



AGENDA

PLANNING AND ZONING JULY 14, 2016 @ 7:00 P.M.

Notice is hereby given; the Planning and Zoning Commission for the City of Parker will hold a Regular Meeting on Thursday, July 14, 2016 at 7:00 P.M. at Parker City Hall, 5700 E. Parker Road, Parker, Texas, 75002.

CALL TO ORDER – Roll Call and Determination of a Quorum

PLEDGE OF ALLEGIANCE

AMERICAN PLEDGE: I pledge allegiance to the flag of the United States of America; and to the republic for which it stands, one nation under God, indivisible with liberty and justice for all.

TEXAS PLEDGE: Honor the Texas flag; I pledge allegiance to thee, Texas, one state under God, one and indivisible.

PUBLIC COMMENTS The Commission invites any person with business before the Commission to speak. No formal action may be taken on these items at this meeting. Please keep comments to 3 minutes.

INDIVIDUAL CONSIDERATION ITEMS

1. CONSIDERATION AND/OR ANY APPROPRIATE ACTION ON PARKER STORAGE FACILITY DEVELOPMENT PLAT AND PRELIMINARY ENGINEERING PLANS.

ROUTINE ITEMS

2. FUTURE AGENDA ITEMS
3. ADJOURN

In addition to any specifically identified Executive Sessions, the Planning and Zoning Commission may convene into Executive Session at any point during the open meeting to discuss any item posted on this Agenda. The Open

Meetings Act provides specific exceptions that require that a meeting be open. Should Commission elect to convene into Executive Session, those exceptions will be specifically identified and announced. Any subsequent action, as a result of this Executive Session, will be taken and recorded in open session.

I certify that this Notice of Meeting was posted on or before July 8, 2016 by 5:00 p.m. at the Parker City Hall.

Date Notice Removed

Patti Scott Grey, City Secretary

The Parker City Hall is Wheelchair accessible. Sign interpretations or other special assistance for disabled attendees must be requested 48 hours in advance by contacting the City Secretary's Office at 972-442-6811.

P& Z COMMISSIONERS:

PLEASE NOTE:

**A LARGE SET OF PARKER STORAGE
FACILITY DEVELOPMENT PLAT AND
PRELIMINARY ENGINEERING PLANS
IS AVAILABLE FOR YOUR REVIEW
AT CITY HALL.**

THANKS!

STAFF

BIRKHOFF, HENDRICKS & CARTER, L.L.P. PROFESSIONAL ENGINEERS

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Dallas, Texas 75243

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ANDREW MATA, JR., P.E.
JOSEPH T. GRAJEWSKI, III, P.E.
DEREK B. CHANEY, P.E.
CRAIG M. KERKHOFF, P.E.

June 24, 2016

Mr. Jeff Flanigan
City Administrator
City of Parker
5700 E. Parker Rd.
Parker, Texas 75002

Re: Parker Storage Facility
Development Plat & Preliminary Engineering Plans

Dear Mr. Flanigan:

As requested, we have reviewed the Development Plat and Engineering Plans for the Parker Storage Facility, dated June 10, 2016. We received these plans from DeOtte Engineering on June 10, 2016.

Our review of the Development Plat and Engineering Plans is for general compliance with the City of Parker's development requirements and good engineering practice, and does not relieve the Engineer of record of his responsibilities under the Texas Engineering Practice Act and Texas Surveyor's Act. Listed below are the comments regarding the enclosed plans:

Development Plat Comments:

1. The Plano Independent School District is listed as the owner of the property under the owner's certificate.
2. Deed records and plat records departments shall reference Collin County.
3. Include the development plat within the plan set.

Engineering Plan Comments

4. Flood study under separate review letter.
5. Show adjacent contours to the north and how this site ties in but does not adversely affect that tract.
6. Provide cross-sections of Muddy Creek with the 100-year WSEL adjacent to the site.
7. Provide a stage-volume table for the pond as well as the orifice calculations for the outlet control.
8. The building along the northern property line is a continuous 420-foot long building that is located 5-feet away from the property line. Fire Marshall shall approve building size and location.

Mr. Jeff Flanigan
City of Parker
June 24, 2016
Page 2 of 2

9. Regional drainage area map refers to a 480 cfs discharge for velocity calculations but a lower ultimate discharge for the basin.
10. Provide contours on the on-site existing and proposed drainage area maps.
11. Show grading from the proposed outfall pipe into the channel.
12. Discharge call-outs on the grading plan are labeled as XXXX. Also, the discharge velocity is labeled at over 10 fps, whereas the maximum discharge velocity is 8 fps.
13. Provide detail for the overflow spillway on the pond.
14. Label the 1-1/2-inch water line as private.
15. Fire hydrants are not shown on the utility plan.

The plans provided for our review have been marked-up to represent the comments above and are enclosed with this letter. We are available to discuss this project and our review comments further at your convenience.

Sincerely,



Craig M. Kerkhoff, P.E.

Enclosures

BIRKHOFF, HENDRICKS & CARTER, L.L.P.

PROFESSIONAL ENGINEERS

TEXAS FIRM 526

11910 Greenville Avenue, Suite 600

Dallas, Texas 75243

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MEMORANDUM

To: Jeff Flanigan
From: Joe R. Carter, P.E., C.F.M. (#64008) & (#1698-09N)
Date: June 23, 2016
Subject: Storage Facility Flood Study – Fourth Review



Comments from the meeting held on January 13, 2016 are shown with an arrow bullet point. Comments from the third review are shown in italic type. Comments, questions and recommendations from the second review are shown in regular font with a solid circle bullet point followed by the response with an open circle bullet point. Comments, questions and recommendations from the third review are shown in italic font with a solid square bullet point. Responses from this submittal are shown with an open square bullet point. Comments and recommendations from this review are shown with a solid diamond bullet point and in bold italic type if they require additional response.

1. The drawing shows $Q = 180$ cfs and refers to the construction plans for McCreary Road.
Is 180 cfs the 100-year flow? The Drainage Area Map shows the 100-year flow = 480.56 cfs. We recommend providing a copy of the information showing the runoff calculation for this channel.
- During the meeting on January 13, 2016 we were told that the 180 cfs was taken from the CP&Y plans for McCreary Road. The 480.56 cfs was calculated and was probably higher primarily due to a shorter time of concentration than what was shown on the CP&Y plans for McCreary Road. BHC requested that both calculations be provided.
 - (2nd Review) CP&Y plan sheets were included with the second submittal. There is a discrepancy between the acreage on the Exterior Drainage Area Map (254 Ac.) and the Runoff and Inlet Computations for System A that only shows 160 Ac. There is no backup for the time of concentration for System A of 180 minutes and this appears to be too long. The time of concentration calculations for the calculated flow of 480.56 cfs were not included as requested.
 - The third submittal includes a response stating that the runoff calculations are now shown on the Drainage Area Map. The calculations appear to be based on the iSWM Hydrology Manual.
 - *The City of Parker requires the design calculations follow the City of Plano Storm Drainage Design Manual. The runoff coefficient for pasture is 0.40 instead of 0.30. We do not object to the calculated intensities, they appear similar to what is shown in the City of Plano Storm Drainage Design Manual. We also do not object to the calculated times of concentration. Using a runoff coefficient of 0.40 with the same areas and intensities increases the 100-year flow to over 266 cfs.*
 - The runoff coefficient was revised to 0.40. The flow for Area DA-2 is now shown as 266.11 cfs.
 - ◆ We do not take exception to the new 100-year flow as shown.

2. The drawing includes a line labeled "Limits of inundation for 100-year flows" and a squiggly line labeled "Limits of inundation for 100-year flows with 0.5' rise". The drawing also includes what appears to be a number of cross sections that are probably part of a water surface profile model.

We recommend using the term "100-year Floodplain" instead of "Limits of inundation for 100-year flows". We assume this is the "Pre-Project" "100-year Floodplain", it would be useful to add that label.

- During the meeting on January 13, 2016 the engineer stated that they did not want to use the term "100-year Floodplain". BHC explained that the City of Parker Ordinance may define this as floodplain.

- The map still shows the line labeled as "Limits of inundation for 100-year flows" but the City of Parker Ordinance 155.010 Definitions, defines a Floodplain as "Any land area susceptible to being inundated by water from the base flood." It also defines the base flood as a 100-year storm.

- The response letter states that the floodway and floodplain are now labeled appropriately. The response letter also states that on-site detention is being provided to mitigate increased runoff from the storage facility and the owner is preparing legal documents for adjacent property owners to agree with water surface rise.

- *What is the actual anticipated rise from this development? A post-project model revising the existing model to show the proposed fill from this development is required to determine the base flood elevation increases from this development.*

- The response states that the site was redesigned to remove all buildings from the floodplain and provide 1-foot of freeboard and that there is no longer a rise in the base flood (100-year) elevations due to revised paving and lower Manning's "n" value. The response also states a WSEL Table was added as an attachment.

- ◆ *Refer to comments related to the models under comment 3 below.*
- ◆ *Has the on-site detention taken into consideration how it fills and empties as the channel fills and empties during the 100-year event? Will the timing cause the detention pond to overtop?*

3. We cannot evaluate the water surface elevations or limits shown on the drawing without the input/output reports from the water surface elevation models. We recommend using the HEC-RAS computer model. We recommend the HEC-RAS model reports be printed in landscape format with small margins (0.4") and small font to eliminate text wrapping on the summary tables. We recommend the reports include Standard Summary Tables and summaries of contraction/expansion coefficients, Manning's "n" values and reach lengths to aid in the review of these variables.

- BHC specifically requested that the HEC-RAS models be run based on both the 180 cfs and the 480 cfs flows for comparison.

- The HEC-RAS model information provided shows that a flow of 480 cfs was used downstream of the culvert and 180 cfs was used upstream of the culvert. This was not what was requested.

- The response letter states that with the new drainage calculations the engineer does not feel that the 480 cfs model would provide useful data.
 - *We do not object to including an existing conditions and a post-project conditions model using the calculated runoff after the revisions recommended under "1" above have been addressed.*
 - The response states that a post project model was created to compare with the current effective model.
 - ◆ *There is no "current effective model" that would be a model that existed and was accepted before this study was initiated. This should be referred to as the existing conditions model or the pre-project model.*
- *Please submit future input/output reports in a similar format to the attached example. Reports should include Standard Summary Tables and summaries of contraction/expansion coefficients, Manning's "n" values and reach lengths even though they are not included in the example.*
- The response is that HEC-RAS reports with requested summaries are included.
 - ◆ *The existing conditions model uses a Manning's "n" value of 0.125 for the channel and the overbank areas throughout the entire studied reach. This Manning's "n" value is probably too high. The normal maximum Manning's "n" value for a Minor Natural Stream with an irregular channel, with pools and meanders and weeds with dense willows on the banks is 0.090. The high "n" value results in higher existing water surface elevations.*
 - ◆ *The proposed model uses a Manning's "n" value of 0.013 on the left overbank. This "n" value is for smooth concrete and the normal "n" value for concrete is 0.015. It appears the "n" value of 0.013 is applied not only in the paved area but all the way to the top of bank and it appears the paved area is short of the top of bank station. Using the lower "n" value in areas where it does not apply will result in lower proposed water surface elevations.*
- *Please include cross section plots for both existing and proposed conditions.*
- The revised submittal does not include requested cross sections for both models.
 - ◆ *It is important that these be provided. It is possible and permissible to show both the existing cross section and the proposed cross section ground lines and water surface elevations on one plot; however, they must be clearly differentiated using dissimilar colors or line types. The cross sections will show where the "n" values apply and can help visualize where fill is being placed.*
- It is not clear if there is a preproject model and a post project model to compare the impact of the proposed project. If the 0.5' rise model is the post project model it should be clearly

labeled as such. Providing cross section plots for each model would also help to illustrate existing and proposed conditions.

- The response letter states that the model is a pre-project, current effective model and on-site detention is proposed to mitigate increased runoff from the site.
 - *A post-project model revising the existing model to show the proposed fill from this development is required to determine the base flood elevation increases from this development.*
 - The response states that a post project model was created to compare with the current effective model.
 - ◆ *Refer to previous comments regarding the existing and proposed models.*

4. (Previous comment 5) Normally no rise is allowed in the 100-year water surface elevation since no adverse impact on properties upstream or downstream is allowed.

- There is insufficient information provided with this submittal to determine what if any water surface elevation increases may result from this project.
- The response letter includes a statement from the January 13 meeting that any rises in water surface elevation may be acceptable with affected owner permission.
 - *This is not quite an accurate statement. What was said was that any increase in the base flood elevation must be approved by all impacted property owners. No rise exceeding 1-foot is permitted and we do not have a post-project model revising the existing model to show the proposed fill from this development to determine the base flood elevation increases from this development.*
 - The response states that the site has been redesigned to remove all buildings from the floodplain and provide 1-foot of freeboard and that there is no longer a rise in the base flood (100-year) elevations due to revised paving and lower Manning's "n" value. The response also states a WSEL Table was added as an attachment.
 - ◆ *Please address the comments regarding the "n" values used in the existing and proposed models as these may impact the existing and proposed water surface elevations.*

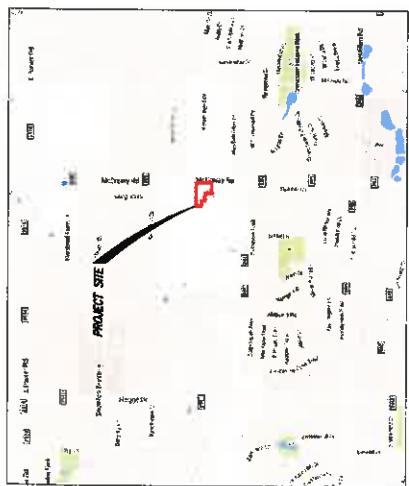
We recommend the City of Parker Floodplain Administrator deny approval of this Floodplain Map until all the recommendations contained in this memorandum and any from necessary subsequent reviews are resolved to the City of Parker's satisfaction.

PREPARED BY:
JID
Engineering

THE CITY OF PARKER, TEXAS
COMMUNITY
DEVELOPMENT
STORAGE FACILITY
COLLIN COUNTY TEXAS

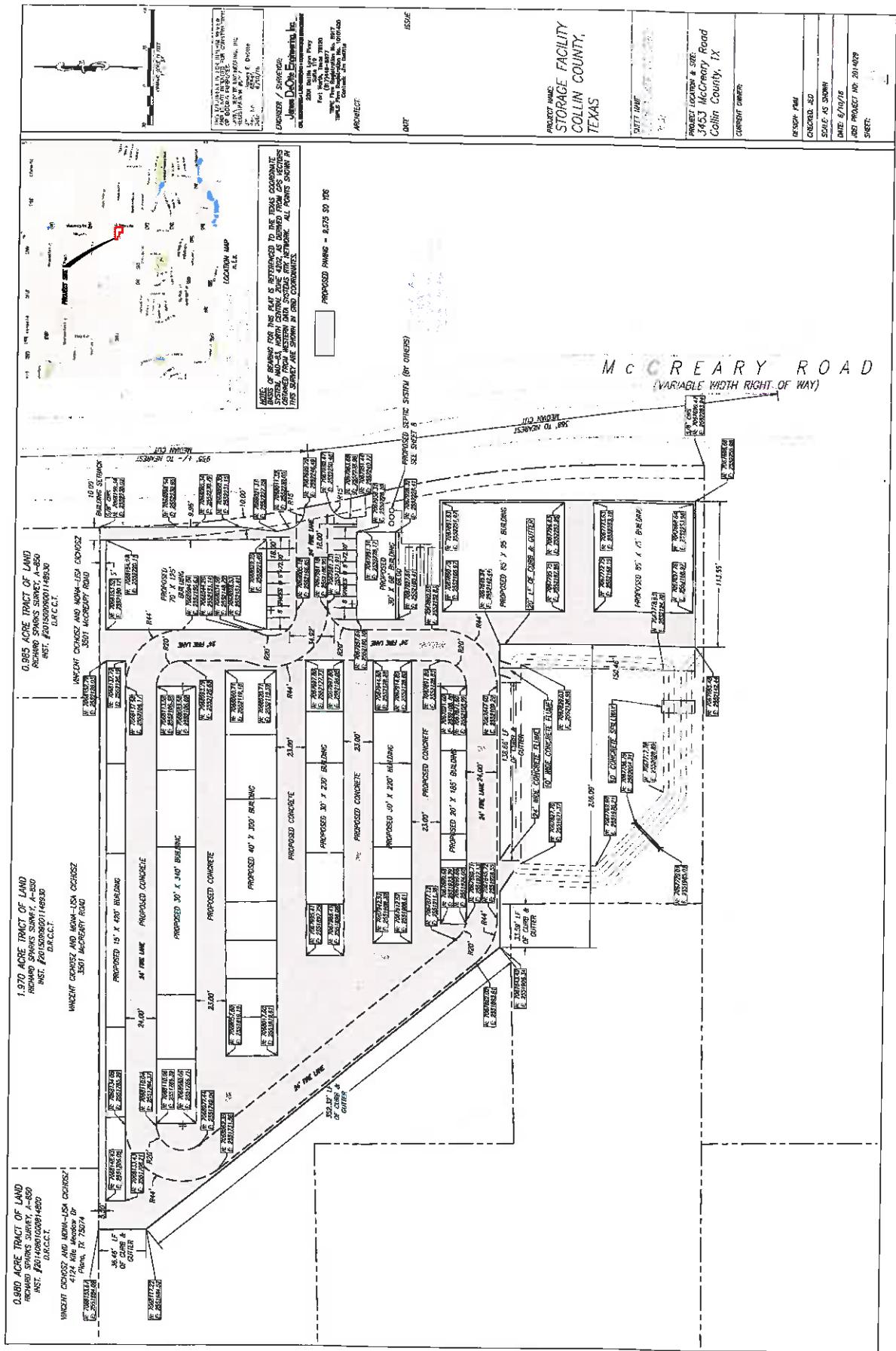
COLLIN COUNTY STORAGE FACILITY

THIS DOCUMENT IS FOR INTERNAL REVIEW
AND IS NOT INTENDED FOR COMMUNICATION
OR BIDDING PURPOSES.
JAMES DODDLE ENGINEERING, INC.
10017 89th Street
BY James E. Doddle
Phone: 859-540-1145
Date: 08/10/21



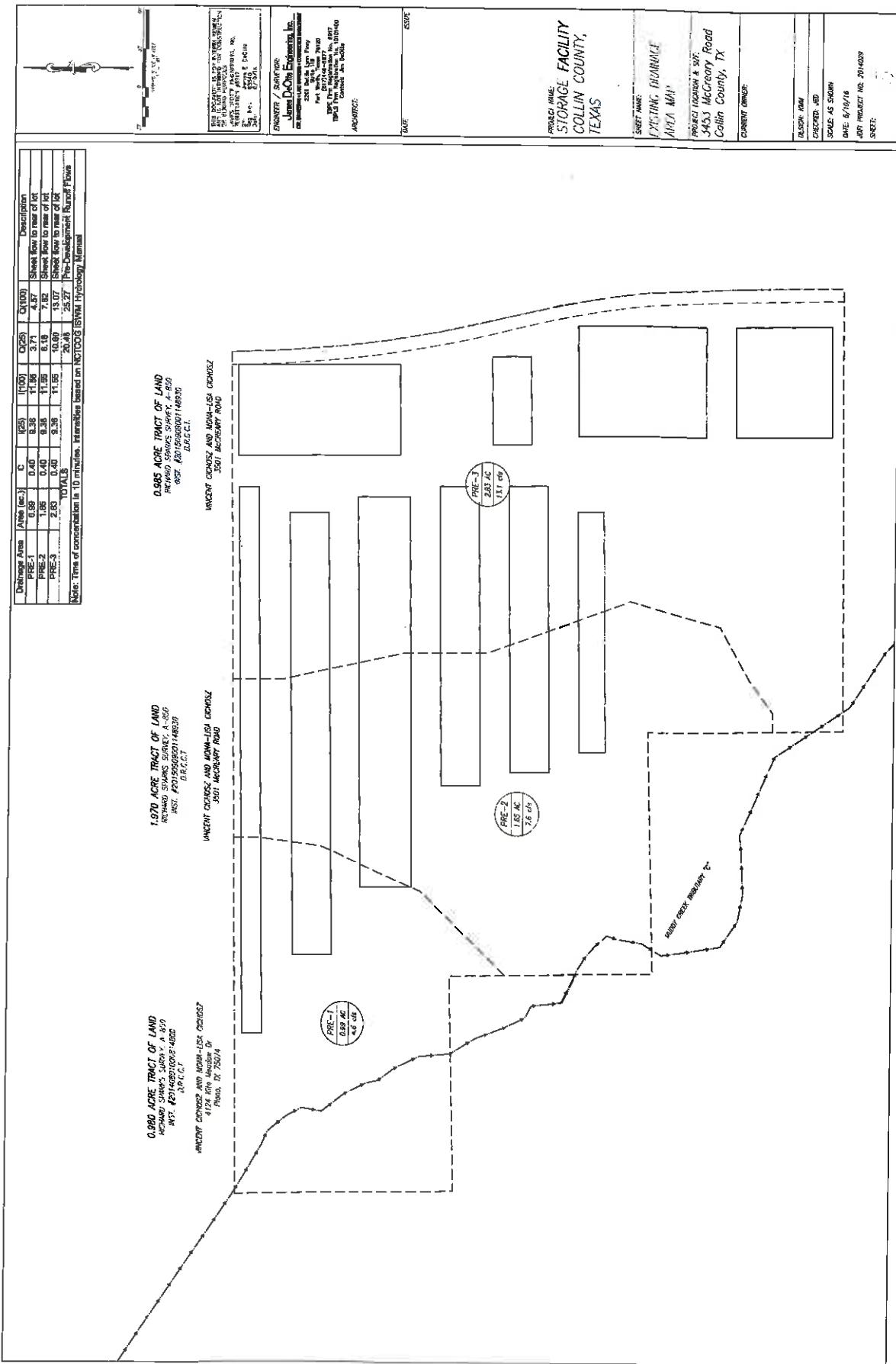
LOCATION MAP N.T.S.

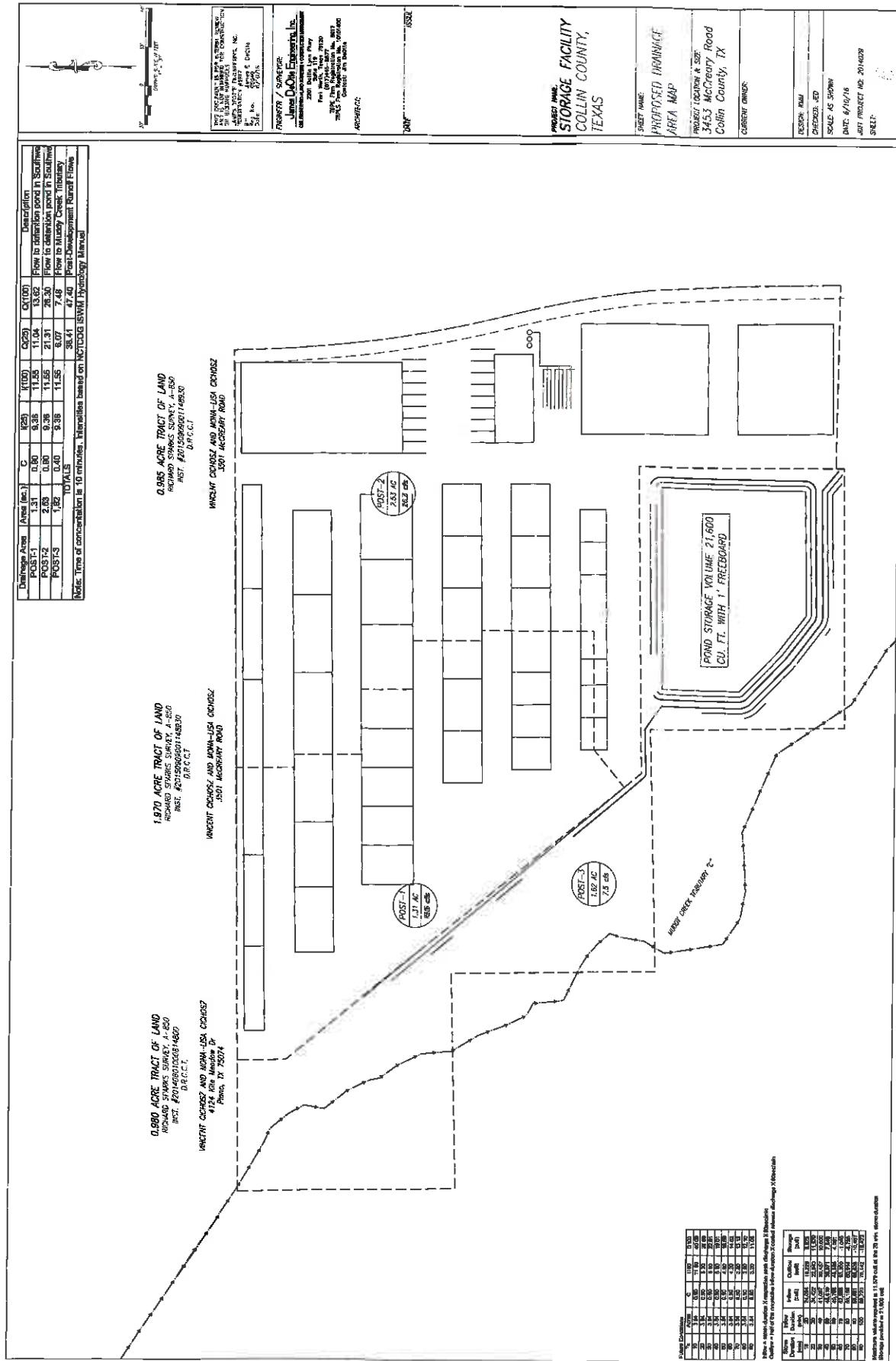
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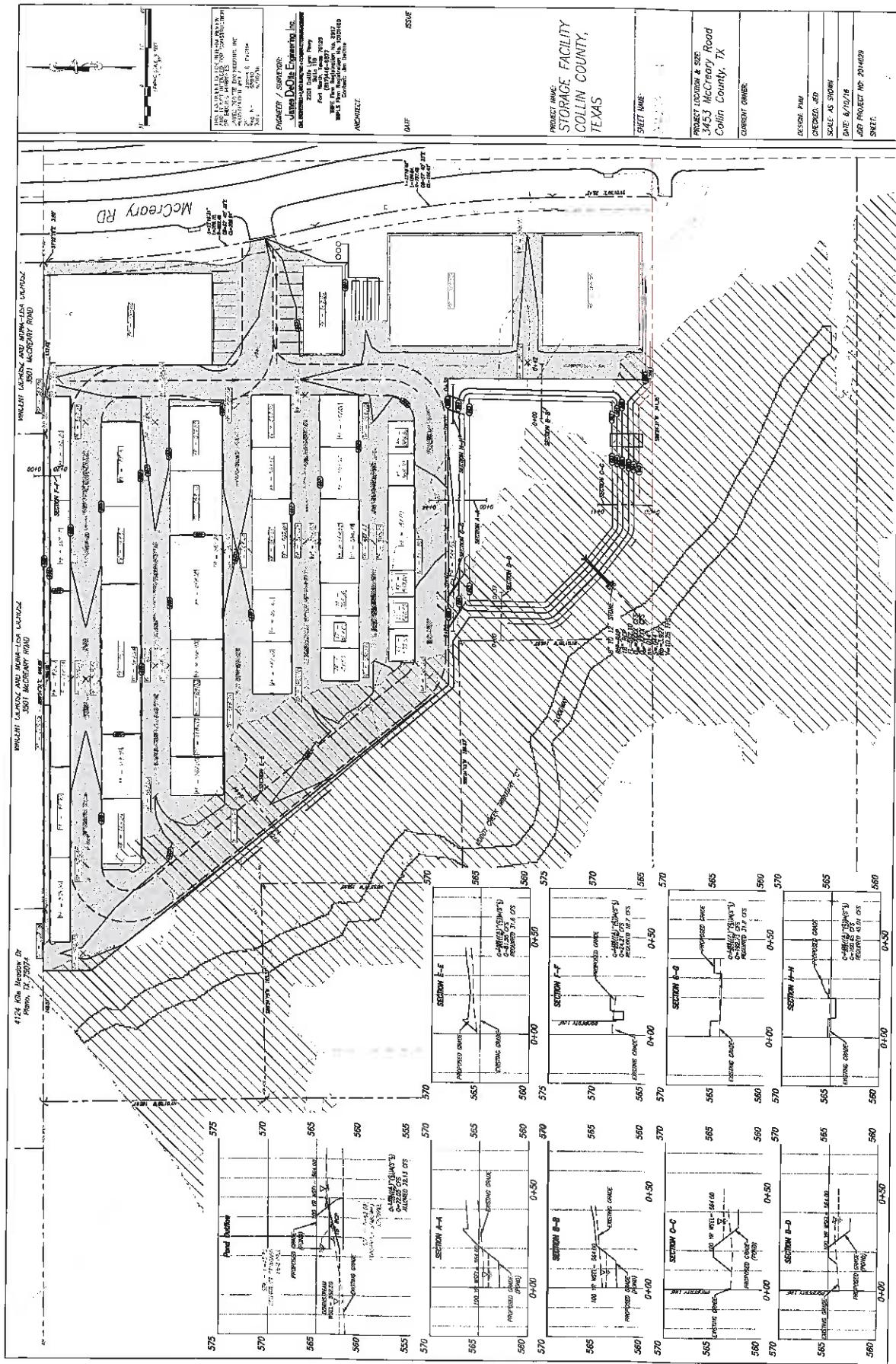


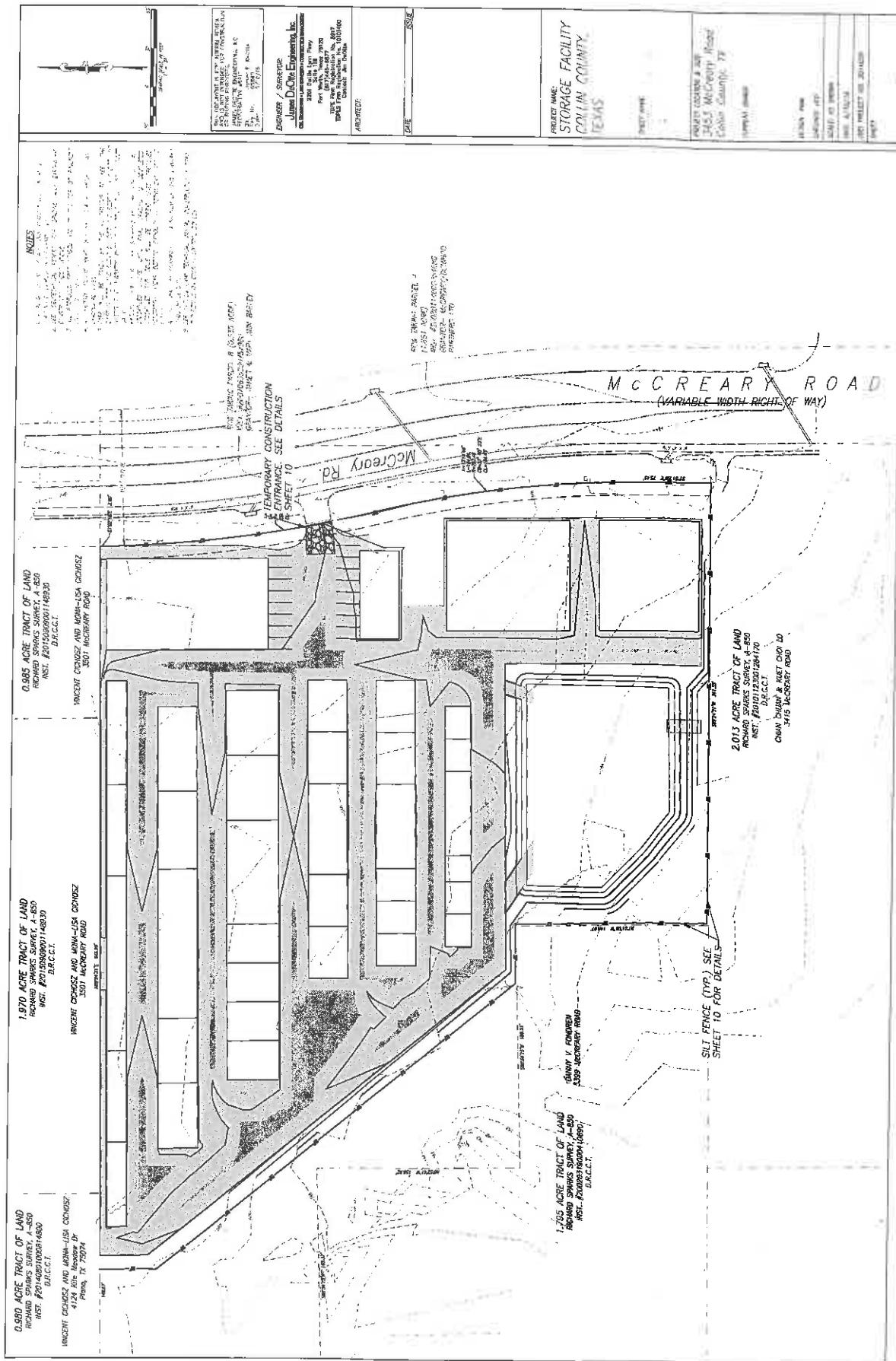












Project Name: STORAGE FACILITY, COLLIN COUNTY, TEXAS

Project Location: 3453 McCrary Road, Collin County, TX

Current Owner: [Redacted]

Architect: [Redacted]

Builder: [Redacted]

Crusher: 400

Scale: AS SHOWN

Date: 6/16/16

Job Project No.: 2016029

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