SOAH DOCKET NO. 582-15-2082
TCEQ DOCKET NO. 2015-0069-MSW

APPLICATION BY	§	**BEFORE THE STATE OFFFICE**
130 ENVIRONMENTAL PARK, LLC	§	**OF**
FOR PROPOSED	§	
PERMIT NO. 2383	§	**ADMINISTRATIVE HEARINGS**

Caldwell County's Prefiled Testimony and Exhibits

TO THE HONORABLE KERRIE JO QUALTROUGH, ADMINISTRATIVE LAW JUDGE and THE HONORABLE CASEY A. BELL, ADMINISTRATIVE LAW JUDGE:

Protestant Caldwell County, in the above entitled and numbered cause, files its Prefiled Testimony and Exhibits in accordance with Order No. 24, Granting Motion to Modify Procedural Schedule, for all parties other than Applicant, ED and OPIC to prefile direct testimony and exhibits to June 27, 2016. Caldwell County respectfully submits the following:

Direct Prefiled Testimony and Exhibits of Tracy Bratton	Caldwell – 1
Resolution in Opposition to the Application by 130 Environmental Park for Municipal Solid Waste Landfill Permit No. 2383	Caldwell – 2
Order to Adopt Ordinance Prohibiting Solid Waste Disposal in Caldwell County	Caldwell – 3
Notice of Meeting, Commissioners Court of Caldwell County, Texas and Minutes from March 16, 2015	Caldwell – 4

Protestant Caldwell County joins and adopts the prefiled testimony and exhibits of the other Protestants, including but not limited to, Protestants TJFA, L.P. and Environmental Protection in the Interest of Caldwell County.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on the 27th day of June, 2016, I forwarded the foregoing to the attorneys of record by certified mail return receipt requested, facsimile, and/or electronically to the following:

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Caldwell - 1

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DIRECT PREFILED TESTIMONY OF TRACY BRATTON

INDEX TO TESTIMONY

EXHIBITS

Exhibit A: Resume of Tracy Bratton;

Exhibit B: Part 630 of the Natural Resources Conservation Service (NRCS) National Engineering Handbook (NEH), page 15-7;

Exhibit C: Original Summary Table of Peak Flows submitted by Applicant to Caldwell County for Preliminary Plat review;

Exhibit D: Corrected Summary Table of Peak Flows submitted by Applicant to Caldwell County for Preliminary Plat review;

Exhibit E: General Topographic Map submitted with Application that includes notations by Tracy Bratton;

Exhibit F: Description of the landfill access road and additional exhibit submitted by Applicant to Caldwell County as part of the Preliminary Plat review.

Exhibit G: Cross-Section of Landfill created by Bowman Consulting to demonstrate the landfill and slopes; and

Exhibit H: Drainage Structure Plan submitted with Application that includes notations by Tracy Bratton that Demonstrates location of Cross-Section in Exhibit F.

INTRODUCTION

Q: Please state your name.

A: Tracy Bratton.

Q: Please state your business address.

A: 1120 S. Capitol of Texas Highway, Building 3, Suite 220, Austin, Texas 78746.

Q: Is the information contained in your testimony true and correct to the best of your knowledge and belief as of the day you prepared it?

A: Yes.

QUALIFICATIONS

Q: Mr. Bratton, will you identify Exhibit A?

A: Yes, it is a true and correct copy of my resume.

Q: Is it up-to-date?

A: Yes.

Q: What is your profession?

A: I am a licensed professional engineer.

Q: What is your educational background.

A: I received a Bachelor of Science degree in Civil Engineering from the University of Texas at Austin in 1997.

Q: What practical experience do you have since receiving your engineering degree?

A: I began my career with an engineering / environmental consulting firm in Houston named Woodward Clyde in 1997. Woodward Clyde was later purchased by URS Corporation.

While at Woodward Clyde I worked primarily on projects dealing with containment of hazardous waste and remediation for EPA Superfund sites and water resources projects. I began as an Engineer-in- Training and was a licensed professional engineer and project manager for URS Corporation before leaving URS. In 2004 I accepted a position with my current employer, Bowman Consulting Group (formerly known as Loomis Austin and Loomis Partners). During my tenure at Bowman Consulting our focus has primarily been land development in and around the Central Texas Region.

Q: What specific parts of the work that you have done in your career provide you the background for your testimony today?

A: While with URS, I participated in the design, construction supervision, and repair of cover systems for Hazardous Waste cells including stormwater management systems for these sites. I have supervised numerous floodplain modeling projects both with URS and with Bowman Consulting Group. At Bowman Consulting, our primary practice area is land development and every land development project involves analysis of predeveloped and post-developed drainage conditions.

Q: Is there other relevant background or experience you have which you base your testimony on?

A: Yes. For the last decade I have been significantly involved in stormwater management issues in Central Texas. I was asked in 2006 to be on the Technical Review Committee to review newly adopted stormwater quality regulations for the City of Dripping Springs, I have provided technical review and input on adoption of development and stormwater regulations for Hays County, I have served as a volunteer providing technical guidance in the development of regional watershed protection plans, and I am currently a member of

the Lower Colorado River Authority's Water Quality Committee. I have provided support to the Emergency Management Coordinators in Bastrop and Hays Counties during dam breach scenarios following natural disasters including providing analysis of potentially impacted lives and structures downstream to order evacuations. In addition, I am the primary author of Caldwell County's Development Ordinance, serve in the role of County Engineer, and oversee review of subdivision and development construction permits for Caldwell County. I also served temporarily in the role of County Engineer reviewing subdivision plans, construction plans, and floodplain permits for Bastrop County in 2015.

Q: When did you receive your professional engineering license in Texas?

A: June 2002.

SUMMARY OF OPINIONS

Q: Have you reviewed the landfill application for the 130 Environmental Park dated November 14, 2014?

A: Yes, I have reviewed the application.

Q: What aspects of the application have you reviewed?

A: I reviewed the entire application but I generally focused on the Facility Surface Water Drainage Report (Part III, Attachment C).

Q: What is your opinion of the application overall?

A: It is my opinion that the analysis provided by the applicant is faulty and contains over-simplifications that call in to question the validity of the results presented. Many of the elements lack details necessary to evaluate whether their plan is feasible. Also, the application treats each component of the landfill as a separate, stand-alone element and fails to consider if the elements can work together or if the system resulting of all the

components is compliant with TCEQ regulations and protective of human health and the environment.

Q: Do the TCEQ regulations for municipal solid waste landfills require that an applicant address flooding concerns?

A: Yes. At 330.63(c)(2), the TCEQ regulations require that the facility surface water drainage report contained in the application contain a flood control analysis. The applicant is required to provide information identifying the 100-year flood level and any other special flooding factors that must be considered in designing, constructing, operating, or maintaining the proposed landfill to withstand washout from a 100-year flood. The rules also require that the boundaries of the proposed landfill facility be shown on the floodplain map. In addition, 330.63(c)(2)(D)(ii) requires that the application contain copies of flood development permits from the local jurisdiction. In Section 330.307, the Rules require that a landfill be protected from flooding by suitable levees constructed to provide protection from a 100-year frequency flood. Such levees must have a freeboard of at least three feet, and must not significantly restrict the flow of a 100-year frequency flood nor significantly reduce the temporary water storage capacity of the 100-year floodplain. In Section 330.547, the rules provide that no waste disposal operations shall be in the 100-year floodway as defined by FEMA and MSW storage and processing facilities must be located outside of the 100-year floodplain. Also, this rule provides that new municipal solid waste management units shall not restrict the flow of the 100-year flood or result in washout of solid waste so as to pose a hazard to human health and the environment.

Q: In your opinion, has the Applicant demonstrated compliance with these regulations?

A: No.

FLOOD CONDITION ANALYSIS

Q: Did the Applicant in this case present modeling of pre-development conditions and post-development conditions?

A: Yes. In Part III of the application, Attachment C1 Appendix C-2, the Applicant presented hydrologic calculations for the 25-year Water Surface Elevation, and the 100-year Water Surface Elevation.

Q: Was the HEC-HMS Model used in this evaluation?

A: Yes. The HEC-HMS Model was used to simulate the surface water runoff response of the watershed. In determining the surface elevations under specific circumstances, the HEC-RAS model was also used in conjunction with the HEC-HMS Model.

Q: Are you familiar with these models?

A: Yes.

Q: Can you please generally explain how the HEC-HMS and HEC-RAS models work?

A: HEC-HMS is a hydrologic model. It applies a time series record of rainfall specified by the user to a physical surface (a watershed) defined using several physical parameter (watershed size, time of concentration, impervious cover percentage, infiltration rate of the soil) to calculate a time series record of runoff flow rate measured in cubic feet per second (a hydrograph) at a location of interest. In transforming rainfall to runoff, the SCS unit hydrograph serves to provide a temporal distribution of runoff flow rate at the point of interest for each element of the rainfall hyetograph. (A hyetograph is a graphical representation of the distribution of rainfall over time.) The HEC-HMS model is also used to track runoff inflow and outflow characteristics in a reservoir and, thereby, the changing runoff volume stored and changing water surface elevations in the reservoir during the

rainfall-runoff event.

Frequently, TR-55 (NRCS – Urban Hydrology for Small Watersheds) is used in the determination of the time of concentration input parameter for the watershed under consideration by assisting the HEC-HMS model user with calculation of flow velocity on the watershed surface and in the channel(s) contributing flow to the location of interest.

HEC-RAS is a hydraulic model. For a user-specified flow rate (frequently derived from calculations performed in HEC-HMS), HEC-RAS is generally used to determine the characteristics of flow (water surface elevation, velocity, top width) in a channel whose configuration is defined by the user utilizing channel-specific cross-section information, roughness characteristics, and bridge / culvert configurations, among other input parameters.

Q: Within the context of this model, what does it mean to "transform" precipitation to runoff?

A: As described above, HEC-HMS "transforms" a time series rainfall input applied on a user-specified watershed to calculate a time series record of runoff flow rate (the output hydrograph) at a location of interest which might be, for example, a location where runoff flows carried in a channel enter a reservoir.

Q: What method did the Applicant use to transform precipitation to runoff in this case?

A: The applicant used the Soil Conservation Service unit hydrograph method to transform precipitation to runoff.

Q: In your opinion, did the applicant properly use this method for the transformation of precipitation to runoff?

A: No. The applicant uses Technical Release 55, commonly referred to as "TR-55" to evaluate stormwater flows in making floodplain determinations. TR-55 was originally created by

the Soil Conservation Service ("SCS") in 1975. In 1986, SCS issued a major revision to TR-55 and in 1994, the SCS was renamed the Natural Resource Conservation Service ("NRCS").

TR-55 states: *"Open channels are assumed to begin where surveyed cross section information has been obtained, where channels are visible on aerial photographs, or where blue lines (indicating streams) appear on United States Geological Survey (USGS) quadrangle sheets."* In developing the hydrologic modeling of this landfill, the application improperly uses Shallow Concentrated Flow in many areas where channels are visible on aerial photographs, blue lines that indicate streams appear on USGS maps, and where publically available LIDAR topographic data exists.

In addition, Part 630 of the Natural Resources Conservation Service (NRCS) National Engineering Handbook (NEH) provides detailed information on NRCS hydrology. Attached as Exhibit B is a true and correct copy of page 15-7 of this technical guidance published by NRCS. In it NRCS (the agency that authored TR-55), states that Shallow Concentrated Flow exists for flow depths of 0.1 to 0.5 feet. It is common engineering practice to limit use of Shallow Concentrated Flows lengths to approximately 1,000-ft or less in engineering analysis. In reviewing the applicant's preliminary plat application to Caldwell County, we noted that they used Shallow Concentrated Flow lengths of up to 8,945-ft. As part of Bowman Consulting's role as County Engineer reviewing their preliminary plat application, we required them to follow common engineering practice and revise these lengths to be more reasonable.

While the applicant agreed to correct their analysis as part of the preliminary plat approval with Caldwell County, it does not appear that they made any attempt to provide the

corrected analysis to TCEQ as part of the landfill permit application. In some locations, correcting their analysis resulted in flow increases of 15-20% for the 100-year storm event. Attached are copies of the peak flows provided to Caldwell County using excessing shallow concentrated flow lengths (Exhibit C, which is a true and correct copy of an Original Summary Table of Peak Flows submitted by Applicant to Caldwell County for Preliminary Plat review) and after they corrected those calculations (Exhibit D, which is a true and correct copy of a Corrected Summary Table of Peak Flows submitted by Applicant to Caldwell County for Preliminary Plat review) per our review comments.

Q: Are there any particular areas where you feel like the flow was improperly characterized as Shallow Concentrated Flow?

A: Yes.

Q: Please identify those areas.

A: Every location in the table entitled "SCS Unit Hydrograph Lag Time" that has a Shallow Concentrated Flow length greater than 1,000-ft. This is numbered as page C1-B-12 for Existing Conditions and C1-C-10 for Post developed Conditions of the application. As an example, in the upper portion of the watershed designated as OS1 on C1-B-12 it shows that the applicant calculated a time of concentration of 2.91 hours. I recalculated this using a maximum shallow concentrated flow length of 1,000-ft before the flow becomes channel flow. I estimated a time of concentration of 2.00 hours. The difference is that in this table the applicant would have us believe that the stormwater in the storm event being analyzed travels at a speed of ~1.53 feet per second for a distance of over 8,900 feet.

It is our opinion, as I have discussed above, that it is quite unreasonable to assume that the velocity of runoff accumulating in a shallow concentrated manner in this watershed will be

1.53 feet per second over a length thousands of feet or that the water depth at its deepest flow would be less than 0.5 feet. The portion of watershed OS1 that the applicant assumes as shallow concentrated flow drains several hundred acres. To accept the calculations presented as correct, we would have to accept that in a 100-year storm event in this portion of the watershed that the deepest and fastest flowing portion of the stream draining several hundred acres is flowing at depth of less than 6-inches and a speed approximately two thirds slower than an average walking speed.

Instead, we believe that the maximum length over which this relatively slow velocity can be assumed to exist should not exceed 1,000 feet. Thereafter, the flows would be considered as "channelized", the flow velocity should be higher, and, therefore, the total time on concentration at the point of interest should be significantly lower.

Q: What is the practical impact of this improper assumption of shallow concentrated flow?

A: Using shallow concentrated flow inappropriately in this circumstance significantly increases the time of concentration and the resulting lag time used in the hydrologic modeling software. Using an improperly large lag time in the software results in the software distributing the rain event being modeled over an excessively long period resulting in lower flows. In simple terms, this result of excessively long shallow concentrated flows results in an underestimation of the floodplain.

Q: Please turn in the Application to Page C2-7, which is page 252 in Applicant's Exhibit 130EP-2. In your opinion, how does the Applicant's improper assumptions regarding shallow concentrated flow impact the analysis of Existing and Post Developed water surface flood elevations set forth in Table 1 and Table 2 of this page?

A: By utilizing an excessively long time of concentrations to define the runoff hydrograph,

the applicant has underestimated the peak flows. Underestimating the peak flows will result in incorrect calculations of the water surface elevation for the storm event being analyzed. The direction of this error is to produce water surface elevations lower than those that would be calculated using the correct flows.

Q: In performing a hydrologic analysis using the HEC-HMS model, what characteristics of the watershed are considered?

A: When using the routing method employed by the Applicant in this case, factors such as the Water Course length, the Water Course Slope, the Manning's Roughness, the shape of the watershed, the bottom width of a stream and the side slope of a stream are factored into the model.

Q: What is meant by "routing method"?

A: A routing method is one of many technical approaches available to describe how the shape of a runoff hydrograph will change by virtue of its movement through a particular channel configuration with particular overbank flood storage characteristics; or through a given reservoir with given storage and outflow (stage/storage/outflow rate) characteristics.

Q: What routing method was employed in this case by the applicant?

A: The Kinematic Wave Routing method. The Kinematic Wave Routing approach is a relatively simple routing method. The Kinematic Wave Routing method has just two input parameters (based on the shape of the channel, its roughness, and its slope) but with the ability to provide a nonlinear hydrograph modification response given the generally simplified description of channel characteristics typically utilized for routing in HEC-HMS.

Q: Please explain what is meant by "Manning's Roughness"?

A: Manning's Roughness is a way to represent the resistance to flood flows of channels and floodplains. A higher value for Manning's Roughness generally indicates a higher amount of resistance of a surface to flood flows. It is usually designated by an "n" when used in a formula.

Q: Does the Application set forth the values selected by the applicant for these parameters in its flooding analysis?

A: Yes. In Appendix C2-B contained within Attachment C2 to Part III of the Application, these values are presented at page C2-B-5a, which is page 270 of Applicant's Exhibit 130EP-2.

Q: What reaches are described in this table?

A: This table sets forth values for what has been designated Dry Creek, Reach 2.0, and Reach 2.1.

Q: What areas of the site do these reaches represent?

A: I have marked the location of Reach 2.0 and 2.1 on the applicant's drawing IIA.2 and it is attached as Exhibit E, which is a true and correct copy of general topographic map and existing drainage area map submitted with Application that includes notations by me Reach 2.0 is the unnamed stream segment between the Site 21 dam and where the basin UNT-2 joins the stream. Reach 2.1 is the continuation of the same unnamed stream to the north until where flows from basins UNT-4 and UNT-5 converge.

Q: Do you disagree with Applicant's assumptions for Manning's Roughness set forth on Page C2-B-5a of the application, describing the watershed characteristics for the flooding analysis.

A: Yes. The applicant used roughness coefficients, referred to technically as Manning's n

values, of 0.045 for Reach-2.0 and Reach-2.1. The Applicant assumed a roughness coefficient of 0.065 in these reaches, when a value of 0.045 would have been more appropriate.

Q: In your opinion, why should a Manning's n of 0.045 been used in Reach-2.0 and Reach-2.1?

A: The Manning's n value is a parameter that reflects the roughness, or resistance, to water flow, in this case in a stream. The higher the Manning's n the greater the resistance and the slower the flow. Artificially low Manning's n value will reduce the speed in the stream and increase the time of concentration, the effects of which I discussed previously. The applicant did not supply calculations supporting their Manning's n assumption. Lacking specific justification or analysis supporting a higher value, we requested they use 0.045 when reviewing the existing conditions modeling as part of their preliminary plat documentation to Caldwell County. This value of 0.045 is an appropriate Manning's n for small natural streams that are winding, weedy, and include ineffective areas or areas of pooling. In addition, as an engineer you should justify your assumption or make an assumption that is protective or conservative. Assuming a value of 0.065 results in a less protective analysis of the storm event being analyzed.

Q: So, what are the consequences of Applicant's use of 0.065 as the Manning's Roughness for these reaches?

A: Just as with the excessive lengths used for shallow concentrated flows, using excessively high roughness coefficients translates in to higher time of concentration, lag time, and results in additional underestimation of the peak flow for the storm event being modeled.

PROXIMITY OF FLOODPLAIN TO LANDFILL FOOTPRINT

Q: Does the application include delineations of the floodplain by the Applicant?

A: Yes. Applicant has depicted its delineation of the floodplain under existing conditions in Drawing C2-A-3, which is at page 259 of Applicant's Exhibit 130EP-2. Applicant has also depicted its delineation of the floodplain under post-developed conditions in Drawings C2-A-4 and C2-A-5, which can be found at pages 260 and 261 of Applicant's Exhibit 130EP-2.

Q: For existing conditions, did the Applicant utilize the FEMA floodplain maps, or did the applicant perform its own modeling to determine the floodplain?

A: The applicant provided a copy of the FEMA floodplain in the application in Drawing C2-A-1, which is page 257 of Applicant's Exhibit 130EP-2. But, Applicant's analysis of pre-development floodplain conditions in comparison to post-development floodplain conditions primarily relies upon the applicant's own modeling of those conditions.

Q: What model did the Applicant use to determine the extent of the floodplain under existing and developed conditions?

A: The Applicant used the HEC-RAS model to determine the extent of the floodplain under both existing and developed conditions. This model was used to determine the applicant's delineation of the floodplain in Drawings C2-A-3, C2-A-4 and C2-A-5.

Q: Generally speaking, how does this model work?

A: As described above, HEC-RAS is used to determine the characteristics of flow (water surface elevation, velocity, top width) in a channel utilizing channel-specific cross-section configuration information, roughness characteristics, and bridge / culvert configurations, among other input parameters.

Q: In your opinion, does the Applicant's analysis support the delineation of the floodplain as depicted in these drawings?

A: If design flow rates as calculated by the applicant in HEC-HMS are inaccurate due to unreasonable time of concentration calculations, the floodplain as delineated by the applicant both in Site 21 and in the channels flowing through the landfill site are inaccurate.

Q: Please turn to page 182 of Applicant's Exhibit 130EP-2, which is Drawing C1-E-1 of the Application. Does this show the location of the stormwater detention ponds around the perimeter of the landfill footprint?

A: Yes.

Q: Would you describe the location of the stormwater detention ponds?

A: The ponds are generally located between the landfill and the floodplains that encircle the landfill.

Q: What are your impressions of the stormwater detention ponds and the physical arrangement between the ponds, the floodplain, and the landfill?

A: The ponds appear to be tightly squeezed between the landfill perimeter channels and the floodplain. Some of the ponds, such as Pond 5 and 7, are long and linear. These appear more like oversized channels than a traditional "pond" shape. The ponds are located immediately adjacent to the perimeter road encircling the landfill. Most of the detention ponds are located in close proximity to the floodplain. Some the ponds appear to be within 20-ft horizontally of the floodplain. The previously discussed inaccuracies in the applicant's floodplain hydrology and hydraulic results brings in to doubt whether these detention ponds are in fact outside of the 100-year floodplain.

Q: Are there other parts of 330.63(C)(2) the application fails to comply with?

A: Yes. Previously I mentioned that 330.63(c)(2)(D)(ii) requires that the application contain copies of flood development permits from the local jurisdiction. The applicant has not requested floodplain permits from Caldwell County, the local floodplain administer.

Q: When discussing your background, you stated that you serve as consulting engineer for Caldwell County. In that capacity, do you have specific concerns as it relates to local regulations and the ability of 130 Environmental Park to comply with Caldwell County floodplain regulations?

A: Yes.

Q: Please describe those concerns.

A: Caldwell County has only reviewed the applicant's preliminary plat application for compliance with local regulations. They have not provided us with a final plat or application for a commercial development permit for their landfill. At the time they apply for a commercial development permit we will thoroughly review all of their proposed improvements.

As I discussed previously, in reviewing the applicant's floodplain analysis for existing conditions, we found it to be lacking and required corrections. Based upon my review of the materials submitted to TCEQ for the landfill application, I find them inadequate for the purpose of issuing a construction permit. The analysis lacks sufficient detail in with respect to stormwater management for the estimated 44-year operating life of the landfill.

Q: Are there other concerns from the local regulatory entities related to flooding?

A: I am concerned about the accessibility of the site in a disaster or emergency. 30TAC330.63(A) requires the applicant include a Site Development Plan and goes on to state: "*This plan must include criteria that in the selection and design of a facility will*

provide for the safeguarding of the health, welfare, and physical property of the people and the environment through consideration of geology, soil conditions, drainage, land use, zoning, adequacy of access roads and highways, and other considerations as the specific facility dictates." The Applicant has represented that they will not be taking access to the site off of the adjacent County roadway. That means that the only access to the site is from SH 130. In the event of a fire, this presents significant safety hazards and challenges to fighting a fire. Depending up on the proximity of the fire to the single access road to the landfill or the wind direction, emergency services may not be able to access the site at all. In addition, the single road accessing the land fill crosses the floodplain in 2 locations. According to Page C2-7 of the application submitted to Caldwell County with their preliminary plat application (a true and correct copy attached as Exhibit F) one of these crossings are only sized to carry the 25-year storm event and will be overtopped in events exceeding the 25-year storm. However, on a page with the same page number (C2-7) in their application to TCEQ they state that this same crossing will have twice the number of culverts and carry the 100-year storm event without overtopping. Which of these is true is unclear. Regardless, there are no details for headwalls or erosion protection of these critical culverts and no assurances provided in the application that the roadway or the culverts will be armored to protect them from wash out during a storm event exceeding the design storm. If the materials submitted to Caldwell County are correct, it is highly likely that over the operating life of the landfill their access road is washed out by a storm that overtops their proposed access road. With or without overtopping, the roadbed could be lost or damaged by high velocity flows without adequate protection of the culverts by headwalls and erosion protection measures in the vicinity of the culverts. Loss of use of the access road will leave

the landfill inaccessible for an extended period of time as conditions dry out and the access road is rebuilt. How will leachate buildup in the landfill that is supposed to be trucked across the access road to holding tanks be managed during this period? If the storm even that damaged the access road has also damaged the permanent or temporary drainage structures on the landfill – a quite likely scenario – how will repairs be undertaken to repair the landfill? The applicant does not seem to have considered the impact of failure of the access road or the potential results to their ability to maintain and repair the landfill should a failure of the access road occur.

SLOPE STABILITY CALCULATIONS

Q: Do the TCEQ rules require that an applicant address slope stability?

A: Yes. 30 TAC Section 330.305(e) requires that the surface water protection and control practices must provide long-term, low maintenance geotechnical stability to the final cover.

Q: In your opinion, have the sideslope swales been sufficiently considered in the slope s tability calculations contained within the application?

A: No. These sideslope swales and the resulting stormwater channels they created are not accounted for in this slope stability analysis; however, the sideslope swales, which are sloped at 2:1, constitute approximately 45% of the face of the land fill, there are over 37 miles of these berms / channels, at an estimated weight exceeding 800,000,000 pounds. The applicant's drawings that attempt to depict the landfill cross-section ignore these sideslope swales. Their analysis of the landfill slope stability likewise ignores the berms used to create these sideslope swales. Exhibit G, which is a true and correct copy of a cross-section of the landfill created by Bowman Consulting to demonstrate the landfill and slopes, which I developed to show graphically how much of the landfill face the berms that

create these swales consume. Exhibit H, which is a true and correct copy of the Drainage Structure Plan submitted with Application that includes notations by Tracy Bratton that Demonstrates location of the cross-section in Exhibit F, which I developed to show where on the landfill this cross-section is located.

Q: Where is the slope stability analysis set forth in the application?

A: The slope stability analysis is set forth in Attachment D to Part III of the application regarding Waste Management Unit Design. Particularly, in Appendix D5-B, which begins on page 77 of Applicant's Exhibit 130EP-3. Calculations for the slope stability of the sideslope composite final cover system are provided at page D5-B-15, which is page 92 of Applicant's Exhibig 130EP-3. Calculations for the slope stability of the final cover system are provided at page D5-B-16, which is page 93 of Applicant's Exhibit 130EP-3.

Q: Do these calculations depend on the thickness the soil cover?

A: Yes. The thickness is reflected in the "H" term within these calculations.

Q: What value did Applicant use for this term?

A: The applicant utilized a value of two feet.

Q: In light of the presence of the sideslope swales, was this value appropriate? Please Explain.

A: No. The slope stability analysis ignores the additional weight of these berms.

Q: What will be the slope of the sideslope swales?

A: The berms used to create the sideslope swales will have a 2:1 slope.

Q: How does this slope impact the potential for a localized slope failure of a sideslope swale?

A: As I mentioned in the general practice of engineering earthen slopes of 3:1 are normally assumed to be stable and not typically analyzed for slope stability. Slopes exceeding 3:1 require special consideration and it is generally accepted engineering practice that slopes

exceeding 3:1 require special consideration in terms of slope stability, establishment of vegetation, and long term maintenance.

Q: Has this slope been adequately considered in the slope stability analysis?

A: No. There is also no analysis provided that shows these diversion berms sloped at 2:1 perched on top of a landfill cover sloped at 4:1 are locally stable. In other words, no separate analysis is included of these berms to show that they are not subject to a localized slope stability failure.

Q: Is there a potential for these sideslope swales to be saturated by stormwater?

A: Yes. These swales function as stormwater conveyance structures, so there is a strong potential that the soil within the swales will be saturated at times.

Q: How will the berms to create these sideslope swales be constructed?

A: The application does not contain specifics of how these will be constructed. Of particular concern is the prospect that these berms may be constructed after the landfill cover. If these berms are built on top of the 4:1 slope with no special consideration, the plane between the landfill cover and the berm, in other words the joint where the original 4:1 cover and the berm meet, may become a pathway for water seepage and increased potential for slope failure along this plane.

Q: Has this potential for saturation been addressed in the slope stability calculations of the landfill cover?

A: No. I found no analysis in the application that addressed the potential for saturated soils on the landfill cover. High potential exists for the saturated soils along the plane between the landfill cover and berms that create the sideslope swales as well as under the sideslope swales themselves. Saturated soils conditions reduces the stability of soils and increases

the risk of slope failures.

Q: What measures are in place to remove water from the cover soils and prevent saturation?

A: Drawing C3-19 includes a typical detail of the sideslope swale. On this detail it shows a perforated drain pipe that will relieve water from the drainage layer between the landfill cover and the flexible membrane liner. The detail is not drawn to scale but includes a dimension of 10 feet from the flowline of the sideslope swale to the drain pipe. The detail misrepresents the relationship between the drain pipe and the flowline of the swale. In Exhibit F, which I created, this relationship is drawn to scale. The drain pipe is actually higher than the flowline of the sideslope swale. Therefore, any water infiltration from these sideslope swales will travel either along the joint between the berm and the landfill cover or through the landfill cover down gradient to the next drain pipe.

Q: Could you please summarize your concerns regarding the lack of consideration given to the sideslope swales in the stability analysis?

A: These berms warrant separate analysis of their slope stability since they are 1) very steep at 2:1, 2) subject to higher velocity concentrated stormwater flow at the upstream toe, 3) also subject to soil saturation of their upstream toe due to their function as stormwater conveyance structures, 3) no detail is provided as to how these berms will be constructed to ensure there is no a failure plane between the landfill cover and the berm, and 5) represent a large portion of the landfill face.

Q: Could the local failure of one of these sideslope swales have an impact on the potential failure of the larger sideslope?

A: Should one of the 2:1 sloped berms (that are only sized for the 25-year storm event) fail during a major flood event, the water and soil from that berm would cascade down to the

berm below it overwhelm it, causing it to fail. This series of failures could cascade down the face of the landfill taking a substantial portion of the landfill cover with it.

Q: In your opinion, has the applicant demonstrated that the sideslope swales can be constructed and maintained in a way that results in low maintenance geotechnical stability of the final cover?

A: No. There is no consideration of how the landfill operator will stabilize and vegetate the berms of these swales that are sloped at 2:1. The application lists a laundry list of erosion control techniques but does not provide for how or where these will be used. These techniques are not specific for extreme earthen slopes such as 2:1. Again, these constitute approximately 45% of the landfill face and a critical component of the landfill cover drainage system. Also, the Applicant has not addressed the challenges in establishing vegetative cover on those slopes with average rainfall in Central Texas or the frequent pattern of drought and flood known in the region.

Q: How would these climactic conditions in the area of the landfill impact the maintenance of these sideslope swales?

A: Slopes exceeding 3:1 need special consideration in establishing vegetation and maintenance. As an example, it is standard practice of the South Travis County Area Office of TxDOT to use vegetative mats on all newly constructed ditches (normally constructed with slopes ranging from 3:1 to 6:1) to aid in establishment of vegetation and protect the flowline of ditches from erosion. This is because this region frequently experiences extended periods without rain, leading to severe challenges in establishing vegetative cover and causing the newly established vegetative cover to die if you do get it established. These periods of drought are frequently ended with periods of intense rainfall causing erosion of

the ditch flow lines and deep rills in the roadside slopes. In addition, it is also common practice to provide concrete riprap armoring of slopes exceeding 3:1 because of the difficulties mowing these slopes.

The landfill has still greater challenges in establishing vegetative cover. The soil loss calculations consider only clay and use assumptions in the soil loss analysis appropriate for clay materials. Vegetation cannot effectively be established in clay materials. Establishment of vegetation requires topsoils with adequate organic content. So if the parameters used in the soil loss analysis are correct, there will be no topsoil and vegetation will be very difficult to impossible to establish. If there will be topsoil placed on the landfill, the soil loss calculations are in error because the K values used in calculating soil loss are not appropriate for topsoil.

Q: So would you describe the proposed final cover as low maintenance?

A: No. Quite the opposite. The combination of steep, long slopes will create a high maintenance cover that will likely require permanent irrigation to have a chance of maintaining adequate vegetation on the 2:1 slopes to protect them from erosion. To make matters more challenging, this is not a small proportion of the landfill face. On Exhibit F you can see that at this location, which is about average for the landfill sideslopes, there are 16 of these diversion berms sloped at 2:1. Each one is over approximately 18.6-feet long (longer if they are built any higher than the absolute minimum specified in the application). That means that over 297-feet of this 637-foot sideslope is actually diversion berms. These areas sloped at 2:1 make up approximately 45% of the landfill face and the flow area of the sideslope swales constitute approximately 15% of the landfill face. Combined over half of the landfill face is either so steep that establishment of vegetation

will be an extreme challenge or subject to higher velocity channelized flow and erosion potential than considered in the soil loss calculations.

SOIL LOSS CALCULATIONS

Q: Do the TCEQ rules contain requirements related to Soil Loss at a landfill?

A: Yes. According to Section 330.305(d) of the TCEQ rules, the landfill design must provide effective erosional stability to top dome surfaces and external embankment side slopes during all phases of landfill operation, closure, and post closure. Also, 330.305(e) provides that embankments, drainage structures, and diversion channels must be sized and graded to handle the design runoff. This rule specifically provides that the sides and toe of the landfill will be graded in a manner to minimize the potential for erosion. Also, the surface water protection and erosion control practices at a landfill must maintain low non-erodible velocities for stormwater, minimize soil erosion losses below permissible levels, and provide long-term, low maintenance geotechnical stability to the final cover.

Q: In your opinion, has the applicant demonstrated compliance with these regulatory requirements?

A: No.

Q: Where does the application seek to address these issues?

A: Within the Facility Surface Water Drainage Report, at Part 6, the Applicant describe its plans for erosion and sedimentation control. This begins at page C1-11 of Attachment C to Part III of the application, which is page 65 of Applicant's Exhibit 130EP-2.

Q: In your opinion, are there any flaws in the analysis set forth here.

A: Yes. The Applicant has ignored the sideslope swales in their soil loss calculations and slope stability calculations. Thus, the erosion layer thickness of 24 inches has not been

demonstrated to be sufficient.

Q: What do you mean by "Sideslope Swale"?

A: In the drainage Structure Plan, illustrated in Drawing C3-1, at page 449 of Applicant's Exhibit 130EP-2, shows that the sides of the landfill will include numerous swales intended to divert stormwater. As shown on that page3, the design calls for approximately 12 or more of these swales that will encircle the sides of the proposed landfill. The typical dimensions of these sideslope swales are shown in Drawing C3-19, which is page 467 of Exhibit 130EP-2. As shown on this figure, each swale will be two feet in height above the landfill cover.

Q: Does the application contain calculations specifically evaluating erosional stability?

A: Yes. The application contains an erosion layer evaluation for the final cover, beginning at page C1-E-5 of the application, which is page 184 of Applicant's Exhibit 130EP-2.

Q: Please explain how applicant's decision to ignore side slope swales relates to the calculations set forth in this erosion layer evaluation?

A: The soil loss calculations do not analyze potential for concentrated erosion resulting from channelized water flow in the stormwater diversion channels created by the diversion berms. There is the potential for significant, localized soil erosion from major storm events in these channels. Erosion along these channels could result in significant thinning of the landfill cover not considered in the application and the landfill's ability to comply with 330.305.

Q: Does the applicant's decision to ignore side slope diversion berms impact the Sheet Flow analysis set forth for the final cover at page C1-E-13 of the application, which begins at page 192 of Applicant's Exhibit 130EP-2. Please explain.

A: Yes, ignoring the sideslope diversion berms changes the calculations of sheet flow velocity. The applicant has calculated sheet flow velocity for two scenarios. One scenario is for the top slope at 6% and longest run of 275-feet and another from a slope of 25% (a.k.a. 4:1) and a longest run of 80-feet. In fact, there is a third scenario for the diversion berms not represented.

Q: Does this mistake also impact Applicant's analysis of these issues for intermediate cover? Please explain?

A: Yes, the soil loss and associated calculations for the intermediate cover also ignore the high proportion of the landfill sides that are sloped at 2:1 and the potential for higher erosion in the flow line of the temporary sideslope swales.

Q: So, could you please summarize your opinions as they regard Applicant's consideration of erosion?

A: The soil loss calculations do not analyze potential for concentrated erosion resulting from channelized water flow in the stormwater diversion channels created by the diversion berms. There is the potential for significant, localized soil erosion from major storm events in these channels. Erosion along these channels could result in significant thinning of the landfill cover not considered in the application and the landfill's ability to comply with 30 TAC Section 305.

DRAINAGE CONTROL

Q: Does the Applicant's drainage control plan adequately address the potential drainage occurring during interim conditions?

A: No. As an example, if you compare the plan for Cell 6 Development on Drawing IIA.19 of the application with the Drainage Structure Plan on Drawing C3-1 you will see that the

Drainage Structure Plan is directing water over the of the working face of the landfill during construction of Cell 6. The stormwater is being directed toward the working face of Cell 10. If not properly addressed this has the potential to introduce large amounts of stormwater in to the landfill. The application in Appendix C1-F and C1-G of Part III, Attachment C1 provides generalized methods of how interim drainage will be handled with an example for Intermediate Cover Erosion Features on Drawing C1-F-1. However, the information provided does not address the apparent conflict in stormwater management above nor does it prove that the methods outlined are sufficient to deal with all phases of landfill construction.

IMPACT ON RESERVOIR 21

Q: Are there any artificial water features already within the property boundaries of the facility?

A: Yes, Soil Conservation Service Site 21 Reservoir is already present within the property boundaries of the facility.

Q: Is the proposed landfill within the drainage basin of this reservoir?

A: Yes.

Q: Is this reservoir in need of upgrades?

A: Yes. This reservoir is classified as "High Hazard". A dam being classified as high hazard means that failure or mis-operation of the dam is expected to result in the loss of human life. In the Dam Assessment Report dated October 8, 2010 the reservoir was found to be in need of substantial improvements. The improvements are required to make the reservoir compliant with performance and safety standards for high hazard dams. The scope of improvements include major changes to the dam and spillway.

Q: What would be the consequences if the dam at this reservoir breached?

A: The Dam Safety Report prepared by M&E Consultants for the NRCS in October of 2010 states that the flood wave from failure of the Site 21 site is estimated to be 21-feet high and threatens 26 homes (assuming 3 persons for household that equates to 78 lives at risk), three Farm-to-Market roads and three county roads (these roads are described as having a combined daily vehicle count exceeding 6,000 in 2010). This assessment of risk is from 2010; the estimated number of lives and vehicles threatened would be higher if the risk were analyzed today.

Q: In your opinion, does the design of the landfill create a risk that the dam at this reservoir will be breached?

A: Yes. As discussed above, the applicant has ignored excessively steep sideslopes of 2:1 over 20% of the landfill, not shown a method of stabilizing those 2:1 slopes longterm, uses those berms constructed at 2:1 to direct channelized stormwater around the landfill (without considering possible erosion of these steep berms or the drainage channels) to detention ponds that are perched at the edge of a floodplain adjacent to a large high hazard reservoir that has been deemed by local and federal authorities to be deficient and in need of substantial upgrades. Should one of the 2:1 sloped berms (that are only sized for the 25-year storm event) fail during a major flood event, the water and soil from that berm would cascade down to the berm below it overwhelm it, causing it to fail… this series of failures could cascade down the face of the landfill taking a substantial portion of the landfill cover with it. All of this stormwater, soil, and debris would end up in one of the detention ponds where the soil and debris would interfere with the operation of pond outlet structure. This along with the sudden introduction of large volumes of water and soil in to the pond could cause the pond to breach – sending large volumes of soil, water and debris in to the Site 21

Reservoir. Since all of these diversion berms are sized and constructed the same, it is likely that if one location fails, multiple locations will fail about the same time. So the potential exists for failure of all of the site detention ponds in the same storm event. The effect of Site 21 of receiving a sudden surge of water and debris during a major flood event has not been studied or considered by the applicant. Such an event would increase the risk of loss of life and structures downstream of Site 21.

CUMULATIVE IMPACT OF DEFICIENCIES

Q: What is your biggest concerns about the landfill application as it is proposed?

A: The applicant considers various parts of the landfill in isolation and does not appear to recognize the site specific conditions that pose a risk. While a certain engineering calculation may have a commonly accepted factor of safety or multiple accepted parameters, an engineer has a responsibility to look at the whole system they are designing and consider if that factor of safety is appropriate. The combination of multiple, oversimplifications, lack of detail, or incorrect analysis in this application combine together to cause elevated risk to human health and the environment that are unique to this site and the aggressive footprint and height of the proposed landfill.

In all situations it is incumbent upon the owner and design engineer consider how all of portions of their design (temporary stormwater management, permanent stormwater management, cover slope, long term erosion protection, design of channels and ponds, modeling of the floodplain, condition of the downstream dam) work together to affect one another. With a high hazard dam immediately adjacent to the site that is documented to be in need of major upgrades and threaten structures and lives, it is my opinion that the applicant and engineer in responsible charge of the overall design must ensure that their

design does not result in an increased level of risk. The design of the 130 Environmental Park fails to demonstrate that the applicant has considered the effect of their project in the event of a failure on the downstream reservoir or the threat this reservoir poses to safety or the environment.

CONCLUSION

Q: Does this conclude your testimony?

A: Yes, although I reserve the right to supplement this testimony.

EXHIBIT A

Bowman
CONSULTING

Tracy A. Bratton, PE

Professional Education
- B.S., Civil Engineering, University of Texas, May 1997

Professional Registrations
- Professional Engineer: State of Texas, No. 90095

TXDOT Pre Certifications
- 1.5.1 Feasibility Studies
- 2.5.1 Water Pollution Abatement Plan
- 3.1.1 Route Studies & Schematic Design – Minor Roadway
- 3.2.1 Route Studies & Schematic Design – Major Roadway
- 4.1.1 Minor Roadway Design
- 4.2.1 Major Roadway Design
- 8.1.1 Signing, Pavement Marking and Channelization
- 10.2.1 Basic Hydraulic Design

Professional Associations
- Lower Colorado River Authority (LCRA) Mid-Basin Regional Council
- LCRA Water Quality Advisory Committee
- Board of Directors, Maverick Improvement District
- Hays County Municipal Utility District No. 6, Engineer
- Board of Trustees, Calvary Episcopal School
- Johnson Ranch Municipal Utility District, District Engineer

Past Professional Associations
- Hays County Development Regulations – Charrette to review draft regulations and recommend improvements
- Cypress Creek Project – Technical Advisory Committee on Water Quality
- City of Dripping Springs Water Quality – Technical Committee (Reviewed impacts and revisions to City's Water Quality Ordinance)

Mr. Bratton has 18 years of broad-based project management and technical experience. This experience ranges from public infrastructure projects for cities and counties to residential and commercial land development and land entitlement. He has extensive background coordinating the interest of varied stakeholders, including clients, regulatory/reviewing entities, and the public to successfully achieve the project goals.

Regulatory Projects
- Dripping Springs Water Quality Ordinance: Mr. Bratton served on the technical review committee to provide input on the engineering feasibility, costs, and impact to the develop-ability of commercial and residential property of recently adopted water quality ordinance and recommend updates to the regulations.
- Hays County: Mr. Bratton participated in review of county subdivision updates in Hays County at the request of Commissioner Will Conley to bring his bal¬anced perspective of environmental protection and property rights knowledge to their ordinance update process.
- Cypress Creek Watershed Protection Plan: Mr. Bratton was a member of the Technical Advisory Committee for the preparation of a watershed protection plan for Cypress Creek and the protection water quality in the vicinity of Jacobs Well and the Village of Wimberley.
- Caldwell County: Mr. Bratton was the primary author of updated, holistic development regulations for Caldwell County. This project included numerous public meetings and workshop sessions with Caldwell County Commissioners and residents. He has also served as the County's consulting engineer for the review and approval of floodplain, subdivision and construction permits.
- Bastrop County: Mr. Bratton is contracted by Bastrop County to perform floodplain, subdivision, and construction permit reviews on an on-call basis.

Hazardous Waste and Remedition
Mr. Bratton has served as design engineer and project manager for numerous projects that involved remediation or removal of hazardous materials. In his experience on these projects, he has gained an understand as to the importance of project communications and documentation as well as extensive experience interacting with the public on highly volatile and emotionally charged issues.

Example Projects
- Highway Expansion PCB Removal and Remediation, Confidential Client, Alabama, Project Designer
- Wastewater Treatment Plant PCB Remediation, Confidential Client, Alabama, Project Manager
- Bio-Cell Design for Diesel Remediation, ARCO Pipeline Company, Shawnee, OK, Project Manager
- Brio Superfund Site Remedial Design, Brio Site Task Force, Houston, TX, Design Enigineer
- Anniston RCRA Landfill Cap Repair, Solutia, Anniston, AL, Project Engineer

EXHIBIT B

This simplification is based on the following assumptions:

- shallow steady uniform flow
- constant rainfall excess intensity (that part of a rain available for runoff) both temporally and spatially
- 2-year, 24-hour rainfall assuming standard NRCS rainfall intensity-duration relations apply (Types I, II, and III)
- minor effect of infiltration on travel time

For sheet flow, the roughness coefficient includes the effects of roughness and the effects of raindrop impact including drag over the surface; obstacles such as litter, crop ridges, and rocks; and erosion and transport of sediment. These n values are only applicable for flow depths of approximately 0.1 foot or less, where sheet flow occurs. Table 15–1 gives roughness coefficient values for sheet flow for various surface conditions.

Kibler and Aron (1982) and others indicated the maximum sheet flow length is less than 100 feet. To support the sheet flow limit of 100 feet, Merkel (2001) reviewed a number of technical papers on sheet flow. McCuen and Spiess (1995) indicated that use of flow length as the limiting variable in the equation 15–8 could lead to less accurate designs, and proposed that the limitation should instead be based on:

$$\ell = \frac{100\sqrt{S}}{n} \qquad \text{(eq. 15–9)}$$

Table 15–2 Maximum sheet flow lengths using the McCuen-Spiess limitation criterion

Cover type	*n* values	Slope (ft/ft)	Length (ft)
Range	0.13	0.01	77
Grass	0.41	0.01	24
Woods	0.80	0.01	12.5
Range	0.13	0.05	172
Grass	0.41	0.05	55
Woods	0.80	0.05	28

where:
n = Manning's roughness coefficient
ℓ = limiting length of flow, ft
S = slope, ft/ft

Table 15–2 provides maximum sheet flow lengths based on the McCuen-Spiess limiting criteria for various cover type—n value—slope combinations.

Shallow concentrated flow—After approximately 100 feet, sheet flow usually becomes shallow concentrated flow collecting in swales, small rills, and gullies. Shallow concentrated flow is assumed not to have a well-defined channel and has flow depths of 0.1 to 0.5 feet. It is assumed that shallow concentrated flow can be represented by one of seven flow types. The curves in figure 15–4 were used to develop the information in table 15–3.

To estimate shallow concentrated flow travel time, velocities are developed using figure 15–4, in which average velocity is a function of watercourse slope and type of channel (Kent 1964). For slopes less than 0.005 foot per foot, the equations in table 15–3 may be used.

After estimating average velocity using figure 15–4, use equation 15–1 to estimate travel time for the shallow concentrated flow segment.

Open channel flow— Shallow concentrated flow is assumed to occur after sheet flow ends at shallow depths of 0.1 to 0.5 feet. Beyond that channel flow is assumed to occur. Open channels are assumed to begin where surveyed cross-sectional information has been obtained, where channels are visible on aerial photographs, or where bluelines (indicating streams) appear on U.S. Geological Survey (USGS) quadrangle sheets.

Manning's equation or water surface profile information can be used to estimate average flow velocity. Average flow velocity is usually determined for the bankfull elevation.

Manning's equation is:

$$V = \frac{1.49 r^{\frac{2}{3}} s^{\frac{1}{2}}}{n} \qquad \text{(eq. 15–10)}$$

EXHIBIT C

Project: 130 Environmental Park Simulation Run: 100yr 10day (smoothed)

Start of Run: 01Jan2013, 00:00 Basin Model: Existing
End of Run: 13Jan2013, 00:00 Meteorologic Model: 100 yr 10 day (smooth
Compute Time: 01Dec2014, 20:49:38 Control Specifications: 12 days

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
DC-1	0.08	204.6	06Jan2013, 00:41	64.1
DC-2	0.64	1979.5	06Jan2013, 00:32	527.5
DC-3	0.51	984.5	06Jan2013, 00:59	388.7
DC-4	0.23	626.3	06Jan2013, 00:36	175.3
DC-5	4.54	5636.8	06Jan2013, 01:51	3532.9
Dry Creek	4.77	5755.1	06Jan2013, 01:50	3708.1
Dry Creek @ 1185	8.81	2391.0	06Jan2013, 04:42	4920.2
Dry Creek Junction	4.77	5755.2	06Jan2013, 01:49	3708.1
Mid Junction	2.13	3195.4	06Jan2013, 01:14	1654.0
North Junction	1.27	2065.7	06Jan2013, 01:04	981.9
Reach-2.0	2.56	3707.4	06Jan2013, 01:25	1993.4
Reach-2.1	2.13	3194.2	06Jan2013, 01:25	1654.0
Reach 2.2	1.27	2064.7	06Jan2013, 01:13	981.9
Site 21	8.73	2378.6	06Jan2013, 04:42	4856.1
South Junction	2.56	3708.0	06Jan2013, 01:21	1993.4
TE-1	0.19	474.5	06Jan2013, 00:41	146.3
TF-1	0.53	1240.9	06Jan2013, 00:46	420.8
Trib E @ 1185	0.19	474.5	06Jan2013, 00:41	146.3
Trib F @ 1185	0.53	1240.9	06Jan2013, 00:46	420.8
UNT-1	0.25	887.2	06Jan2013, 00:27	216.9
UNT-2	0.21	374.1	06Jan2013, 01:09	169.9
UNT-3	0.22	685.9	06Jan2013, 00:30	169.4
UNT-4	0.16	519.8	06Jan2013, 00:28	121.9
UNT-5	0.70	1033.4	06Jan2013, 01:28	550.2
UNT-6	0.47	1009.3	06Jan2013, 00:52	365.7
UNT-7	0.80	1218.3	06Jan2013, 01:23	616.1

EXHIBIT D

Project: 130 Environmental Park (Rev Simulation Run: 100yr 10day (smoothed)

Start of Run: 01Jan2013, 00:00 Basin Model: Existing
End of Run: 13Jan2013, 00:00 Meteorologic Model: 100 yr 10 day (smooth
Compute Time: 19Feb2015, 13:38:28 Control Specifications: 12 days

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
DC-5	4.541	6146.6	06Jan2013, 01:38	14.591
DC-4	0.233	738.7	06Jan2013, 00:29	14.289
Dry Creek Junction	4.774	6263.2	06Jan2013, 01:37	14.576
Dry Creek	4.774	6262.8	06Jan2013, 01:39	14.576
UNT-7	0.798	1352.2	06Jan2013, 01:11	14.441
UNT-6	0.469	1178.9	06Jan2013, 00:41	14.591
North Junction	1.267	2289.4	06Jan2013, 00:52	14.496
Reach 2.2	1.267	2288.7	06Jan2013, 00:59	14.496
UNT-5	0.702	1286.0	06Jan2013, 01:05	14.739
UNT-4	0.159	492.4	06Jan2013, 00:30	14.289
Mid Junction	2.128	3790.7	06Jan2013, 00:58	14.561
Reach-2.1	2.128	3788.5	06Jan2013, 01:06	14.560
UNT-3	0.222	676.4	06Jan2013, 00:31	14.441
UNT-2	0.210	374.1	06Jan2013, 01:09	15.174
South Junction	2.560	4442.5	06Jan2013, 01:03	14.600
Reach-2.0	2.560	4441.3	06Jan2013, 01:06	14.601
DC-2	0.639	2117.0	06Jan2013, 00:29	15.455
DC-3	0.510	1311.3	06Jan2013, 00:39	14.289
UNT-1	0.253	815.9	06Jan2013, 00:31	16.265
Site 21	8.736	2406.5	06Jan2013, 04:19	10.439
DC-1	0.078	207.0	06Jan2013, 00:38	14.591
Dry Creek @ 1185	8.814	2419.3	06Jan2013, 04:18	10.476
TE-1	0.192	463.4	06Jan2013, 00:44	14.441
Trib E @ 1185	0.192	463.4	06Jan2013, 00:44	14.441
TF-1	0.527	1500.8	06Jan2013, 00:35	14.885
Trib F @ 1185	0.527	1500.8	06Jan2013, 00:35	14.885

EXHIBIT E

0 1200 2400
SCALE IN FEET

LEGEND

PROPERTY BOUNDARY
FACILITY BOUNDARY
DRAINAGE AREA
PRIMARY REACH

DRAINAGE AREA CHART

DA	AREA (ac.)
UNT-1	161.82
UNT-2	134.66
UNT-3	141.81
UNT-4	448.48
UNT-5	913.94
DC-1	884.64
DC-1	2905.38

NOTES:

1. CONTOURS AND ELEVATIONS WITHIN THE PROPERTY BOUNDARY PROVIDED BY DALLAS AERIAL SERVICE FROM AERIAL PHOTOGRAPHY FLOWN MAY 13, 2013. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83). ELEVATIONS ARE RELATIVE TO NAVD88 - GEOID 12A.
2. ROADWAYS IN THE IMMEDIATE VICINITY OF THE SITE TAKEN FROM TNRIS AERIAL PHOTOGRAPHY FLOWN JUNE 11, 2012. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).
3. CONTOURS AND ELEVATIONS OUTSIDE THE PROPERTY BOUNDARY PROVIDED BY CAPCOG. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).

11-6-14

STATE OF TEXAS
T. Traw
103797
LICENSED
PROFESSIONAL ENGINEER

ISSUED FOR PERMITTING PURPOSES ONLY

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
—	10/28/14	TECHNICALLY COMPLETE	MNG	TLT	TLT	TLT

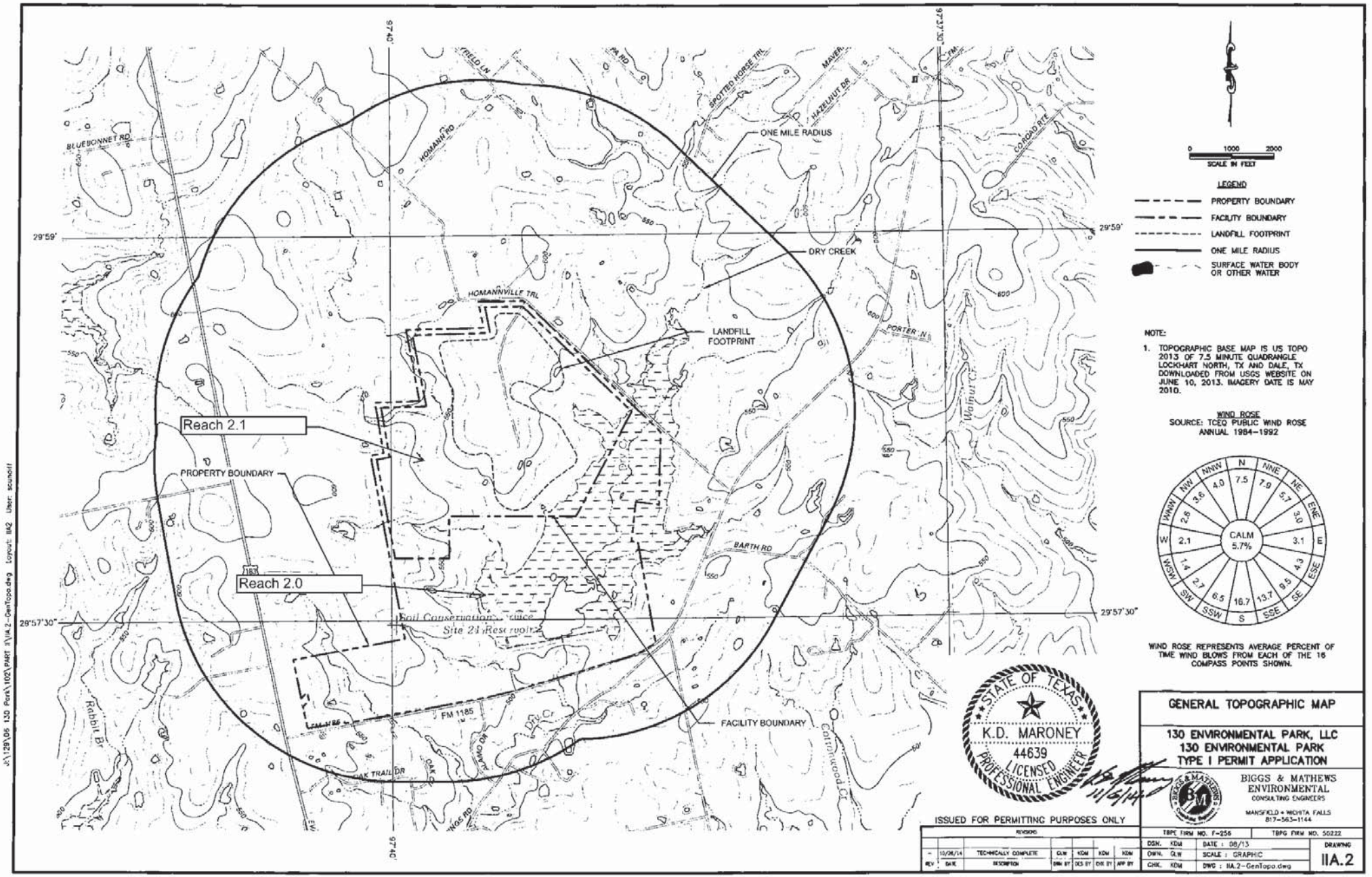
EXISTING CONDITIONS DRAINAGE AREAS

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144

TBPE FIRM NO. F-256 & F-834 | TBPG FIRM NO. 50222

DSN. TLT | DATE : 2/14 | DRAWING
DWN. MNG | SCALE : GRAPHIC | C2-A-2
CHK. TLT | DWG : FS PM EXIST.DWG



GENERAL TOPOGRAPHIC MAP

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144
TBPE FIRM NO. F-256 TBPG FIRM NO. 50222

REV	DATE	DESCRIPTION	DRN BY	DES BY	CHK BY	APP BY
–	10/28/14	TECHNICALLY COMPLETE	GLW	KDM	KDM	KDM

DSN. KDM DATE : 08/13
DWN. GLW SCALE : GRAPHIC
CHK. KDM DWG : IIA.2-GenTopo.dwg

DRAWING IIA.2

J:\129\06 130 Park\102\PART II\IIA.2-GenTopo.dwg Layout: IIA2 User: scunoff

EXHIBIT F

130 ENVIRONMENTAL PARK
CALDWELL COUNTY, TEXAS
TCEQ PERMIT APPLICATION NO. MSW 2383

TYPE I PERMIT APPLICATION

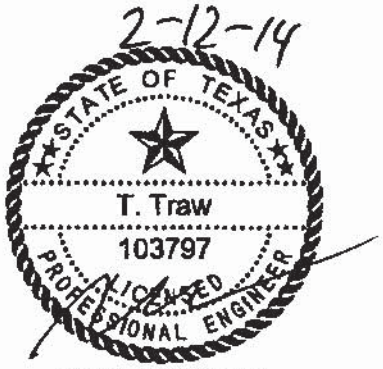
PART III – FACILITY INVESTIGATION AND DESIGN

ATTACHMENT C2
FLOOD CONTROL ANALYSIS

Prepared for

130 ENVIRONMENTAL PARK, LLC

February 2014



Biggs & Mathews, Inc.
Firm Registration No. F-834

Prepared by

BIGGS & MATHEWS ENVIRONMENTAL
1700 Robert Road, Suite 100 • Mansfield, Texas 76063 • 817-563-1144

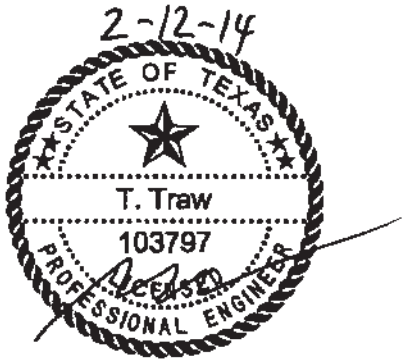
TEXAS BOARD OF PROFESSIONAL ENGINEERS
FIRM REGISTRATION NO. F-256

TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS
FIRM REGISTRATION NO. 50222

And

BIGGS & MATHEWS, INC.
2500 Brook Avenue • Wichita Falls, Texas 76301 • 940-766-0156

TEXAS BOARD OF PROFESSIONAL ENGINEERS
FIRM REGISTRATION NO. F-834



Biggs & Mathews, Inc.
Firm Registration No. F-834

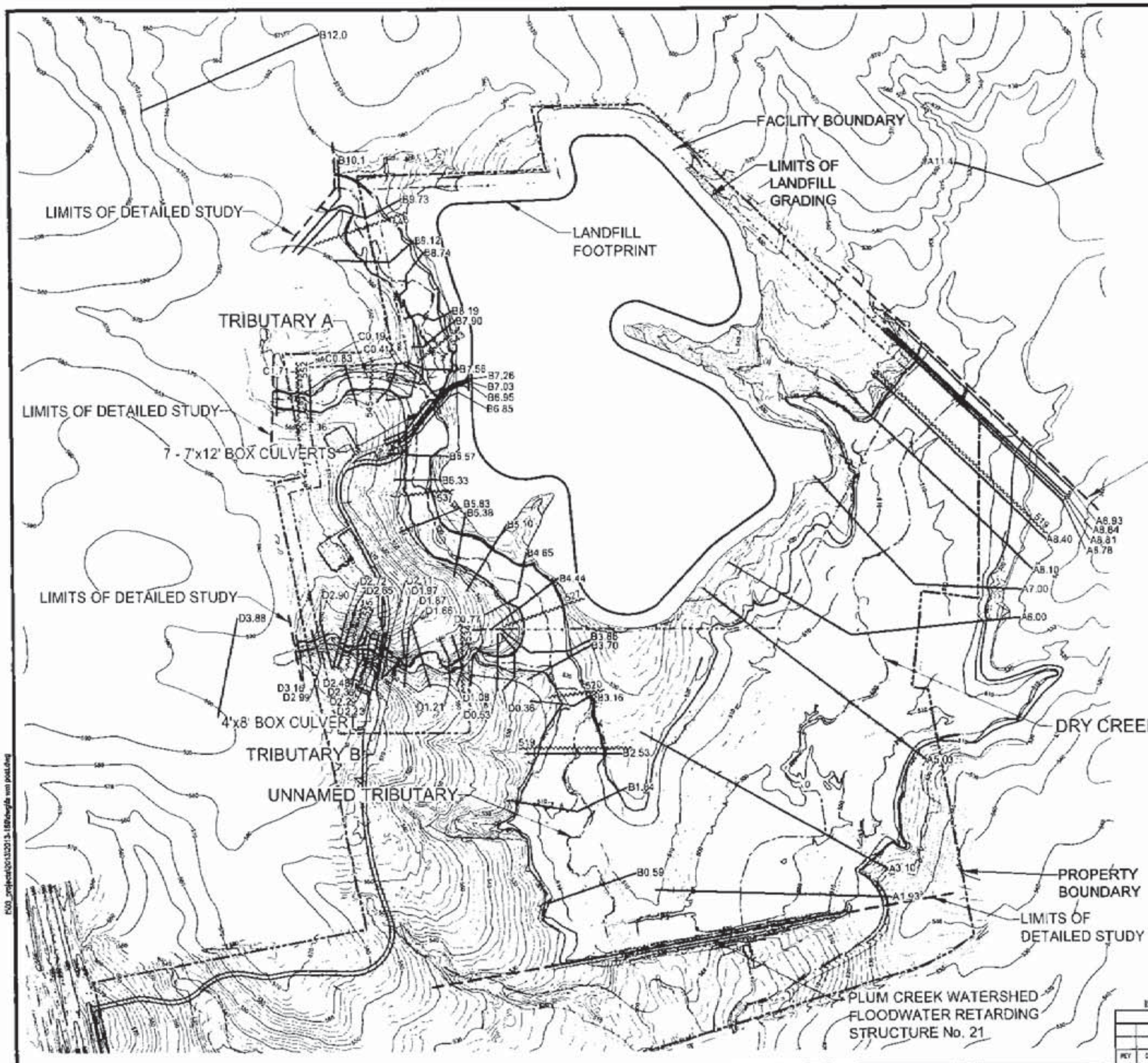
CONTENTS

5 POSTDEVELOPMENT CONDITIONS

The postdeveloped conditions modeling reflect lower peak discharges than were identified in the existing conditions hydrologic model. The peak discharges in the condition are less than those in the existing condition as identified in Part III Attachment C1 of this application.

The changes to the postdeveloped conditions model are limited to changes to the channel and floodplain geometry immediately upstream and downstream of where the proposed entrance road crosses the Unnamed Tributary and Tributary B. At the Unnamed Tributary crossing, 7 box culverts (7'H x 12'W) carry both the 100 and 25 year events without overtopping the entrance road. At the Tributary A crossing, a box culvert (4'H x 8'W) carries the 25 year event without overtopping the road, while the 100 year event overtops. In both locations, the culverts result in slight increases in the upstream water surface elevations. However, these increases terminate within the property boundary at cross-sections B8.74 and D2.72.

There is no access road crossing of Tributary A identified in documents submitted to TCEQ or Caldwell County. This is likely a typo and should refer to a single 4x8 culvert at the Tributary B crossing.



0 500 1000
SCALE IN FEET

LEGEND

- LIMITS OF DETAILED STUDY
- STREAM CENTER LINE
- SECTION AND IDENTIFIER
- W.S.E. ELEVATION (FT)
- FEMA ZONE A
- 100 YR. FLOODPLAIN
- 25 YR. FLOODPLAIN
- LANDFILL FOOTPRINT

NOTES:

1. CONTOURS AND ELEVATIONS WITHIN THE PROPERTY BOUNDARY PROVIDED BY DALLAS AERIAL SERVICE FROM AERIAL PHOTOGRAPHY FLOWN MAY 13, 2013. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83). ELEVATIONS ARE RELATIVE TO NAVD88 - GEOID 12A.

2. ROADWAYS IN THE IMMEDIATE VICINITY OF THE SITE TAKEN FROM TNRIS AERIAL PHOTOGRAPHY FLOWN JUNE 11, 2012. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).

3. CONTOURS AND ELEVATIONS OUTSIDE THE PROPERTY BOUNDARY PROVIDED BY CAPCOG. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).

4. THE FEMA ZONE A LIMIT HAS BEEN COMPILED FROM FEMA FLOOD INSURANCE RATE MAPS (FIRM) OF CALDWELL COUNTY, TEXAS AND UNINCORPORATED AREAS COMMUNITY PANEL: 48055C1025E EFFECTIVE DATE: 6-19-2012

2-12-14
STATE OF TEXAS
T. Traw
103797
PROFESSIONAL ENGINEER

ISSUED FOR PERMITTING PURPOSES ONLY

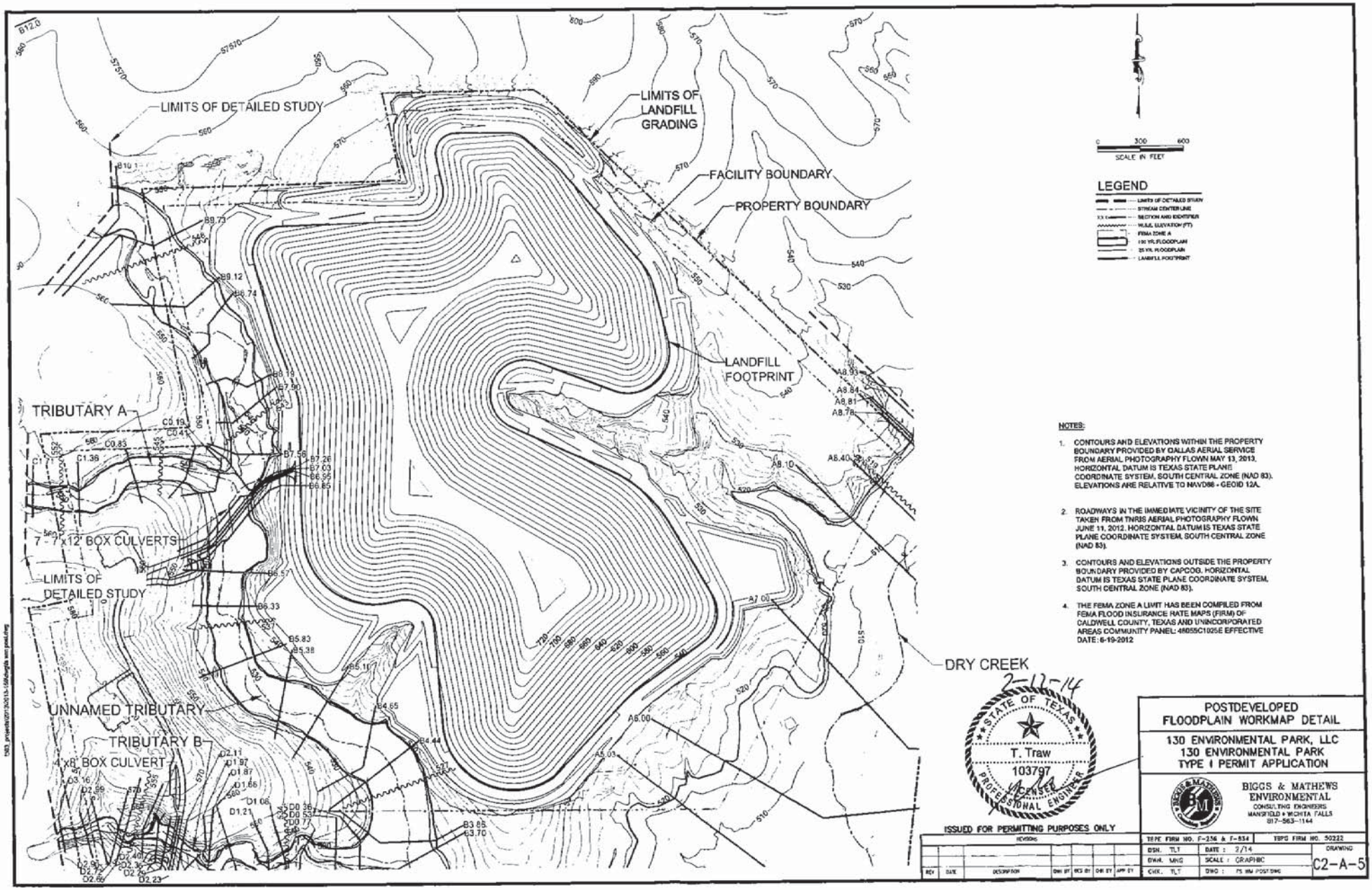
POSTDEVELOPED
FLOODPLAIN WORKMAP

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS
ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144

REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

TBPE FIRM NO. F-256 & F-834	TBPG FIRM NO. 50222	
DSN. TLT	DATE : 2/14	DRAWING
DWN. MNG	SCALE : GRAPHIC	C2-A-4
CHK. TLT	DWG : FS_wm_POST.DWG	



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2-12-14

STATE OF TEXAS
T. Traw
103797
LICENSED
PROFESSIONAL ENGINEER

ISSUED FOR PERMITTING PURPOSES ONLY

REVISIONS							
REV	DATE	DESCRIPTION	DRN BY	RCS BY	CHK BY	APP BY	

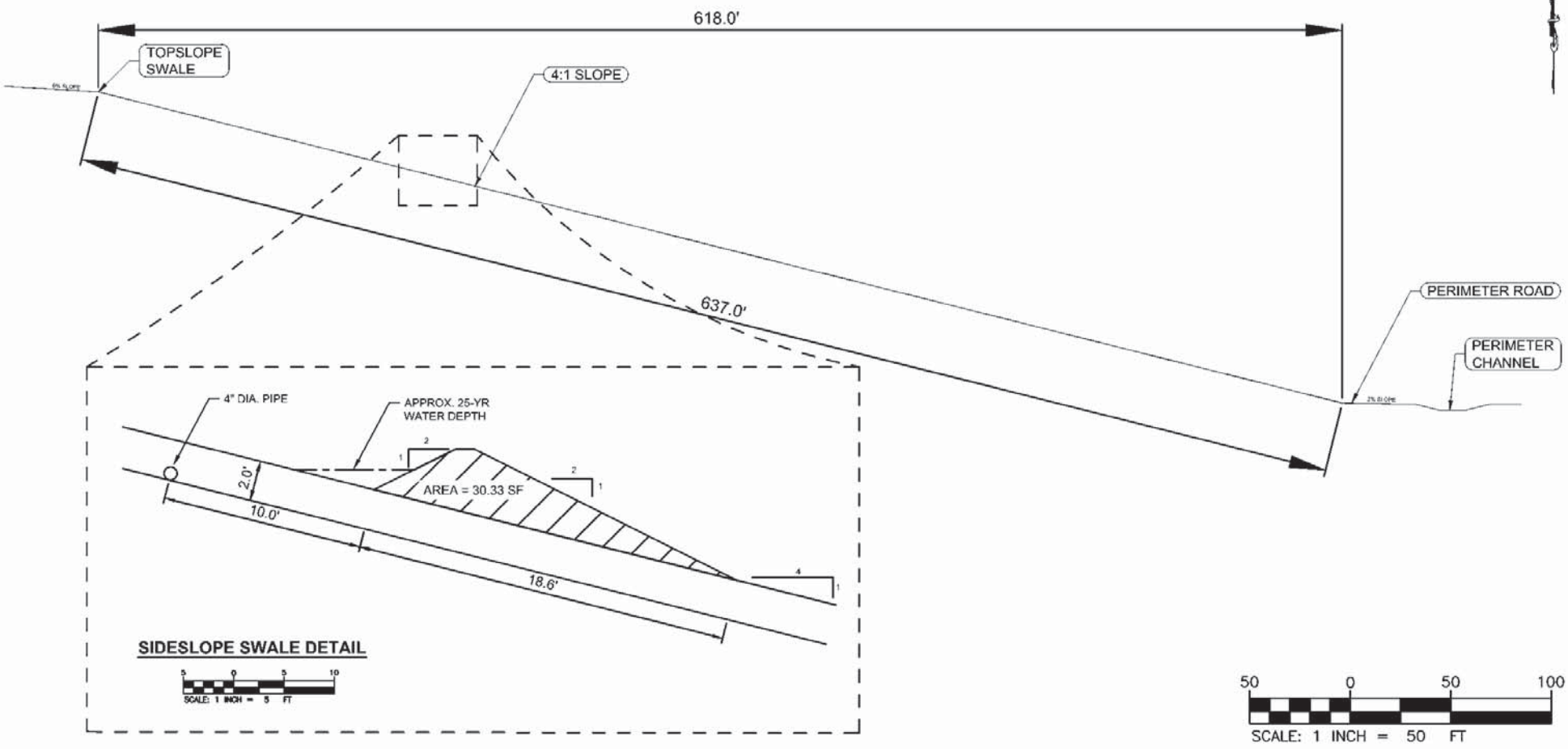
POSTDEVELOPED FLOODPLAIN WORKMAP DETAIL

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144

TBPE FIRM NO. F-256 & F-834		TBPS FIRM NO. 50222	
DSN. TLT	DATE : 2/14		DRAWING
DWN. MNG	SCALE : GRAPHIC		C2-A-5
CHK. TLT	DWG : TS WM POSTDNG		

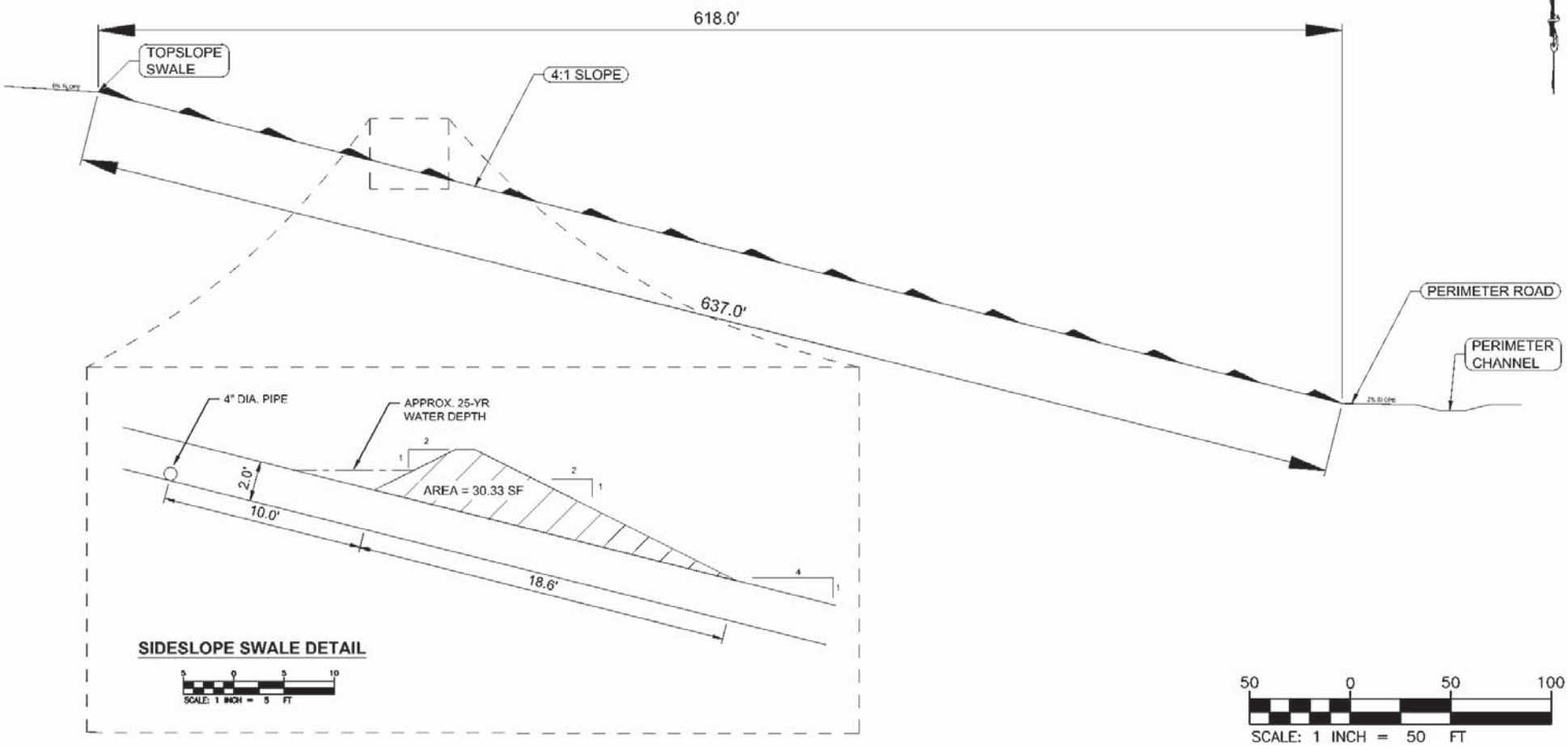
EXHIBIT G



130 ENVIRONMENTAL PARK
A-A SECTION OF LANDFILL WITH SIDESLOPE SWALES
JUNE 2016

Bowman CONSULTING
1120 S. Capital of Texas Hwy. • Building 3, Suite 220 • Austin, Texas 78746
Phone: (512) 327-1180 • Fax: (512) 327-4062 • www.bowmanconsulting.com

TBPE Firm Registration No. F 14309



130 ENVIRONMENTAL PARK
A-A SECTION OF LANDFILL WITH SIDESLOPE SWALES
JUNE 2016

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TBPE Firm Registration No. F 14309

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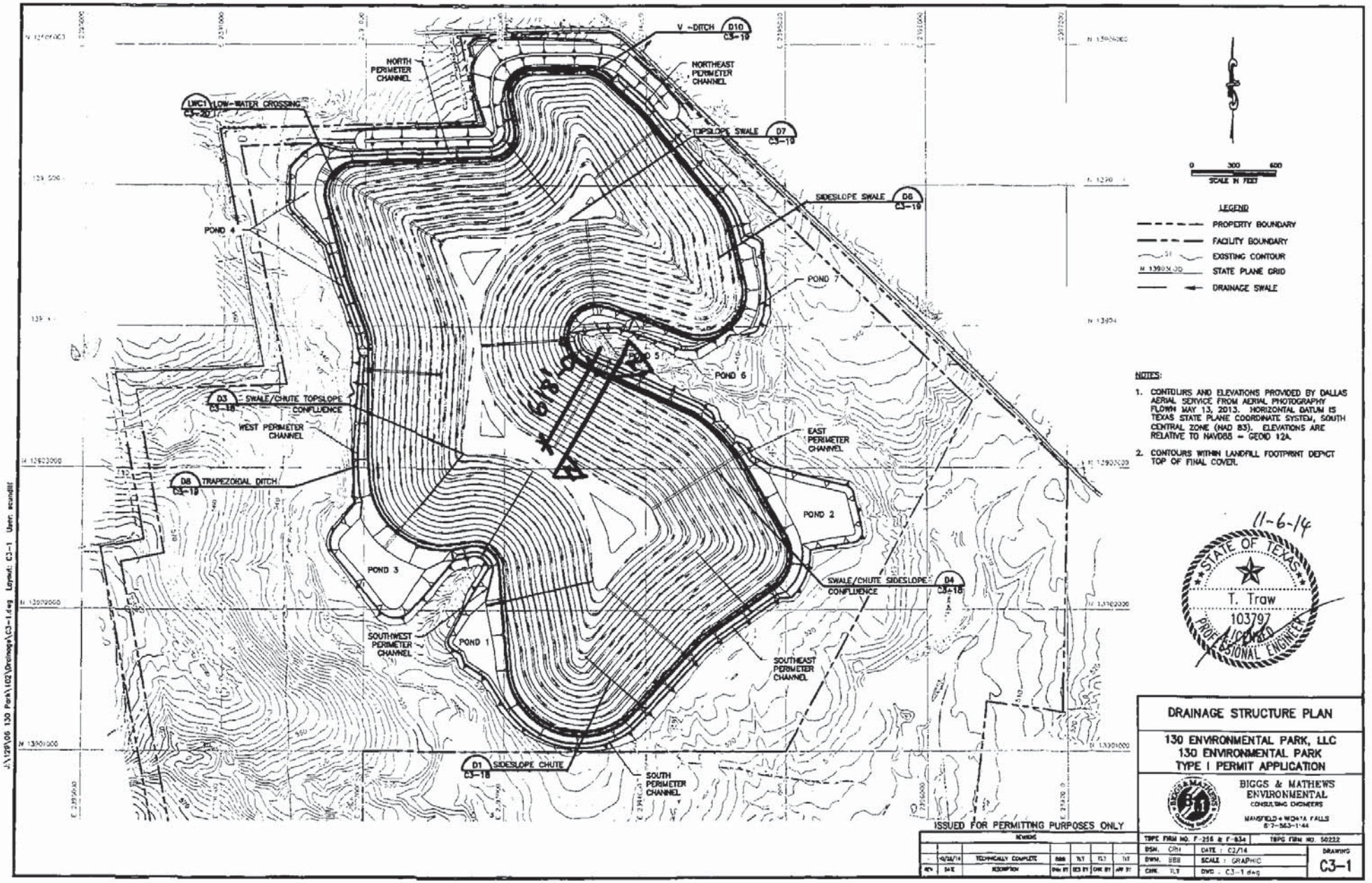
EXHIBIT H



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2. CONTOURS WITHIN LANDFILL FOOTPRINT DEPICT TOP OF FINAL COVER.

11-6-14

STATE OF TEXAS
T. Traw
103797
LICENSED
PROFESSIONAL ENGINEER

ISSUED FOR PERMITTING PURPOSES ONLY

NO.	DATE	REVISIONS DESCRIPTION	DRN BY	DES BY	CHK BY	APP BY
1	10/30/14	TECHNICALLY COMPLETE	BBB	TLT	TLT	TLT

DRAINAGE STRUCTURE PLAN

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144

TBPE FIRM NO. F-256 & F-834 | TBPG FIRM NO. 50222

DSN. CPH | DATE : 12/14
DWN. BBB | SCALE : GRAPHIC
CHK. TLT | DWG : C3-1.dwg

DRAWING C3-1

J:\129\06 130 Park\102\Drainage\C3-1.dwg Layout: C3-1 User: evanhill

Caldwell - 2

THE STATE OF TEXAS

COUNTY OF CALDWELL

I, CAROL HOLCOMB, Clerk of the County Court in and for Caldwell County, Texas
Do hereby certify that the above and foregoing are true and correct copies of
Commissioner Court Minutes.
Following instruments, to wit:

1. ORDER TO ADOPT ORDINANCE PROHIBITING SOLID WASTE DISPOSAL IN CALDWELL COUNTY.

2. RESOLUTION IN OPPOSITION TO THE APPLICATION BY "130 ENVIROMENTAL PARK" FOR MUNICIPAL SOLID WASTE LANDFILL PERMIT NO. 2383

TO CERTIFY WHICH, witness my hand and official seal of said Court, at my office, in the City of Lockhart, this the 18th day of March, 2015.

CAROL HOLCOMB
County Clerk,
Caldwell County, Texas

By Sharon Williams
Deputy Clerk

RESOLUTION IN OPPOSITION TO THE APPLICATION BY
"130 ENVIRONMENTAL PARK" FOR MUNICIPAL SOLID WASTE LANDFILL PERMIT
NO. 2383

WHEREAS, Caldwell County is a subdivision of the State of Texas;

WHEREAS, the Commissioners Court of Caldwell County, Texas, has a duty to its residents to ensure the health, safety, and welfare of its residents and the public at large;

WHEREAS, Section 121.003 of the Texas Health and Safety Code broadly authorize the Commissioners Court of Caldwell County to enforce any law that is reasonably necessary to protect the public health;

WHEREAS, the Commissioners Court has a duty to preserve and protect the natural resources of the County;

WHEREAS, the Commissioners Court recognizes that the Carrizo-Wilcox Aquifer is a major aquifer that serves as an important source of groundwater for residents of Caldwell County and supplies water for agricultural, rural residential, and commercial uses in Caldwell County, the City of Lockhart, and the City of Luling;

WHEREAS, the Commissioners Court recognizes that the Leona Formation provides an additional valuable source of groundwater and feeds numerous springs and seeps;

WHEREAS, the Commissioners Court recognizes that contaminants associated with municipal solid waste facilities have the possibility of creating risks of polluting groundwater and surface water if released;

WHEREAS, the proposed 130 Environmental Park landfill footprint would be located just west of Dry Creek, and surface water would drain towards Dry Creek;

WHEREAS, the application for the 130 Environmental Park landfill notes that alternative daily cover may be requested in the future;

WHEREAS, landfills may possibly generate a variety of nuisance conditions, including but not limited to odors, windblown waste, disease vectors, and scavenging animals, if the guidelines set forth by the Texas Commission on Environmental Quality (TCEQ) are not strictly met;

WHEREAS, Sections 251.003 and 251.014 of the Texas Transportation Code permit the Commissioners Court to make and enforce all necessary rules and orders for the construction, maintenance, and improvement of public roads and state highways;

WHEREAS, the Commissioners Court of Caldwell County may exercise general control over roads, highways, and bridges in the County pursuant to Texas Transportation Code Section 251.016;

WHEREAS, the proposed 130 Environmental Park solid waste landfill would likely generate substantial truck traffic and be located within 1,500 feet of the intersection of Highway 183 and FM 1185, a dangerous intersection within the County;

WHEREAS, the proposed landfill could eventually generate about 900 trips per day;

WHEREAS, the proposed location of the landfill is currently surrounded by rural residential uses and is home to numerous forms of wildlife;

WHEREAS, the proposed landfill presents an industrial use that is inconsistent with the existing uses in the area;

WHEREAS, the elevation of the proposed landfill is expected to eventually reach over 730 feet msl, or over 130 feet above surface, making it the tallest structure in this area of the County; and

WHEREAS, the Commissioners Court is of the opinion that the proposed location for the "130 Environmental Park" landfill is inconsistent with the protection of the County's natural resources and the current interests of its residents.

THEREFORE, BE IT RESOLVED that the Caldwell County Commissioners Court opposes the proposed 130 Environmental Park solid waste landfill.

PASSED AND APPROVED on the 23 day of Feb. 2015, by the Caldwell County Commissioners Court.

Ken Schawe
County Judge

Alfredo Mufioz
County Commissioner, Pct. 1

Joe Roland
County Commissioner, Pct. 4

Edward Moses
County Commissioner, Pct. 2

Attest:

Ernest Madrigal
County Commissioner, Pct. 3

Carol Holcomb
County Clerk

I, Carol Holcomb, County Clerk Caldwell County Texas, do hereby Certify that this is a true and correct copy as same appears of record in office. Witness my hand and seal of office on March 18, 2015
Carol Holcomb County Clerk
By Deputy: Sharon Williams

Sharon Williams **D- 0007**

Caldwell - 3

THE STATE OF TEXAS

COUNTY OF CALDWELL

I, CAROL HOLCOMB, Clerk of the County Court in and for Caldwell County, Texas
Do hereby certify that the above and foregoing are true and correct copies of
Commissioner Court Minutes.
Following instruments, to wit:

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TO CERTIFY WHICH, witness my hand and official seal of said Court, at my office, in the City of Lockhart, this the 18th day of March, 2015.

CAROL HOLCOMB
County Clerk,
Caldwell County, Texas

By Sharon Williams
Deputy Clerk

STATE OF TEXAS §
§
COUNTY OF CALDWELL §

ORDER TO ADOPT ORDINANCE PROHIBITING SOLID WASTE DISPOSAL IN CALDWELL COUNTY

WHEREAS, Section 363.112 of the Texas Health and Safety Code authorizes a county to prohibit the disposal of municipal or industrial solid waste in certain areas of the county; and

WHEREAS, Section 364.012 of the Texas Health and Safety Code authorizes a county to prohibit the disposal of municipal or industrial solid waste in the county if the disposal of the municipal or industrial solid waste is a threat to the public health, safety, and welfare; and

WHEREAS, the Commissioners Court of Caldwell County, Texas has the responsibility and the authority to take action to protect the public health, safety, and welfare; and

WHEREAS, the Commissioners Court of Caldwell County has determined that the Carrizo-Wilcox Aquifer is a major aquifer that serves as an important source of groundwater for residents of Caldwell County; and

WHEREAS, the Commissioners Court of Caldwell County recognizes that the Carrizo-Wilcox Aquifer supplies water for the City of Luling, City of Lockhart, and the Aqua Water Supply Corporation in Caldwell County; and

WHEREAS, the Commissioners Court of Caldwell County recognizes that the Carrizo-Wilcox Aquifer supplies water for agricultural irrigation and residential and commercial uses in Caldwell County; and

WHEREAS, the Commissioners Court of Caldwell County recognizes that the Leona Formation provides an additional valuable source of groundwater and feeds numerous springs and seeps, including those found in Lockhart State Park; and

WHEREAS, the Commissioners Court of Caldwell County recognizes that fresh water from the Leona Formation feeds the Carrizo-Wilcox Aquifer and may improve the water quality in that Aquifer, where the two formations are in close contact; and

WHEREAS, the disposal of municipal or industrial solid waste in landfills in Caldwell County could threaten the water and air quality, attract vermin, and result in the spread of refuse; and

WHEREAS, the location of landfills within Caldwell County could hamper economic development within the county and may negatively affect property values in the county; and

WHEREAS, citizens and property owners of Caldwell County oppose the location of landfills within the county; and

Caldwell Co.
Exhibit 1

WHEREAS, the Commissioners Court of Caldwell County finds that the disposal of municipal or industrial solid waste in the county is a threat to the public health, safety, and welfare; and

WHEREAS, the Commissioners Court of Caldwell County has determined the designation of County-owned property in Section III of the Ordinance will allow Caldwell County to better protect the public health, safety, and welfare by focusing its limited resources on County-owned property to monitor the use, condition, and hazards associated with municipal solid waste facilities under the County's inspection and enforcement authority delegated pursuant to Texas Water Code Chapter 7 and Texas Health and Safety Code Section 361.032; and

WHEREAS, an ordinance was proposed to prohibit the disposal of municipal or industrial solid waste in the Caldwell County as authorized by sections 363.112 and 364.012 of the Texas Health and Safety Code; and

WHEREAS, public hearing notices regarding the proposed ordinance were published in a newspaper of general circulation in the county for two consecutive weeks before the commissioners court considered this ordinance; and

WHEREAS, the public hearing notices included (1) the proposed ordinance prohibiting solid waste disposal in Caldwell County; (2) the time, place, and date that the Commissioners Court of Caldwell County was to consider the proposed ordinance; and (3) notice that an interested citizen of the county may testify at the hearing; and

WHEREAS, a public hearing on this ordinance was held on December 9, 2013 before the ordinance was considered by the commissioners court, and any interested citizen of the county was allowed to testify at the hearing; and

WHEREAS, the Commissioners Court of Caldwell County took action on this ordinance on December 9, 2013 at a public meeting noticed and held in accordance with the requirements of the Texas Open Meetings Act:

NOW, THEREFORE, BE IT ORDAINED BY THE COMMISSIONERS COURT OF CALDWELL COUNTY, TEXAS:

CALDWELL COUNTY SOLID WASTE DISPOSAL ORDINANCE

SECTION I: GENERAL PROVISIONS

This ordinance shall be designated as the Caldwell County Solid Waste Disposal Ordinance. The Commissioners Court of Caldwell County is authorized to enact this ordinance under chapters 363 and 364 of the Texas Health and Safety Code.

SECTION II: DEFINITIONS

Disposal: The discharge, deposit, injection, dumping, spilling, leaking, or placing of solid waste or hazardous waste, whether containerized or uncontainerized, into or on land or water so that the solid waste or hazardous waste or any constituent thereof may be

emitted into the air, discharged into surface water or groundwater, or introduced into the environment in any other manner.

Industrial Solid Waste: Solid waste resulting from or incidental to a process of industry or manufacturing, or mining or agricultural operations.

Municipal Solid Waste: Solid waste resulting from or incidental to municipal, community, commercial, institutional, or recreational activities, including garbage, rubbish, ashes, street cleanings, dead animals, abandoned automobiles, and other solid waste other than industrial solid waste.

Processing: Activities including, but not limited to, extraction of materials, transfer, volume reduction, conversion to energy, or other separation and preparation of solid waste for reuse or disposal, including treatment or neutralization of hazardous waste designed to change the physical, chemical, or biological character or composition of hazardous waste so as to neutralize hazardous waste; recover energy or material from hazardous waste; or render hazardous waste nonhazardous or less hazardous, safer to transport, store, or dispose of, amenable for recovery or storage, or reduced in volume.

Solid Waste: Garbage, rubbish, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, municipal, commercial, mining, and agricultural operations and from community and institutional activities.

Solid Waste Facility: All contiguous land, including structures, appurtenances, and other improvements on the land, used for processing, storing, or disposing of solid waste. The term includes a publicly or privately owned solid waste facility consisting of several processing, storage, or disposal operational units such as one or more landfills, surface impoundments, or a combination of units

SECTION III: NOT PROHIBITED

The processing or disposal of municipal or industrial solid waste or the operation of a solid waste facility is not prohibited in the following areas within Caldwell County, Texas:

> The property owned by Caldwell County, Texas, located east of Seawillow Road (County Road 205) and assigned Property ID Number 31061 and Geographic ID Number 0002194-120-100-00 by the Caldwell County Appraisal District; and described as 18.232 acres of land out of the P.B. McCarley Survey, conveyed to Caldwell County by Clarence V. Moses and wife, Bobbie Moses by deed recorded in Volume 487 at Page 63 of the Deed Records of Caldwell County Texas, and being more particularly described in Exhibit A.

SECTION IV: PROHIBITED

The processing or disposal of municipal or industrial solid waste or the operation of a solid waste facility is prohibited in the following areas within Caldwell County, Texas:

All portions of Caldwell County, Texas not included in Section III above.

SECTION V: ENFORCEMENT

Violations of the Caldwell County Solid Waste Disposal Ordinance are subject to civil and criminal penalties to the extent allowed by state law. Each day a violation occurs is a separate offense and constitutes a separate ground for recovery.

SECTION VI: SEVERABILITY

If any portion of this ordinance is declared partially void or unenforceable by an order of a court of competent jurisdiction, said portion shall be severed, and the remaining portions of this order shall be construed as remaining in effect to the full degree allowed by that order.

ORDAINED, ADOPTED AND ORDERED on this the 9th day of December, 2013 by a vote of 5 Ayes and 0 Nays.

Tom Bonn, Caldwell County Judge

ATTEST:

Carol Holcomb
Carol Holcomb County Clerk

I, Carol Holcomb, County Clerk, Caldwell County Texas, do hereby Certify that this is a true and correct copy as same appears of record in office. Witness my hand and seal of office on 3-18-15
Carol Holcomb, County Clerk
By Deputy
Sharon Williams
Sharon Williams

EXHIBIT A

BEING all of a certain tract or parcel of land situated in Caldwell County, State of Texas, and being a part of the P.B. McCarley Survey and being also a part of a tract of land designated as "First Tract" and conveyed to Clarence Moses, et ux by Robert O. Blanton by deed recorded in Volume 343 at Page 386 of the Deed Records of Caldwell County, Texas, and being more particularly described as follows:

BEGINNING at an iron pin set in the North line of the above mentioned "First Tract" for the Northwest corner this tract also being the Northeast corner of a 40.00 acre tract of land conveyed to W. H. Thigpen by Clarence Moses by deed recorded in Volume 355 at Page 677 of the said Deed Records.

THENCE North 89 deg. 06 min. East 966.25 feet to an iron pipe found in a reentrant corner of the said "First Tract" for the Northeast corner this tract.

THENCE South 0 deg. 22 min. West 832.13 feet to an iron pin set in the South line of said "First Tract" for the southeast corner this tract.

THENCE North 89 deg. 49 min. West 963.89 feet to an iron pin set in the Southeast corner of the above mentioned 40.00 acre tract for the Southwest corner tract.

THENCE North 0 deg. 13 min. East 813.88 feet to the PLACE OF BEGINNING containing 18.232 acres of land. Surveyed by Claude F. Hinkle, RPS No. 1612, in December, 1984.

I, Carol Holcomb, County Clerk, Caldwell County, Texas, do hereby Certify that this is a true and correct copy as same appears of record in office. Witness my hand and seal of office on
3-18-15
Carol Holcomb, County Clerk
By Deputy:
Sharon Williams
Sharon Williams

Caldwell - 4

FILED this 12th day of March 20 15
2:55 P M
CAROL HOLCOMB
COUNTY CLERK, CALDWELL COUNTY, TEXAS
By Jane Page Deputy

Notice of Meeting

Commissioners Court of Caldwell County, Texas

Notice is hereby given that an open meeting of the Caldwell County Commissioners Court will be held on the 16th day of March, 2015 at 9:00 A.M. in the 2nd Floor Courtroom, Caldwell County Courthouse located at 110 S. Main Street, Lockhart, Texas at which time the following subjects will be discussed, considered, passed or adopted, to wit:

Note: Commissioners Court Meeting packets are prepared several days prior to each meeting. This information is reviewed and studied by the Court members, eliminating lengthy discussions to gain a basic understanding. Timely action and short discussion on agenda items does not reflect lack of thought or analysis on the part of the Court.

Start times for regular agenda items are tentative; some items may be held earlier or later than the scheduled time.

For the convenience and comfort of members of the public and Caldwell County officials and employees, the Commissioners Court may take a recess from 10:30-10:45 a.m. and from noon to 1:30 p.m.

Agenda

Call Meeting to Order.

2015.03.16.01 **Invocation**. Lockhart Ministry Alliance.

2015.03.16.02 **Pledge of Allegiance to the Flags.** (Texas Pledge: Honor the Texas Flag; I pledge allegiance to thee, Texas, one state under God, one and indivisible).

2015.03.16.03 **Announcements**. Items or comments from Court Members or Staff.

2015.03.16.04 **Citizens' Comments**. At this time any person may speak to Commissioners Court if they have filled out a Caldwell County Commissioners Court Participation Form. Comments will be limited to four (4) minutes per person. No action will be taken on these items and no discussion will be had between the speaker(s) and members of the Court. The Court does retain the right to correct factual inaccuracies made by the speakers. (If longer than 30 minutes, then the balance of comments will continue as the last agenda item of the day).

2015.03.16.05 **Consent Agenda.** (The following consent items may be acted upon in one motion. Any member of the Court may request that an item within the Consent Agenda be pulled for separate discussion and/or action).

A. Texas Department of Agriculture Grant Agreement – Judge Schawe approved to officially sign agreement.

B. To approve Budget Amendment number 2014-10

C. To approve Budget Amendment number 2014-11

D. To recognize letter of thanks from the City of Lockhart regarding the Lone Star Grand Prix race.

2015.03.16.06 **Reports.**

Unit Road Systems Report – Dwight Jeffrey

Veterans Service Report – Dave Francis

Justice Center Summary of Cost – Larry Roberson

2015.03.16.07 **Special Presentation.**

A. Central Texas Clean Air Coalition – Fred Blood

(ALL OTHER AGENDA ITEMS)

2015.03.16.08 **Discussion/Action** to approve the audit report for the fiscal year 2013-2014 as presented by Rutledge & Crain, PC. Cost: None. **Speakers: Judge Schawe/Larry Roberson/Lewis Crain. Backup 1.**

2015.03.16.09 **Discussion/Action** to authorize the County Judge to enter into an agreement with WBTV for use of County property for purposes of filming a television series. Cost: TBD. **Speakers: Judge Schawe/Joey Hudgins/Jordan Powel. Backup 0.**

2015.03.16.10 **Discussion** regarding County planned procedures for how the County will contact employees during emergencies and inclement weather with regards to employee safety. Cost: None. **Speakers: Judge Schawe/Martin Ritchey. Backup 1.**

2015.03.16.11 **Discussion/Action** regarding the burn ban for Caldwell County. Cost: None. **Speakers: Judge Schawe/Martin Ritchey. Backup 0.**

2015.03.16.12 **Discussion/Action** to authorize the Human Resources Office to level their new office space to repaint and replace carpet and amend the budget accordingly. Cost: Not to exceed $2,500.00. **Speaker: Judge Schawe. Backup 0.**

2015.03.16.13 **Discussion/Action** to consider waiving family land grant fees, residential construction fees, septic tank fees, and driveway permit fees associated with the construction of a home for Agustina Mandujano, as requested by Community Action, Inc., a non-profit organization. Cost: None **Speakers: Commissioner Moses/Kasi Miles. Backup 1.**

2015.03.16.14 **Discussion/Action** to consider waiving all future subdivision fees associated with Sunrise Meadows, Phase Two subdivision located off Barth Road (aka CR 179). Cost: None. **Speakers: Commissioner Roland/Kasi Miles. Backup 1.**

2015.03.16.15 **Discussion/Action** to consider requesting party status in the contested case hearing regarding 130 Environmental Park, SOAH Docket No. 582-15-2082; TCEQ Docket No.2015-0069-MSW. **Executive Session** is requested pursuant to Section 551.071 of the Texas Government Code: consultation with counsel regarding pending and/or contemplated litigation involving Caldwell County. Cost: None. **Speaker: Judge Schawe. Backup 1.**

2015.03.16.16 **Adjournment.**

As authorized by Chapter 551 of the Texas Government Code, the Commissioners Court of Caldwell County, Texas reserves the right to adjourn into Executive Session at any time during the course of this meeting to discuss any of the matters listed above The Court may adjourn for matters that may relate to Texas Government Code Section 551.071(1) (Consultation with Attorney about pending or contemplated litigation or settlement offers);
Texas Government Code Section 551.071(2) (Consultation with Attorney when the Attorney's obligations under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas conflicts with Chapter 551 of the Texas Government Code);
Texas Government Code Section 551.072 (Deliberations about Real Property); Texas Government Code Section 551.073 (Deliberations about Gifts and Donations); Texas Government Code Section 551.074 (Personnel Matters); Texas Government Code Section 551.0745 (Deliberations about a County Advisory Body); Texas Government Code Section 551.076 (Deliberations about Security Devices); and Texas Government Code Section 551.087 (Economic Development Negotiations).
In the event that the Court adjourns into Executive Session, the Court will announce under what section of the Texas Government Code the Commissioners Court is using as its authority to enter into an Executive Session. The meeting facility is wheelchair accessible and accessible parking spaces are available. Request for accommodations or interpretive services must be made 48 hours prior to this meeting. Please contact the County Judge's office at 512-398-1808 for further information.

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CALDWELL COUNTY
COMMISSIONERS COURT MINUTES
110 S. Main St. 2nd Floor, Lockhart, Texas
Regular Meeting March 16, 2015 9:00 a.m.

KEN SCHAWE	County Judge	ALFREDO MUÑOZ	Commissioner Pct. 1
CAROL HOLCOMB	County Clerk	EDDIE MOSES	Commissioner Pct. 2
		NETO MADRIGAL	Commissioner Pct. 3
		JOE IVAN ROLAND	Commissioner Pct.4

Call Meeting to Order.

2015.03.16.01 **Invocation.** Lockhart Ministry Alliance.
Pastor Randall Frye with First Christian Church opened the meeting with prayer.

2015.03.16.02 **Pledge of Allegiance to the Flags.** (Texas Pledge: Honor the Texas Flag; I pledge allegiance to thee, Texas, one state under God, one and indivisible).
Judge Schawe led all present in the Pledge to both Flags.

2015.03.16.03 **Announcements**. Items or comments from Court Members or Staff.
Commissioner Muñoz let everyone know that there would be a Countywide Job Fair at the Luling Civic Center on April 1st. There is no cost involved and Deborah Kortan will be present to speak with applicants. Commissioner Moses said that he had attended the Houston Livestock and Rodeo on Caldwell County night. It was a great turnout for Caldwell County. Commissioner Madrigal said that he had spoken to a few of the survey team that was working on the Caldwell County Road projects. He said that a few citizens were excited to see the projects begin.

2015.03.16.04 **Citizens' Comments**. At this time any person may speak to Commissioners Court if they have filled out a Caldwell County Commissioners Court Participation Form. Comments will be limited to four (4) minutes per person. No action will be taken on these items and no discussion will be had between the speaker(s) and members of the Court. The Court does retain the right to correct factual inaccuracies made by the speakers. (If longer than 30 minutes, then the balance of comments will continue as the last agenda item of the day).

1. Kenwood Maeker is in favor of negotiating an agreement that would benefit the Caldwell County citizens. He does not want to see County money spent on litigation.

2. Byron Friedrich is in favor of the County requesting party status in the contested case hearing. He said when negotiations are passed up, you've given up your chance to be heard.

3. Frank L. Sughrue is in favor of the Court to take party status in the contested case hearing. He said that he voted for a Commissioner and would like them to speak on his behalf.

4. Jodie Friedrich urged the Court to take part in the status review hearing. She asked them not to give up a chance to speak for our County. She explained the guideline for the hearing and said that the County should represent their constituents.

5. Robert Kohler asked the Court to exercise their authority by having a place at the table. He said that citizens expect Caldwell County Commissioners to step forward.

6. Marisa Perales representing EPICC explained that her firm has been referred to as Anti-development. It is not. It is on the side of good healthy development opportunity. She is familiar with the consulting firm that has worked with Green Group Holdings. She encouraged Commissioners to step forward for the County.

7. Roger M. Williams said that Commissioners should be party to the contested case hearing. Because the cost to the effects to the County will be great.

8. Lou Mac Nauton said that the effects and hazards caused by the landfill will not be helpful to the County. It will be negative growth that suppress local economy. Commissioners have spoken up for citizens in the past and now it is time to continue. The County does not need to instigate a lawsuit but be a party in the contested case hearing.
9. Linda Pittman encouraged the Court to look on Google Earth and look for any growth around the other landfills. She said that she doesn't see any. She urged Commissioners in joining the citizens to stand firm when speaking to TCEQ. She said that TCEQ only does something after complaints or problems arise.

2015.03.16.05 **Consent Agenda.** (The following consent items may be acted upon in one motion. Any member of the Court may request that an item within the Consent Agenda be pulled for separate discussion and/or action).
A. Texas Department of Agriculture Grant Agreement – Judge Schawe approved to officially sign agreement.
B. To approve Budget Amendment number 2014-10
C. To approve Budget Amendment number 2014-11
D. To recognize letter of thanks from the City of Lockhart regarding the Lone Star Grand Prix race.
Motion made by Commissioner Muñoz, second by Commissioner Moses to approve Consent Agenda items A-D. All Voting "Aye"

2015.03.16.06 **Reports.**
Unit Road Systems Report – Dwight Jeffrey
Not Present

Veterans Service Report – David Francis
David Francis gave the Veterans Service Report for February 2015

Justice Center Summary of Cost – Larry Roberson
Larry Roberson gave the Justice Center Summary of Cost report. He said that the investment was a little over $1.4 million dollars. He thanked all of the people that were involved for working well with the auditor's office.

2015.03.16.07 **Special Presentation.**
A. Central Texas Clean Air Coalition – Fred Blood
Fred Blood gave a brief overview of the Central Texas Clean Air Coalition. He explained the Ozone standards and the need for compliance and how growth and other environmental conditions can impact levels that lead to nonattainment.

(ALL OTHER AGENDA ITEMS)
2015.03.16.08 **Discussion/Action** to approve the audit report for the fiscal year 2013-2014 as presented by Rutledge & Crain, PC.
Lewis Crain with Rutledge & Crain, PC. gave an overview of the audit performed for the County. He said that he had seen the new Justice Center and it is very nice. He said that it had been a pleasure working with Larry and his office these past four years and looked forward to working with Debra French as the new auditor. Motion made by Commissioner Muñoz, second by Commissioner Madrigal to approve the audit report for the fiscal year 2013-2014 as presented by Rutledge & Crain, PC. All Voting "Aye"

2015.03.16.09 **Discussion/Action** to authorize the County Judge to enter into an agreement with WBTV for use of County property for purposes of filming a television series.
Motion made by Commissioner Muñoz, second by Commissioner Moses to authorize the County Judge to enter into an agreement with WBTV for use of County property for purposes of filming a television series. Civil Attorney Jordan Powell will be working out the details of the contract. All Voting "Aye"

2015.03.16.10 **Discussion** regarding County planned procedures for how the County will contact employees during emergencies and inclement weather with regards to employee safety. Martin Ritchey and Judge Schawe explained that from now on all County employees will be notified by e-mail or text of any late openings or office closures in the County by the County Judge's office. This procedure was not used during the bad weather days this year.

2015.03.16.11 **Discussion/Action** regarding the burn ban for Caldwell County.
Martin Ritchey feels that soil moisture is high and recommends to leave the burn ban off. Motion made by Commissioner Roland, second by Commissioner Madrigal to leave the burn ban off at this time. All Voting "Aye"

2015.03.16.12 **Discussion/Action** to authorize the Human Resources Office to level their new office space to repaint and replace carpet and amend the budget accordingly. Cost: Not to exceed $2,500.00.
Maintenance Supervisor Curtis Weber explained to the Court that there is already carpeting that had been purchased for another office but never used. The other repairs and painting can be done within the $2,500.00 budget. Commissioner Muñoz asked if the Historical Society has to be contacted and Judge Schawe said that if needed, he would do that. Motion made by Commissioner Madrigal, second by Commissioner Muñoz to authorize the Human Resources Office to level their new office space to repaint and replace carpet and amend the budget accordingly. Not to exceed $2,500.00. All Voting "Aye"

2015.03.16.13 **Discussion/Action** to consider waiving family land grant fees, residential construction fees, septic tank fees, and driveway permit fees associated with the construction of a home for Agustina Mandujano, as requested by Community Action, Inc., a non-profit organization.
Kasi Miles gave a brief overview of the situation and explained the fees that were involved with the construction of a home for Agustina Mandujano. She said that she had not met her but told the court her story. Chief Deputy Brent told the Court that he knew her and Ms. Mandujano was a very positive person. Motion made by Commissioner Moses, second by Commissioner Muñoz to waive family land grant fees, residential construction fees, septic tank fees, and driveway permit fees associated with the construction of a home for Agustina Mandujano, as requested by Community Action, Inc., a non-profit organization. All Voting "Aye"

2015.03.16.14 **Discussion/Action** to consider waiving all future subdivision fees associated with Sunrise Meadows, Phase Two subdivision located off Barth Road (aka CR 179).
Kasi Miles explained that the former engineer, Mr. Gardner had approved a preliminary plat that did not include a detention pond that is necessary. After review and loss of 5 lots to the developer, Kasi suggests to stay in good standings with the developer and waive all future subdivision fees associated with Sunrise Meadows, Phase Two subdivision located off Barth Road (aka CR 179). This does not include any future septic system fees or residential construction fees. Motion made by Commissioner Roland, second by Commissioner Madrigal to waive all future subdivision fees associated with Sunrise Meadows, Phase Two subdivision located off Barth Road (aka CR 179). All Voting "Aye"

2015.03.16.15 **Discussion/Action** to consider requesting party status in the contested case hearing regarding 130 Environmental Park, SOAH Docket No. 582-15-2082; TCEQ Docket No.2015-0069-MSW. Executive Session is requested pursuant to Section 551.071 of the Texas Government Code: consultation with counsel regarding pending and/or contemplated litigation involving Caldwell County.
Before going into Executive Session, Civil Attorney Jordan Powell requests considering the right to retain legal services of Allison, Bass & Magee, LLP, for the purposes of considering requesting party status. It would just be for today and it would be with Eric Magee with Allison, Bass & Magee, LLP. Motion made by Commissioner Muñoz, second by Commissioner Madrigal to approve that request from Jordan Powell. All Voting "Aye"

Executive Session Began: 10:45 a.m.
Executive Session ended: 12:20 p.m. No Action Taken in Executive Session

Meeting Reconvened:12:22 p.m.
Motion made by Judge Schawe to take no action on this item.(to consider requesting party status in the contested case hearing regarding 130 Environmental Park, SOAH Docket No. 582-15-2082; TCEQ Docket No.2015-0069-MSW.) Motion died for lack of second. Motion made by Commissioner Roland, second by Commissioner Madrigal to request party status in the contested case hearing regarding 130 Environmental Park, SOAH Docket No. 582-15-2082; TCEQ Docket No.2015-0069-MSW. All Commissioners Voting "Aye:" Judge Voting "No" Motion Passed

2015.03.16.16 **Adjournment.**
Motion made by Commissioner Muñoz, second by Commissioner Moses to Adjourn. All Voting "Aye"

I, CAROL HOLCOMB, COUNTY CLERK AND EXOFFICIO CLERK OF THE COMMISSIONERS' COURT, do hereby certify that the foregoing contains a true and accurate record of the proceedings had by the Caldwell County Commissioners' Court on March 16, 2015.

Carol Holcomb

CAROL HOLCOMB, COUNTY CLERK AND EXOFFICIO
CLERK OF THE COMMISSIONERS' COURT OF
CALDWELL COUNTY, TEXAS