



CITY OF NORMAN, OK
FLOODPLAIN PERMIT COMMITTEE MEETING
Development Center, Room B, 225 N. Webster Ave., Norman, OK 73069
Monday, December 15, 2025 at 3:30 PM

AGENDA

It is the policy of the City of Norman that no person or groups of persons shall on the grounds of race, color, religion, ancestry, national origin, age, place of birth, sex, sexual orientation, gender identity or expression, familial status, marital status, including marriage to a person of the same sex, disability, relation, or genetic information, be excluded from participation in, be denied the benefits of, or otherwise subjected to discrimination in employment activities or in all programs, services, or activities administered by the City, its recipients, sub-recipients, and contractors. In the event of any comments, complaints, modifications, accommodations, alternative formats, and auxiliary aids and services regarding accessibility or inclusion, please call 405-366-5424, Relay Service: 711. To better serve you, five (5) business days' advance notice is preferred.

ROLL CALL

MINUTES

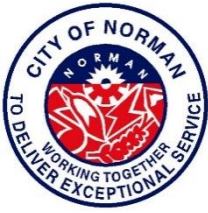
1. Approval of minutes from the December 1, 2025 meeting.

ACTION ITEMS

2. **Floodplain Permit Application No. 707 Amendment** - This amendment is to add a second drill pad and private access road to the floodplain permit.
3. **Floodplain Permit Application No. 734** - This permit application is for several outdoor improvement projects at a residence in the Ten-Mile Flat Creek floodplain.

MISCELLANEOUS COMMENTS

ADJOURNMENT



CITY OF NORMAN, OK

FLOODPLAIN PERMIT COMMITTEE MEETING

Development Center, Conference Room B, 225 N. Webster Avenue,
Norman, OK 73069

Monday, December 1st, 2025 at 3:30 PM

MINUTES

The Floodplain Permit Committee of the City of Norman, Cleveland County, State of Oklahoma, met in Regular Session in Conference Room B at the Development Center, on the 1st day of December, 2025, at 3:30 p.m., and notice of the agenda of the meeting was posted at the Norman Municipal Building at 201 West Gray, Development Center at 225 N. Webster and on the City website at least 24 hours prior to the beginning of the meeting.

ROLL CALL

The meeting was called to order by Mr. Sturtz at 3:30 p.m. Roll was taken. Committee members in attendance included Bill Scanlon, Resident Member; Sherri Stansel, Resident Member; Scott Sturtz, Floodplain Administrator; Tim Miles, City Engineer; Ken Danner, Subdivision Development Manager; and Jane Hudson, Director of Planning. Committee members absent included Lora Hoggatt, Planning Services Manager. Also in attendance were Brandon Brooks, Capital Projects Engineers; Todd McLellan, Development Engineer; Amy Shepard, Staff. Citizens in attendance included Gary Keen, Engineer; Catherine Gilarranz, Architect; and Sheila Burnett, property owner.

MINUTES

1. Approval of minutes from the October 10th, 2025, meeting
 - a. Mr. Scanlon motioned to approved. Ms. Hudson seconded the motion. The minutes were approved 6-0.

ACTION ITEMS

2. Floodplain Permit No. 735

Mr. Sturtz stated that the floodplain permit application is for removal of structures and the construction of a new residential structure located at 216 S. Lahoma Avenue in the Imhoff Creek floodplain.

Mr. Brooks stated the applicant is Glenn and Sheila Burnett, the Engineer is Earl "Gary" Keen, P.E., and the Architect is Krittenbrink Architecture, LLC.

Mr. Brooks provided historical details surrounding the property and communications between the applicant and staff leading up to the application. Mr. Brooks then provided the staff report, detailing the request with respect to the floodplain permit requirements and potential impacts.

Mr. Brooks stated staff recommends permit app #735 not be approved.

Mr. Sturtz asked the committee if they had any questions. There were not any questions from the committee.

Mr. Scanlon stated the staff must focus on protection of life and property and that it would be an adequate reason to not approve the application.

Mr. Sturtz asked for any comments from the public.

The applicant, engineer, and architect explained their actions to comply with ordinances and requirements leading up to this point. They stated that they were not notified that the Floodplain application from June of 2023 had or would expire after two years of nonuse.

Mr. Scanlon explained that ultimately the rules for approval are different now and with the expiration of the previous application, they must judge this application off current rules and circumstances.

Mr. Scanlon motioned to deny the application. Ms. Hudson seconded the motion.

The permit was denied with a vote of 6-0.

MISCELLANEOUS COMMENTS

Mr. Sturtz asked if there were any miscellaneous comments. Ms. Shepard stated that there will be at least two applications for the meeting on December 15th, 2025.

ADJOURNMENT

Mr. Scanlon motioned to adjourn. Ms. Hudson seconded the motion. Mr. Sturtz adjourned the meeting at 4:05 p.m.

Passed and approved this _____ day of _____, 2025

Norman Floodplain Administrator, Scott Sturtz

PERMIT NO.: 707

DATE: 12/15/2025

STAFF REPORT

ITEM: Amendment to Floodplain Permit for Huckabee Oil Well Project – Addition of Second Well Pad and New Private Access Road

APPLICANT: Encore Operating, Inc.

ENGINEER: SMC Consulting Engineers, P.C.

BACKGROUND

Encore Operating received Floodplain Permit #707 in April 2025 for construction of the Huckabee Oil Well Project within the Ten Mile Flat Floodplain. The original approval included one pumping unit pad, one tank battery, a 300' × 300' development footprint, and access via 60th Avenue NW.

The amended permit request includes:

- Expansion of the site to 450' × 300'
- Addition of a second pumping unit pad
- Addition of a second tank battery
- Construction of a private access road from West Franklin Road (constructed prior to ROW permit issuance)

The applicant is currently obtaining the required ROW permit.

STAFF ANALYSIS

Site located in Ten Mile Flat Creek floodplain.

Flood Zone: The project lies within Zone AE. The Base Flood Elevation (BFE) at the site is 1140.0 ft.

APPLICABLE ORDINANCE SECTIONS (36-533)

- (e)(2)(a) – Floodplain fill restrictions
- (e)(2)(e) – Compensatory storage requirements
- (e)(4)(c) – Special requirements for drilling oil & gas wells in SFHA
- (f)(3)(a)(8) – No-rise certification requirements

DETAILED ORDINANCE ANALYSIS

(e)(2)(a) – Floodplain Fill Restrictions

The applicant's engineer provided updated cut/fill calculations:

- Fill required: 6,338.91 cubic yards

- Cut provided (compensatory storage): 6,928.52 cubic yards
- Net gain: approximately 590 cubic yards of floodplain storage.

This meets the fill minimization and compensation criteria.

(e)(2)(e) – Compensatory Storage

Compensatory storage provided exceeds fill volume, satisfying ordinance requirements. Storage occurs at equivalent elevations surrounding the expanded well pad area.

(e)(4)(c) – Special Requirements for Drilling Oil & Gas Wells

Oil & gas equipment susceptible to flood damage must be elevated or floodproofed to the BFE. Submitted plans show:

- Pumping unit pads and tank batteries elevated to 1140.0 ft (equal to BFE)
- Electrical and mechanical equipment elevated to or above BFE
- Site is more than 50 ft from the creek

These conditions meet ordinance requirements.

(f)(3)(a)(8) – No-Rise Requirement

A no-rise certification was provided by the engineer. It confirms no increase in Base Flood Elevation (BFE) and no adverse impacts to adjacent properties due to the proposed grading and compensatory storage.

OTHER CONSIDERATIONS

As-builts and additional cut/fill calculations may be required if design changes occur as part of the ROW permit review. No further construction or grading may occur without compliance verification.

RECOMMENDATION

Staff recommends approval of the amendment to Floodplain Permit Application #707 with the following conditions:

1. As-built drawings must be provided for the access road, well pads, and compensatory storage.
2. Updated cut/fill calculations must be submitted if modifications to the access road design occur during the ROW review.

ACTION TAKEN:



City of Norman

Floodplain Permit Application

Floodplain Permit No. _____

Building Permit No. _____

Date 11/05/2025

FLOODPLAIN PERMIT APPLICATION

(\$100.00 Application Fee Required)

SECTION 1: GENERAL PROVISIONS (APPLICANT to read and sign):

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Occupancy is issued.
5. The permit will expire if no work is commenced within 2 years of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements and must be included with this floodplain permit application.
7. Applicant hereby gives consent to the City of Norman or his/her representative to access the property to make reasonable inspections required to verify compliance.
8. The following floodplain modifications require approval by the City Council:
 - (a) A modification of the floodplain that results in a change of ten percent (10%) or more in the width of the floodplain.
 - (b) The construction of a pond with a water surface area of 5 acres or more.
 - (c) Any modifications of the stream banks or flow line within the area that would be regulatory floodway whether or not that channel has a regulatory floodplain, unless the work is being done by the City of Norman staff as part of a routine maintenance activity.
9. All supporting documentation required by this application is required along with the permit fee by the submittal deadline. Late or incomplete applications will not be accepted.
10. I, THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT.)

APPLICANT: Encore Operating, Inc. ADDRESS: 3500 S. Boulevard, Suite 10B, Edmond, OKTELEPHONE: (405) 527-7989 SIGNATURE: *Kevin Konrode**Kevin Konrode, Agent*

BUILDER: _____ ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

ENGINEER: SMC Consulting
Engineers, P.C. ADDRESS: 815 W. Main, OKC, OK 73106TELEPHONE: (405) 232-7715 SIGNATURE: *P. C.*

PROJECT LOCATION

To avoid delay in processing the application, please provide enough information to easily identify the project location. Provide the street address, subdivision addition, lot number or legal description (attach) and, outside urban areas, the distance to the nearest intersecting road or well known landmark. A sketch attached to this application showing the project location would be helpful.

Northwest Corner of 60th Avenue NW & W Franklin Road

Approximate Center of Site: 35°16'48"N/ 97°32'03"W

DESCRIPTION OF WORK (Check all applicable boxes):**A. STRUCTURAL DEVELOPMENT**ACTIVITYSTRUCTURE TYPE

- | | |
|---|--|
| <input checked="" type="checkbox"/> New Structure | <input type="checkbox"/> Residential (1-4 Family) |
| <input type="checkbox"/> Addition | <input type="checkbox"/> Residential (More than 4 Family) |
| <input type="checkbox"/> Alteration | <input checked="" type="checkbox"/> Non-Residential (Flood proofing? <input type="checkbox"/> Yes) |
| <input type="checkbox"/> Relocation | <input type="checkbox"/> Combined Use (Residential & Commercial) |
| <input type="checkbox"/> Demolition | <input type="checkbox"/> Manufactured (Mobile) Home |
| <input type="checkbox"/> Replacement | <input type="checkbox"/> In Manufactured Home Park? <input type="checkbox"/> Yes |

ESTIMATED COST OF PROJECT \$ TBD Work that involves substantial damage/substantial improvement requires detailed cost estimates and an appraisal of the structure that is being improved.

B. OTHER DEVELOPMENT ACTIVITIES:

- ☐ Fill ☐ Mining ☒ Drilling ☐ Grading
- ☐ Excavation (Beyond the minimum for Structural Development)
- ☐ Watercourse Alteration (Including Dredging and Channel Modifications)
- ☐ Drainage Improvements (Including Culvert Work) ☐ Road, Street or Bridge Construction
- ☐ Subdivision (New or Expansion) ☐ Individual Water or Sewer System

In addition to items A. and B. provide a complete and detailed description of proposed work (failure to provide this item will be cause for the application to be rejected by staff). Attach additional sheets if necessary.

Drilling Two (2) New Oil Wells

C. ATTACHMENTS WHICH ARE REQUIRED WITH EVERY APPLICATION:

The applicant must submit the documents listed below before the application can be processed. If the requested document is not relevant to the project scope, please check the Not Applicable box and provide explanation.

- A. Plans drawn to scale showing the nature, location, dimensions, and elevation of the lot, existing or proposed structures, fill, storage of materials, flood proofing measures, and the relationship of the above to the location of the channel, floodway, and the regulatory flood-protection elevation.
- B. A typical valley cross-section showing the channel of the stream, elevation of land areas adjoining each side of the channel, cross-sectional areas to be occupied by the proposed development, and high-water information.

☒ Not Applicable:

- C. Subdivision or other development plans (If the subdivision or other developments exceeds 50 lots or 5 acres, whichever is the lesser, the applicant **must** provide 100-year flood elevations if they are not otherwise available).

☐ Not Applicable:

FEMA Effective BFE = 1140.00

- D. Plans (surface view) showing elevations or contours of the ground; pertinent structure, fill, or storage elevations; size, location, and spatial arrangement of all proposed and existing structures on the site; location and elevations of streets, water supply, sanitary facilities; photographs showing existing land uses and vegetation upstream and downstream, soil types and other pertinent information.

☒ Not Applicable:

- E. A profile showing the slope of the bottom of the channel or flow line of the stream.

☒ Not Applicable:

- F. Elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures.

☒ Not Applicable:

- G. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

☒ Not Applicable:

- H. For proposed development within any flood hazard area (except for those areas designated as regulatory floodways), certification that a rise of no more than five hundredths of a foot (0.05') will occur on any adjacent property in the base flood elevation as a result of the proposed work. For proposed development within a designated regulatory floodway, certification of no increase in flood levels within the community during the occurrence of the base flood discharge as a result of the proposed work. All certifications shall be signed and sealed by a Registered Professional Engineer licensed to practice in the State of Oklahoma.
- I. A certified list of names and addresses of all record property owners within a three hundred fifty (350) foot radius of the exterior boundary of the subject property not to exceed 100 feet laterally from the Special Flood Hazard Area. The radius to be extended by increments of one hundred (100) linear feet until the list of property owners includes not less than fifteen (15) individual property owners of separate parcels or until a maximum radius of one thousand (1,000) feet has been reached.
- J. A copy of all other applicable local, state, and federal permits (i.e. U.S. Army Corps of Engineers 404 permit, etc).

After completing SECTION 2, APPLICANT should submit form to Permit Staff for review.

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by Permit Staff.)

The proposed development is located on FIRM Panel No.: 40027C0170J, Dated: 01/15/2021

The Proposed Development:

- ☐ Is NOT located in a Special Flood Hazard Area
(Notify the applicant that the application review is complete and NO FLOODPLAIN PERMIT IS REQUIRED).
- ☒ Is located in a Special Flood Hazard Area.
- ☐ The proposed development is located in a floodway.
- ☒ 100-Year flood elevation at the site is 1140.00 Ft. NGVD (MSL) ☐ Unavailable

See Section 4 for additional instructions.

SIGNED: Jason Murphy DATE: 12/10/2025

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by Permit Staff.)

The applicant must also submit the documents checked below before the application can be processed.

- ☐ Flood proofing protection level (non-residential only) _____ Ft. NGVD (MSL). For flood proofed structures applicant must attach certification from registered engineer.
- ☐ Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.
- ☒ Certification from a registered engineer that the proposed activity in a regulatory flood plain will result in an increase of no more than 0.05 feet in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.
- ☐ All other applicable federal, state, and local permits have been obtained.

Other: _____

SECTION 5: PERMIT DETERMINATION (To be completed by Floodplain Chairman.)

The proposed activity: (A) ☐ **Is**; (B) ☐ **Is Not** in conformance with provisions of Norman's City Code Chapter 22, Section 429.1. The permit is issued subject to the conditions attached to and made part of this permit.

SIGNED: _____ DATE: _____

If **BOX A** is checked, the Floodplain committee chairman may issue a Floodplain Permit.

If **BOX B** is checked, the Floodplain committee chairman will provide a written summary of deficiencies. Applicant may revise and resubmit an application to the Floodplain committee or may request a hearing from the Board of Adjustment.

APPEALS: Appealed to Board of Adjustment:
Hearing date: _____

☐ Yes ☐ No

Board of Adjustment Decision - Approved:

☐ Yes ☐ No

Conditions:

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Occupancy is issued.)

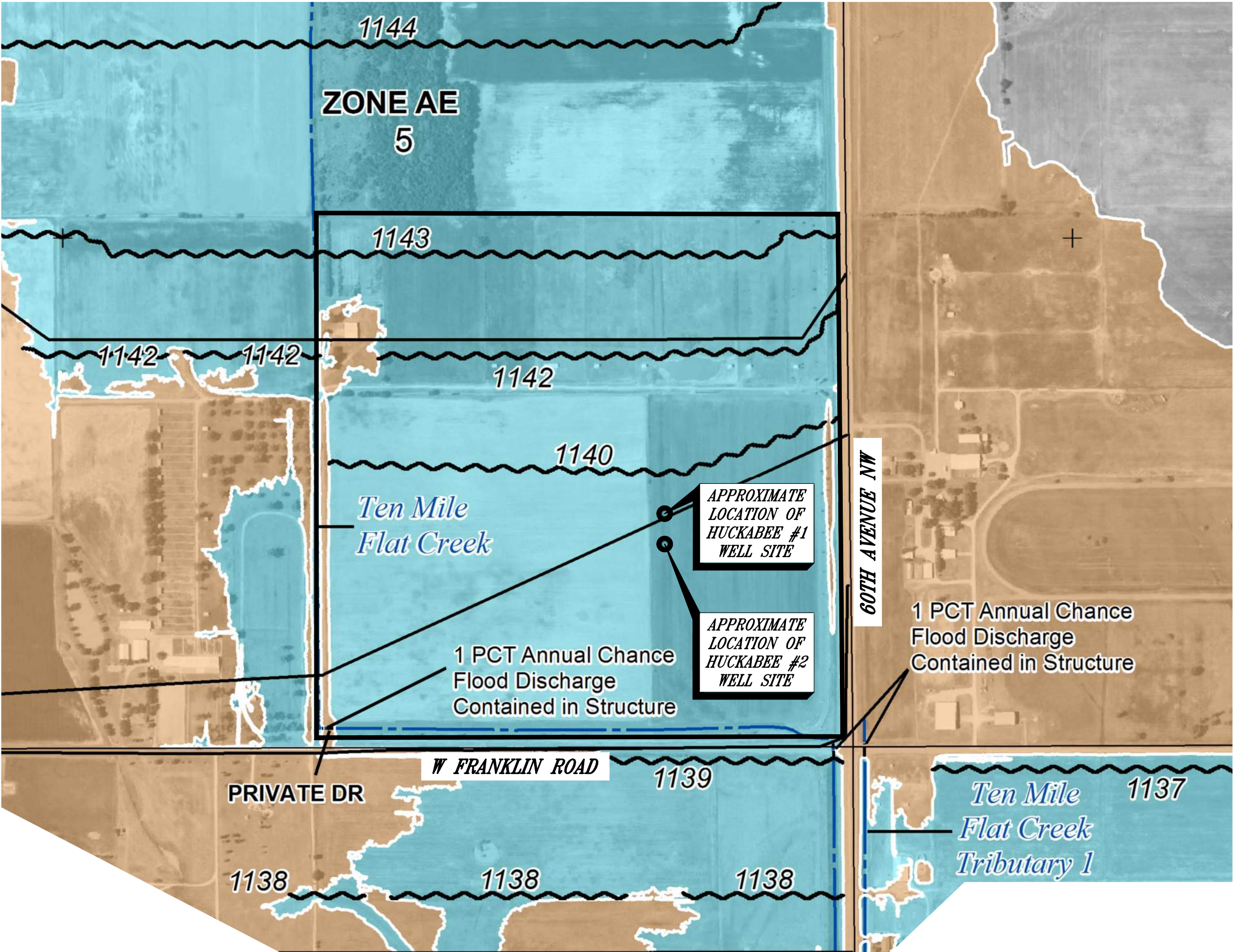
1. FEMA Elevation Certificate
and/or
2. FEMA Floodproofing Certificate

NOTE: The completed certificate will be reviewed by staff for completeness and accuracy. If any deficiencies are found it will be returned to the applicant for revision. A Certificate of Occupancy for the structure will not be issued until an Elevation and /or Floodproofing Certificate has been accepted by the City.

National Flood Hazard Layer FIRMette



Item 2.



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/12/2024 at 12:28 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



Your Civil Engineering Solution

Consulting Engineers, P.C.
815 West Main
Oklahoma City, OK 73106
405-232-7715
FAX 405-232-7859
www.smcokc.com

Civil Engineering
Land Development
Storm Water Management

Terence L. Haynes
Christopher D. Anderson
Muhammad A. Khan

Item 2.

November 5, 2025

Mr. Scott Sturtz, P.E., CFM
Floodplain Administrator
City of Norman

RE: No Rise Certification for
Huckabee Oil Well Project
Norman, Oklahoma
SMC #6598.20

Dear Mr. Sturtz,

The proposed construction of the Huckabee Oil Well Project, #1 and #2, will be conducted in a way to where any select fill or crushed rock roadway material placed within the FEMA Effective Floodplain will be “mitigated” or “offset” by disposing and hauling off the excess material in accordance with local, state, and federal regulations. It is estimated that the project will require 550 cubic yards of crushed rock material; in turn, it is estimated that 589 cubic yards will be exported from the project site to provide adequate compensatory storage. For additional information, please refer to the attached Exhibit 1: Site Plan, Exhibit 2: Grading Plan, and Exhibit 3: Cut/Fill Color Map & Earthwork Analysis. Furthermore, there will be no rise in the base flood elevation (BFE) or adverse impact will occur on the property or any adjacent properties, upstream or downstream.

Sincerely,

Preston Caldwell, P.E.
SMC Consulting Engineers, P.C.



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HUCKABEE PROJECT

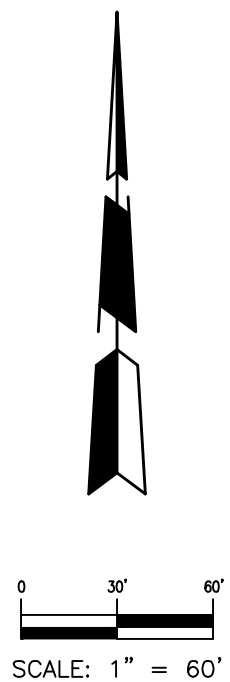
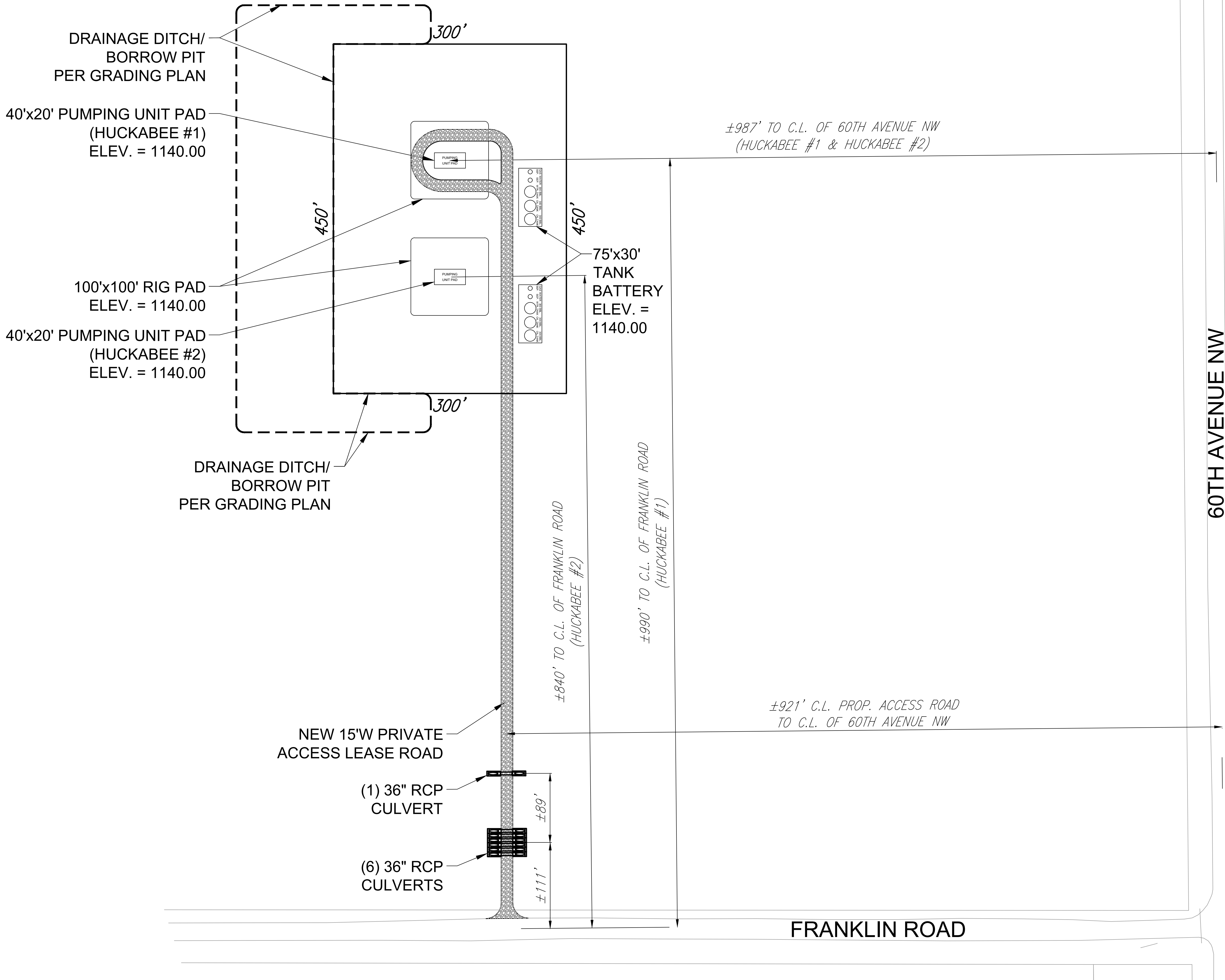
FRANKLIN ROAD & 60TH AVE. NW
NORMAN, OKLAHOMA

SMC SMC Consulting Engineers, P.C. 615 West Main Street, Suite 200 Norman, Oklahoma 73069 PH: 405-232-7715 Fax: 405-232-7699 Website: www.smconk.com		No.	Revision	By	Date
OKMAM CERTIFICATE OF AUTHORIZATION NO. 464 EPR 06/20/2007		1	APPROVED	PRESTON CALDWELL	01/27/25
2		2	REVISED	PRESTON CALDWELL	01/27/25
3		3	REVISED	PRESTON CALDWELL	01/27/25
4		4	REVISED	PRESTON CALDWELL	01/27/25
5		5	REVISED	PRESTON CALDWELL	01/27/25
6		6	REVISED	PRESTON CALDWELL	01/27/25
7		7	REVISED	PRESTON CALDWELL	01/27/25
8		8	REVISED	PRESTON CALDWELL	01/27/25
9		9	REVISED	PRESTON CALDWELL	01/27/25
10		10	REVISED	PRESTON CALDWELL	01/27/25

PROJECT NO.: 6598.00
DATE: 01/27/25
SCALE: 1"=60'
DRAWN BY: PMC
ENGINEER: PRESTON CALDWELL, P.E.
P.E. NUMBER: 33156

SITE PLAN

SHEET NO.
EXHIBIT 1



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DEVELOPER'S ADDRESS
ARIA DEVELOPMENT, LLC
3110 INTERSTATE DR., SUITE 210
NORMAN, OK 73072

HUCKABEE PROJECT

FRANKLIN ROAD & 60TH AVE. NW
NORMAN, OKLAHOMA

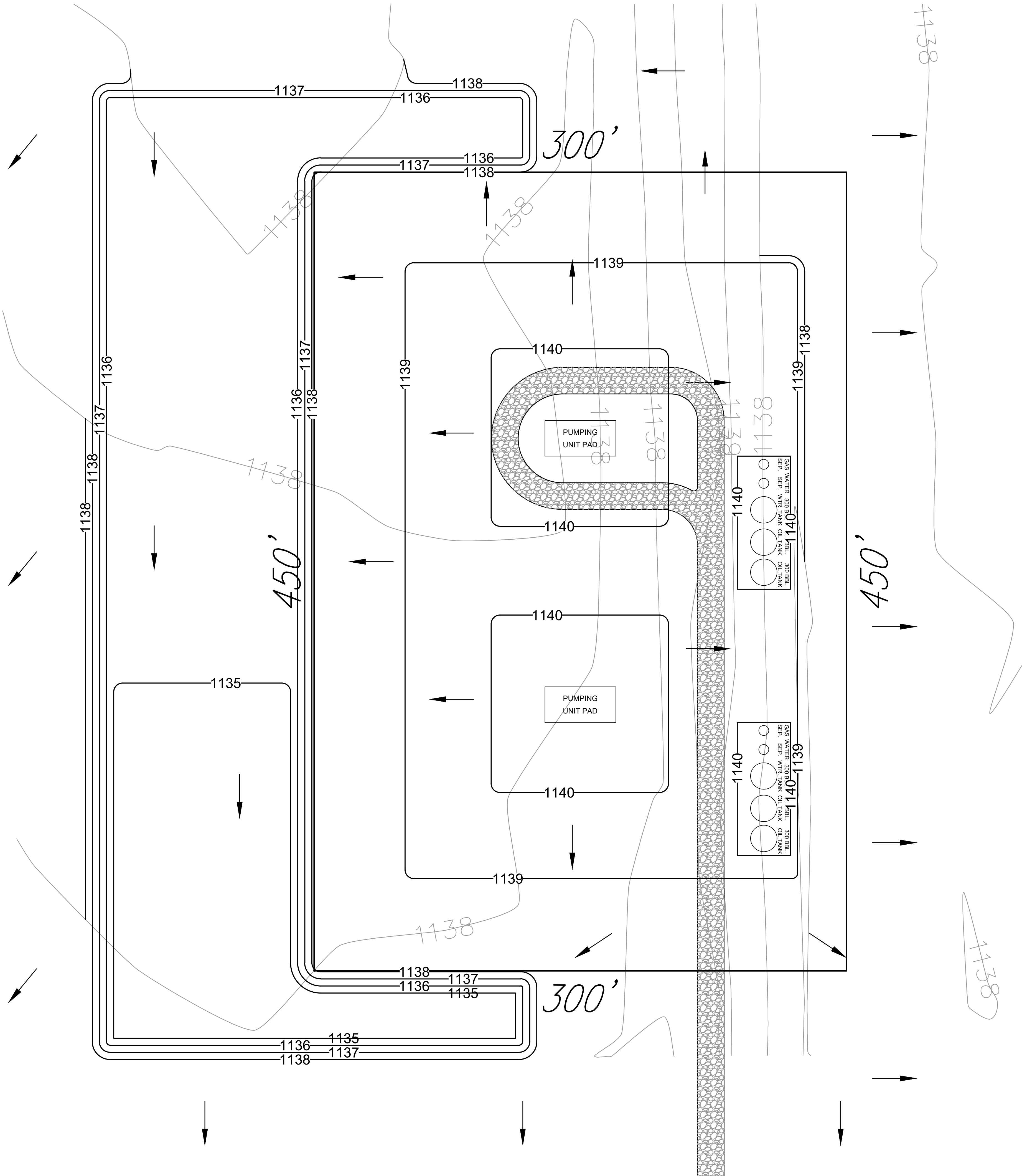
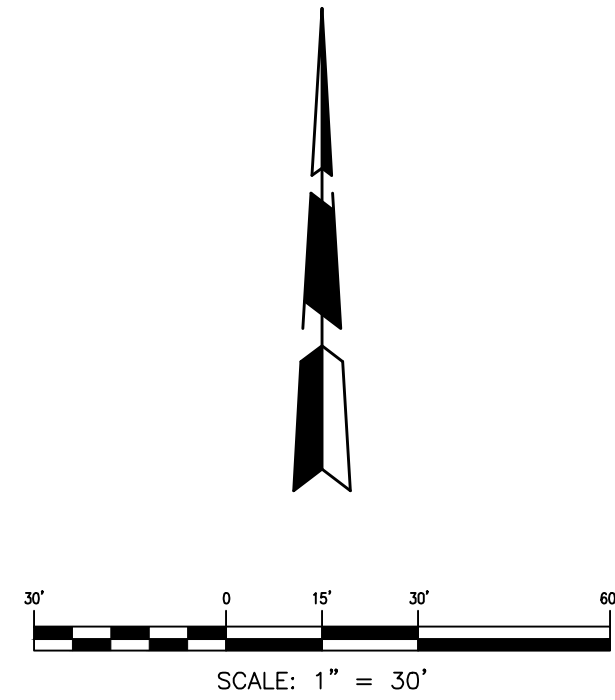
SMC
SMC Consulting Engineers, P.C.
615 East Main Street, Suite 200
Norman, Oklahoma 73069
PH: 405-252-7715 Fax: 405-232-7689
Website: www.smconk.com

No.	Revision	By	Date
1	APPROVED FOR CONSTRUCTION	PMC	01/27/25
2	REVISED PER COMMENTS	PMC	01/27/25

PROJECT NO.: 6598.00
DATE: 01/27/25
SCALE: 1"=30'
DRAWN BY: PMC
ENGINEER: PRESTON CALDWELL, P.E.
P.E. NUMBER: 33156

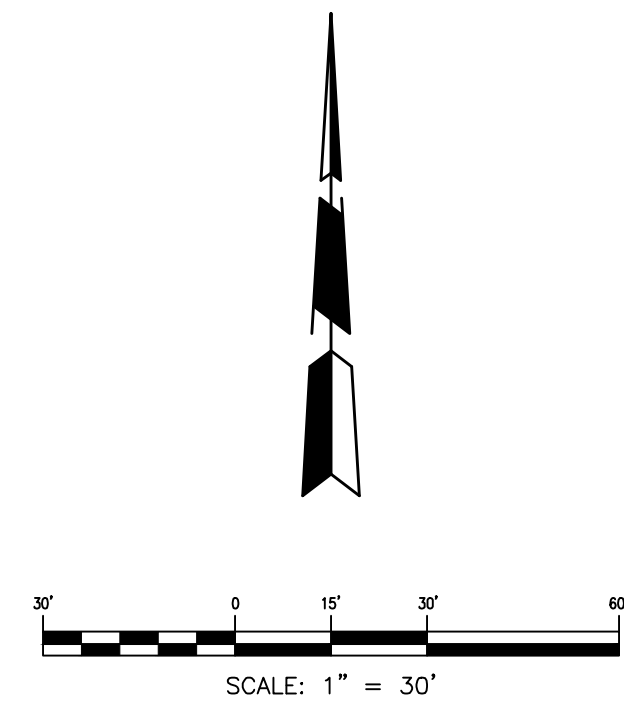
GRADING PLAN

SHEET NO.
EXHIBIT 2



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DEVELOPER'S ADDRESS
ARIA DEVELOPMENT, LLC
3110 INTERSTATE DR., SUITE 210
NORMAN, OK 73072



EARTHWORK ANALYSIS REPORT

Volumes by Triangulation (Prisms) Wed, Nov 05 2025 11:36:20
Existing Surface: N:\DWGS\6598 - Huckabee Project - Floodplain App\EXISTING GRAD
Final Surface: N:\DWGS\6598 - Huckabee Project - Floodplain App\6598.20 Huckab

Cut volume: 6,928.52 C.Y.
Fill volume: 6,338.91 C.Y.
Bank Fill Volume: 5,512.10 C.Y.

Area in Cut : 80,655.4 S.F.
Area in Fill: 119,591.3 S.F.
Area exactly in daylight: 7,526.9 S.F.
Total inclusion area: 207,773.6 S.F.

Average Cut Depth: 2.32 feet
Average Fill Depth: 1.24 feet
Cut to Fill ratio: 1.09
Export Volume: 589.6 C.Y.
Elevation Change To Reach Balance: 0.077
Volume Change Per .1 ft: 769.5 C.Y.

Cut Swell Factor : 1.000
Fill Shrink Factor: 1.150
Cut (C.Y.) / Area (ac): 1452.57
Fill (C.Y.) / Area (ac): 1328.96

Max Cut: 3.000 at 2117674.200,708275.652
Max Fill: 2.000 at 2118012.297,708315.703

Page 1 of 1

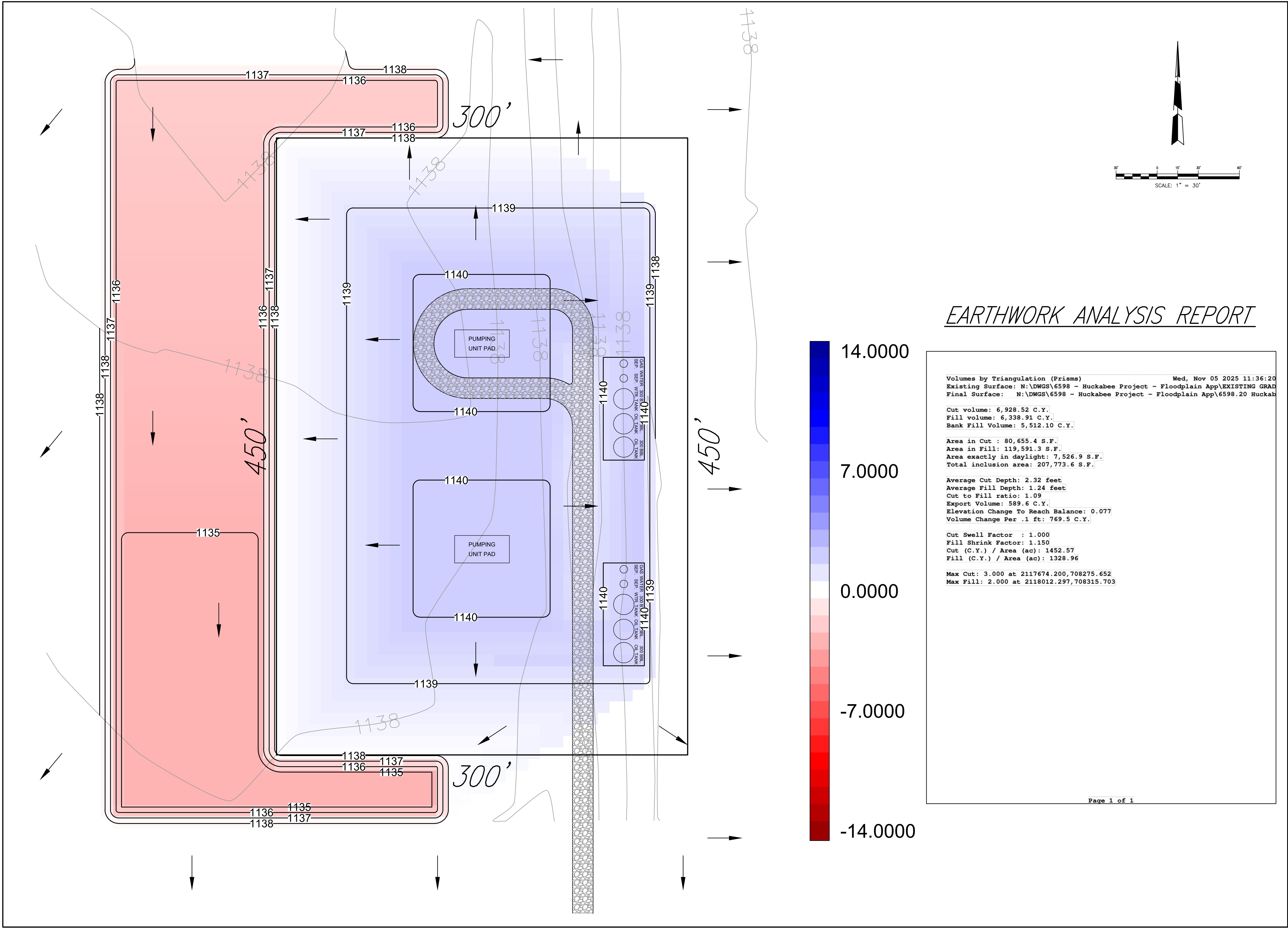
HUCKABEE PROJECT

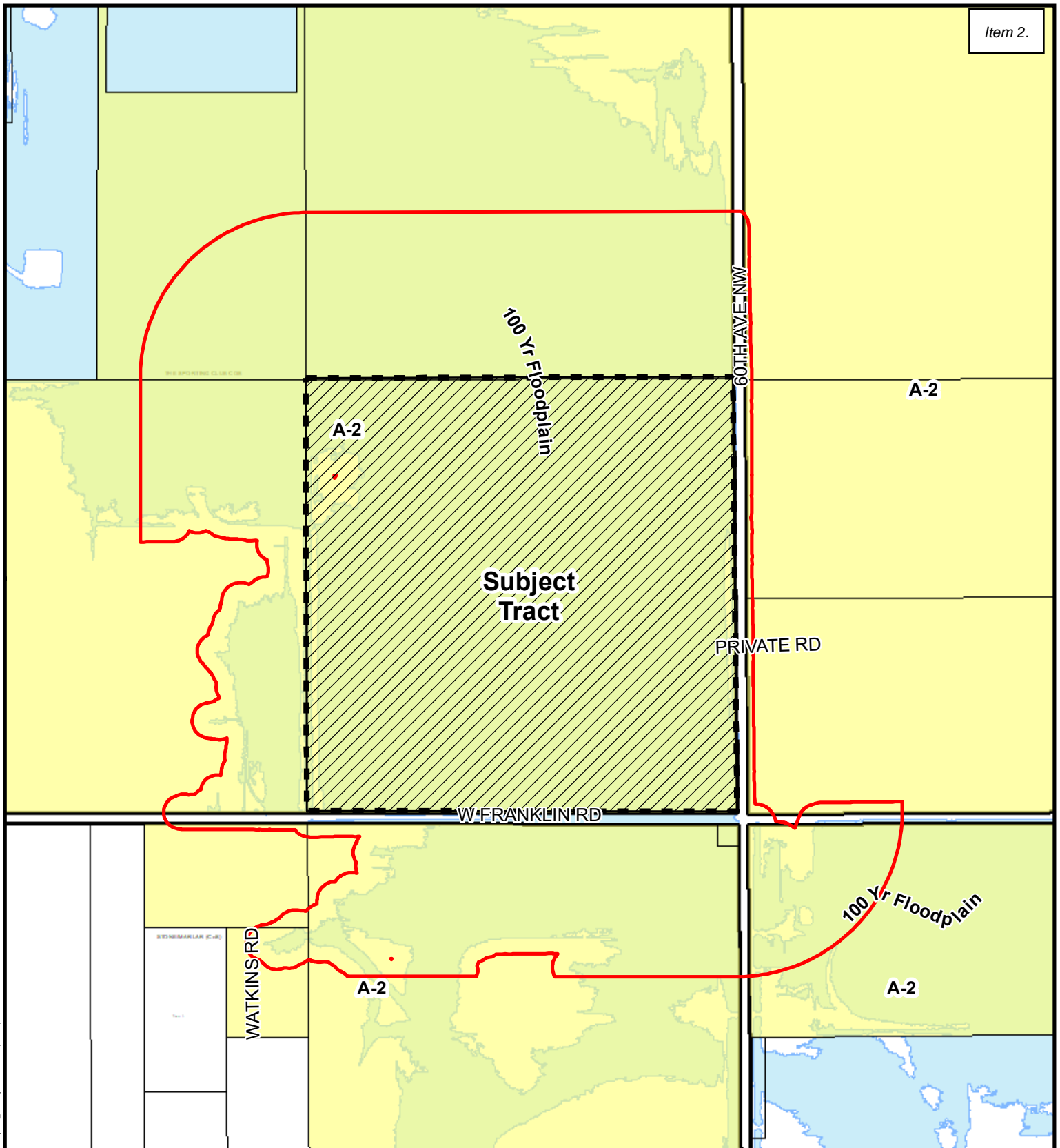
FRANKLIN ROAD & 60TH AVE. NW
NORMAN, OKLAHOMA

SMC Consulting Engineers, P.C. 6000 N. Lincoln Blvd., Suite 200 Norman, OK 73069 Phone: 405-232-7715 Fax: 405-232-7689 Website: www.smccok.com		PROJECT NO: 6598.00	
		DATE: 01/27/25	
DRAWN BY: PMC		SCALE: 1"=30'	
ENGINEER: PRESTON CALDWELL, P.E.		DRAWN BY: PMC	
P.E. NUMBER: 33156		DATE: 01/27/25	
No.	Revision	By	Date
1	APPROVED FOR CONSTRUCTION	PMC	01/27/25
2	FOR CONSTRUCTION	PMC	01/27/25

CUT/FILL COLOR MAP &
EARTHWORK ANALYSIS

SHEET NO.
EXHIBIT 3

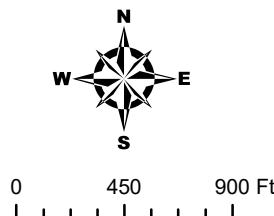









Floodplain Permit Notification Map

Map Produced by the City of Norman
Geographic Information System.
The City of Norman assumes no
responsibility for errors or omissions
in the information presented.

1000ft. Radius
September 19, 2024



-  Subject Tract
-  Radius
-  Zoning
-  Parcels
-  Notification Area

HUCKABEE, G O & ANNA J-LIV TRT
CO-TRTEES
1616 SW 113TH PL
OKLAHOMA CITY OK 73170

D & D PROPERTIES, LLC
2601 Pioneer LN
Moore OK 73160-4117

ROSTAM VALLEY FARM, LLC
PO Box 3025
Oklahoma City OK 73101-3025

ROSTAM VALLEY FARM, LLC
PO Box 3025
Oklahoma City OK 73101-3025

CITY OF NORMAN
PO Box 370
Norman OK 73070-0370

CITY OF NORMAN
330 W Gray ST
Norman OK 73069-7129

RAVEN INVESTMENTS, LLC
PO Box 7187
Moore OK 73153-1187

RAVEN INVESTMENTS, LLC
PO Box 7187
Moore OK 73153-1187

RAVEN INVESTMENTS, LLC
PO Box 7187
Moore OK 73153-1187

FARLEY FAM-REV-TRT
1814 Saddleback BLVD
Norman OK 73072-2842

JORDAN, BRENT R & TERI R
6600 W Franklin RD
Norman OK 73072-1202

6804 W INDIAN HILLS RD, LLC
5501 W TECUMSEH
NORMAN OK 73072

HUCKABEE, GLENN D & NORMA JO-LIV
TRT
1616 SW 113th PL
Oklahoma City OK 73170-4474

HUCKABEE, G O & ANNA J-LIV TRT
CO-TRTEES
1616 SW 113TH PL
OKLAHOMA CITY OK 73170

WESTERMIER, GREGORY
20501 E Waterloo RD
Luther OK 73054-8160



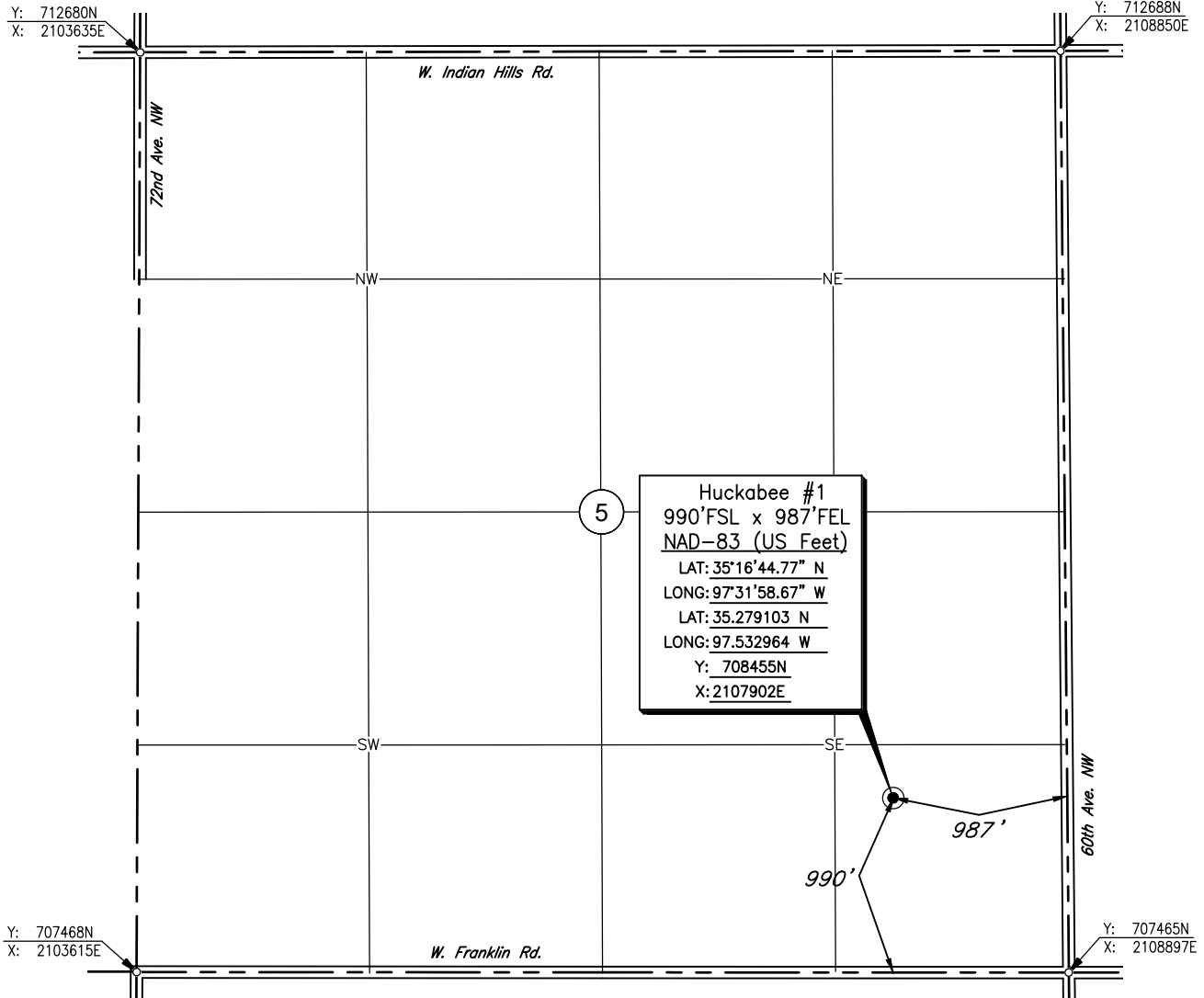
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C.A. No. 1780 Expires June 30, 2026

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(405) 692-7348
cimsurvey.com

CLEVELAND

County, Oklahoma

990'FSL – 987'FEL Section 5 Township 9N Range 3W I.M.



Scale: 1"= 1000' Date Staked: September 24, 2024

GPS Observation: Latitude 35°16'44.77" N
Longitude 97°31'58.67" W
Latitude 35.279103 N
Longitude 97.532964 W

State Plane NAD83 Y: 708455N
Oklahoma South Zone: X:2107902E

Operator: Encore Operating Elevation: 1138'

Lease Name: Huckabee Well No.: #1

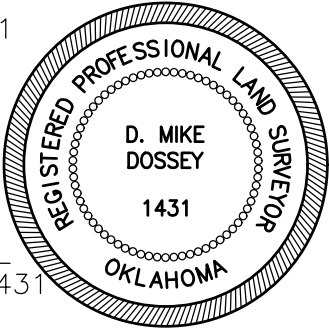
Topography & Vegetation: Pasture

Alternate Location Stakes Set: No Good Drill Site? Yes


Best Accessibility to Location: From the East Line

Distance & Direction
from Hwy Jct or Town: From the Intersection of I-35 and W Tecumseh Rd.; Thence
West approx. 2.5 miles; Thence North approx. 1 mile to the SE corner of Section 5.

SURVEYOR'S CERTIFICATE:
I, D. MIKE DOSSEY, Registered Professional Land Surveyor, No. 1431
do hereby certify that the above described well location was
carefully staked on the ground as shown and that all ties and
distances shown are from existing lines of occupation.



JOB NO.: 2414200				
DATE: 10/02/24				
DRAWN BY: B.M.J.	NO.	REVISION	DATE	BY


D. MIKE DOSSEY R.P.L.S. # 1431
Date Signed: 10/02/2024



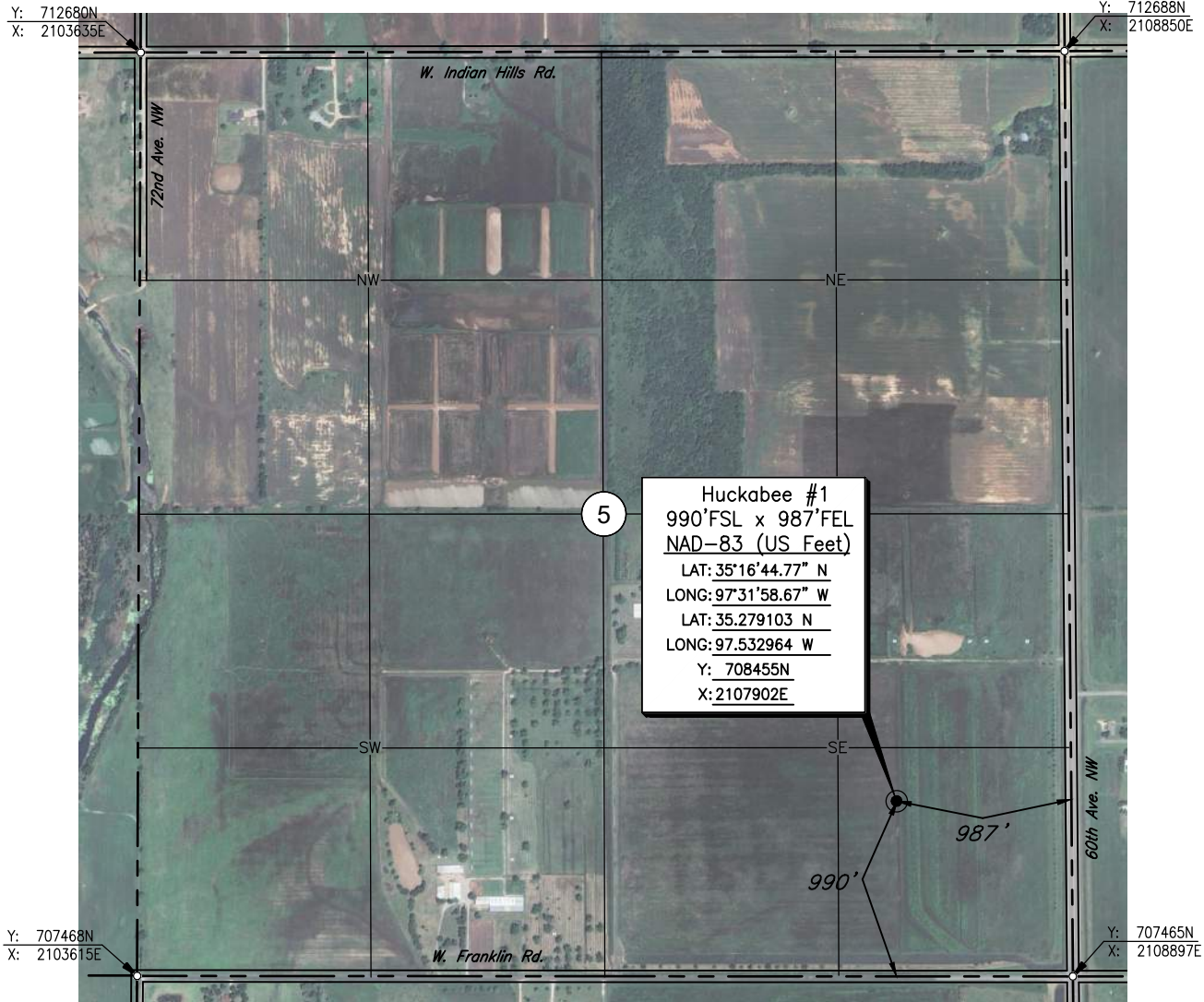
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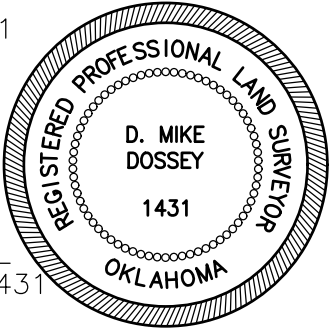
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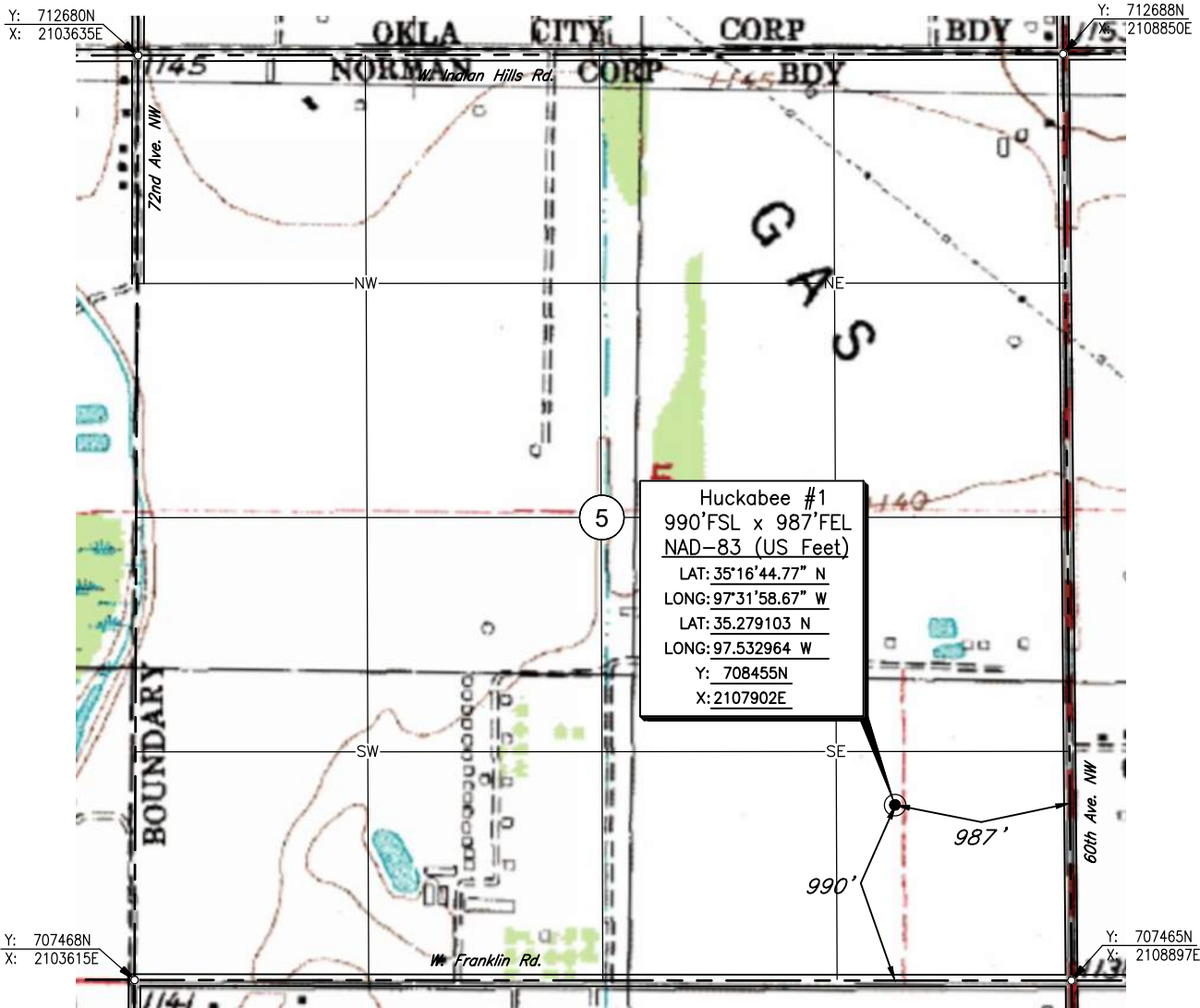


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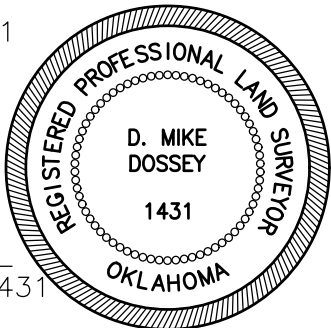
Topography & Vegetation: Pasture

Alternate Location Stakes Set: No Good Drill Site? Yes


Best Accessibility to Location: From the East Line

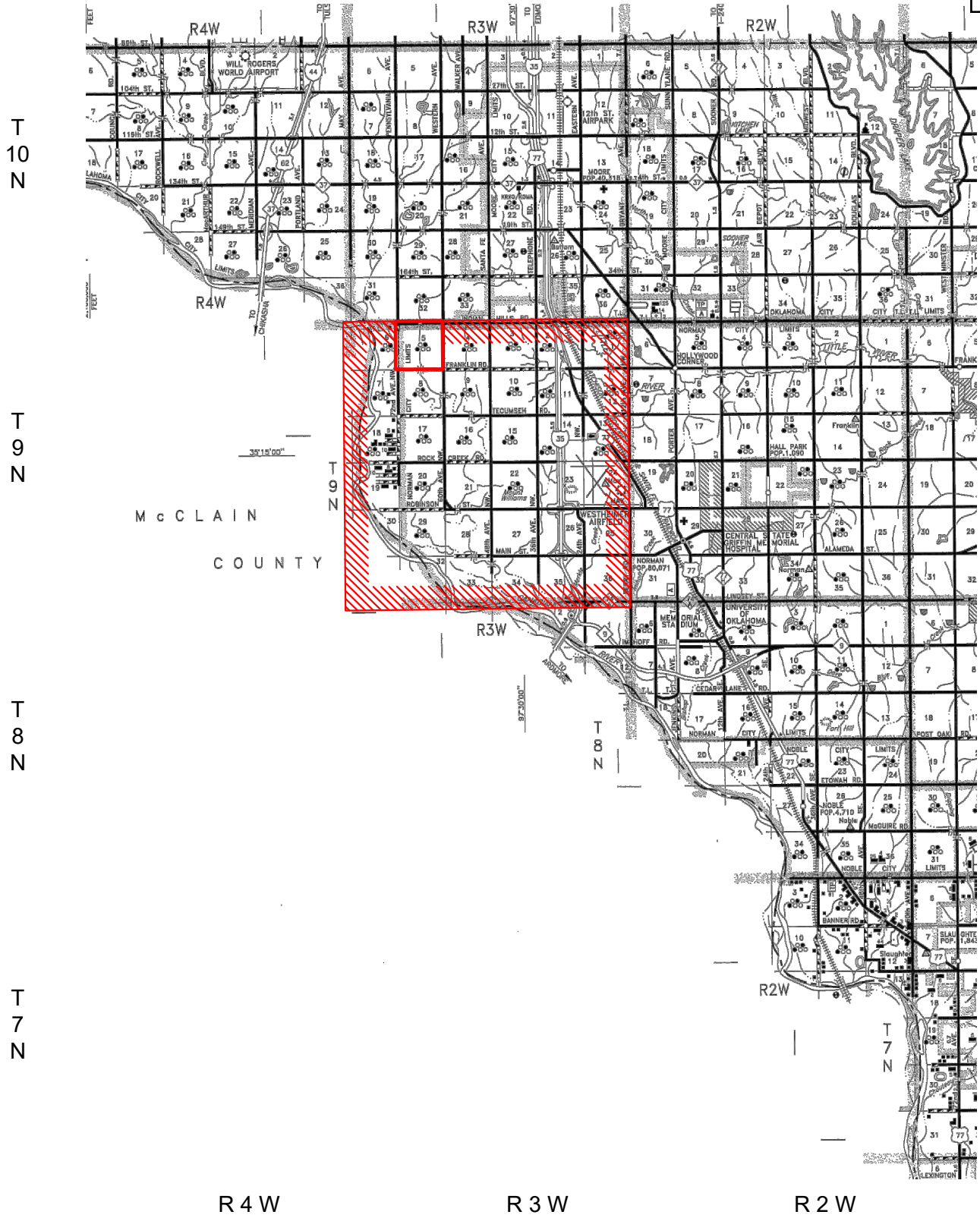
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Date Signed: 10/02/2024



VICINITY MAP FOR
SECTION 5, T9N - R3W
CLEVELAND COUNTY, OKLAHOMA

NO.	REVISION	DATE	BY
SURVEYED BY:		D.D.	
DRAWN BY:		B.M.J.	
APPROVED BY:		D.M.D.	

VICINITY MAP



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CA No. 1780 Expires June 30, 2026

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SCALE:	1" = 3 Miles
DATE:	10/02/24
JOB NO.:	2414200
DWG. NO.:	2414.200_VMAP
AFE. NO:	
SHEET	1 OF 1


T 9 N - R 3 W

PLAT SHOWING
WELL PAD IN THE
SE/4 OF SECTION 5, T9N - R3W
CLEVELAND COUNTY, OKLAHOMA



NOTES:

- This drawing is for the purpose of depicting a pad area and does not represent a boundary survey.

				ENCORE OPERATING	SCALE:	1"=200'		
					DATE:	10/02/24		
NO.	REVISION	DATE	BY		JOB NO.:	2414200		
SURVEYED BY: D.D.					DWG. NO.:	2414.200_PAD		
DRAWN BY: B.M.J.					AFE. NO:			
APPROVED BY: D.M.D.				 <div>CIMARRON. SURVEYING & MAPPING CO. <small>CA No. 1780 Expires June 30, 2026</small></div> <div>1530 SW 89th STREET, Bldg. C3 Oklahoma City, OK (405) 692-7348 www.civmsurvey.com</div>	SHEET	1	OF	1



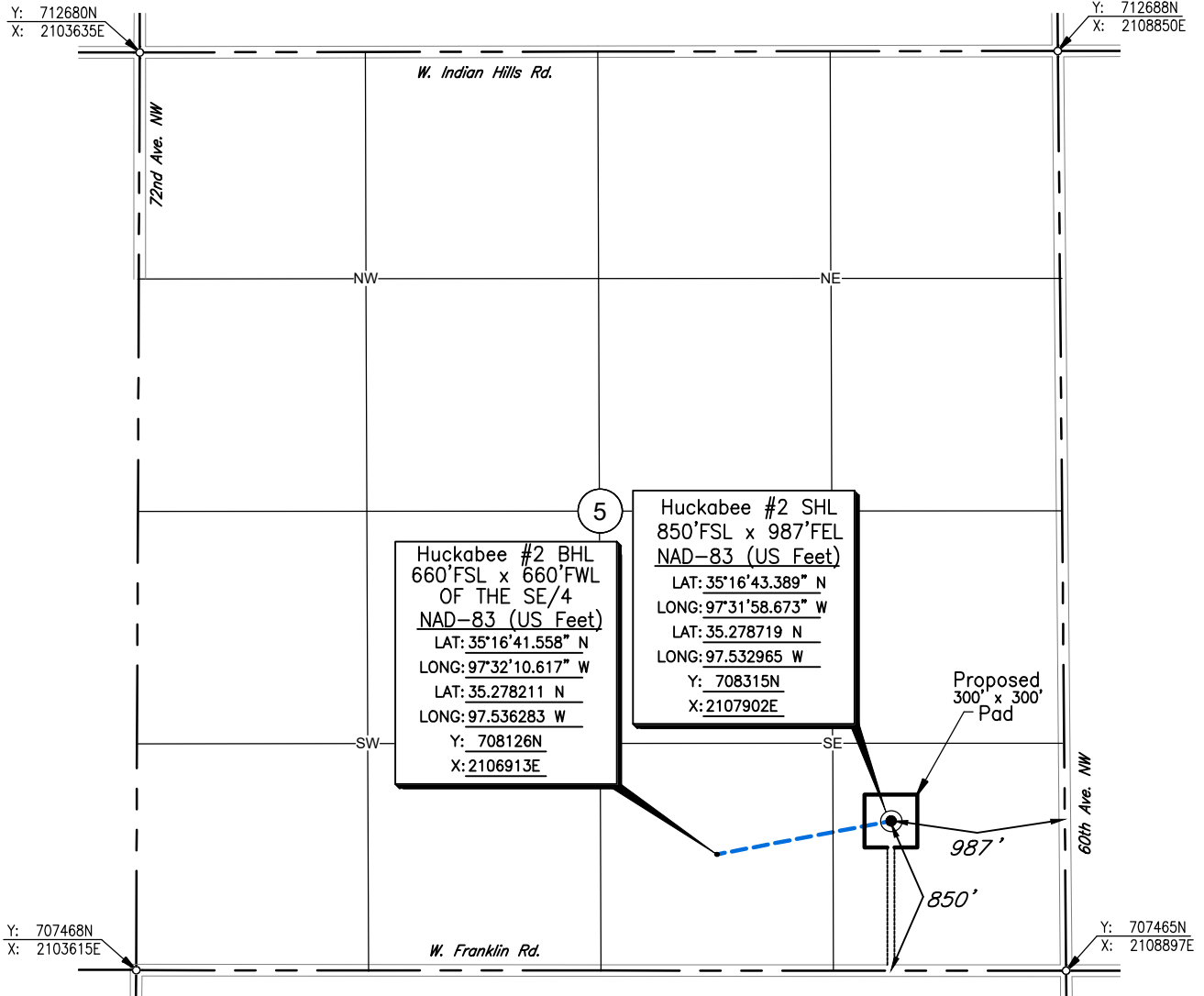
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CLEVELAND

County, Oklahoma

850'FSL – 987'FEL Section 5 Township 9N Range 3W I.M.



Scale: 1"= 1000'

Date Staked: September 19, 2025

GPS Observation: Latitude 35°16'43.389" N
Longitude 97°31'58.673" W
Latitude 35.278719 N
Longitude 97.532965 W

State Plane NAD83 Y: 708315N
Oklahoma South Zone: X: 2107902E

Operator: Encore Operating Elevation: 1138'

Lease Name: Huckabee Well No.: 2

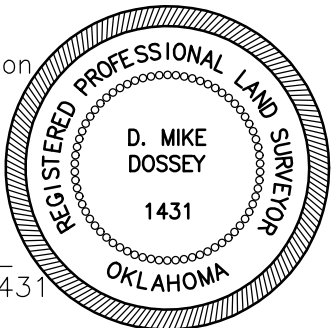
Topography & Vegetation: Pasture

Alternate Location Stakes Set: No Good Drill Site? Yes

Best Accessibility to Location: From the South Line

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JOB NO.: 2514192				
DATE: 09/19/25				
DRAWN BY: D.B.O.	NO.	REVISION	DATE	BY

D. MIKE DOSSEY R.P.L.S. # 1431
Date Signed: 09/25/2025



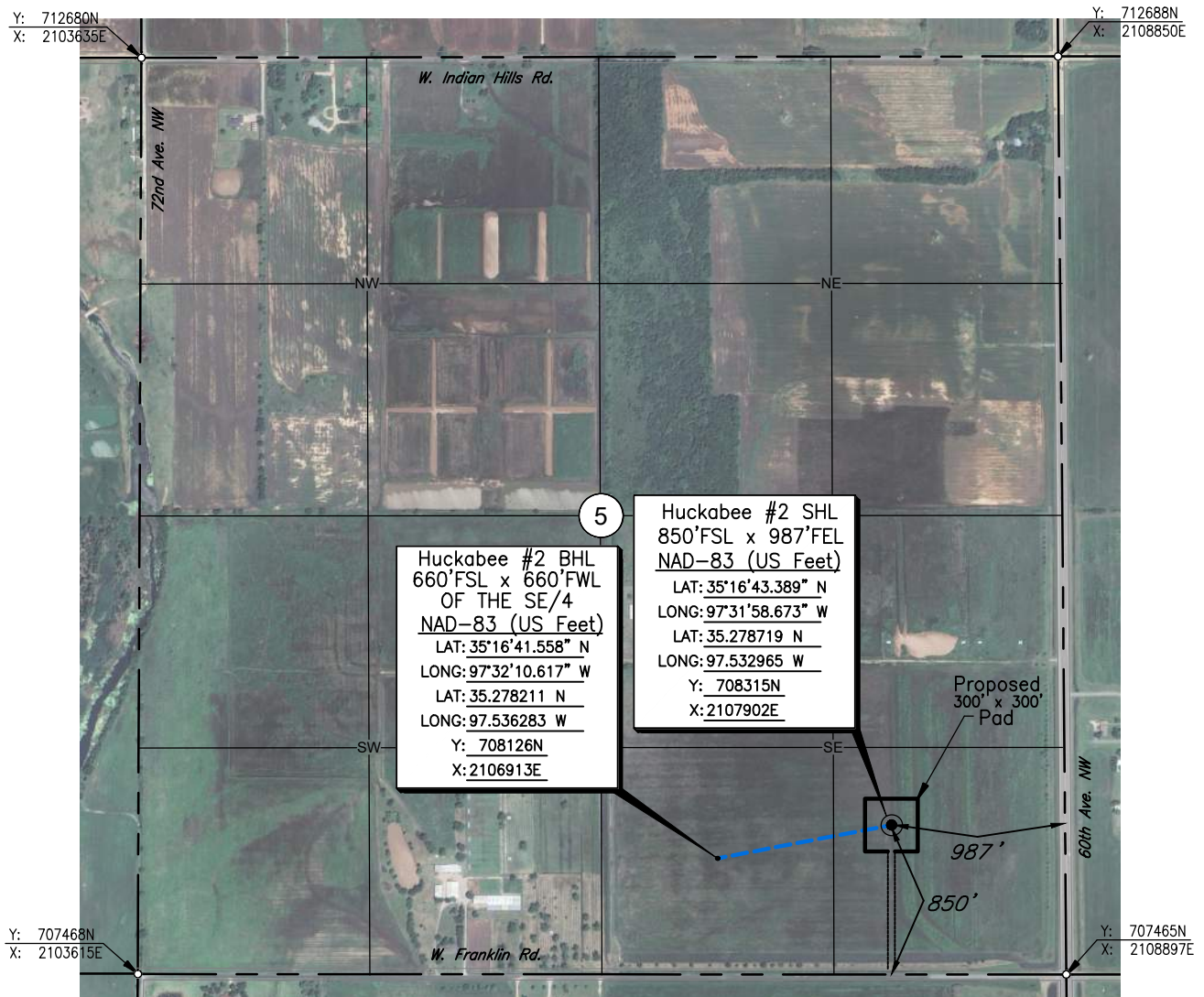
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Longitude 97.532965 W

State Plane NAD83 Y: 708315N
Oklahoma South Zone: X:2107902E

Operator: Encore Operating

Elevation: 1138'

Lease Name: Huckabee

Well No.: 2

Topography & Vegetation: Pasture

Alternate Location Stakes Set: No Good Drill Site? Yes

Best Accessibility to Location: From the South Line

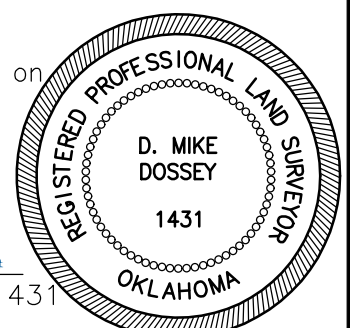
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MIKE DOSSEY RPLS #

D. MIKE DOSSEY R.P.L.S. # 1431
Date Signed: 09/25/2025

JOB NO.: 2514192				
DATE: 09/19/25				
DRAWN BY: D.B.O.	NO.	REVISION	DATE	BY



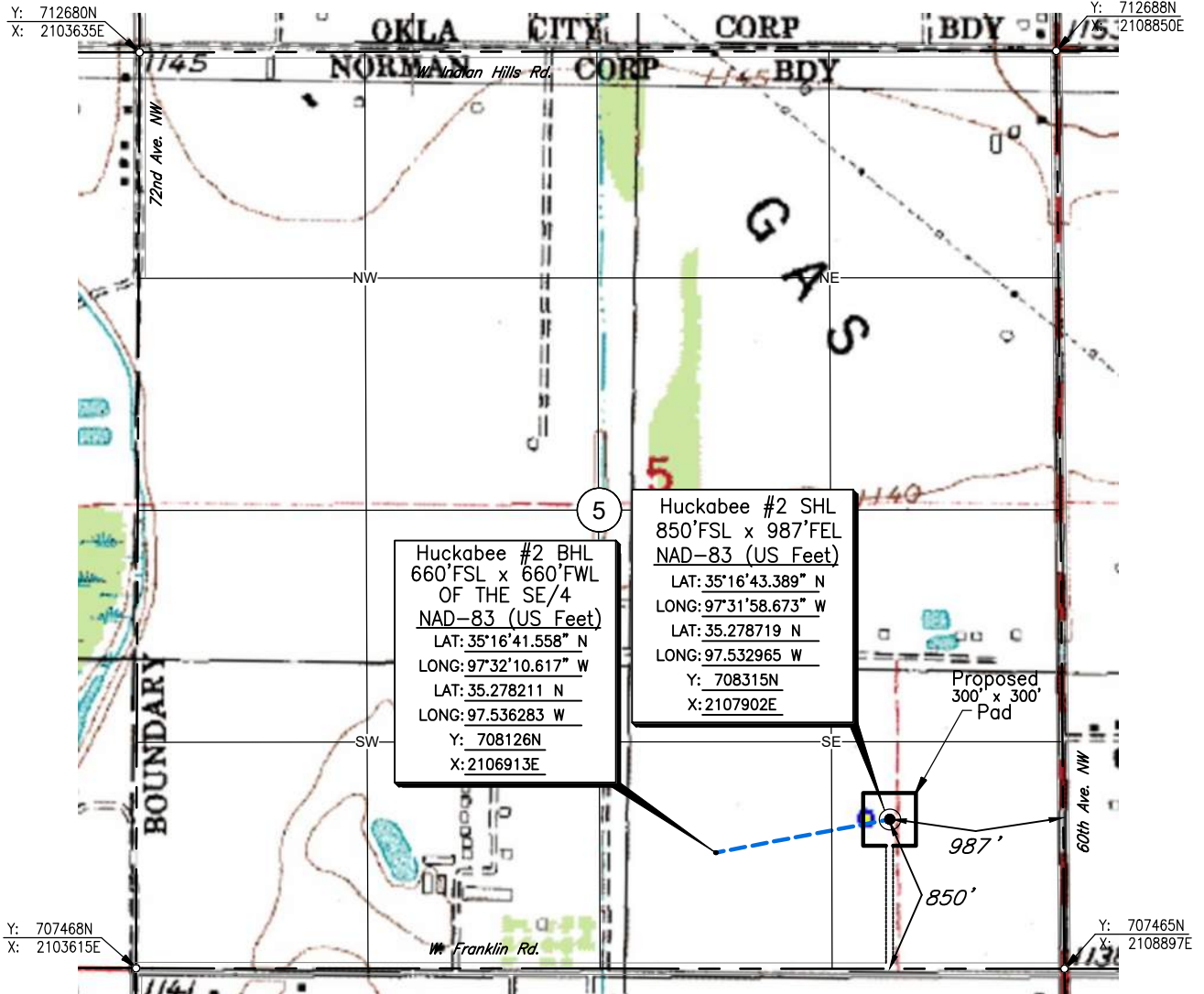
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State Plane NAD83 Y: 708315N
Oklahoma South Zone: X:2107902E

Operator: Encore Operating

Elevation: 1138'

Lease Name: Huckabee

Well No.: #1

Topography & Vegetation: Pasture

Alternate Location Stakes Set: No Good Drill Site? Yes

Best Accessibility to Location: From the South Line

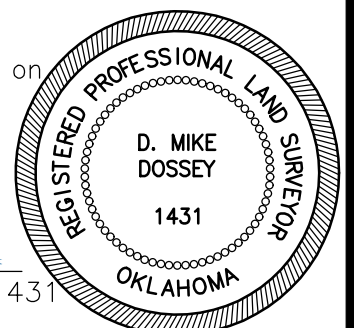
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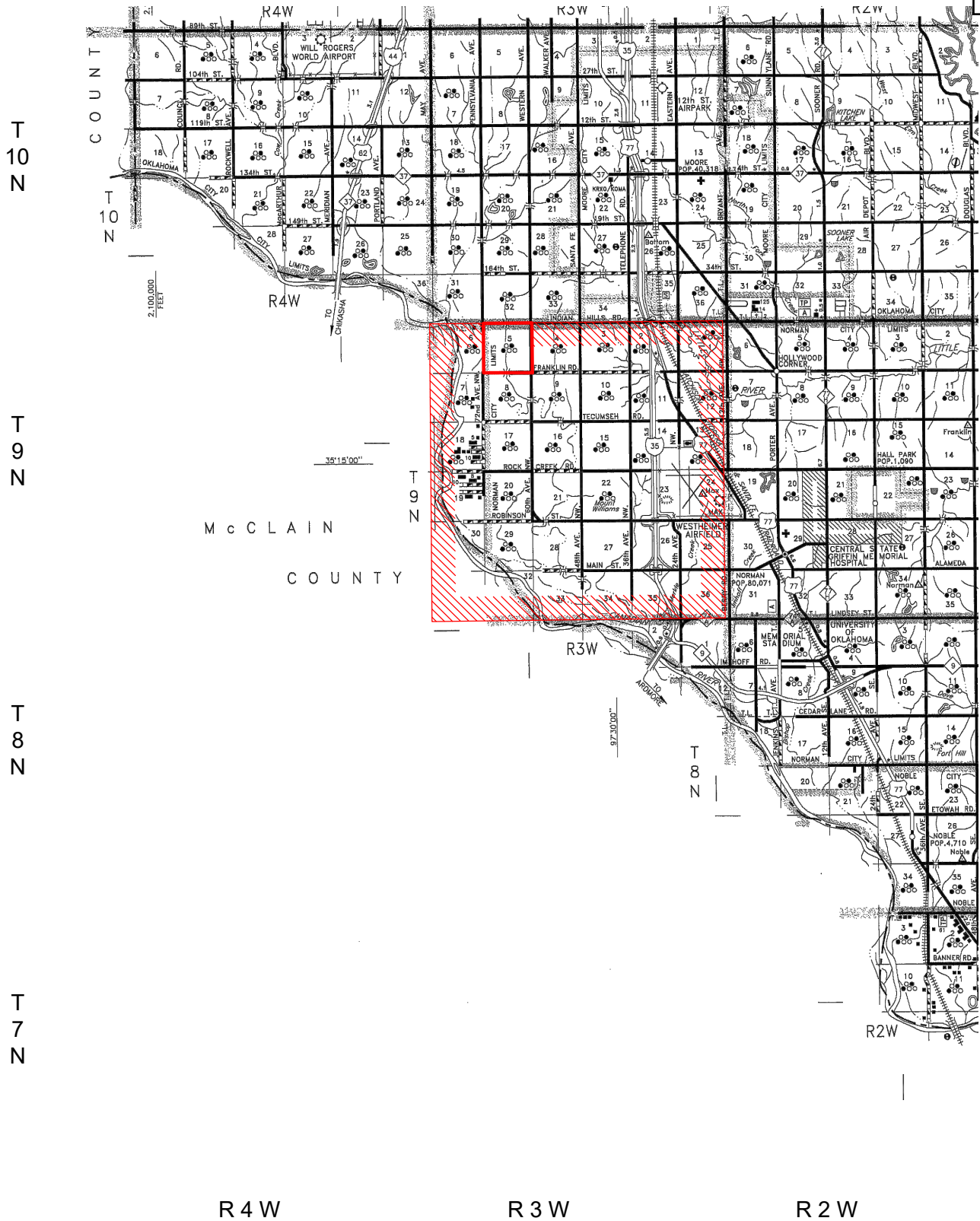
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D. MIKE DOSSEY R.P.L.S. # 1431
Date Signed: 09/25/2025



VICINITY MAP FOR
SECTION 5, T9N - R3W
CLEVELAND COUNTY, OKLAHOMA

NO.	REVISION	DATE	BY
SURVEYED BY: D.D.			
DRAWN BY: D.B.O.			
APPROVED BY: D.M.D.			

VICINITY MAP



CIMARRON.
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C.A. No. 1780 Expires June 30, 2026

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(405) 692-7348
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SCALE:	1" = 3 Miles
DATE:	09/25/25
JOB NO.:	2514192
DWG. NO.:	2514192_VMAP
AFE. NO:	
SHEET	1 OF 1



PERMIT NO. 734

DATE: 12/15/2025

STAFF REPORT

ITEM: Floodplain Permit Application for Improvements at 428 Laws Drive

APPLICANT: J. Mark Daniels, 428 Laws Drive

ENGINEER: J. Mark Daniels, P.E.

BACKGROUND

The applicant requests a floodplain permit for several improvements constructed in the backyard of 428 Laws Drive, adjacent to Muddy Boggy Creek in the Ten Mile Flats area. Improvements include a garden wall, retaining wall, circular patio slab, hot tub, and pergola columns. The site lies partially within the 0.1% Special Flood Hazard Area (SFHA). The floodplain elevation is approximately 1121.7 ft.

Improvements were constructed in phases (2020–2024). Significant erosion was documented during flooding events in spring 2025, prompting a City inspection and the requirement for a floodplain permit.

STAFF ANALYSIS

Site located in Ten-Mile Flat Creek (Muddy Boggy Creek) Floodplain.

Flood Zone: The site is within Zone AE. Interpolation of FEMA data identifies a BFE of approximately 1121.7 ft.

APPLICABLE ORDINANCE SECTIONS (36-533)

- (e)(2)(a) – Floodplain modification and fill restrictions
- (e)(2)(e) – Compensatory storage requirements
- (f)(3)(8) – No-rise condition requirements
- (e)(7) – Floodway restrictions (not applicable here)

DETAILED ORDINANCE ANALYSIS

(e)(2)(a) – Floodplain Fill Restrictions

Applicant provided detailed cut/fill calculations. Approximate volumes:

- Fill: ~420 CF
- Cut: ~303 CF

Net effect: approximately –117 CF (additional storage).

(e)(2)(e) – Compensatory Storage

Engineer's stamped certification confirms compensatory excavation behind the garden wall. Excavation depth of 11.25 inches provides ~117 CF of compensatory storage, and excavation to 16 inches yields ~237 CF, exceeding the required offset.

(f)(3)(8) – No-Rise Requirement

Engineer provided a No-Rise Certification showing that neither Phase 1 nor Phase 2 improvements increase the Base Flood Elevation (BFE). All excavated materials will be removed from the floodplain.

(e)(7) – Floodway Restrictions

The project is not located in a mapped regulatory floodway. No restrictions apply.

OTHER CONSIDERATIONS

Creek bank repair is not part of this permit and will require a separate floodplain permit, coordination with HOA, adjacent owners, and engineering design.

RECOMMENDATION

Staff recommends approval with the following conditions:

1. Complete compensatory excavation as shown in submitted documents and provide evidence in the form of as-builts and/or photo evidence.
2. Remove all excavated material from the 100-year floodplain.
3. No additional fill or creek repair is allowed under this permit.
4. Future creek bank stabilization requires a separate permit.

ACTION TAKEN:



City of Norman

Floodplain Permit Application

Floodplain Permit No. 734

Building Permit No. _____

Date 12-15-2025

FLOODPLAIN PERMIT APPLICATION (\$100.00 Application Fee Required)

SECTION 1: GENERAL PROVISIONS (APPLICANT to read and sign):

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Occupancy is issued.
5. The permit will expire if no work is commenced within 2 years of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements and must be included with this floodplain permit application.
7. Applicant hereby gives consent to the City of Norman or his/her representative to access the property to make reasonable inspections required to verify compliance.
8. The following floodplain modifications require approval by the City Council:
 - (a) A modification of the floodplain that results in a change of ten percent (10%) or more in the width of the floodplain.
 - (b) The construction of a pond with a water surface area of 5 acres or more.
 - (c) Any modifications of the stream banks or flow line within the area that would be regulatory floodway whether or not that channel has a regulatory floodplain, unless the work is being done by the City of Norman staff as part of a routine maintenance activity.
9. All supporting documentation required by this application is required along with the permit fee by the submittal deadline. Late or incomplete applications will not be accepted.
10. I, THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT.)

APPLICANT: Mark Daniels ADDRESS: 428 Laws Drive Norman OK 73072TELEPHONE: +14054069546 SIGNATURE: _____BUILDER: Same ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

ENGINEER: Mark Daniels ADDRESS: 428 Laws Drive Norman OK 73072TELEPHONE: +14054069546 SIGNATURE: _____

PROJECT LOCATION

To avoid delay in processing the application, please provide enough information to easily identify the project location. Provide the street address, subdivision addition, lot number or legal description (attach) and, outside urban areas, the distance to the nearest intersecting road or well known landmark. A sketch attached to this application showing the project location would be helpful.

Address of improvements is 428 Laws Drive in Cambridge Addition in NW Norman located NW of Main and 48th Avenue NW.

See Attachment 1 and 2.

DESCRIPTION OF WORK (Check all applicable boxes):**A. STRUCTURAL DEVELOPMENT****ACTIVITY****STRUCTURE TYPE**

- | | |
|--|---|
| <input type="checkbox"/> New Structure | <input type="checkbox"/> Residential (1-4 Family) |
| <input type="checkbox"/> Addition | <input type="checkbox"/> Residential (More than 4 Family) |
| <input type="checkbox"/> Alteration | <input type="checkbox"/> Non-Residential (Flood proofing? <input type="checkbox"/> Yes) |
| <input type="checkbox"/> Relocation | <input type="checkbox"/> Combined Use (Residential & Commercial) |
| <input type="checkbox"/> Demolition | <input type="checkbox"/> Manufactured (Mobile) Home |
| <input type="checkbox"/> Replacement | <input type="checkbox"/> In Manufactured Home Park? <input type="checkbox"/> Yes |

ESTIMATED COST OF PROJECT \$_____ Work that involves substantial damage/substantial improvement requires detailed cost estimates and an appraisal of the structure that is being improved.

B. OTHER DEVELOPMENT ACTIVITIES:

- ☒ Fill ☒ Mining ☐ Drilling ☐ Grading
- ☐ Excavation (Beyond the minimum for Structural Development)
- ☐ Watercourse Alteration (Including Dredging and Channel Modifications)
- ☐ Drainage Improvements (Including Culvert Work) ☐ Road, Street or Bridge Construction
- ☐ Subdivision (New or Expansion) ☐ Individual Water or Sewer System

In addition to items A. and B. provide a complete and detailed description of proposed work (failure to provide this item will be cause for the application to be rejected by staff). Attach additional sheets if necessary.

See Attachment 3 for a complete description.

C. ATTACHMENTS WHICH ARE REQUIRED WITH EVERY APPLICATION:

The applicant must submit the documents listed below before the application can be processed. If the requested document is not relevant to the project scope, please check the Not Applicable box and provide explanation.

- A. Plans drawn to scale showing the nature, location, dimensions, and elevation of the lot, existing or proposed structures, fill, storage of materials, flood proofing measures, and the relationship of the above to the location of the channel, floodway, and the regulatory flood-protection elevation.

- B. A typical valley cross-section showing the channel of the stream, elevation of land areas adjoining each side of the channel, cross-sectional areas to be occupied by the proposed development, and high-water information.

☐ Not Applicable:

Not Applicable

- C. Subdivision or other development plans (If the subdivision or other developments exceeds 50 lots or 5 acres, whichever is the lesser, the applicant must provide 100-year flood elevations if they are not otherwise available).

☐ Not Applicable:

Not Applicable

- D. Plans (surface view) showing elevations or contours of the ground; pertinent structure, fill, or storage elevations; size, location, and spatial arrangement of all proposed and existing structures on the site; location and elevations of streets, water supply, sanitary facilities; photographs showing existing land uses and vegetation upstream and downstream, soil types and other pertinent information.

☐ Not Applicable:

See Attachment 4, Plan View with dimensions; Attachment 5, Plan and Sectional View; Attachment 6, Cross Section with calculations; Excel spreadsheet with detailed calculations; Attachment 8, FEMA Flood Hazard Map with project location.

- E. A profile showing the slope of the bottom of the channel or flow line of the stream.

☐ Not Applicable:

Not Applicable

- F. Elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures.

☐ Not Applicable:

Not Applicable

- G. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

☐ Not Applicable:

Not Applicable

- H. For proposed development within any flood hazard area (except for those areas designated as regulatory floodways), certification that a rise of no more than five hundredths of a foot (0.05') will occur on any adjacent property in the base flood elevation as a result of the proposed work. For proposed development within a designated regulatory floodway, certification of no increase in flood levels within the community during the occurrence of the base flood discharge as a result of the proposed work. All certifications shall be signed and sealed by a Registered Professional Engineer licensed to practice in the State of Oklahoma.
- I. A certified list of names and addresses of all record property owners within a three hundred fifty (350) foot radius of the exterior boundary of the subject property not to exceed 100 feet laterally from the Special Flood Hazard Area. The radius to be extended by increments of one hundred (100) linear feet until the list of property owners includes not less than fifteen (15) individual property owners of separate parcels or until a maximum radius of one thousand (1,000) feet has been reached.
- J. A copy of all other applicable local, state, and federal permits (i.e. U.S. Army Corps of Engineers 404 permit, etc).

After completing SECTION 2, APPLICANT should submit form to Permit Staff for review.

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by Permit Staff.)

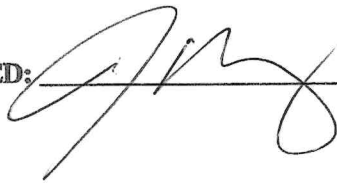
The proposed development is located on FIRM Panel No.: 02603, Dated: 1/15/2021

The Proposed Development:

- ☐ Is NOT located in a Special Flood Hazard Area
(Notify the applicant that the application review is complete and NO FLOODPLAIN PERMIT IS REQUIRED).
- ☒ Is located in a Special Flood Hazard Area.
- ☐ The proposed development is located in a floodway.
- ☒ 100-Year flood elevation at the site is 1121.7 Ft. NGVD (MSL) ☐ Unavailable

See Section 4 for additional instructions.

SIGNED: _____



DATE: _____

12/10/2025

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by Permit Staff.)

The applicant must also submit the documents checked below before the application can be processed.

- ☐ Flood proofing protection level (non-residential only) _____ Ft. NGVD (MSL). For flood proofed structures applicant must attach certification from registered engineer.
- ☐ Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.
- ☐ Certification from a registered engineer that the proposed activity in a regulatory flood plain will result in an increase of no more than 0.05 feet in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.
- ☐ All other applicable federal, state, and local permits have been obtained.

Other: _____

SECTION 5: PERMIT DETERMINATION (To be completed by Floodplain Chairman.)

The proposed activity: (A) ☐ **Is**; (B) ☐ **Is Not** in conformance with provisions of Norman's City Code Chapter 22, Section 429.1. The permit is issued subject to the conditions attached to and made part of this permit.

SIGNED: _____ DATE: _____

If BOX A is checked, the Floodplain committee chairman may issue a Floodplain Permit.

If BOX B is checked, the Floodplain committee chairman will provide a written summary of deficiencies. Applicant may revise and resubmit an application to the Floodplain committee or may request a hearing from the Board of Adjustment.

APPEALS: Appealed to Board of Adjustment: ☐ Yes ☐ No
 Hearing date: _____

Board of Adjustment Decision - Approved: ☐ Yes ☐ No

Conditions:

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Occupancy is issued.)

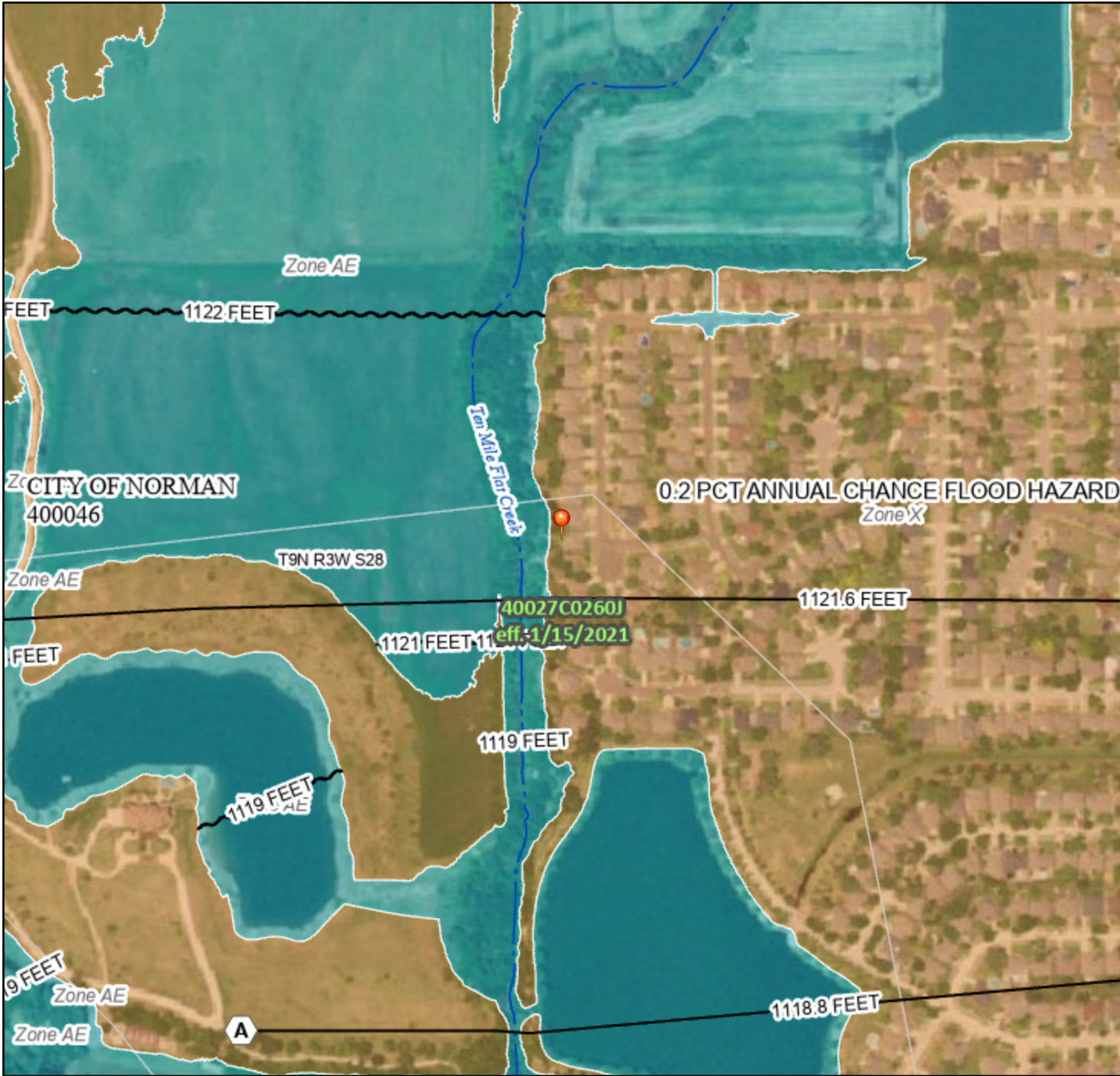
1. FEMA Elevation Certificate
and/or
2. FEMA Floodproofing Certificate

NOTE: The completed certificate will be reviewed by staff for completeness and accuracy. If any deficiencies are found it will be returned to the applicant for revision. A Certificate of Occupancy for the structure will not be issued until an Elevation and /or Floodproofing Certificate has been accepted by the City.

National Flood Hazard Layer FIRMMette



97°31'31"W 35°13'39"N



1:6,000

97°30'54"W 35°13'10"N

Basemap Imagery Source: USGS National Map 2023

Legend

Item 3.

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
- 17.5 Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

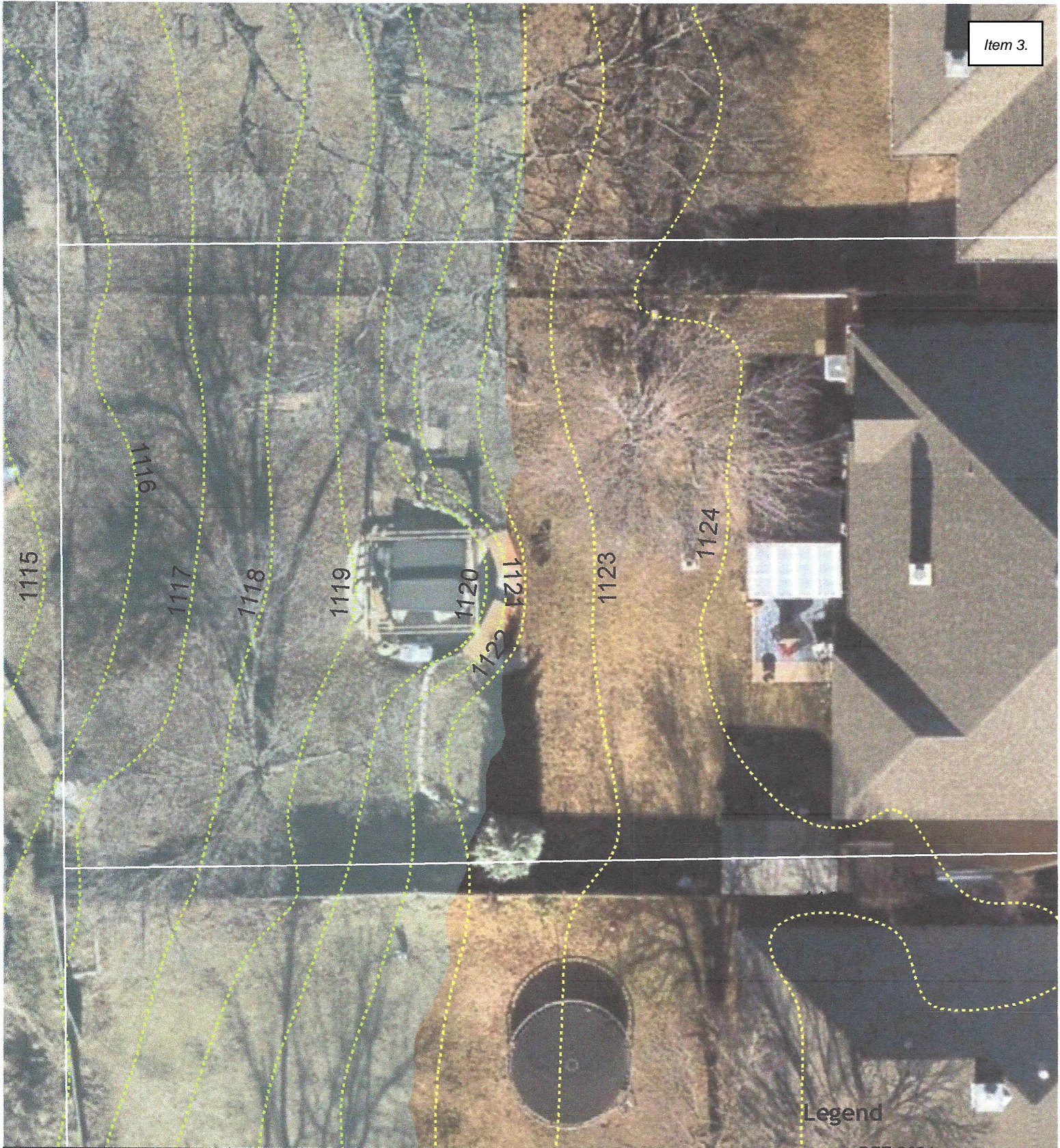
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/9/2025 at 9:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifier, FIRM panel number, and FIRM effective date. Map information in unmapped and unmodernized areas cannot be used for regulatory purposes.

1 inch = 12 feet

2019 Floodplain

2008 Archived



Legend

- DFE 2021
- 1% Chance Floodplain
- Floodway
- Contours2023
- Lot Line
- Parcel



428 Laws
ATTACHMENT 2

Attachment 3

Flood Plain Application

428 Laws Drive

Introduction:

This floodplain application requests a permit for improvements in the backyard at 428 Laws Drive which is adjacent to Muddy Boggy Creek in the area known as Ten Mile Flats. The creek in this area was, until recently, contained in a 100-foot-wide drainage easement owned by the Cambridge Homeowners Association (HOA).

Rainfall occurring in late April and early May of 2025 caused flooding along the full extent of Muddy Boggy Creek. The rainfall totaling about 13.6 inches caused upstream storm water detention facilities to fill and then overflow into the creek with no retainage causing severe pavement damage and washout of both Rock Creek Road and Robinson Street (see photo below) west of 48th Avenue NW.



In the area of 428 Laws Drive, the flooding caused significant erosion of the existing banks of Muddy Boggy Creek. Continued erosion over several weeks undermined the eastern bank causing it to collapse into the creek with the earthen materials being transported downstream or moved to the west within the HOA drainage easement. The creek flow moved eastward out of the easement and onto private property of the homes at 428 Laws Drive and 424 Laws Drive.

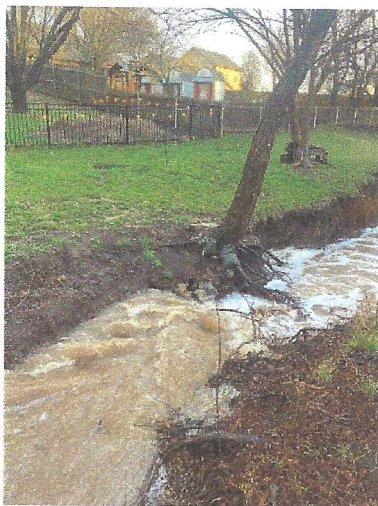


Photo 1 taken 03/21/22 shows backyard fencing 25 to 30 feet east of creek

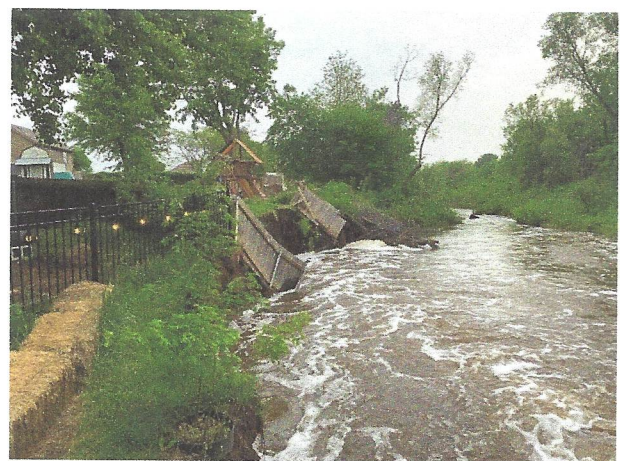


Photo 2 taken 04/28/25 shows several sections of the back fence at 424 Laws has fallen into the creek

The eroded area for 428 Laws is a triangular shaped area about 20 feet long by 15 feet wide (150 SF) by 8 to 10 feet deep or about 1350 CF. The eroded area for 424 Laws is a triangular shaped area about 50 feet long by 15 feet wide (750 SF) by 8 to 10 feet deep or about 3400 CF. The eroded area adjacent to these properties and within the HOA easement is about 70 feet long by 20 feet wide (1400 SF) by an average of about 6 feet in depth or about 8400 CF.

The flood damage was reported to the City of Norman and during their inspection of erosion along the creek they identified construction within the floodplain which resulted in the Notice of Violation (NOV) for 428 Laws Drive. The improvements which are the subject of this floodplain permit were not impacted in any way by the flooding along Muddy Boggy Creek in Spring 2025. In fact, the improvements are at least 3.5 feet above the high-water elevation during the subject flooding.

Floodplain Permit for 428 Laws Drive

The HOA drainage easement abuts the western property line of 428 Laws for 65 feet. As shown in Attachment 1, the current 100-year floodplain as delineated and approved by FEMA in 2019 is shown in blue while the previous floodplain limit is shown in black. As shown, the garden wall is located outside the previous floodplain limit shown in black; however, the improvements are partially within currently approved 100-year floodplain.

The floodplain elevation at 428 Laws Drive is approximately 1121.7 as interpolated from the FEMA flood map shown as Attachment 8. The current 100-year floodplain area extends 45 to 50 feet east onto the property or about 35 feet west of the house.

The improvements are listed below:

- Garden Wall: A garden wall constructed of precast concrete blocks approximately 12" long by 4" tall with an average width of 6". Generally, 5 layers of block (20-inch height) were placed in a row with the bottom layer buried below ground for stability; thus, the height of block above grade is 16 inches. As shown in Attachment 4, the total length of wall is approximately 41 feet with a circular concrete patio laying between two lengths of wall. There is a 3-foot wide area where 3 steps are constructed to reach the lower level of the yard. At each end, the wall height is reduced to between eight and 12 inches; fill volume is 25.7 cubic feet (CF).
- Patio Slab: A 17-foot diameter circular concrete slab with a thickness of about 4 inches was constructed between the two sections of garden wall. The fill volume for the patio slab is 75.7 CF; however, this volume is below the pre-construction grade and is not fill in the floodplain.
- Retaining Wall: A semi-circular retaining wall of 1-inch wide wooden boards between columns of concrete wall blocks is constructed on the east half of the patio slab. There are nine precast concrete block columns with an average height of 32" (2.67 feet) around the perimeter of the retaining wall. Based on the elevations of the floodplain (1121.7 MSL) and the patio slab (1119.0 MSL), the 100-year flood water depth is 2.67 feet. Based on these dimensions, the retaining wall block columns consume 13.7 CF of the flood storage during a 100-year flood.
- Hot Tub: A 92-inch square by 42-inch tall hot tub is in place. Based on the estimated 100-year flood water depth of 2.67 feet, the hot tub consumes 158.7 CF of flood storage during a 100-year flood.
- Pergola Columns: Four 6" by 6" wooden columns support the roof of a 12-foot by 10-foot pergola. With a 100-year flood water depth above the patio slab of 2.67 feet, the four columns consume 2.7 CF of flood storage during a 100-year flood.

Removal of Soils from the Floodplain:

The excavation for the patio slab provides additional flood storage as it extends below the grade existing prior to construction. Based on contours shown on Attachment 2, the downward slope of the yard

toward the creek in the area of the improvements is approximately 6.5 horizontal to 1 foot vertical. Using the area of the circular slab and the elevation of the ground adjacent to and east of the retaining wall, the excavated volume of soil removed from the floodplain is 302.6 CF. The volume is obtained by using the area of the full circle, the excavation depth at the retaining wall (2.67 feet) and dividing by two due to the varying depth of excavation across the circle (between zero and 2.67 feet as shown on Attachment 6).

Fill Behind Garden Wall: The material excavated prior to construction of the patio slab was placed behind the garden wall to reduce the slope in the upper yard and reduce runoff velocity and soil erosion during rainfall. As shown on Attachment 6 and based on a pre-existing slope of about 6.5 to 1 toward the creek in this area, the fill behind the garden wall (if continuous) consumed about 218.7 CF. Some excavated materials were placed out of the floodplain in other areas of the yard.

Summary of Cut/Fill:

The following summarizes the cut and fill volumes discussed above:

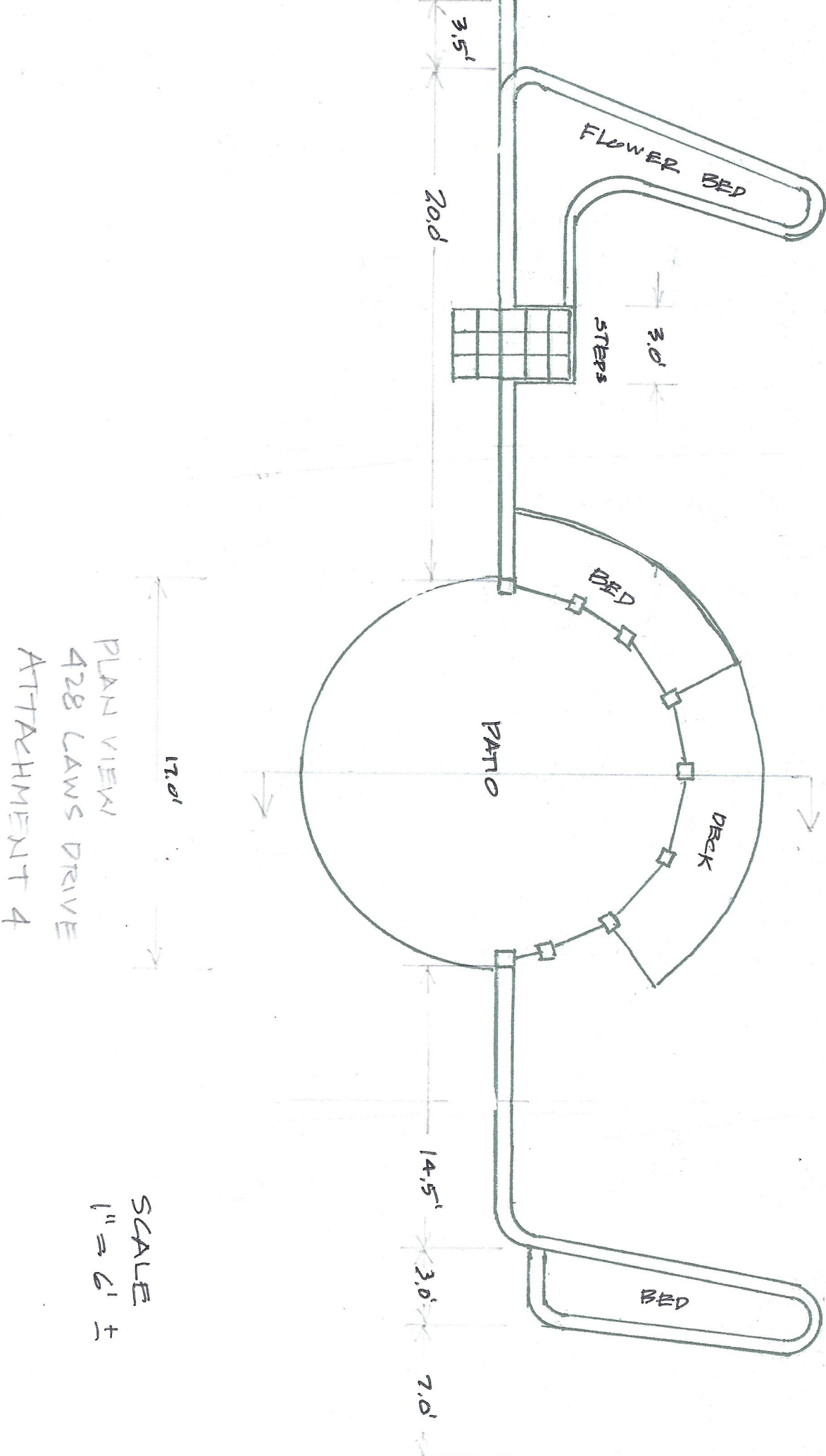
Garden Wall	fill	+25.7 CF
Retaining Wall	fill	+13.7 CF
Hot Tub	fill	+158.7 CF
Pergola Columns	fill	+2.7 CF
Patio Excavation	cut	-302.7 CF
Fill Behind Wall	fill	+ <u>218.7 CF</u>
Total Fill		+116.8 CF

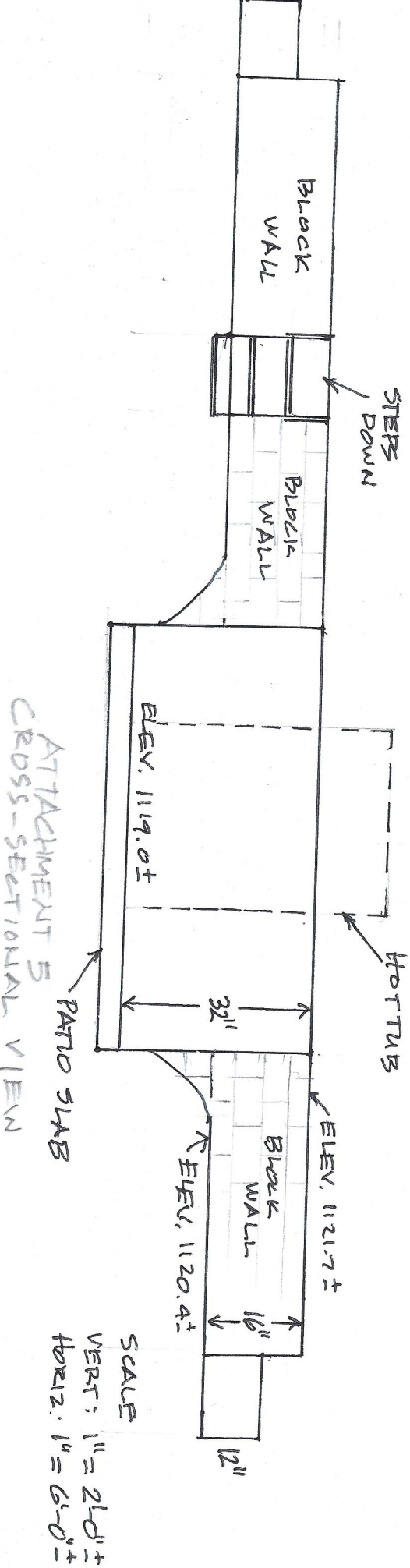
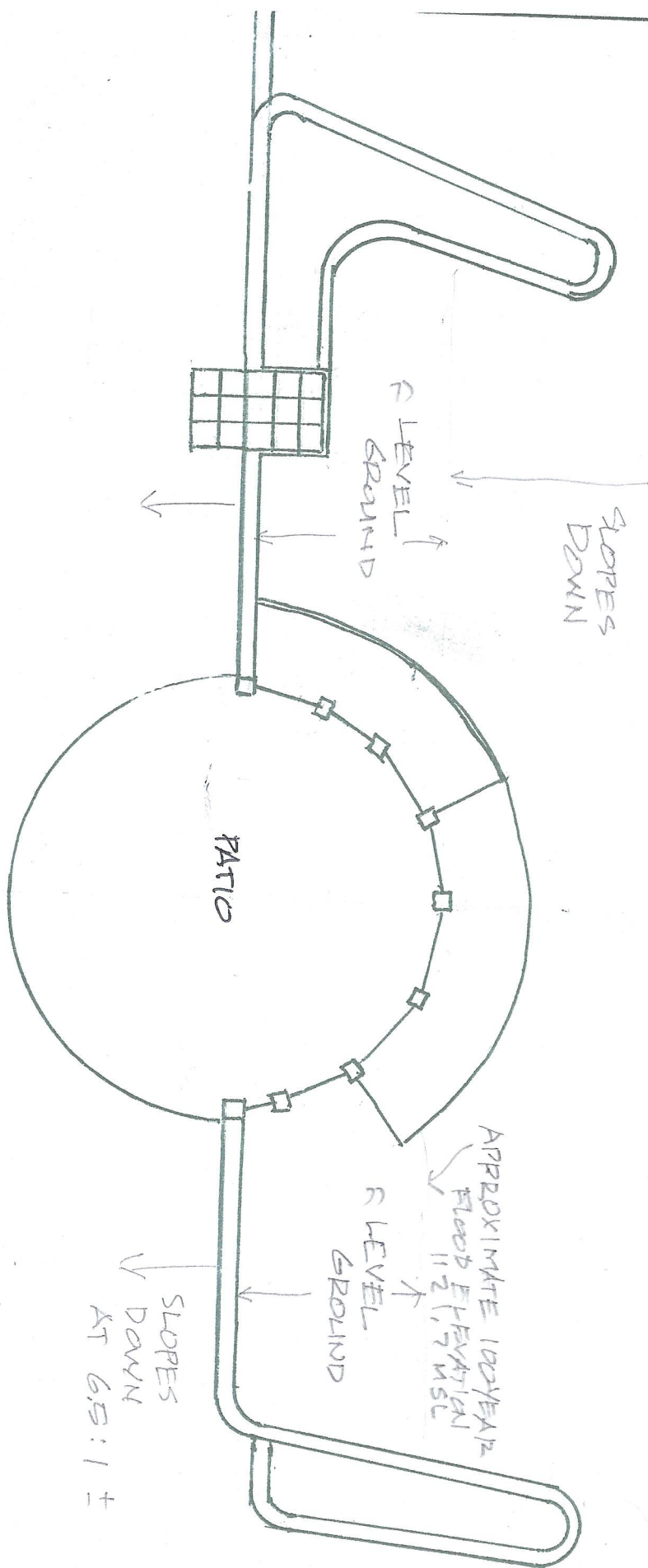
The net effect of the improvements is a fill of approximately 117 CF. To compensate for this fill and ensure the 100-year flood elevation does not increase, additional flood pool storage must be created.

Excavate Additional Garden Wall Depth: Homeowner commits to removing at least the required compensatory volume. Detailed calculations are shown on Attachment 7, Excel Spreadsheet. Homeowner will excavate below the existing garden wall and extend the excavation west to create a level area below the wall. Based on a pre-existing slope of about 6.5 to 1 toward the creek in this area, a cut of 11.25 inches at the wall will provide 117 CF of additional storage and extend the excavation westward 6.1 feet. However, homeowner may choose to excavate up to 16 inches below the garden wall (which is approximately equal to the patio elevation of 1119.0) and extend the excavation westward 8.7 feet. This will create 237 CF of compensatory flood storage and is 120 CF more than required to ensure there is no rise in the base flood elevation. All excavated material will be removed from the 100-year floodplain.

Muddy Boggy Creek Erosion: The homeowner at 428 Laws would like to begin repairs to the eroded area on his property. This floodplain permit would seem to be the appropriate vehicle for accomplishing those repairs. However, proper repairs to 428 Laws Drive will require placement of fill materials on adjacent properties and cooperation between the City of Norman, the HOA and the two property owners.

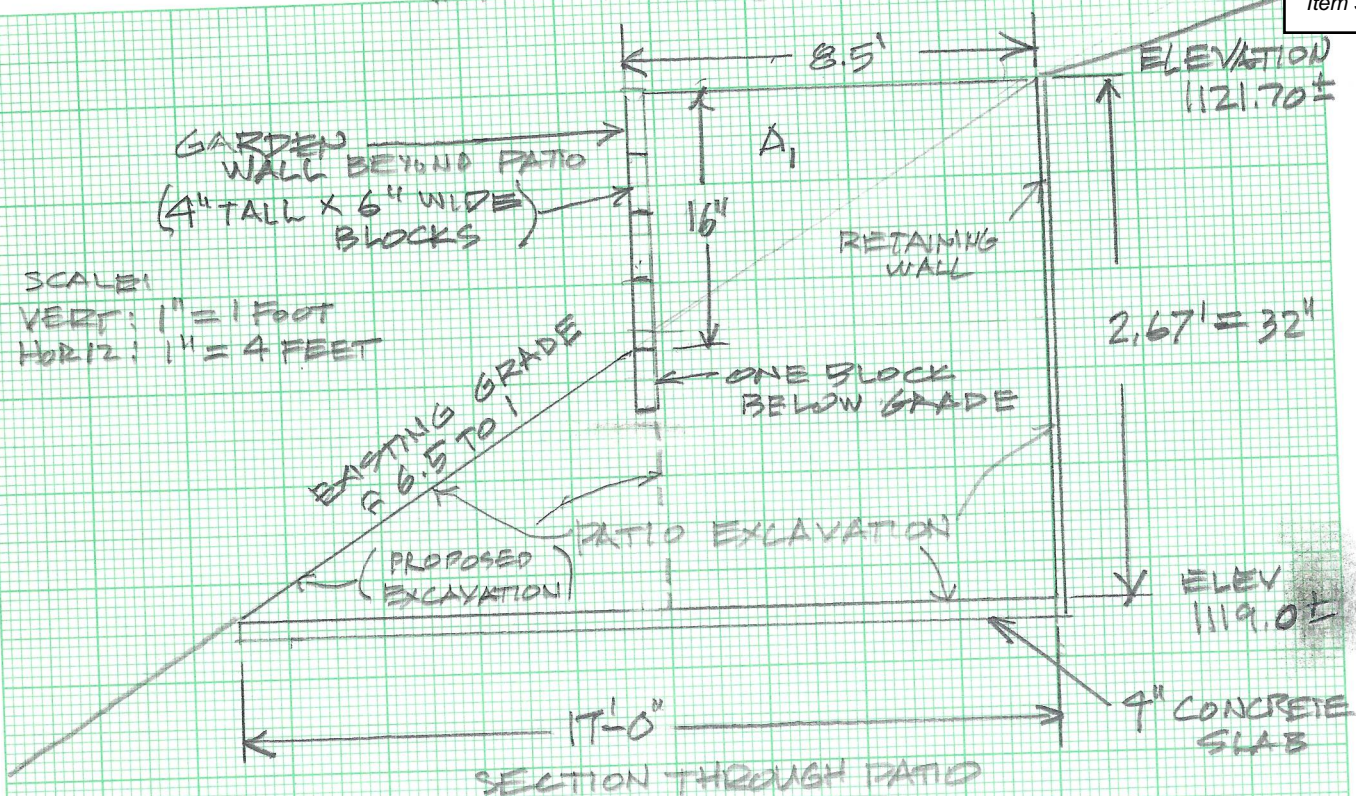
The property owner at 428 Laws would like to proceed with placement of fill within the HOA easement and on his private property not to exceed 1350 CF for 428 Laws Drive. Initial fill will be inert materials such as broken concrete, brick or rock placed to sufficient depth to create a solid base for additional fill materials to be placed above it. Eroded materials moved to the west by floodwaters within the creek and blocking the southerly flow of the creek would be utilized as fill to the greatest extent possible.





ATTACHMENT 6

Item 3.



FILL ADDED BEHIND WALL FROM EXCAVATION

$$\begin{aligned} \text{VOLUME} &= A_1 \times \text{WALL LENGTH} / 2 \\ &= 8.0' \times 1.33' \times 41' / 2 \\ &= 218.7 \text{ CF} \end{aligned}$$

FILL BY CONSTRUCTING GARDEN WALL

$$\begin{aligned} \text{VOLUME} &= \text{WALL HEIGHT} \times \text{LENGTH} \times \text{WIDTH} \\ &= 16.25' \times 41 \text{ FEET} \times 6" \\ &= 1.33' \times 41 \times 0.5 = 342.6 \text{ CF} \end{aligned}$$

FILL BY PATIO CONSTRUCTION

$$\text{VOL} = (17)^2 \pi / 4 \times 0.333 = 75.7 \text{ CF}$$

PATIO EXCAVATION REMOVED FROM FLOODPLAIN

$$\begin{aligned} \text{VOLUME} &= \text{PATIO AREA} \times \text{DEPTH ABOVE SLAB} / 2 \\ &= \frac{(17)^2 \pi}{4} \times 2.667 / 2 \\ &= 302.6 \text{ CF} \end{aligned}$$

FILL BY HOT-TUB (92" SQUARE)

$$\text{VOLUME} = 7.67 \times 7.67 \times 2.67 = 156.7 \text{ CF}$$

FILL BY RETAINING WALL COLUMNS (9)

$$\text{VOLUME} = 0.65 \times 0.65 \times 2.67 \times 9 = 10.0 \text{ CF}$$

FILL BY PERGOLA COLUMNS (4)

$$\text{VOLUME} = 0.5 \times 0.5 \times 2.67 \times 4 = 2.67 \text{ CF}$$

Flood Plain Construction at 428 Laws Drive, Norman						Attachment 7			
				Flood plain line is at east edge of patio less 32" to top of patio					
Flood plain Elevation		1121.7	MSL	(interpolated between elevations 1121.6 and 1122.0 on FEMA Map					
Top of Patio Elevation		1119.0	MSL	Average of 4 elevations around edge of patio					
Water Depth at 100-year flood		2.7	feet						
The patio slab is below the grade existing before construction and did not consume water storage volume in the floodplain. It is presented to account for its construction.									
		diameter	area	thickness	thickness	volume			
		(feet)	SF	(inches)	(feet)	(CF)			
Patio Slab (below existing grade)		17.0	226.98	4	0.333	75.66			
Floodplain Cut Volume:									
		diameter	area	thickness	thickness	volume			
		(feet)	SF	(inches)	(feet)	(CF)			
1 Excavation above the patio slab									
depth at west edge		17.0	226.98	32	2.67	605.28	CF		
depth at east edge		17.0	226.98	0	0.00	0.00	CF		
Use average depth for circular shaped area		17.0	226.98	16	1.33	302.64	CF		
Volume Removed From Flood Plain =		302.64	CF						
Floodplain Fill Volumes:									
		block	wall	wall	block	wall	wall	wall	
		width	height	length	width	height	length	volume	
		(inches)	(inches)	(feet)	(feet)	(feet)	(feet)	(CF)	
1 Garden Wall Construction									
main wall		6	16	34.50	0.5	1.33	34.50	23.00	
north end		6	8	3.50	0.5	0.67	3.50	1.17	
steps		6	12	3.00	0.5	1.00	3.00	1.50	
no wall (2)		0	0	24.00	0.0	0.00	24.00	0.00	
				65.00				25.67	
(1) One 4" tall block block installed below preconstruction grade is not included as fill.									
(2) Garden wall was not installed in area of patio slab (17 feet) and at southern side of yard (7 feet).									
		width	length	height	width	length	number	volume	
		(inches)	(inches)	(feet)	(feet)	(feet)	(each)	(CF)	
2 Retaining Wall Block Columns		7.75	7.75	2.70	0.65	0.65	9	10.14	
3 Wooden Board Retaining Wall (3)		0.75		2.70	0.063	20.89	1	3.53	
(3) Length of wooden retaining wall is 1/2 the circumference less the length of 9 block columns.									
		FP	lower	fill	wall	fill	fill		
		elevation	elevation	height	length	length	volume		
		(MSL)	(MSL)	(feet)	(feet)	(feet)	(CF)		
4 Fill behind Garden Wall									
Behind wall (west edge)		1121.70	1120.33	1.33	41.00	8.00	437.33	CF	
at FP Line (east edge)		1121.70	1121.70	0.00	41.00	8.00	0.00	CF	
Use average for triangular shaped area							218.67	CF	
Phase 1 Volume placed in Flood Plain =			257.99	CF					
Phase 1 Additional Flood Water Volume Needed =			-44.65	CF					
Phase 2 Volume placed in Flood Plain									
		width	length	height	width	length	number	volume	
		(inches)	(inches)	(feet)	(feet)	(feet)	(each)	(CF)	
5 Hot Tub		92	92	2.70	7.67	7.67	1	158.70	
6 Pergola Coumns (4)		6	6	2.70	0.50	0.50	4	2.70	
Phase 2 Volume placed in Flood Plain =			161.40	CF					
Additional Flood Water Volume Needed			116.75	CF					
Provide Compensatory Storage in Floodplain:									
(1) Homeowner will extend garden wall downward a maximum of 16 inches to the approximate level of the patio slab. The new garden wall construction will be below existing grade and would not consume water storage volume in the floodplain.									
(2) Additional excavation assumes 6.5 to 1 slope continues toward creek and the west edge of the existing patio slab. Cut volume triangular area extends full length of existing garden wall (41 feet).									
(3) Total height (above final grade) of additional blocks (or 6" thick poured in place concrete wall) would be at most 32 inches.									
		average							
Excavate below garden wall		approx	block	cut	cut	wall	fill		
		slope	height	depth	distance	depth	length	volume	
		6.5 to 1	(inches)	(feet)	(feet)	(feet)	(feet)	(CF)	
		6.5	11.25	0.94	6.09	0.469	41	117.11	CF
		6.5	12.0	1.00	6.50	0.500	41	133.25	CF
		6.5	16.0	1.33	8.67	0.667	41	236.89	CF
Need to cut about 12 inches at base of existing wall and continue to west at same elevation to provide required compensatory storage; additional storage would be provided if cut 1.33 feet to match level of existing patio slab.									
Compensatory Storage Provided of		133.25	CF	exceeds required volume of		116.75	CF		

National Flood Hazard Layer FIRMette



Item 3.

ATTACHMENT 5

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

Legend

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee, See Notes, Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone I

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
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MAP PANELS

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Mark Daniels, P.E.
428 Laws Drive
Norman, Oklahoma 73072
405-406-9546

Item 3.


FLOODPLAIN ANALYSIS
FOR GARDEN WALL, RETAINING WALL, CONCRETE PATIO, PERGOLA AND HOT TUB
428 LAWS DRIVE

The homeowner of Lot 18, Block 1, Cambridge III Addition (428 Laws Drive) has constructed improvements in the back yard of the existing residential dwelling which is adjacent to Ten Mile Flat Creek. The improvements consist of a garden wall, a retaining wall and a circular concrete patio with a hot tub and pergola situated on the patio. A portion of the area of construction is within the 0.1% Special Flood Hazard Area (SPFHA) as depicted on the National Flood Hazard Layer Firmette dated 06/03/25 (the floodplain) and provided by the City of Norman. The floodplain elevation at the location of the improvements is approximately 1121.7 as interpolated between Section B/B (Elevation 1121.6) and Section C/C (elevation 1122.0) from the FEMA map.

The eastern boundary of current 100-year floodplain limit is depicted on the aerial map provided by the City of Norman and included as Attachment 1; the previous eastern limit of the floodplain is also shown. The improvements were generally constructed in two phases; the garden wall, retaining wall and patio slab were constructed in 2020/2021 while the hot tub and pergola were constructed in 2024.

Phase 1: The volume of the concrete blocks to construct the garden wall, the retaining wall materials, as well as the soils from the patio excavation placed behind the garden wall and within the floodplain were constructed as shown on Attachment 6; calculations are shown in Attachment 7. The soils removed from the floodplain for the patio excavation exceed the volume of the garden wall, the retaining wall and soils placed behind the garden wall within the floodplain. Excess soils (CUT) totaling about 45 cubic feet (CF) were deposited outside the floodplain. The concrete placed for the patio slab was below the pre-construction grade and is therefore excluded from floodplain fill calculations. The Phase 1 improvements had no negative impact on the floodwaters or increase the base flood elevation (BFE).

Phase 2: Installation of a hot tub was permitted through the City of Norman and a pergola was then installed over the hot tub. In this case, the floodplain volume consumed would be calculated from the top of patio slab 1119.0 to 100-year floodplain elevation of 1121.7. The floodplain volume consumed (FILL) by the hot tub and the pergola columns is about 161 CF and must be offset if they are to remain in place. The homeowner will provide compensatory storage of at least 116 CF by extending the garden wall downward along the full length of the wall and removing a triangular shaped wedge of soil to the west of the wall from the floodplain. As shown in Attachment 7, the excavation at the garden wall must be at least 11.25 inches in depth to provide the required compensatory storage for the floodwaters. Homeowner may deepen the excavation to about 16 inches to match the elevation of the existing patio. Additional blocks or concrete footings installed will be below the pre-construction grade and are thus not considered fill in the floodplain. All excavated materials will be removed from the 100-year floodplain. As a result, the Phase 2 construction will not have a negative impact on the floodwaters or increase the base flood elevation (BFE).

 11-23-25
J. Mark Daniels, P.E. #13833





428 Laws Drive

Legend

- Easement
- BFE 2021
- 1% Chance Floodplain
- Floodway
- Lot Line
- Easement



428 Laws Drive
June 2025

Legend

- Easement
- BFE 2021
- 1% Chance Floodplain
- Floodway
- Lot Line
- Easement