.com [mailto:sam@lf-lawfirm.com]
Sent: Friday, August 29, 2014 4:19 PM
To: donotReply@tceq.texas.gov
Subject: Public comment on Permit Number 1149B

*Answer
8/30/14*

REGULATED ENTY NAME GALVESTON COUNTY LANDFILL

RN NUMBER: RN100221597

PERMIT NUMBER: 1149B

DOCKET NUMBER:

COUNTY: GALVESTON

PRINCIPAL NAME: GALVESTON COUNTY LANDFILL TX LP

CN NUMBER: CN601587355

FROM

NAME: Eric Allmon

E-MAIL: sam@lf-lawfirm.com

COMPANY: Frederick, Perales, Allmon & Rockwell, P.C.

ADDRESS: 707 RIO GRANDE ST 200
AUSTIN TX 78701-2719

PHONE: 5124696000

FAX:

COMMENTS: Please see attached filing submitted on behalf of Kenny and Shawn Wanger.

Answer

FREDERICK, PERALES, ALLMON & ROCKWELL, P.C.

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Of Counsel:
Richard Lowerre

August 29, 2014

Ms. Bridget Bohac
Chief Clerk
Texas Commission on Environmental Quality
P.O. Box 13087, MC-105
Austin, Texas 78711-3087

via e-file

Re: Reiteration of Hearing Request regarding Application of Galveston County
Landfill TX, LP for Proposed MSW Permit No. 1149B.

Dear Ms. Bohac:

On behalf of Kenny and Shawn Wagner ("the Wagners"), I requested on April 3, 2014, a contested case hearing on the above-referenced permit application. We are in receipt of the Executive Directors' Response to Comments in this matter. That Response did not resolve the issues previously raised by the Wagners. The Wagners hereby reiterate their request for a contested case hearing with respect to the application and draft permit. The Wagners incorporate by reference the past hearing requests and comments submitted on their behalf.

Thank you, kindly, for your assistance in this matter.

Best regards,



Eric Allmon

Marisa Weber

From: PUBCOMMENT
Sent: Tuesday, August 28, 2012 8:15 AM
To: PUBCOMMENT-OCC2
Subject: FW: Public comment on Permit Number 1149B
Attachments: Letter to Chief Clerk re CCH Req 1149B (8-24-2012).pdf

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MSW
8/31/12

From: PUBCOMMENT-OCC
Sent: Monday, August 27, 2012 8:33 AM
To: PUBCOMMENT
Subject: FW: Public comment on Permit Number 1149B

From: mcarter@blackburncarter.com [mailto:mcarter@blackburncarter.com]
Sent: Friday, August 24, 2012 1:13 PM
To: donotReply@tceq.state.tx.us
Subject: Public comment on Permit Number 1149B

REGULATED ENTITY NAME GALVESTON COUNTY LANDFILL

RN NUMBER: RN100221597

PERMIT NUMBER: 1149B

DOCKET NUMBER:

COUNTY: GALVESTON

PRINCIPAL NAME: GALVESTON COUNTY LANDFILL TX LP

CN NUMBER: CN601587355

FROM

NAME: Mary W Carter

E-MAIL: mcarter@blackburncarter.com

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MSW

COMMENTS: Letter requesting Contested Case Hearing

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August 24, 2012

Via TCEQ's E-Filing System

Bridget C. Bohac, Chief Clerk
Office of the Chief Clerk, MC-105
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: Galveston County Landfill, LP Proposed Permit No. 1149B, Municipal Solid Waste Permit Amendment

Dear Ms. Bohac:

This letter is being submitted on behalf of Shawn and Kenny Wagner, 4125 Avenue E, Santa Fe, Texas 77510, to request a contested case hearing on the above referenced permit amendment application. Mr. and Mrs. Wagner live and own property adjacent to the Galveston County Landfill. The Galveston County Landfill is located approximately 1.5 miles southwest of the intersection of Interstate Highway 45 and FM 1764 in LaMarque, Galveston County, Texas 77510. The Galveston County Landfill's official address is 3935 Avenue A, Santa Fe, Galveston County, Texas 77510-8045. According to the Notice of Receipt of Application and Intent to Obtain Municipal Solid Waste Permit Amendment, Galveston County Landfill has applied to the Texas Commission on Environmental Quality (TCEQ) for a Type I Municipal Solid Waste Permit Major Amendment to authorize a vertical and horizontal expansion within property owned by the landfill. Because of the location of their property, Mr. and Mrs. Wagner have an economic interest affected by the application. This interest is not common to members of the general public. 30 T.A.C. § 55.203.

Mr. and Mrs. Wagner are concerned about nuisance conditions and potential regulatory violation issues associated with this landfill. Apart from constant problems associated with birds and odor, there are also major concerns about the structural integrity of the landfill itself. Of particular concern is the relationship between the landfill, the adjacent borrow pits, the deep saturated zone (upper sand unit) and Highland Bayou. A preliminary review of certain data indicates that there is a hydraulic connection between the borrow pits and the subsurface of the landfill area. It is not clear whether this subsurface connection invades the waste disposal area or not. However, certain portions of this landfill are pre-subtitle D and have a questionable liner, if any. This is a major issue. It is our understanding that these borrow pits are either being used or will be used as detention basins for the landfill. Again, this is related to the integrity of the subsurface liner and the connectivity. The hydraulic connection of Highland Bayou with the borrow pits, the deep saturated zone (upper sand unit) and the subsurface of the landfill is a major concern. Similarly, the ability of this landfill to contain leachate, to establish proper

drainage, to protect against the various design floods and countless other issues arise from these basic hydrologic and geologic concerns.

Specifically, we believe that this landfill raises issues associated with:

Geologic Characterization and Subsurface Issues

Possible Fault Issue

Hydrologic Characterization and Surface Water Flooding and Drainage Issues

Flood Plain Characterization and Impacts

Wetland Characterization and Impacts

Hurricane Surge Characterization and Impacts

Integrity of Existing Landfill

Integrity of Existing Liner

Interaction of Borrow Pits and Highland Bayou with Landfill

Current Use of Borrow Pits For Stormwater Management

Surface and Subsurface Connection and/or Contamination of Adjacent Property

Surface and Subsurface Connection and/or Contamination of Borrow Pits

Surface and Subsurface Connection and/or Contamination of Highland Bayou

Compliance History of Existing Landfill

Nuisance

Noise Concerns from Trucks and Other Sources Including "Vector Control"

Bird Concerns

Odor Concerns

Design Concerns

Overall Height Issues

Screen for Working Face and Debris

Design of New Landfill Atop Old Landfill

Liner Design

Leachate Collection

Internal Drainage Design

External Drainage Impacts

Flood Plain Protection System

Surface Water Contamination System

Subsurface Contamination

Drinking Water Contamination

Flare Burns 24/7 and Releases, Fumes and Impurities on to Wagner Property

Danger to High Pressure Natural Gas Right-of-Way

No Appropriate Notification to Wagners about Methane Levels

Danger to Trees on Banks of Highland Bayou

Lack of Responsive Solutions to Concerns of Wagners by Landfill and TCEQ and Galveston Health Departments

We are also concerned that many of the issues associated with the ongoing performance of this landfill arise in the context of handling debris from Hurricane Ike. In order to address this emergency situation, a temporary authorization was issued to allow height and capacity

Bridget C. Bohac, Chief Clerk
Texas Commission on Environmental Quality
August 24, 2012
Page 3

restrictions to be exceeded in order to address the Hurricane emergency. Although directed to address this temporary use issue expeditiously after the passage of the emergency, the Galveston County Landfill TX LLP has so far not addressed this issue.

Notice of Receipt of Permit Application 1149B was issued on August 3, 2012. This notice of amendment was issued approximately the same time as the notice of a proposed permit modification. The question is – why is a permit modification pending at the same time that a permit amendment is pending?

Permit modifications apply to minor changes to an MSW facility or its operation that do not substantially alter the permit conditions and do not reduce the capability of the facility to protect human health and the environment. 30 T.A.C. § 305.70(d). A major amendment is an amendment that changes a substantive term, provision, requirement or a limiting parameter of a permit. 30 T.A.C. § 305.62(c)(2). Both a modification and an amendment for this landfill for the same issues at the same time are not authorized by the rules. Mr. and Mrs. Wagner and their attorney are concerned that this modification is being pursued in order to limit the issues that are “ripe” during the hearing process. That should not be allowed to happen in this situation, yet it appears that such is, in fact, happening. The issues should be addressed in a contested case hearing.

Thank you for your consideration of this request.

Sincerely,

BLACKBURN CARTER, P.C.

by James B. Blackburn Jr
James B. Blackburn, Jr. *by permission*
Mary W Carter

2011 728 -4 MC 10-25

FREDERICK, PERALES, ALLMON & ROCKWELL, P.C.

CHIEF CLERK OFFICE

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Of Counsel:
Richard Lowerre

April 3, 2014

Ms. Bridget Bohac
Chief Clerk
Texas Commission on Environmental Quality
P.O. Box 13087, MC-105
Austin, Texas 78711-3087

REVIEWED

APR 04 2014

By [Signature]

MSW
83474

H

Re: Comments and Hearing Request regarding Application of Galveston County
Landfill TX, LP for Proposed MSW Permit No. 1149B.

Dear Ms. Bohac:

On behalf of Kenny and Shawn Wagner, I am filing these comments and this request for a contested case hearing on the above-referenced application. These comments are cumulative of any and all prior comments submitted on behalf of Kenny and Shawn Wagner with respect to the application. The ultimate owner of the business entity sponsoring the application is Republic Services, and thus the applicant will be referenced as "Republic."¹

Kenny and Shawn Wagner live on and are the owners of Property No. 23, a twenty-six acre property as indicated in Table 5-1 of the application dated June 25, 2012.² This property is located adjacent to the western boundary of the property upon which the proposed landfill expansion would occur if granted. The Wagners reside on this property, and are concerned that the proposed expansion of the landfill would impact their health, as well as their ability to use and enjoy this property. The current operation of the landfill exacerbates serious health problems for the Wagners; expansion of the landfill as currently proposed will only worsen their health. The Wagners own a groundwater well on this property. They utilize water from this well for domestic

¹ As used within these comments, the term "Republic" includes Republic Services, Galveston County Landfill, TX LP, and any agent of these entities and any other entity that may be considered an applicant in association with the Application.

² p. I/II-5-3

MSW

purposes, and they are concerned that pollution resulting from the expansion of the landfill would result in an increased potential that the groundwater in this well would be contaminated. The Wagners are further concerned regarding the increased potential for the deposition of windblown waste upon his property as the result of the proposed expansion, as well as the increased potential for waste to move onto his property as the result of inundation of the landfill, as discussed below. Due to the proximity of his property to the proposed landfill, and the heightened potential for impacts that this proximity creates, the Wagners are affected persons. If the Executive Director recommends issuance of the requested permit, then the Wagners request a contested case hearing regarding the issues raised in this hearing request, as well as all other issues raised in any other comments submitted to TCEQ with regard to the Application by themselves as well as any other persons or entities.

The Application should be denied in light of the its location within 100-year floodplain in consideration of the potential storm surge.

Within the application, Republic presents a schizophrenic attitude towards the potential for a hurricane to strike in the vicinity of the landfill. On the one hand, the introduction to the application acknowledges that, “the landfill’s service area is prone to natural disasters such as hurricanes, tropical storms, flooding, etc.” and goes on to boast that the landfill facilitates disaster relief efforts through its asserted ability to receive and dispose of a large volume of storm debris to facilitate disaster relief efforts.³ Yet, in evaluating the potential adverse impacts of the landfill, Republic wholly ignores the very real possibility that a hurricane could strike near the landfill. This disregard for the potential impacts of hurricanes both ignores the available technical analysis as well as the history of Galveston itself – the site of one of the worst hurricane disasters in United States history. Such impacts must be addressed pursuant to 30 TAC § 330.61(a), requiring that an applicant determine and report to the Executive Director any site-specific conditions that require special design consideration. This deficient floodplain analysis also results in the application failing to demonstrate compliance with the requirements of 30 TAC § 330.63(c)(2) and 30 TAC § 330.307.

In considering the potential inundation of the site Republic relies on outdated FEMA floodplain maps and ignores the potential impact of a storm surge from Galveston Bay.

In considering the potential for the site to be inundated by water, Republic has solely noted that the facility is not located within the 100-year floodplain as reflected in FEMA maps.⁴ The FEMA maps relied upon in making this determination are primarily those last revised by FEMA in 1983.⁵ Apparently, these maps failed to consider any potential storm surge that may inundate the site as the result of a hurricane.

³ Application at p. I/II-1-1.

⁴ Application Appendix III-F-G, Section 5 of Drainage Design Report.

⁵ Application Appendix III-F-G, Figure 5.1.

In recent years, FEMA has undertaken a revision of its maps of the area to better reflect the area subject to a 1% chance of flooding. To this end, in September of 2012 FEMA released revised preliminary maps of the 100-year floodplain on and around the landfill site. No comments or appeals were submitted during the comment period ending September of last year, and there are no additional opportunities for comment or appeal. The maps are anticipated to be finally approved later this year.

These maps show that much of the landfill site is located within the 100-year floodplain, including areas where Republic now proposed to dispose of municipal solid waste.⁶ In essence, these revised FEMA maps show that at natural elevation the entirety of the site would be located in the 100-year floodplain. Those areas within the permit boundary excluded from the 100-year floodplain apparently reflect elevated surfaces resulting from the construction of the landfill itself.⁷

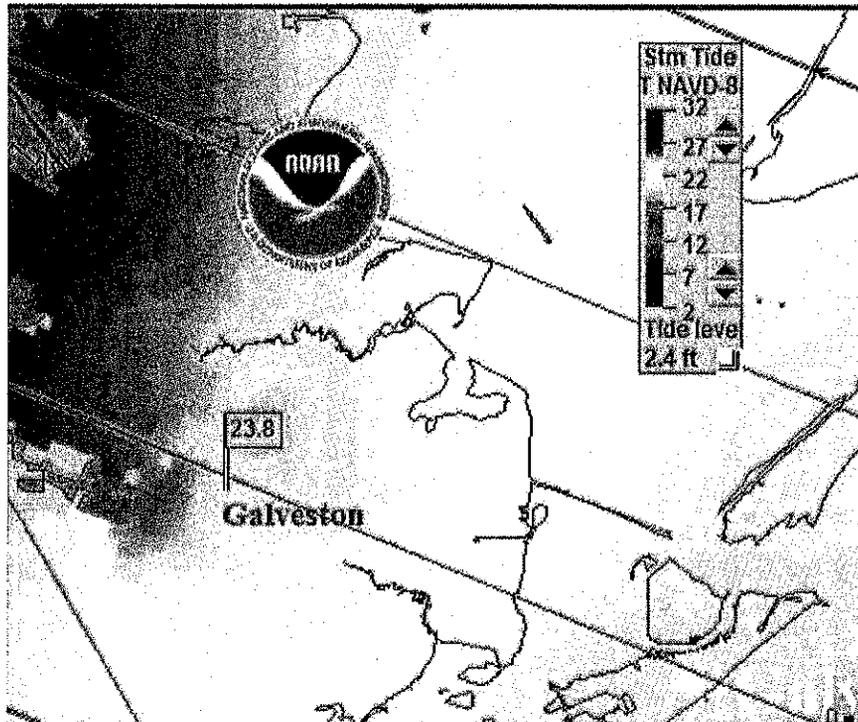
The occurrence of such flooding is consistent with modeling performed by the National Oceanic and Atmospheric Administration (NOAA). The natural surface of the landfill site ranges from approximately 13 to 16 feet above mean sea level,⁸ and is only a short distance from Galveston Bay. According to NOAA's the Sea, Lake and Overland Surges from Hurricanes (SLOSH) model, a Category 5 hurricane could potentially result in a storm surge at this location to a height of approximately 23 feet above mean sea level:

(see next page)

⁶ See September 27, 2012 revisions to FEMA Flood Insurance Rate Map (FIRM) Panel 385 and 245 for Galveston County, Texas and incorporated areas. FEMA Map Nos. 48167C0385G and 48167C0245G.

⁷ Compare FEMA Map Nos. 48167C0385G and 48167C0245G with Figure 2, p. I/II-54, of Application (Existing Site Plan).

⁸ Application at p. I/II-9-1.



Potential Hurricane Storm Surge Height at Galveston County Landfill⁹

In this way, the SLOSH model indicates that much of the landfill site would potentially be under more than five feet of water as the result of a storm surge during a hurricane. This particular scenario depicted above presents something of a worst-case scenario, but the SLOSH model also indicates that under a variety of scenarios the area of the landfill would be inundated as the result of the storm surge associated with either a Category 5 or, even, a Category 4 hurricane. This modeling is consistent with recent experience during Hurricane Ike, which was a Category 2 hurricane. During this event, the storm surge reached a height that came dangerously close to the landfill.

While Republic's analysis of the 100-year floodplain asserts that it considers the 100-year floodplain, Republic has not accounted for the appropriate storm surge. In its analysis, Republic assumes a "worst-case" storm surge of 12.0 feet above mean seal level downstream of the landfill site based on outdated FEMA FIRM maps.¹⁰ As noted above, a storm surge of more than 23 feet at the landfill site is a possibility recognized by NOAA, and FEMA's updated floodplain maps also represent a storm surge higher than that assumed by Republic. Republic's storm surge assumption is not only far from the "worst-case" scenario, as it claims, but also far from a 100-year floodplain scenario.

⁹ NOAA SLOSH Model, Coordinates (150, 45) (Lat 29.3866N, Long 95.0556W), (Category 5 Hurricane travelling west north west at 15 mph at high tide).

¹⁰ See Application at Appendix III F, Section 5.2.3.2

Inundation of the Landfill Site would have numerous adverse impacts that Republic has not addressed, and which render the site unsuitable for an expanded landfill.

The flooding of the landfill site consistent with FEMA's most recent modeling, and NOAA's modeling, would have numerous adverse impacts. For one, if such flooding occurred while the landfill was still operational, then such flooding would result in the washout of solid waste in a manner that would pose a hazard to human health and the environment in violation of 30 TAC § 330.547(b). Significant areas within the Cities of La Marque, Santa Fe and Hitchcock would find themselves immersed in solid waste from the Galveston County Landfill. Furthermore, inundation of the landfill units would result in a pressure head above the elements of the landfill liner that far exceed any value that Republic has modeled. Consequently, the potential inundation of the site increases the potential that contaminants will move from the facility into the nearby groundwater. Furthermore, the site operating plan for the site wholly fails to address potential flooding as the result of a storm surge as reflected in the FEMA's most recent analysis of the 100-year floodplain.

In addition, Highland Bayou, which is already impaired, would be inundated with washout of waste as a result of this flooding.

Finally, because the current application proposes a tarp cover, instead of dirt, over the landfill expansion, flooding would have disastrous consequences, especially in the light of poorly designed or the complete lack of adequate storm water and detention controls.

The Application fails to meet TCEQ requirements related to Wetlands.

Pursuant to 30 TAC § 330.553, certain demonstrations must be made in order for a new municipal solid waste unit to be located within a wetland. Among those demonstrations is a demonstration rebutting the presumption that a practicable alternative to the proposed landfill is available that does not involve wetlands. Approximately 4.1 acres of wetlands that Republic has categorized as "non-jurisdictional" exist within the proposed footprint of the South Unit Solid Waste Disposal Area.¹¹ Even if it were assumed that these wetlands do not fall within the jurisdiction of the United States Corps of Engineers, the fact remains that they are considered wetlands under the Texas Wetlands Act, and must accordingly be afforded the same protections by TCEQ as jurisdictional wetlands.¹² So, prior to authorizing the obliteration of the wetlands currently located within the footprint of the South Unit, Republic must make a showing that no practical alternative is available to the construction of a landfill in this area. No such showing has been made. The Wagners contend that practical alternatives do exist,

¹¹ Figure I/II-11.4.

¹² Tex. Water Code § 11.502(1).

especially given the significant amount of excess capacity at other waste disposal facilities in the Houston area that render an expansion into this area unnecessary.

Republic has not adequately addressed endangered and threatened species.

Much like its treatment of hurricanes, Republic's application is inconsistent with regard to the relationship between wetlands and the proposed stormwater retention ponds. With regard to endangered species, Republic asserts that migratory birds would not stop at the ponds at the landfill due to the constant activity, and also asserts that species such as the white-faced Ibis will not visit the site because, "no wetlands exist within the landfill site that would provide habitat for the white-faced ibis."¹³

The Reddish Egret, white-faced ibis, white-tailed hawk, whooping crane, and wood stork each may utilize the large sedimentation ponds at the proposed landfill, and the white-tailed hawk could well make use of other parts of the landfill as a food source. Republic has not adequately considered the impact that the construction and operation of the landfill could have on these species, nor has Republic developed an adequate plan to address these species in its Site Operating Plan.

Furthermore, Republic's analysis of the impact of the facility on endangered and threatened species wholly ignores the potential impact of the facility upon species residing in the Highland Bayou Diversion Channel adjacent to the facility. As a result of the expansion, landfill activities near this diversion channel will increase significantly. Republic has not evaluated the manner in which this increase will impact endangered and threatened species which may utilize or be present in the Diversion Channel. Nor has Republic evaluated how these species may be impacted by the attraction of vectors to the drain as a result of the landfill, the alteration of drainage patterns, or any other aspects of the facility's operations.

Republic has not demonstrated that the integrity of the liners, including the overlayers, will be preserved.

The Wagners have several concerns regarding the integrity of the liners at the site. Republic has not demonstrated that the proposed expansion complies with the requirements of Subchapter H of Chapter 330 of the TCEQ rules. With regard to the overlayers above the pre-subtitle D areas, Republic has not provided information that fully and adequately characterizes the waste beneath these overlayers, nor has Republic adequately shown that the overlayers will not be compromised as the result of differential settlement. The waste beneath these overlayers was placed in the landfill at different times over a long span of time. Over this period, the characteristics of the waste entering the landfill varied due to changing demographics, habits and activities occurring in the

¹³ I/IB-75.

areas contributing waste to the landfill. Republic incorrectly ignores this potential variance, and assumes that the waste beneath the overlayers is consistent to a degree that is simply not justified.

Furthermore, Republic has not provided information to demonstrate that contaminants from the landfill cells where industrial waste is proposed to be disposed will not migrate over the long-term to areas where municipal solid waste is proposed to be disposed. As a result of this migration, the liners as proposed do not provide adequate protection against the leaking of contaminants associated with industrial waste, in addition to the inadequacy of the liners to protect against the leaking of contaminants associated with municipal solid waste. In addition, land in the vicinity of the landfill is subject to subsidence as the result of groundwater pumping, such as the dewatering operations proposed by Republic. Republic has not accounted for stresses on the liner as the result of uneven subsidence induced by its activities, as well as other pumping that may occur in the area. Furthermore, differential settlement is likely to occur beneath the final cover of the South Unit due to the disposal of industrial waste in the western portion of the unit, as compared to the disposal of municipal solid waste in the remainder of the unit. These types of waste will settle at different rates considering their differing characteristics, thereby placing stress on the final cover overlaying these materials.

Republic has not adequately addressed the stability of excavated, intermediate and final slopes.

The Wagners are concerned that the Republic has not provided information adequate to demonstrate that the proposed facility will comply with the slope stability requirements of TCEQ's rules. Republic has not provided information demonstrating the adequate consideration of all relevant modes of failure of the relevant slopes, particularly for intermediate slopes. Nor has Republic adequately characterized the properties of the soil, waste, and other elements involved. Further, Republic has not shown that the proposed dewatering measures will be adequate to preserve the strength of the relevant structural elements involved (such as soils), particularly considering Republic's failure to acknowledge that the entirety of the facility is within the 100-year floodplain when at natural grade. The Wagners further believe that the ballast calculations of Republic have not been shown to be adequate.

Republic's slope stability analysis does not adequately account for the forces that will be exerted upon the landfill as a result of high-velocity winds that would be associated with either a tropical storm or a hurricane. As discussed above, it would be improper to evaluate the performance of the landfill based on what is little more than a hope that such a storm will never impact the landfill. Republic's failure to account for these forces is of particular concern with regard to the final contours and final slope of the landfill. Republic has expressed no intent to remove the landfill at a certain point in time. So, the landfill will become a permanent feature of the landscape, including its

high profile exposed to the forces of the wind. Eventually, a tropical storm or a hurricane will strike near the landfill in such a manner as to subject the landfill to significant wind impacts. At the height to which the landfill is proposed to be built, the velocity of the winds involved will be significantly higher than the velocity of the winds at ground level. This will not only produce forces pushing on the landfill from the windward side, but also areas of low pressure “pulling” on the landfill from the downwind side. Republic has provided no analysis whatsoever to demonstrate that the landfill structure will maintain its integrity under these foreseeable conditions, nor has Republic provided an adequate analysis to demonstrate that the slopes of the landfill will remain stable under these conditions.

Republic has not adequately addressed the potential for groundwater contamination, nor has Republic proposed adequate groundwater monitoring and sampling measures.

The analysis presented by Republic of the potential for groundwater contamination does not account for the potential complexity of the geologic setting, nor of the past and present activities at the site. Republic has not adequately considered the presence of artificial recharge features such as hydrocarbon production wells in the vicinity of the site. Many of these wells were completed in the 1950s, and it is improper to presume that they were sealed in a manner that would prevent migration into the uppermost aquifer. At least two hydrocarbon recovery wells exist within the proposed extent of the North Unit, and four hydrocarbon recovery wells exist within the proposed extent of the Southern Unit.¹⁴ Given the inadequacy of records of drilling during the periods in which this field was developed, additional wells could easily exist on the property, and Republic has not performed an adequate survey to locate all such wells. Additionally, three groundwater wells exist within the area to be encompassed by the proposed landfill footprint.¹⁵ One of these wells is apparently located at the site of the current maintenance shop and solidification area, where it is surrounded by pre-subtitle D areas. The impact of these wells on the potential migration of groundwater has likewise not been adequately addressed.

Furthermore, Republic has not accurately characterized the geology and hydrogeology of the site. For one, Republic has not fully accounted for the extent of silt and sand contained in what it describes as the “Upper Clay.” For example, Figure GC-6 attempts to depict the Upper Clay Silt layer as discontinuous from north to south. But, what this analysis fails to account for is that the series of wells used for the analysis shifts from north to south after passing through boring B-114. The discontinuity in the presence of the upper sand layer could just as easily be attributed to the abrupt change in the line of wells being used as any discontinuity in the geology. Furthermore, what

¹⁴ Figure GA-7.

¹⁵ Figure GA-6.

Republic depicts as “clay” in the geologic cross-sections generally was more often than not observed to be a mixture of silt and clay or sand and clay. Republic has also not adequately accounted for the hydrologic connection between the Upper Sand and Highland Bayou. As the application recognizes, the Upper Sand Unit is in hydraulic communication with the Highland Bayou.¹⁶

In addition, Republic has not demonstrated that the groundwater monitoring system as proposed meets the requirements of TCEQ’s rules, particularly considering Republic’s failure to adequately characterize the geology beneath the site. Republic has not provided a thorough characterization of aquifer thickness; groundwater flow rate; groundwater flow direction, including seasonal and temporal fluctuations in flow; effect of site construction and operations on groundwater flow direction and rates; and the thickness, stratigraphy, lithology and hydraulic characteristics of the geologic materials and fill materials overlying the uppermost aquifer, materials of the uppermost aquifer, and materials of the lower confining unit of the uppermost aquifer. In addition, Republic has not addressed the potential impact of its dewatering operations on the direction of groundwater flow, the potential for saltwater intrusion into the aquifers and the potential for impact on groundwater resources relied upon by the nearby communities.

These hydrogeological relationships are complicated by the fact that most of the existing landfill was developed under pre-subtitle D rules and have questionable clay liners, if they have any liners at all. Moreover, TCEQ’s apparent lack of jurisdiction over adjacent borrow pits risks groundwater and surface water contamination, especially given that the borrow pits located beneath Phase II south excavations may have changed the flow of water beneath the landfill and caused hydraulic communication with the deep saturated zone, Highland Bayou, and adjacent wells.

Overall, Republic has simply not demonstrated that the landfill will be protective of groundwater quality in accordance with the requirements of the TCEQ rules.

Republic has not demonstrated that the proposed expansion is a compatible land use.

Republic’s evaluation of land use compatibility is also deficient. As one example, the area around the landfill is largely zoned residential. In fact, the vast majority of land within a mile of the facility is either zoned residential or located within Jack Brooks Park or the University of Houston Coastal Research Center. And a catholic school is located just across the diversionary canal from the landfill. Republic seeks to dismiss this non-compliance with zoning by asserting that the landfill is grandfathered from current zoning requirements. This fails to appreciate the full significance of the zoning in the area of the landfill and the existing and expected future land uses in the area of the landfill. Even if

¹⁶ Application Appendix III G, Section 2.2 (“Site Hydrogeology”), pp. 4-5.

it were true that the landfill expansion complied with applicable zoning requirements,¹⁷ the current and future residential nature of the surrounding area reflected in this zoning shows the expansion of the landfill to be an incompatible land use. Additionally, the significant expansion of the landfill as proposed would result in traffic impacts that are incompatible with surrounding land uses.

Republic has not demonstrated compliance with TCEQ's easement and buffer zone requirements.

Several easements cross the site of the proposed landfill. In some cases, the construction and operation of the landfill would interfere with these easements. For instance, the HPL Company pipeline easement and HL&P Company power-line easement both intersect landfill facilities; it is not clear how both the landfill facilities and the infrastructure protected by these easements can be mutually operated. Republic has not demonstrated that the application complies with the easement and buffer zone requirements of the TCEQ rules, including 30 TAC § 330.543.

With regard to the Humble Oil, Trunkline and Hassie Hunt easements, Republic has simply claimed that these easements will be extinguished. Of course, compliance with TCEQ's rules must be based on more than Republic's hopes in this regard.

Republic's Site Operating Plan is deficient.

Republic has not developed a site operating plan compliant with all requirements of the TCEQ rules. In relation to this plan, Republic has not demonstrated that allowing operation of the facility 24-hours/day 7 days a week is justified. The SOP does not contain adequate provisions to prevent the development of an infestation by disease vectors, which is particularly important given the residential nature of the surrounding areas.

Further, the need for a detailed SOP is necessary, in light of the bad operating practices that Republic has used in the past. For instance, the Wagners are subjected to loud beeping noises coming from the landfill from 5:30 in the morning until the evening. Expanding the facility will increase the amount of truck traffic that negatively affects their enjoyment of their property, and their general well-being.

Also, Republic uses propane cans to keep birds away, sometimes setting them off every 30 seconds, throughout the night. Ironically, these measures have proved ineffective: the Wagners' property is constantly overwhelmed by loud, obnoxious seagulls that harass the Wagners and their guests and family. Permitting the landfill

¹⁷ The Wagners do not concede that the landfill in fact meets the applicable zoning requirements, or qualifies for any exemption from the applicable zoning requirements.

expansion will exacerbate this nuisance. Because of these bad operating practices, Republic needs to provide specificity in its operating plan to allow TCEQ and the affected public to fully vet those practices.

Moreover, the application has failed to account for crazy ants, a new invasive species aggressively expanding in habitat in the Galveston Bay area. Crazy ants have been well documented as a nuisance condition, are resistant to extermination *via* pesticides, and have been known to short-circuit electric apparatuses at considerable financial cost to home-owners. (*See*, dissertation by Jason M. Meyers, Texas A&M University, August, 2008). Given that the application proposes cover *via* tarp and not dirt, the site is vulnerable to infestation of these pests. Operation of the landfill has resulted in crazy ant infestation of the Wagners property; permitting the landfill expansion will only make this infestation worse.

Finally, no operational plan is in place for extreme weather events, especially given the propensity for storm surges described in these comments, above. Given these facts and the existing compliance agreement caused by Hurricane Ike, Republic should accept these extreme conditions as a reality of the coastal environment and plan accordingly.

Republic has not demonstrated compliance with TCEQ's drainage requirements.

The construction and operation of the landfill will substantially alter on-site drainage patterns. These changes will result in the alteration of drainage leaving the site, and will increase the amount of drainage going into the diversionary canal. Republic has not adequately addressed this issue, and has not demonstrated compliance with Subchapter G of Chapter 330 of TCEQ's rules.

It is not uncommon to see filthy water draining from the landfill site into the diversionary canal. This is likely to increase with the expansion of the landfill, if the permit amendment is granted.

Finally, it should be noted that the Galveston County Drainage District has noted that Republic has not constructed any of the detention ponds required for compliance with the District's approved criteria, and has requested that the permit not be issued. Because these detention ponds have not been built, contaminated water runs off into Highland Bayou, which is already impaired, and towards the Wagners property. Republic's recalcitrance to come into compliance with local authorities should give TCEQ cause for concern.

Republic has not shown that the facility will comply with all applicable requirements to reduce and control odors.

As proposed, the expansion would authorize several activities that have a heightened potential to cause offensive odors. This includes the acceptance of dead animals, as well as the acceptance of liquid wastes. Republic has not demonstrated that it will implement sufficient odor controls to meet the requirements of the TCEQ rules. Nor has Republic been forthright with its documentation of existing and historical odor problems at the facility.

The landfill as currently designed and operated uniquely and significantly effects the Wagners because odors and gasses from the facility draw into the Highland Bayou, which winds then bring down onto the Wagners' property. The stench is often unbearable, and the Wagners are concerned that expansion of the landfill would make this worse. Republic has made no effort to demonstrate how it will reduce and control odors and gasses given this unique geography.

Republic has not demonstrated adequate protection of surface waters.

The proposed facility is located directly adjacent to the Highland Bayou Diversion Channel, which soon thereafter feeds into Galveston Bay. Contaminants can move into this channel both as the result of subsurface hydraulic connections between the groundwater and the water in this channel, as well as the inadequate control of pollutants in surface water leaving the site. The recirculation of leachate onto the landfill's working face as proposed will only increase the potential that contaminants will enter surrounding surface waters as a result of rainfall events.

Additionally, the site of the landfill includes old borrow pits that have not been under the jurisdiction of TCEQ for detention. Apparently, however, the borrow pits are being used for detention. Because the pits have not been designed for detention, it is unlikely they could withstand the storm events described in these comments, resulting in downstream contamination. Moreover, no mention of pollutant-testing of these water bodies has been mentioned in the application, nor has any mention made of any pollutants that could be in them or how the water in them would be handled if it is indeed polluted. The potential for surface water pollution should be given greater scrutiny, especially given potential hydrologic connectivity between the borrow pits, the deep saturated zone, and Highland Bayou.

Other Issues

There are a number of other deficiencies and misinformation in Republic's application that must be addressed.

For instance, the application fails to mention its proximity to the City of Santa Fe. Several of Republic's gas management wells are in Santa Fe. The landfill is in the Santa

Fe Independent School District. Yet, Republic fails to acknowledge the impacts to the City in its application.

Similarly, a potentially historic oak tree exists on the property (see attached photograph), yet no mention of the tree is made amongst discussion of historical or cultural artefacts.

These omissions reflect a pattern regarding inadequate notice by Republic. Republic has sought modifications, temporary authorizations, and amendments in the past, but has, on several occasions, failed to provide the Wagners the notice they are entitled to when seeking these permit alterations.

Republic has consistently demonstrated a cavalier disregard for the impacts that its landfill construction and operations have had the Wagners. Although Republic's compliance history is classified as "high," Republic's operations have imposed nuisance conditions that the Wagners should not be required to endure. The Wagners are often subjected to the blasting sounds that Republic relies on in its attempts to keep birds away from the landfill; these ear-pirching noises can be heard during early morning hours and throughout the day. Moreover, the Wagners are often exposed to horrendous odors as a result of Republic's operations. Pests, including disease vectors, often find their way onto the Wagners' property from Republic's site. And the constant noise associated with daily operations creates an unbearable nuisance for the Wagners. It is worth noting that the reason Republic must seek this permit amendment is because it was operating in violation of the temporary authorizations it had been granted.

Furthermore, Republic has misrepresented facts and risks regarding borrow pits and the characteristics of the shallower groundwater present beneath the site. The Phase II borrow pit changed the direction of groundwater flow, as noted in Republic's application. But, this borrow pit has been filled with waste, and is without adequate liners. And, this area is hydrologically connected with the Highland Bayou. Though this is noted in the application, no serious attempt was made to assess risks of groundwater contamination due to the lack of a liner in this pre-subtitle D area and the changed hydrogeologic relationships.

Moreover, the borrow pit to the south of Phase II is currently being described as a detention pond, even though it was not designed as a detention pond and still does not have the outfalls required of it, as described by comments submitted to TCEQ by the Galveston County Drainage District. A flood could easily overflow this pond. Republic should be required to sample the water and the soil in both this borrow pit and the old Phase II pit, and determine accurate risks of surface water and groundwater contamination.

Additionally, beneath this shallow borrow pit, a shallow band of sand lens containing groundwater exists. This is described as insignificant and discontinuous in the application. But, in fact, landowners in the area have hand-dug wells in this formation and are able to obtain enough water for irrigation and pond use. It is also unlikely that this sand lens is discontinuous. The Wagners' pond, just west of the landfill site, has a constant level of water, even during periods of drought. This water is possibly connected to the shallow groundwater that is present beneath Republic's site and that has been described as discontinuous.

The above-described deficiencies in Republic's application are particularly disconcerting considering that Republic has been given two notices of deficiencies and numerous opportunities to provide TCEQ with accurate and comprehensive information. This application is a clear example of TCEQ's failure to adhere to its two-NOD policy. Republic's application should be returned, and Republic should be required to conduct a comprehensive, detailed subsurface characterization and conduct an accurate floodplain analysis, based on current conditions before it is allowed to re-submit its application.

Finally, the Galveston County Health Department has had a history of poor response times to the numerous complaints submitted by the Wagners. Often times the Health Department will take months to provide written responses to complaints. Given this lack of oversight, the Wagners urge TCEQ to give this application heightened scrutiny.

Thank you for your attention to these matters.

Sincerely,



Marisa Perales
Counsel for Shawn and Kenny
Wagner

Enclosure



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April 3, 2014

REVIEWED

APR 04 2014

By *PL*

H

Ms. Bridget Bohac
Chief Clerk
Texas Commission on Environmental Quality
P.O. Box 13087, MC-105
Austin, Texas 78711-3087

Re: Comments and Hearing Request regarding Application of Galveston County
Landfill TX, LP for Proposed MSW Permit No. 1149B.

Dear Ms. Bohac:

On behalf of Kenny and Shawn Wagner, I am filing these comments and this request for a contested case hearing on the above-referenced application. These comments are cumulative of any and all prior comments submitted on behalf of Kenny and Shawn Wagner with respect to the application. The ultimate owner of the business entity sponsoring the application is Republic Services, and thus the applicant will be referenced as "Republic."¹

Kenny and Shawn Wagner live on and are the owners of Property No. 23, a twenty-six acre property as indicated in Table 5-1 of the application dated June 25, 2012.² This property is located adjacent to the western boundary of the property upon which the proposed landfill expansion would occur if granted. The Wagners reside on this property, and are concerned that the proposed expansion of the landfill would impact their health, as well as their ability to use and enjoy this property. The current operation of the landfill exacerbates serious health problems for the Wagners; expansion of the landfill as currently proposed will only worsen their health. The Wagners own a groundwater well on this property. They utilize water from this well for domestic

¹ As used within these comments, the term "Republic" includes Republic Services, Galveston County Landfill, TX LP, and any agent of these entities and any other entity that may be considered an applicant in association with the Application.

² p. 1/11-5-3

MSW

purposes, and they are concerned that pollution resulting from the expansion of the landfill would result in an increased potential that the groundwater in this well would be contaminated. The Wagners are further concerned regarding the increased potential for the deposition of windblown waste upon his property as the result of the proposed expansion, as well as the increased potential for waste to move onto his property as the result of inundation of the landfill, as discussed below. Due to the proximity of his property to the proposed landfill, and the heightened potential for impacts that this proximity creates, the Wagners are affected persons. If the Executive Director recommends issuance of the requested permit, then the Wagners request a contested case hearing regarding the issues raised in this hearing request, as well as all other issues raised in any other comments submitted to TCEQ with regard to the Application by themselves as well as any other persons or entities.

The Application should be denied in light of the its location within 100-year floodplain in consideration of the potential storm surge.

Within the application, Republic presents a schizophrenic attitude towards the potential for a hurricane to strike in the vicinity of the landfill. On the one hand, the introduction to the application acknowledges that, "the landfill's service area is prone to natural disasters such as hurricanes, tropical storms, flooding, etc." and goes on to boast that the landfill facilitates disaster relief efforts through its asserted ability to receive and dispose of a large volume of storm debris to facilitate disaster relief efforts.³ Yet, in evaluating the potential adverse impacts of the landfill, Republic wholly ignores the very real possibility that a hurricane could strike near the landfill. This disregard for the potential impacts of hurricanes both ignores the available technical analysis as well as the history of Galveston itself – the site of one of the worst hurricane disasters in United States history. Such impacts must be addressed pursuant to 30 TAC § 330.61(a), requiring that an applicant determine and report to the Executive Director any site-specific conditions that require special design consideration. This deficient floodplain analysis also results in the application failing to demonstrate compliance with the requirements of 30 TAC § 330.63(c)(2) and 30 TAC § 330.307.

In considering the potential inundation of the site Republic relies on outdated FEMA floodplain maps and ignores the potential impact of a storm surge from Galveston Bay.

In considering the potential for the site to be inundated by water, Republic has solely noted that the facility is not located within the 100-year floodplain as reflected in FEMA maps.⁴ The FEMA maps relied upon in making this determination are primarily those last revised by FEMA in 1983.⁵ Apparently, these maps failed to consider any potential storm surge that may inundate the site as the result of a hurricane.

³ Application at p. I/II-1-1.

⁴ Application Appendix III-F-G, Section 5 of Drainage Design Report.

⁵ Application Appendix III-F-G, Figure 5.1.

In recent years, FEMA has undertaken a revision of its maps of the area to better reflect the area subject to a 1% chance of flooding. To this end, in September of 2012 FEMA released revised preliminary maps of the 100-year floodplain on and around the landfill site. No comments or appeals were submitted during the comment period ending September of last year, and there are no additional opportunities for comment or appeal. The maps are anticipated to be finally approved later this year.

These maps show that much of the landfill site is located within the 100-year floodplain, including areas where Republic now proposed to dispose of municipal solid waste.⁶ In essence, these revised FEMA maps show that at natural elevation the entirety of the site would be located in the 100-year floodplain. Those areas within the permit boundary excluded from the 100-year floodplain apparently reflect elevated surfaces resulting from the construction of the landfill itself.⁷

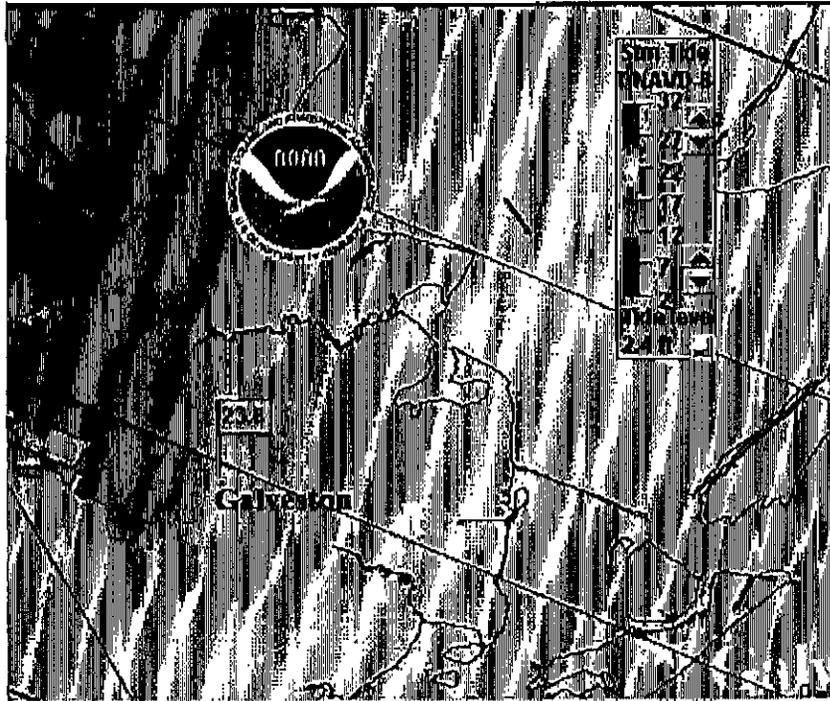
The occurrence of such flooding is consistent with modeling performed by the National Oceanic and Atmospheric Administration (NOAA). The natural surface of the landfill site ranges from approximately 13 to 16 feet above mean sea level,⁸ and is only a short distance from Galveston Bay. According to NOAA's the Sea, Lake and Overland Surges from Hurricanes (SLOSH) model, a Category 5 hurricane could potentially result in a storm surge at this location to a height of approximately 23 feet above mean sea level:

(see next page)

⁶ See September 27, 2012 revisions to FEMA Flood Insurance Rate Map (FIRM) Panel 385 and 245 for Galveston County, Texas and incorporated areas. FEMA Map Nos. 48167C0385G and 48167C0245G.

⁷ Compare FEMA Map Nos. 48167C0385G and 48167C0245G with Figure 2, p. 1/11B-54, of Application (Existing Site Plan).

⁸ Application at p. 1/11-9-1.



Potential Hurricane Storm Surge Height at Galveston County Landfill⁹

In this way, the SLOSH model indicates that much of the landfill site would potentially be under more than five feet of water as the result of a storm surge during a hurricane. This particular scenario depicted above presents something of a worst-case scenario, but the SLOSH model also indicates that under a variety of scenarios the area of the landfill would be inundated as the result of the storm surge associated with either a Category 5 or, even, a Category 4 hurricane. This modeling is consistent with recent experience during Hurricane Ike, which was a Category 2 hurricane. During this event, the storm surge reached a height that came dangerously close to the landfill.

While Republic's analysis of the 100-year floodplain asserts that it considers the 100-year floodplain, Republic has not accounted for the appropriate storm surge. In its analysis, Republic assumes a "worst-case" storm surge of 12.0 feet above mean seal level downstream of the landfill site based on outdated FEMA FIRM maps.¹⁰ As noted above, a storm surge of more than 23 feet at the landfill site is a possibility recognized by NOAA, and FEMA's updated floodplain maps also represent a storm surge higher than that assumed by Republic. Republic's storm surge assumption is not only far from the "worst-case" scenario, as it claims, but also far from a 100-year floodplain scenario.

⁹ NOAA SLOSH Model, Coordinates (150, 45) (Lat 29.3866N, Long 95.0556W), (Category 5 Hurricane travelling west north west at 15 mph at high tide).

¹⁰ See Application at Appendix III; Section 5.2.3.2

Inundation of the Landfill Site would have numerous adverse impacts that Republic has not addressed, and which render the site unsuitable for an expanded landfill.

The flooding of the landfill site consistent with FEMA's most recent modeling, and NOAA's modeling, would have numerous adverse impacts. For one, if such flooding occurred while the landfill was still operational, then such flooding would result in the washout of solid waste in a manner that would pose a hazard to human health and the environment in violation of 30 TAC § 330.547(b). Significant areas within the Cities of La Marque, Santa Fe and Hitchcock would find themselves immersed in solid waste from the Galveston County Landfill. Furthermore, inundation of the landfill units would result in a pressure head above the elements of the landfill liner that far exceed any value that Republic has modeled. Consequently, the potential inundation of the site increases the potential that contaminants will move from the facility into the nearby groundwater. Furthermore, the site operating plan for the site wholly fails to address potential flooding as the result of a storm surge as reflected in the FEMA's most recent analysis of the 100-year floodplain.

In addition, Highland Bayou, which is already impaired, would be inundated with washout of waste as a result of this flooding.

Finally, because the current application proposes a tarp cover, instead of dirt, over the landfill expansion, flooding would have disastrous consequences, especially in the light of poorly designed or the complete lack of adequate storm water and detention controls.

The Application fails to meet TCEQ requirements related to Wetlands.

Pursuant to 30 TAC § 330.553, certain demonstrations must be made in order for a new municipal solid waste unit to be located within a wetland. Among those demonstrations is a demonstration rebutting the presumption that a practicable alternative to the proposed landfill is available that does not involve wetlands. Approximately 4.1 acres of wetlands that Republic has categorized as "non-jurisdictional" exist within the proposed footprint of the South Unit Solid Waste Disposal Area.¹¹ Even if it were assumed that these wetlands do not fall within the jurisdiction of the United States Corps of Engineers, the fact remains that they are considered wetlands under the Texas Wetlands Act, and must accordingly be afforded the same protections by TCEQ as jurisdictional wetlands.¹² So, prior to authorizing the obliteration of the wetlands currently located within the footprint of the South Unit, Republic must make a showing that no practical alternative is available to the construction of a landfill in this area. No such showing has been made. The Wagners contend that practical alternatives do exist,

¹¹ Figure I/II-11.4.

¹² Tex. Water Code § 11.502(1).

especially given the significant amount of excess capacity at other waste disposal facilities in the Houston area that render an expansion into this area unnecessary.

Republic has not adequately addressed endangered and threatened species.

Much like its treatment of hurricanes, Republic's application is inconsistent with regard to the relationship between wetlands and the proposed stormwater retention ponds. With regard to endangered species, Republic asserts that migratory birds would not stop at the ponds at the landfill due to the constant activity, and also asserts that species such as the white-faced Ibis will not visit the site because, "no wetlands exist within the landfill site that would provide habitat for the white-faced ibis."¹³

The Reddish Egret, white-faced ibis, white-tailed hawk, whooping crane, and wood stork each may utilize the large sedimentation ponds at the proposed landfill, and the white-tailed hawk could well make use of other parts of the landfill as a food source. Republic has not adequately considered the impact that the construction and operation of the landfill could have on these species, nor has Republic developed an adequate plan to address these species in its Site Operating Plan.

Furthermore, Republic's analysis of the impact of the facility on endangered and threatened species wholly ignores the potential impact of the facility upon species residing in the Highland Bayou Diversion Channel adjacent to the facility. As a result of the expansion, landfill activities near this diversion channel will increase significantly. Republic has not evaluated the manner in which this increase will impact endangered and threatened species which may utilize or be present in the Diversion Channel. Nor has Republic evaluated how these species may be impacted by the attraction of vectors to the drain as a result of the landfill, the alteration of drainage patterns, or any other aspects of the facility's operations.

Republic has not demonstrated that the integrity of the liners, including the overlayers, will be preserved.

The Wagners have several concerns regarding the integrity of the liners at the site. Republic has not demonstrated that the proposed expansion complies with the requirements of Subchapter H of Chapter 330 of the TCEQ rules. With regard to the overlayers above the pre-subtitle D areas, Republic has not provided information that fully and adequately characterizes the waste beneath these overlayers, nor has Republic adequately shown that the overlayers will not be compromised as the result of differential settlement. The waste beneath these overlayers was placed in the landfill at different times over a long span of time. Over this period, the characteristics of the waste entering the landfill varied due to changing demographics, habits and activities occurring in the

¹³ I/TB-75.

areas contributing waste to the landfill. Republic incorrectly ignores this potential variance, and assumes that the waste beneath the overlayers is consistent to a degree that is simply not justified.

Furthermore, Republic has not provided information to demonstrate that contaminants from the landfill cells where industrial waste is proposed to be disposed will not migrate over the long-term to areas where municipal solid waste is proposed to be disposed. As a result of this migration, the liners as proposed do not provide adequate protection against the leaking of contaminants associated with industrial waste, in addition to the inadequacy of the liners to protect against the leaking of contaminants associated with municipal solid waste. In addition, land in the vicinity of the landfill is subject to subsidence as the result of groundwater pumping, such as the dewatering operations proposed by Republic. Republic has not accounted for stresses on the liner as the result of uneven subsidence induced by its activities, as well as other pumping that may occur in the area. Furthermore, differential settlement is likely to occur beneath the final cover of the South Unit due to the disposal of industrial waste in the western portion of the unit, as compared to the disposal of municipal solid waste in the remainder of the unit. These types of waste will settle at different rates considering their differing characteristics, thereby placing stress on the final cover overlaying these materials.

Republic has not adequately addressed the stability of excavated, intermediate and final slopes.

The Wagners are concerned that the Republic has not provided information adequate to demonstrate that the proposed facility will comply with the slope stability requirements of TCEQ's rules. Republic has not provided information demonstrating the adequate consideration of all relevant modes of failure of the relevant slopes, particularly for intermediate slopes. Nor has Republic adequately characterized the properties of the soil, waste, and other elements involved. Further, Republic has not shown that the proposed dewatering measures will be adequate to preserve the strength of the relevant structural elements involved (such as soils), particularly considering Republic's failure to acknowledge that the entirety of the facility is within the 100-year floodplain when at natural grade. The Wagners further believe that the ballast calculations of Republic have not been shown to be adequate.

Republic's slope stability analysis does not adequately account for the forces that will be exerted upon the landfill as a result of high-velocity winds that would be associated with either a tropical storm or a hurricane. As discussed above, it would be improper to evaluate the performance of the landfill based on what is little more than a hope that such a storm will never impact the landfill. Republic's failure to account for these forces is of particular concern with regard to the final contours and final slope of the landfill. Republic has expressed no intent to remove the landfill at a certain point in time. So, the landfill will become a permanent feature of the landscape, including its

high profile exposed to the forces of the wind. Eventually, a tropical storm or a hurricane will strike near the landfill in such a manner as to subject the landfill to significant wind impacts. At the height to which the landfill is proposed to be built, the velocity of the winds involved will be significantly higher than the velocity of the winds at ground level. This will not only produce forces pushing on the landfill from the windward side, but also areas of low pressure "pulling" on the landfill from the downwind side. Republic has provided no analysis whatsoever to demonstrate that the landfill structure will maintain its integrity under these foreseeable conditions, nor has Republic provided an adequate analysis to demonstrate that the slopes of the landfill will remain stable under these conditions.

Republic has not adequately addressed the potential for groundwater contamination, nor has Republic proposed adequate groundwater monitoring and sampling measures.

The analysis presented by Republic of the potential for groundwater contamination does not account for the potential complexity of the geologic setting, nor of the past and present activities at the site. Republic has not adequately considered the presence of artificial recharge features such as hydrocarbon production wells in the vicinity of the site. Many of these wells were completed in the 1950s, and it is improper to presume that they were sealed in a manner that would prevent migration into the uppermost aquifer. At least two hydrocarbon recovery wells exist within the proposed extent of the North Unit, and four hydrocarbon recovery wells exist within the proposed extent of the Southern Unit.¹⁴ Given the inadequacy of records of drilling during the periods in which this field was developed, additional wells could easily exist on the property, and Republic has not performed an adequate survey to locate all such wells. Additionally, three groundwater wells exist within the area to be encompassed by the proposed landfill footprint.¹⁵ One of these wells is apparently located at the site of the current maintenance shop and solidification area, where it is surrounded by pre-subtitle D areas. The impact of these wells on the potential migration of groundwater has likewise not been adequately addressed.

Furthermore, Republic has not accurately characterized the geology and hydrogeology of the site. For one, Republic has not fully accounted for the extent of silt and sand contained in what it describes as the "Upper Clay." For example, Figure GC-6 attempts to depict the Upper Clay Silt layer as discontinuous from north to south. But, what this analysis fails to account for is that the series of wells used for the analysis shifts from north to south after passing through boring B-114. The discontinuity in the presence of the upper sand layer could just as easily be attributed to the abrupt change in the line of wells being used as any discontinuity in the geology. Furthermore, what

¹⁴ Figure GA-7.

¹⁵ Figure GA-6.

Republic depicts as "clay" in the geologic cross-sections generally was more often than not observed to be a mixture of silt and clay or sand and clay. Republic has also not adequately accounted for the hydrologic connection between the Upper Sand and Highland Bayou. As the application recognizes, the Upper Sand Unit is in hydraulic communication with the Highland Bayou.¹⁶

In addition, Republic has not demonstrated that the groundwater monitoring system as proposed meets the requirements of TCEQ's rules, particularly considering Republic's failure to adequately characterize the geology beneath the site. Republic has not provided a thorough characterization of aquifer thickness; groundwater flow rate; groundwater flow direction, including seasonal and temporal fluctuations in flow; effect of site construction and operations on groundwater flow direction and rates; and the thickness, stratigraphy, lithology and hydraulic characteristics of the geologic materials and fill materials overlying the uppermost aquifer, materials of the uppermost aquifer, and materials of the lower confining unit of the uppermost aquifer. In addition, Republic has not addressed the potential impact of its dewatering operations on the direction of groundwater flow, the potential for saltwater intrusion into the aquifers and the potential for impact on groundwater resources relied upon by the nearby communities.

These hydrogeological relationships are complicated by the fact that most of the existing landfill was developed under pre-subtitle D rules and have questionable clay liners, if they have any liners at all. Moreover, TCEQ's apparent lack of jurisdiction over adjacent borrow pits risks groundwater and surface water contamination, especially given that the borrow pits located beneath Phase II south excavations may have changed the flow of water beneath the landfill and caused hydraulic communication with the deep saturated zone, Highland Bayou, and adjacent wells.

Overall, Republic has simply not demonstrated that the landfill will be protective of groundwater quality in accordance with the requirements of the TCEQ rules.

Republic has not demonstrated that the proposed expansion is a compatible land use.

Republic's evaluation of land use compatibility is also deficient. As one example, the area around the landfill is largely zoned residential. In fact, the vast majority of land within a mile of the facility is either zoned residential or located within Jack Brooks Park or the University of Houston Coastal Research Center. And a catholic school is located just across the diversionary canal from the landfill. Republic seeks to dismiss this non-compliance with zoning by asserting that the landfill is grandfathered from current zoning requirements. This fails to appreciate the full significance of the zoning in the area of the landfill and the existing and expected future land uses in the area of the landfill. Even if

¹⁶ Application Appendix III, Section 2.2 ("Site Hydrogeology"), pp. 4-5.

it were true that the landfill expansion complied with applicable zoning requirements,¹⁷ the current and future residential nature of the surrounding area reflected in this zoning shows the expansion of the landfill to be an incompatible land use. Additionally, the significant expansion of the landfill as proposed would result in traffic impacts that are incompatible with surrounding land uses.

Republic has not demonstrated compliance with TCEQ's easement and buffer zone requirements.

Several easements cross the site of the proposed landfill. In some cases, the construction and operation of the landfill would interfere with these easements. For instance, the HPL Company pipeline easement and HL&P Company power-line easement both intersect landfill facilities; it is not clear how both the landfill facilities and the infrastructure protected by these easements can be mutually operated. Republic has not demonstrated that the application complies with the easement and buffer zone requirements of the TCEQ rules, including 30 TAC § 330.543.

With regard to the Humble Oil, Trunkline and Hassie Hunt easements, Republic has simply claimed that those easements will be extinguished. Of course, compliance with TCEQ's rules must be based on more than Republic's hopes in this regard.

Republic's Site Operating Plan is deficient.

Republic has not developed a site operating plan compliant with all requirements of the TCEQ rules. In relation to this plan, Republic has not demonstrated that allowing operation of the facility 24-hours/day 7 days a week is justified. The SOP does not contain adequate provisions to prevent the development of an infestation by disease vectors, which is particularly important given the residential nature of the surrounding areas.

Further, the need for a detailed SOP is necessary, in light of the bad operating practices that Republic has used in the past. For instance, the Wagners are subjected to loud beeping noises coming from the landfill from 5:30 in the morning until the evening. Expanding the facility will increase the amount of truck traffic that negatively affects their enjoyment of their property, and their general well-being.

Also, Republic uses propane cans to keep birds away, sometimes setting them off every 30 seconds, throughout the night. Ironically, these measures have proved ineffective: the Wagners' property is constantly overwhelmed by loud, obnoxious seagulls that harass the Wagners and their guests and family. Permitting the landfill

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expansion will exacerbate this nuisance. Because of these bad operating practices, Republic needs to provide specificity in its operating plan to allow TCEQ and the affected public to fully vet those practices.

Moreover, the application has failed to account for crazy ants, a new invasive species aggressively expanding in habitat in the Galveston Bay area. Crazy ants have been well documented as a nuisance condition, are resistant to extermination *via* pesticides, and have been known to short-circuit electric apparatuses at considerable financial cost to home-owners. (See, dissertation by Jason M. Meyers, Texas A&M University, August, 2008). Given that the application proposes cover *via* tarp and not dirt, the site is vulnerable to infestation of these pests. Operation of the landfill has resulted in crazy ant infestation of the Wagners property; permitting the landfill expansion will only make this infestation worse.

Finally, no operational plan is in place for extreme weather events, especially given the propensity for storm surges described in these comments, above. Given these facts and the existing compliance agreement caused by Hurricane Ike, Republic should accept these extreme conditions as a reality of the coastal environment and plan accordingly.

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Finally, it should be noted that the Galveston County Drainage District has noted that Republic has not constructed any of the detention ponds required for compliance with the District's approved criteria, and has requested that the permit not be issued. Because these detention ponds have not been built, contaminated water runs off into Highland Bayou, which is already impaired, and towards the Wagners property. Republic's recalcitrance to come into compliance with local authorities should give TCEQ cause for concern.

Republic has not shown that the facility will comply with all applicable requirements to reduce and control odors.

As proposed, the expansion would authorize several activities that have a heightened potential to cause offensive odors. This includes the acceptance of dead animals, as well as the acceptance of liquid wastes. Republic has not demonstrated that it will implement sufficient odor controls to meet the requirements of the TCEQ rules. Nor has Republic been forthright with its documentation of existing and historical odor problems at the facility.

The landfill as currently designed and operated uniquely and significantly effects the Wagners because odors and gasses from the facility draw into the Highland Bayou, which winds then bring down onto the Wagners' property. The stench is often unbearable, and the Wagners are concerned that expansion of the landfill would make this worse. Republic has made no effort to demonstrate how it will reduce and control odors and gasses given this unique geography.

Republic has not demonstrated adequate protection of surface waters.

The proposed facility is located directly adjacent to the Highland Bayou Diversion Channel, which soon thereafter feeds into Galveston Bay. Contaminants can move into this channel both as the result of subsurface hydraulic connections between the groundwater and the water in this channel, as well as the inadequate control of pollutants in surface water leaving the site. The recirculation of leachate onto the landfill's working face as proposed will only increase the potential that contaminants will enter surrounding surface waters as a result of rainfall events.

Additionally, the site of the landfill includes old borrow pits that have not been under the jurisdiction of TCEQ for detention. Apparently, however, the borrow pits are being used for detention. Because the pits have not been designed for detention, it is unlikely they could withstand the storm events described in these comments, resulting in downstream contamination. Moreover, no mention of pollutant-testing of these water bodies has been mentioned in the application, nor has any mention made of any pollutants that could be in them or how the water in them would be handled if it is indeed polluted. The potential for surface water pollution should be given greater scrutiny, especially given potential hydrologic connectivity between the borrow pits, the deep saturated zone, and Highland Bayou.

Other Issues

There are a number of other deficiencies and misinformation in Republic's application that must be addressed.

For instance, the application fails to mention its proximity to the City of Santa Fe. Several of Republic's gas management wells are in Santa Fe. The landfill is in the Santa

Fe Independent School District. Yet, Republic fails to acknowledge the impacts to the City in its application.

Similarly, a potentially historic oak tree exists on the property (see attached photograph), yet no mention of the tree is made amongst discussion of historical or cultural artefacts.

These omissions reflect a pattern regarding inadequate notice by Republic. Republic has sought modifications, temporary authorizations, and amendments in the past, but has, on several occasions, failed to provide the Wagners the notice they are entitled to when seeking these permit alterations.

Republic has consistently demonstrated a cavalier disregard for the impacts that its landfill construction and operations have had the Wagners. Although Republic's compliance history is classified as "high," Republic's operations have imposed nuisance conditions that the Wagners should not be required to endure. The Wagners are often subjected to the blasting sounds that Republic relies on in its attempts to keep birds away from the landfill; these ear-piercing noises can be heard during early morning hours and throughout the day. Moreover, the Wagners are often exposed to horrendous odors as a result of Republic's operations. Pests, including disease vectors, often find their way onto the Wagners' property from Republic's site. And the constant noise associated with daily operations creates an unbearable nuisance for the Wagners. It is worth noting that the reason Republic must seek this permit amendment is because it was operating in violation of the temporary authorizations it had been granted.

Furthermore, Republic has misrepresented facts and risks regarding borrow pits and the characteristics of the shallower groundwater present beneath the site. The Phase II borrow pit changed the direction of groundwater flow, as noted in Republic's application. But, this borrow pit has been filled with waste, and is without adequate liners. And, this area is hydrologically connected with the Highland Bayou. Though this is noted in the application, no serious attempt was made to assess risks of groundwater contamination due to the lack of a liner in this pre-subtitle D area and the changed hydrogeologic relationships.

Moreover, the borrow pit to the south of Phase II is currently being described as a detention pond, even though it was not designed as a detention pond and still does not have the outfalls required of it, as described by comments submitted to TCEQ by the Galveston County Drainage District. A flood could easily overflow this pond. Republic should be required to sample the water and the soil in both this borrow pit and the old Phase II pit, and determine accurate risks of surface water and groundwater contamination.

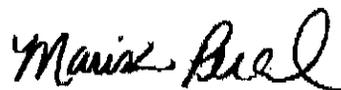
Additionally, beneath this shallow borrow pit, a shallow band of sand lens containing groundwater exists. This is described as insignificant and discontinuous in the application. But, in fact, landowners in the area have hand-dug wells in this formation and are able to obtain enough water for irrigation and pond use. It is also unlikely that this sand lens is discontinuous. The Wagners' pond, just west of the landfill site, has a constant level of water, even during periods of drought. This water is possibly connected to the shallow groundwater that is present beneath Republic's site and that has been described as discontinuous.

The above-described deficiencies in Republic's application are particularly disconcerting considering that Republic has been given two notices of deficiencies and numerous opportunities to provide TCEQ with accurate and comprehensive information. This application is a clear example of TCEQ's failure to adhere to its two-NOD policy. Republic's application should be returned, and Republic should be required to conduct a comprehensive, detailed subsurface characterization and conduct an accurate floodplain analysis, based on current conditions before it is allowed to re-submit its application.

Finally, the Galveston County Health Department has had a history of poor response times to the numerous complaints submitted by the Wagners. Often times the Health Department will take months to provide written responses to complaints. Given this lack of oversight, the Wagners urge TCEQ to give this application heightened scrutiny.

Thank you for your attention to these matters.

Sincerely,



Marisa Perales
Counsel for Shawn and Kenny
Wagner

Enclosure



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FREDERICK, PERALES, ALLMON & ROCKWELL, P.C.

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To: Ms. Bridget Bohac, TCEQ Chief Clerk

512-239-3311

From: Marisa Perales

Date: April 3, 2014

DOCUMENTS:	NUMBER OF PAGES (not including cover pg.)
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