CITY OF NORMAN, OK
FLOODPLAIN PERMIT COMMITTEE MEETING
Development Center, Room B, 225 N. Webster Ave., Norman, OK 73069
Monday, August 04, 2025 at 3:30 PM

AGENDA

AMENDED

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 July 21, 2025 meeting

ACTION ITEMS

2. **Floodplain Permit Application No. 725** - This floodplain permit application is for various agricultural projects at 4701 N. Porter Ave. (Jackson Freedom Farms) in the Little River floodplain.

3. **Floodplain Permit Application No. 726** - This permit application is for the installation of a chain link fence and repair of a deck at 421 S. Flood Ave. in the floodway of Imhoff Creek.

4. **Floodplain Permit Application No. 729** - This floodplain permit application is for the proposed installation of a private access road through the Prairie Creek floodplain for the Ridgeline Estates subdivision.

MISCELLANEOUS COMMENTS

ADJOURNMENT

CITY OF NORMAN, OK
FLOODPLAIN PERMIT COMMITTEE MEETING

Development Center, Conference Room B, 225 N. Webster Avenue, Norman, OK 73069
Monday July 21, 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 21st day of July, 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 3:31 p.m. Roll was taken. All committee members were in attendance; Bill Scanlon, Resident Member; Sherri Stansel, Resident Member; Scott Sturtz, Floodplain Administrator; Tim Miles, City Engineer; Lora Hoggatt, Public Services Manager; Ken Danner, Subdivision Development Manager; and Jane Hudson, Director of Planning. Also in attendance were Jason Murphy, Stormwater Program Manager; Brandon Brooks, Capital Projects Engineer; and Amy Shepard, Staff. Citizens in attendance included Martin Baker, resident.

MINUTES

1. Approval of minutes from the July 7th, 2025 meeting
    a. Mrs. Stansel motioned to approve the minutes. Mr. Scanlon seconded the motion. Minutes were approved with a vote of 7 to 0.

ACTION ITEMS

2. Floodplain Permit No. 727

Mr. Sturtz stated Floodplain Permit Application 727 is for the replacement of the bridge over a tributary of Jim Blue Creek on East Post Oak Road.

Mr. Sturtz stated the applicant is the City of Norman Streets Division. The contractor is K&R, and the Engineer is Darryl Gary.

Mr. Murphy provided the staff report, detailing the request with respect to the floodplain permit requirements and project impacts.

Mr. Murphy stated staff recommends Floodplain Permit Application 727 be approved.

Mr. Sturtz asked the committee for comments or questions. Hearing none, he asked if the public had questions or comments.

Mr. Baker stated he is the property owner directly north of the project location. He asked wh changes to the width or elevation of the bridge would occur with the project.

Mr. Murphy said the road will be basically the same width and a slight increase in elevation. He added that roadway shoulders will be added for safety.

Mr. Brooks, Capital Projects Engineer, reviewed the plans for the bridge replacement and stated there should be no noticeable difference in the driving experience of the bridge. He noted the shoulder work to improve safety and the improvements to the drainage ditches along the road. Mr. Brooks said the conveyance of water under the bridge should improve and the load rating will be removed once the new structure is constructed.

Mr. Sturtz reiterated the minimal changes to the driving surface and the improvements to the durability and drainage surrounding the bridge.

Mr. Baker asked why this bridge needs to be replaced.

Mr. Sturtz explained the bridge inspection process, the life cycle of a bridge, and the safety concerns with load ratings.

Mr. Danner motioned to approve Floodplain Permit Application 727. Mr. Scanlon seconded the motion. The permit application was approved with a vote of 7-0.

MISCELLANEOUS COMMENTS

Mr. Sturtz asked if the committee had any comments or questions for miscellaneous comments.

Mr. Scanlon asked about the timeframe for the bridge replacement project.

Mr. Brooks said the construction period spans 140 days.

Ms. Hoggatt asked if there are pending applications for the upcoming Floodplain Permit Committee meeting.

Mr. Murphy said there are three pending applications that are awaiting items to be placed on the next meeting agenda. Mr. Murphy stated he is anticipating the next committee meeting on August 4, 2025, will be held.

ADJOURNMENT

Mrs. Hudson motioned to adjourn. Mr. Scanlon seconded the motion. Mr. Sturtz adjourned the meeting at 3:44 p.m.

Passed and approved this _____ day of _____ , 2025

_____

City of Norman Floodplain Administrator, Scott Sturtz

STAFF REPORT 08/04/2025 **PERMIT NO. 725**

ITEM: This Floodplain Permit Application is for various agricultural projects in the Little River Floodplain at 4701 N. Porter Ave.

BACKGROUND:
APPLICANT: Austin Jackson
ENGINEER: SMC Consulting Engineers

The applicant has received multiple floodplain notices of violation related to various construction and excavation activities at Jackson Freedom Farms located at 4701 N. Porter Avenue. The latest was in January 2025. After the January 2025 violation letter and permitting holds on the property, the applicant began working with City Staff to address the various violations on his property. The violations are specifically for two separate ponds created on the property and three structures. Each will be addressed individually in staff analysis.

STAFF ANALYSIS:
Site located in Little River Basin or its Tributaries? Yes ✓ No __

According to the latest FIRM, the site of the proposed work is located in the Little River Floodplain (Zone AE). The BFE for each project will be included in the description below.

Agriculture Structure West – This is one of two structures built in the northeast corner of Jackson Freedom Farms. The building plans for this structure indicated that it would be built further to the north than the actual location and would have been out of the floodplain. This is a steel building used for vehicle maintenance and various agricultural purposes. Included with the application is an elevation certificate (EC) indicating that the BFE at this location is 1106.0' and the finished floor of the structure is 1106.54'. Therefore, while the building shows on maps as being in the floodplain, the structures finished floor is in fact higher than the BFE. The engineers report indicates that 1.11 cubic yards (CY) of fill were used to raise the FFE above the BFE.

Agriculture Structure East – This is the second of the two structures built on the northeast corner of Jackson Freedom Farms. Like the other, the site plans for this structure indicated that it would be built further to the north and out of the floodplain. It is a steel building lean-to structure that is open on the south side. The submitted EC for this structure indicates that the BFE is 1106.0' and the FFE is 1107.0'. The engineer's report indicates that 3.31 CY of fill were used to elevate raise the FFE above the BFE.

Agriculture Structure South – This structure was constructed sometime in 2020. No permits were obtained for the building of this structure. The structure is a steel building used to store various ag equipment. Most of the structure is open on the west side. The north side of the building is completely enclosed but all electrical equipment is located approximately 3 feet above grade. Electrical service for this structure is a trailer mounted generator. The attached EC for this structure shows that the BFE at this location is 1105.36' and the FFE is 1106.17'. The engineer's report indicates that 1.45 CY of fill was used to level the surface.

Aesthetic Pond Excavation West – This pond was created when the PUD for the ag wedding venue was built. The site plan for this pond indicated that it would be excavated further to the west, out of the floodplain. This pond was instead created by damming a small tributary to the Little River. The USACE has indicated that since the pond is used for ag purposes and no flooding as been reported upstream, they are allowing the use, even though it was not properly permitted. The BFE at this location is approximately 1107.0' and the wet pool is 1106.0'. The engineer's report for this location is attached with the application. Notable elevations from that report include the elevation of the head wall on the west side of Porter in the creek channel is 1118.48', 112.48' is the benchmark used on the downstream (east) side of porter, 1111.93' and the spillway crest of the pond is 1105.0'. The top of the berm itself on the pond is approximately 1110.0'. This would indicate that the pond is draining before water elevations would begin

to rise on upstream properties, especially as there is a about a 2 foot drop from the channel under Porter to flowline of the stream on the downstream side. The applicants engineer has indicated that approximately 28 CY of comp storage is required grading and filling that occurred in the creation of the pond.

Farm Pond Excavation East – This pond was created earlier this year for agricultural purposes. Soil was excavated from the approximate 3 acre pond and stored on site. Some of this fill has been moved offsite for various construction projects, but the remaining fill, according to the applicant, will be consolidated and moved out of the floodplain. Ag ponds are allowable under the ordinance, assuming that negative impact to adjacent properties will occur.

All other structures identified from aerials were inspected by staff were determined to be lean-to type ag dwellings to provide shelter for cattle and keep equipment and hay dry during inclement weather or trailers of various types. All of these structures are on skids or wheeled and capable of being moved in an expedient manner if required during a flooding emergency.

Applicable Ordinance Sections:		Subject Area:
36-533	(e)2(a)……	Fill restrictions
	(e)2(e)…..……	Compensatory storage
	(e)3(d)…..……	Agricultural buildings
	(e)(3)(j)...…….	Fencing in the floodplain
	(f)(3)(8) …….....	No rise considerations

(e)2(a) and (e)2(e) Fill Restrictions in the Floodplain and Compensatory Storage – Fill is restricted because storage capacity is removed from floodplains, natural drainage patterns are adversely altered, and erosion problems can develop. Compensatory storage must be provided within the general location of any storage that is displaced by fill or other development activity and must serve the equivalent hydrologic function as the portion which is displaced with respect to the area and elevation of the floodplain.

> The applicant's engineer has supplied a floodplain analysis with calculations for each structure project. Overall, there 28.0 CY of comp storage required for the buildings and aesthetic pond. The excavated material from the larger farm pond on the east will be removed from the floodplain.

(e)(3)(d) Agricultural buildings – New agricultural buildings not intended for human occupancy may be granted a variance by the Floodplain Permit Committee to the requirements of subsection (e)(3)c of this section, requiring fill and a finished floor elevated two feet above base flood elevation, provided that there is no off-site adverse impact on abutting properties, all utility services are floodproofed, and the requested variance is reasonably related to the principal agricultural use of the property.

> The buildings indicated in this permit application are for agricultural use only and two of the three are open on at least one side. Therefore, the two foot freeboard requirement does not apply

(e)(3)(j) Fencing in the Floodplain – All new fences or replacement of existing fences in the SFHA require a floodplain permit. Approved fences shall be designed and installed to be breakaway or in some other manner so that flows will not be impeded.

> The applicant has installed a chain-link fence meeting this ordinance requirement.

(f)3(a)(8) No Rise Considerations – For proposed development within any flood hazard area (except for those designated as regulatory floodways), certification that a rise of no more than 0.05 ft. will occur in the BFE on any adjacent property as a result of the proposed work is required. For proposed development within a designated regulatory floodway, certification that no increase in the BFE on any adjacent property as a result of the proposed work is required.

The project engineer has submitted a No Rise statement and floodplain analysis report indicating that this project will not cause a rise in the BFE at this location, meeting the ordinance requirements.

RECOMMENDATION: Staff recommends Floodplain Permit Application #726 be approved with the following conditions:

1- Flood venting shall be installed in the enclosed portion of "agriculture structure south".
2- As-builts survey of comp storage area to verify that appropriate storage has been created prior to final acceptance.

ACTION TAKEN: _____

City of Norman

Floodplain Permit Application

Floodplain Permit No. 725

Building Permit No. _____

Date 8/4/2025

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: JACKSON FREEDOM FARMS, LLC. ADDRESS: 4701 N. PORTER AVENUE

TELEPHONE: 405-401-6315 SIGNATURE: Anson Jackson

BUILDER: N/A ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

ENGINEER: SMC CONSULTING ENGINEERS, P.C. ADDRESS: 815 W. MAIN, OKLAHOMA CITY, OK 73106

TELEPHONE: 405-232-7715 SIGNATURE: Uh G. Kh

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.

4701 N. PORTER AVENUE, UNPLATTED, PART OF NW/4, SECTION 8, T9N, R2W, I.M., NORMAN, CLEVELAND COUNTY, OK

(SEE ATTACHED SITE PLAN)

DESCRIPTION OF WORK (Check all applicable boxes):

A. STRUCTURAL DEVELOPMENT

ACTIVITY	STRUCTURE TYPE
☑ New Structure	☐ Residential (1-4 Family)
☐ Addition	☐ Residential (More than 4 Family)
☐ Alteration	☑ Non-Residential (Flood proofing? ☐ Yes) Agriculture - Accessory
☐ Relocation	☐ Combined Use (Residential & Commercial)
☐ Demolition	☐ Manufactured (Mobile) Home
☐ Replacement	☐ In Manufactured Home Park? ☐ 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)

Non SFHA - Channel widening for aesthetic pond. Refer Section 2C.G for detailed description of the work)

☐ 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.

REFER ATTACHED AERIAL SITE PLAN. 1. THREE AGRICULTURE STRUCTURES. 2. EXCAVATION FOR FARM PONDS. 3. TEMPORARY STORAGE OF MISC. FARMING EQUIPMENTS.

4. SHADE STRUCTURES FOR CATTLE.

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:
REFER ATTACHED AERIAL SITE PLAN WITH FEMA EFFECTIVE CHANNEL CROSS SECTIONS AND ELEVATION CERTIFICATES FOR AGRICULTURE STRUCTURES.

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:

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:
REFER EXISTING TOPO SURVEY FOR AN UNNAMED STREAM TO LITTLE RIVER INLCLUDING THE EXISTING POND. REFER ELEVATIONS CERTIFICATES FOR AGRICULTURE STRUCTURES.

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:
REFER ELEVATION CERTIFICATES FOR AGRICULTURE STRUCTURES

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:
A PART OF UNNAMED STREAM (NON-SPECIAL FLOOD HAZARD AREA) IS WIDENED TO CREATE AN AESTHETIC POND. LITTLE RIVER CHANNEL COURSE IS NOT ALTERED.
SURFACE ARERA OF THE POND IS LESS THAN 5 ACRES (NON-JURISDICTIONAL). BACKWATER CURVE OF LITTLE RIVER IS CONFINED WITHIN THE SUBJECT PROPERTY. UNNAMED STREAM IS IN ZONE A.

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.: 0190 K, 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 Varies between 1109.8 + 1103.0' Ft. NGVD (MSL) ☐ Unavailable

See Section 4 for additional instructions.

SIGNED: _____ **DATE:** 7/30/2025

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:

_____

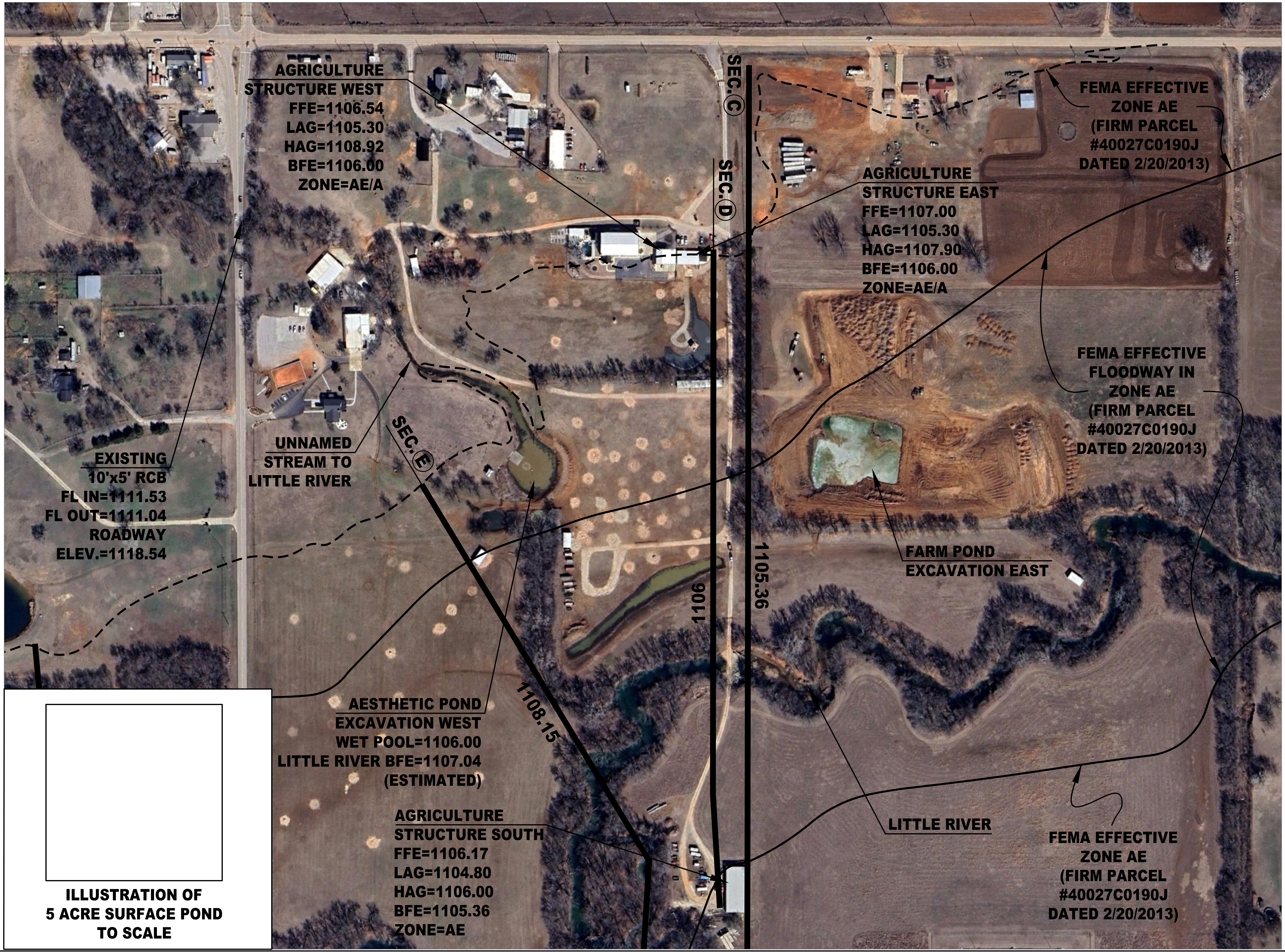
_____

_____

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.



N.T.S.

FREEDOM FARMS
4701 N. PORTER AVE.

PORTER AVENUE AND FRANKLIN ROAD
NORMAN, CLEVELAND COUNTY

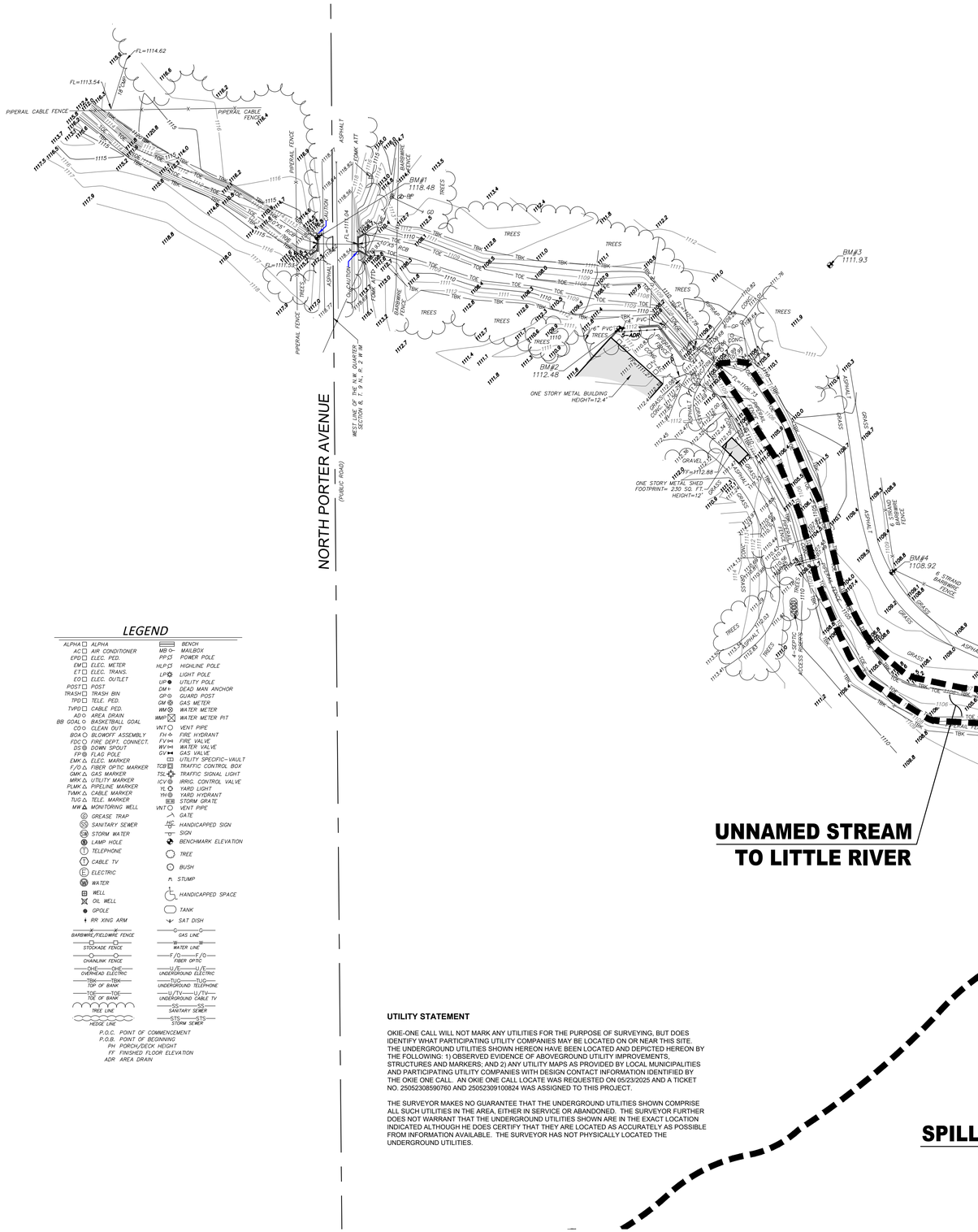
SMC
SMC Consulting Engineers, P.C.
815 West Main – Oklahoma City, OK 73106
PH: 405-232-7715 Fax: 405-232-7859
Website: www.smcokc.com
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. 464 EXP 6/30/2027

No.	Revision	By	Date

PROJECT NO.: 6634.00
DATE: 06/30/2025
SCALE: N.T.S.
DRAWN BY: MS
ENGINEER: MUHAMMAD A. KHAN
P.E. NUMBER: 18318

AERIAL SITE PLAN

SHEET NO.
1



LEGEND

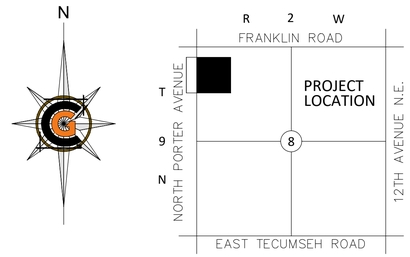
ALPHA	ALPHA		BENCH
AC	AIR CONDITIONER	MB	MAILBOX
EPED	ELEC. PED.	PP	POWER POLE
EM	ELEC. METER	HLP	HIGHLINE POLE
ET	ELEC. TRANS.	LP	LIGHT POLE
EO	ELEC. OUTLET	UP	UTILITY POLE
POST	POST	DM	DEAD MAN ANCHOR
TRASH	TRASH BIN	GP	GUARD POST
TPED	TELE. PED.	GM	GAS METER
TVPED	CABLE PED.	WM	WATER METER
AD	AREA DRAIN	WMP	WATER METER PIT
BB GOAL	BASKETBALL GOAL	VNT	VENT PIPE
CO	CLEAN OUT	FH	FIRE HYDRANT
BOA	BLOWOFF ASSEMBLY	FV	FIRE VALVE
FDC	FIRE DEPT. CONNECT.	WV	WATER VALVE
DS	DOWN SPOUT	GV	GAS VALVE
FP	FLAG POLE		UTILITY SPECIFIC-VAULT
EMK	ELEC. MARKER	TCB	TRAFFIC CONTROL BOX
F/O	FIBER OPTIC MARKER	TSL	TRAFFIC SIGNAL LIGHT
GMK	GAS MARKER	ICV	IRRIG. CONTROL VALVE
MRK	UTILITY MARKER	YL	YARD LIGHT
PLMK	PIPELINE MARKER	YH	YARD HYDRANT
TVMK	CABLE MARKER		STORM GRATE
TUG	TELE. MARKER	VNT	VENT PIPE
MW	MONITORING WELL		GATE
	GREASE TRAP		HANDICAPPED SIGN
SS	SANITARY SEWER		SIGN
SW	STORM WATER		BENCHMARK ELEVATION
	LAMP HOLE		TREE
T	TELEPHONE		BUSH
T	CABLE TV		STUMP
E	ELECTRIC		HANDICAPPED SPACE
W	WATER		TANK
	WELL		SAT DISH
	OIL WELL		GAS LINE
	GPOLE		WATER LINE
	RR XING ARM	F/O	FIBER OPTIC
	BARBWIRE/FIELDWIRE FENCE	U/E	UNDERGROUND ELECTRIC
	STOCKADE FENCE	TUC	UNDERGROUND TELEPHONE
	CHAINLINK FENCE	U/TV	UNDERGROUND CABLE TV
	OVERHEAD ELECTRIC	SS	SANITARY SEWER
	TOP OF BANK	STS	STORM SEWER
	TOE OF BANK		
	TREE LINE		
	HEDGE LINE		

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
PH PORCH/DECK HEIGHT
FF FINISHED FLOOR ELEVATION
ADR AREA DRAIN

UTILITY STATEMENT

OKIE-ONE CALL WILL NOT MARK ANY UTILITIES FOR THE PURPOSE OF SURVEYING, BUT DOES IDENTIFY WHAT PARTICIPATING UTILITY COMPANIES MAY BE LOCATED ON OR NEAR THIS SITE. THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED AND DEPICTED HEREON BY THE FOLLOWING: 1) OBSERVED EVIDENCE OF ABOVEGROUND UTILITY IMPROVEMENTS, STRUCTURES AND MARKERS; AND 2) ANY UTILITY MAPS AS PROVIDED BY LOCAL MUNICIPALITIES AND PARTICIPATING UTILITY COMPANIES WITH DESIGN CONTACT INFORMATION IDENTIFIED BY THE OKIE ONE CALL. AN OKIE ONE CALL LOCATE WAS REQUESTED ON 05/23/2025 AND A TICKET NO. 2505230859090760 AND 2505230910824 WAS ASSIGNED TO THIS PROJECT.

THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.



LOCATION MAP
1" = 2000'

BENCHMARK – BM 1	
ELEVATION	1118.48
MONUMENT	SET CUT "X"
LOCATION	ON NORTH END OF HEAD WALL WEST SIDE OF PORTER AVE.

BENCHMARK – BM 2	
ELEVATION	1112.48
MONUMENT	SET CUT "X"
LOCATION	ON RETAINING WALL BEHIND BLDG. THAT BACKS UP TO SOUTH SIDE OF CREEK

BENCHMARK – BM 3	
ELEVATION	1111.93
MONUMENT	SET 5/8" I.P. W/BM CAP
LOCATION	SOUTH OF TURN IN DRIVE ALONG LIVESTOCK PINS

BENCHMARK – BM 4	
ELEVATION	1108.92
MONUMENT	SET 5/8" I.P. W/BM CAP
LOCATION	AT TURN IN FENCE SOUTH OF LIVESTOCK PINS

BENCHMARK – BM 5	
ELEVATION	1107.40
MONUMENT	SET 5/8" I.P. W/BM CAP
LOCATION	SOUTH OF ROAD, WEST OF GATE, NORTH OF POND

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

AESTHETIC POND EXCAVATION WEST

Field Book.....2025
Party Chief.....NR
Drawn By.....TDD
Checked By.....RM

Project Number
23-121-37
Scale
1" = 50'

REVISIONS

NO.	DATE	DESCRIPTION	BY

TOPOGRAPHIC SURVEY
AUSTIN JACKSON PROPERTY
FRANKLIN ROAD AND NORTH PORTER AVENUE
NORMAN, CLEVELAND COUNTY
STATE OF OKLAHOMA

COWAN GROUP ENGINEERING
7100 N. CLASSEN, SUITE 500 - OKLAHOMA CITY, OK 73116
405-463-3369 (OFFICE) - 405-463-3381 (FAX)
WWW.COWANGROUP.CO
ENGINEERING - SURVEYING
CERTIFICATE OF AUTHORIZATION NO: 6414
EXPIRES JUNE 30, 2026

Sheet: 1 of 1

SMC
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

July 30, 2025

Mr. Scott Sturtz, P.E., CFM
Director of Public Works/Floodplain Administrator
City of Norman

Subject: No Rise Certificate – Amended
Floodplain Permit Application: PLFL20250103
Jackson Freedom Farms, LLC, 4701 N. Porter Avenue, Norman, Oklahoma

Dear Mr. Sturtz,

This amended 'No Rise Certificate' is submitted to support the subject Floodplain Permit Application for the following work within the FEMA Effective SFHA (Zone AE) FIRM Panel #40027C0190J, dated 2/20/2013.

1. Agriculture Structure West: 1.11 cubic yard of fill to raise FFE above BFE.
2. Agriculture Structure East: 3.31 cubic yard of fill to raise FFE above BFE.
3. Agriculture Structure South: 1.45 cubic yard of fill to raise FFE above BFE.
4. Aesthetic Pond Excavation: Refer details provided in the subject application for support documentation and explanation.
5. Farm Pond Excavation East: Refer details provided in subject application for support documentation and explanation.

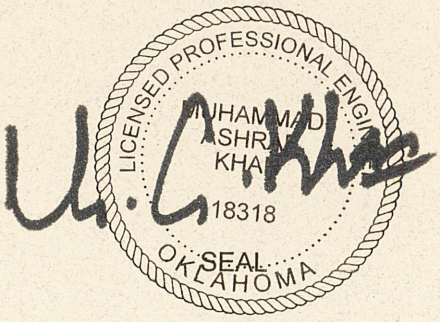
Items 1 thru 4: The applicant Jackson Freedom Farms LLC proposes to compensate the above amount of fill quantities by removing 28.0 cubic yard of existing soil from his property and place outside the SFHA of Little River. The compensatory excavation work is proposed to mitigate the amount of fill placed for structures identified in Items 1 thru 3. The removal of existing soil from Aesthetic Pond (Item 4) will not create ponding; nor loss of floodplain storage within the said FEMA Effective SFHA.

Item 5: The asbuilt surface area of the pond is found to be approximately 3.032 acres and it is below the threshold of requiring the City Council's approval. The applicant proposes to consolidate the various stockpiles of excavated material, currently placed within SFHA, to a location outside the FEMA Effective Floodplain for offsite usages. The proposed action will mitigate the loss of floodplain storage.

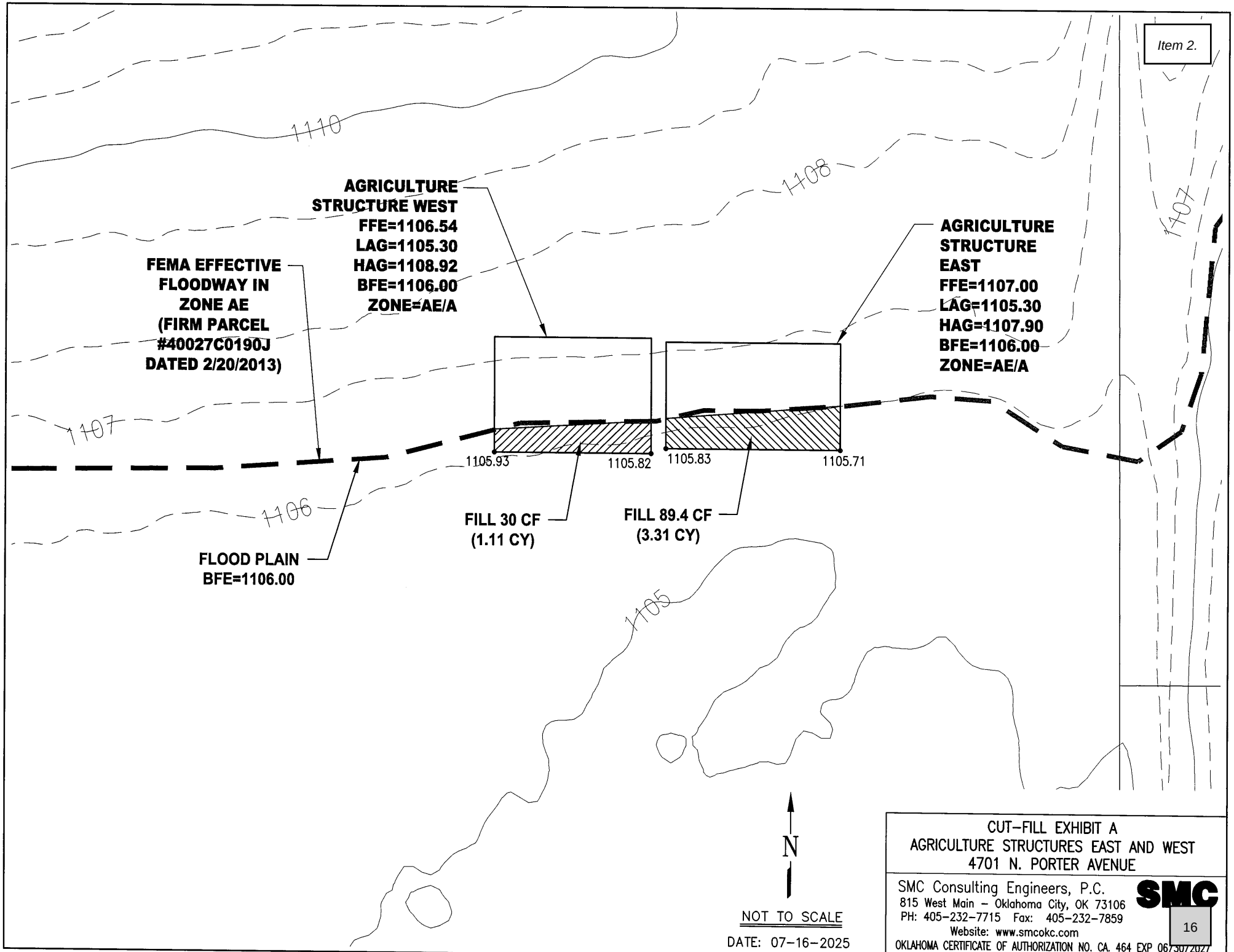
Therefore, no rise in the base flood elevation (BFE) of Little River will occur on the property, upstream or downstream of the property as a result of proposed actions.

Sincerely,
SMC Consulting Engineers, P.C.

Muhammad A. Khan, P.E., CFM
Vice President



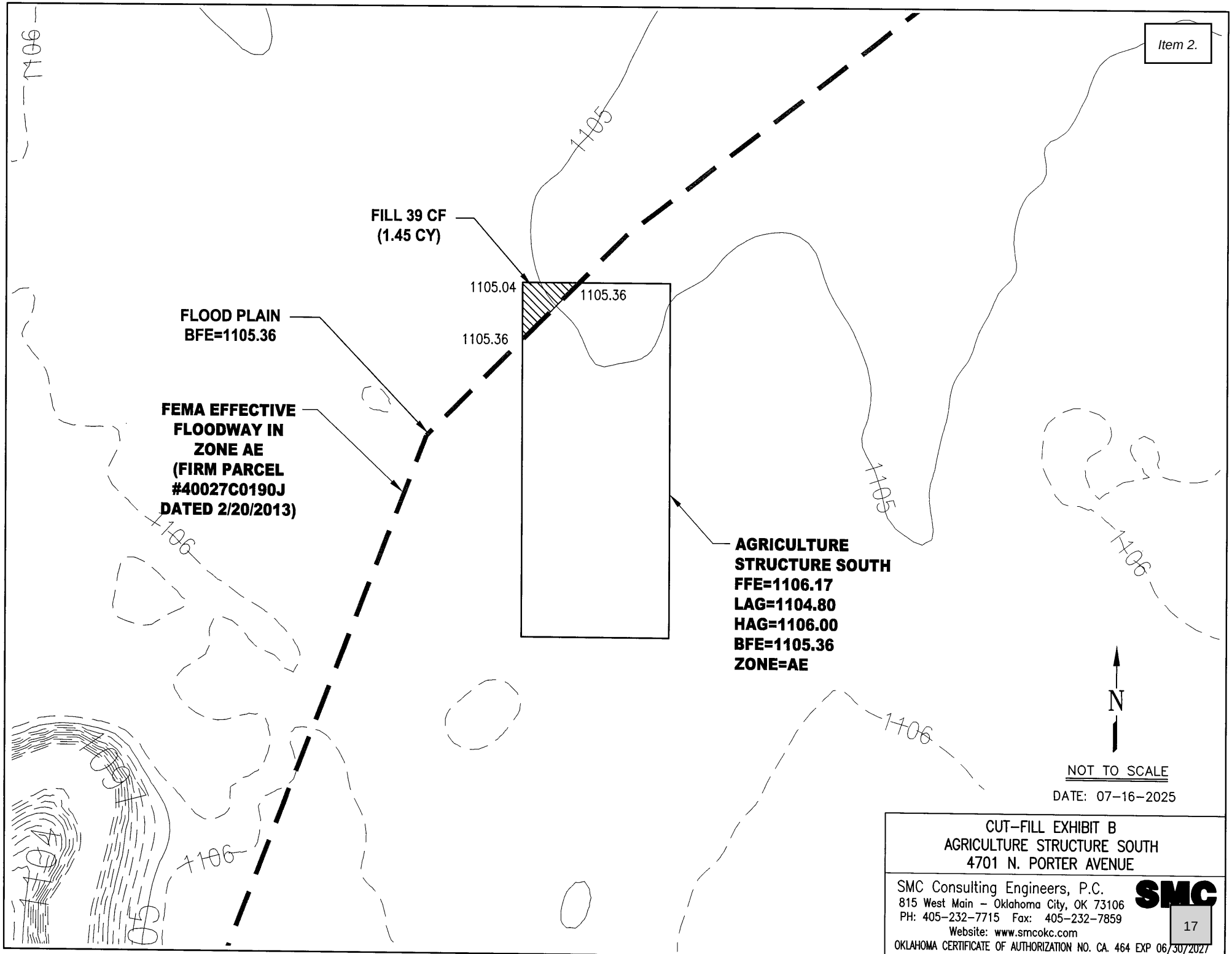
cc: 6634.00



CUT-FILL EXHIBIT A
AGRICULTURE STRUCTURES EAST AND WEST
4701 N. PORTER AVENUE

SMC Consulting Engineers, P.C.
815 West Main - Oklahoma City, OK 73106
PH: 405-232-7715 Fax: 405-232-7859
Website: www.smcokc.com
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. CA. 464 EXP 06/30/2027

SMC

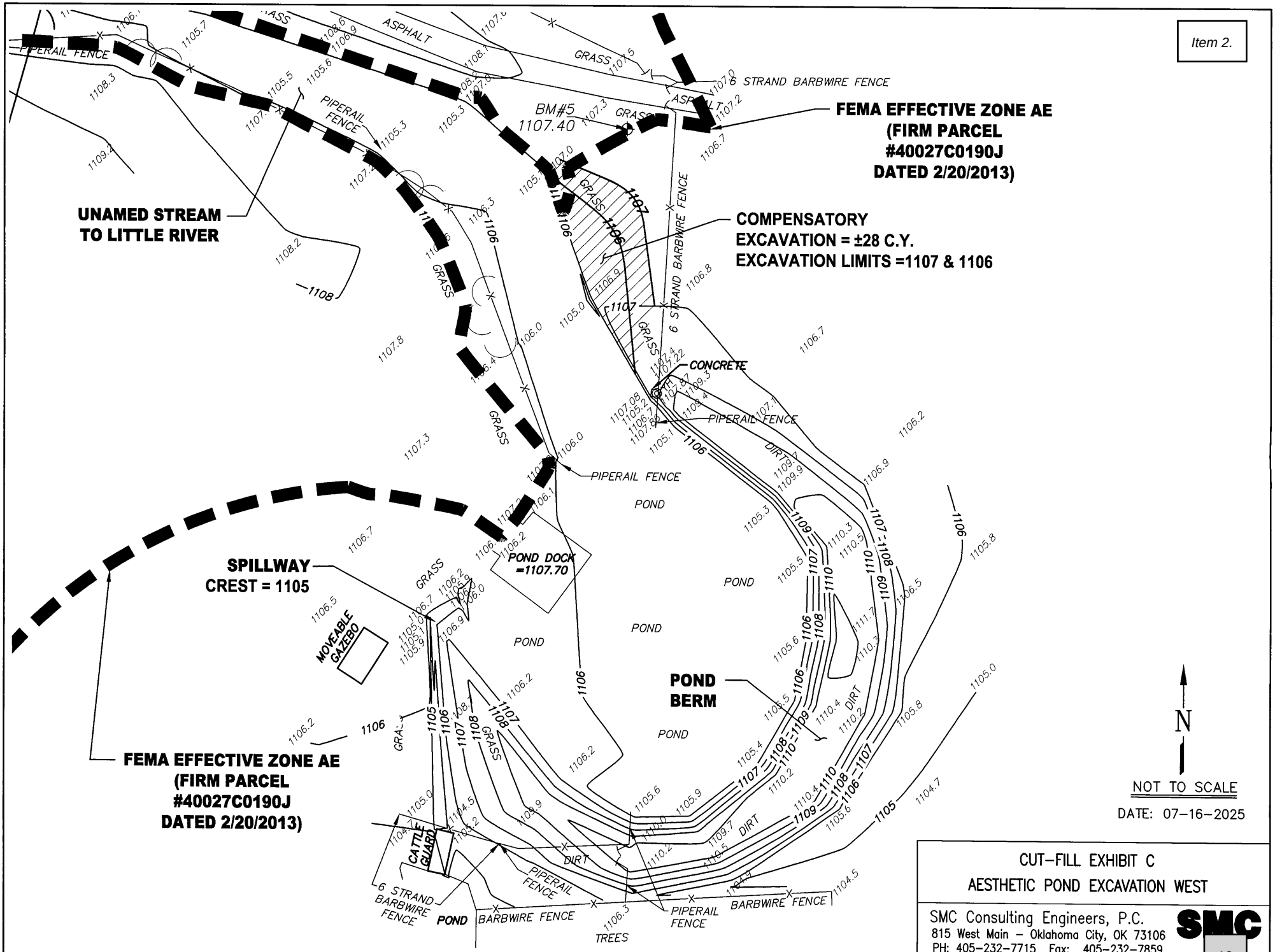


NOT TO SCALE

DATE: 07-16-2025

CUT-FILL EXHIBIT B
AGRICULTURE STRUCTURE SOUTH
4701 N. PORTER AVENUE

SMC Consulting Engineers, P.C.
815 West Main - Oklahoma City, OK 73106
PH: 405-232-7715 Fax: 405-232-7859
Website: www.smcokc.com
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. CA. 464 EXP 06/30/2027



N

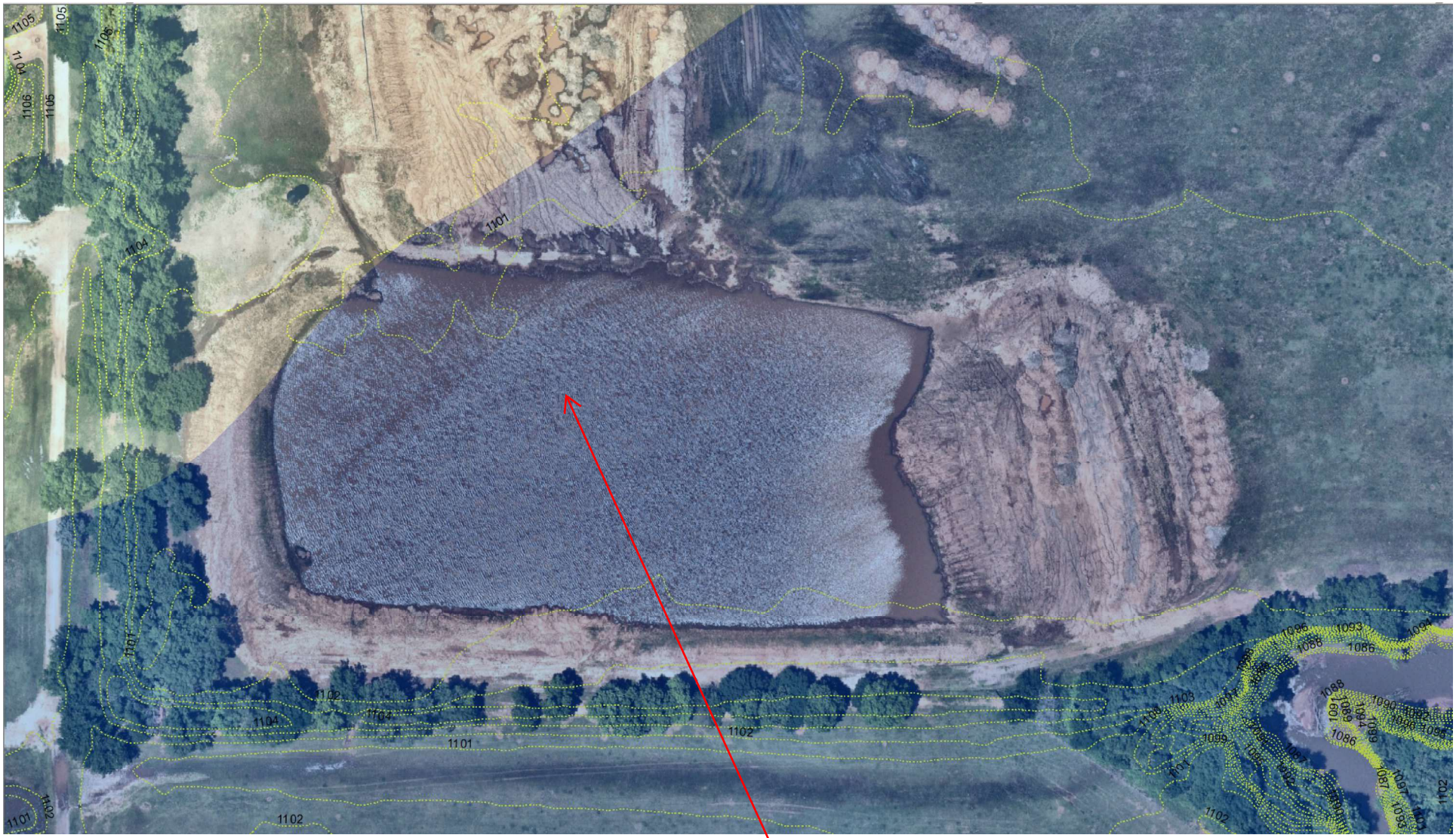
NOT TO SCALE

DATE: 07–16–2025

CUT–FILL EXHIBIT C

AESTHETIC POND EXCAVATION WEST

SMC Consulting Engineers, P.C.
815 West Main – Oklahoma City, OK 73106
PH: 405–232–7715 Fax: 405–232–7859
Website: www.smcokc.com
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. CA. 464 EXP 06/30/2027


FARM POND EXCAVATION EAST
SURFACE AREA = 3.032 ACRES
SFHA OF LITTLE RIVER, BFE = 1105.36

Form Instructions

U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
National Flood Insurance Program

OMB Control No. 1660-0008
Expiration Date: 0

Item 2.

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A – PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

A1. Building Owner's Name: Jackson Freedom Farms LLC

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N. Porter Avenue

City: Norman State: OK ZIP Code: 73071

A3. Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number:
Part of the NW/4 Section 8, T. 9 N., R. 2 W., I.M.

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): Accessory-West

A5. Latitude/Longitude: Lat. 35°16'29.24"N Long. 97°26'15.12"W Horiz. Datum: ☐NAD 1927 ☐NAD 1983 ☒WGS 84

A6. Attach at least two and when possible four clear color photographs (one for each side) of the building (see Form pages 7 and 8).

A7. Building Diagram Number: 1A

A8. For a building with a crawlspace or enclosure(s):

a) Square footage of crawlspace or enclosure(s): 0.00 sq. ft.

b) Is there at least one permanent flood opening on two different sides of each enclosed area? ☐Yes ☐No ☒N/A

c) Enter number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade:
Non-engineered flood openings: 0 Engineered flood openings: 0

d) Total net open area of non-engineered flood openings in A8.c: 0.00 sq. in.

e) Total rated area of engineered flood openings in A8.c (attach documentation – see Instructions): 0.00 sq. ft.

f) Sum of A8.d and A8.e rated area (if applicable – see Instructions): 0.00 sq. ft.

A9. For a building with an attached garage:

a) Square footage of attached garage: sq. ft.

b) Is there at least one permanent flood opening on two different sides of the attached garage? ☐Yes ☐No ☒N/A

c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade:
Non-engineered flood openings: 0 Engineered flood openings: 0

d) Total net open area of non-engineered flood openings in A9.c: 0.00 sq. in.

e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): 0.00 sq. ft.

f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): 0.00 sq. ft.

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1.a. NFIP Community Name: City of Norman B1.b. NFIP Community Identification Number: 400046

B2. County Name: Cleveland B3. State: OK B4. Map/Panel No.: 40027C0190 B5. Suffix: J

B6. FIRM Index Date: B7. FIRM Panel Effective/Revised Date: 02/20/2013

B8. Flood Zone(s): AE and A B9. Base Flood Elevation(s) (BFE) (Zone AO, use Base Flood Depth): 1106.00

B10. Indicate the source of the BFE data or Base Flood Depth entered in Item B9:
☐FIS ☒FIRM ☐Community Determined ☐Other:

B11. Indicate elevation datum used for BFE in Item B9: ☐NGVD 1929 ☒NAVD 1988 ☐Other/Source:

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐Yes ☒No
Designation ☐CBRS ☐OPA

B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)? ☐Yes ☒No

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N. Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐Construction Drawings* ☐Building Under Construction* ☒Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, AO, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, A99. Complete Items C2.a–h below according to the Building Diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: Norman GPS 366 Vertical Datum: NAVD 88

Indicate elevation datum used for the elevations in items a) through h) below.

☐NGVD 1929 ☒NAVD 1988 ☐Other:

Datum used for building elevations must be the same as that used for the BFE. Conversion factor used? ☐Yes ☒No
If Yes, describe the source of the conversion factor in the Section D Comments area.

		Check the measurement used:	
a) Top of bottom floor (including basement, crawlspace, or enclosure floor):	1106.54	☒ feet	☐ meters
b) Top of the next higher floor (see Instructions):		☐ feet	☐ meters
c) Bottom of the lowest horizontal structural member (see Instructions):		☐ feet	☐ meters
d) Attached garage (top of slab):		☐ feet	☐ meters
e) Lowest elevation of Machinery and Equipment (M&E) servicing the building (describe type of M&E and location in Section D Comments area):	N/A	☐ feet	☐ meters
f) Lowest Adjacent Grade (LAG) next to building: ☐Natural ☐Finished	1105.3	☒ feet	☐ meters
g) Highest Adjacent Grade (HAG) next to building: ☐Natural ☐Finished	1108.92	☒ feet	☐ meters
h) Finished LAG at lowest elevation of attached deck or stairs, including structural support:	N/A	☐ feet	☐ meters

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by state law to certify elevation information. *I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*

Were latitude and longitude in Section A provided by a licensed land surveyor? ☒Yes ☐No

☐ Check here if attachments and describe in the Comments area.

Certifier's Name: Randall Mansfield License Number: 1613

Title: Land Surveyor

Company Name: Cowan Group Engineering

Address: 7100 N Classen Boulevard, Suite 500

City: Oklahoma City State: OK ZIP Code: 73116

Telephone: 405-463-3369 Ext.: Email: rmansfield@cowangroup.co

Place Seal Here

REGISTERED PROFESSIONAL LAND SURVEYOR
RANDALL A. MANSFIELD
1613
OKLAHOMA

Date: 6/4/2025

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including source of conversion factor in C2; type of equipment and location per C2.e; and description of any attachments):

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

SECTION E – BUILDING MEASUREMENT INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO, ZONE AR/AO, AND ZONE A (WITHOUT BFE)

For Zones AO, AR/AO, and A (without BFE), complete Items E1–E5. For Items E1–E4, use natural grade, if available. If the Certificate is intended to support a Letter of Map Change request, complete Sections A, B, and C. Check the measurement used. In Puerto Rico only, enter meters.

Building measurements are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☐ Finished Construction

*A new Elevation Certificate will be required when construction of the building is complete.

E1. Provide measurements (C.2.a in applicable Building Diagram) for the following and check the appropriate boxes to show whether the measurement is above or below the natural HAG and the LAG.

a) Top of bottom floor (including basement, crawlspace, or enclosure) is: _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

b) Top of bottom floor (including basement, crawlspace, or enclosure) is: _____ ☐ feet ☐ meters ☐ above or ☐ below the LAG.

E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (C2.b in applicable Building Diagram) of the building is: _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E3. Attached garage (top of slab) is: _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is: _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown The local official must certify this information in Section G.

SECTION F – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without BFE) or Zone AO must sign here. *The statements in Sections A, B, and E are correct to the best of my knowledge*

☐ Check here if attachments and describe in the Comments area.

Property Owner or Owner's Authorized Representative Name: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Telephone: Ext.: _____ Email: _____

Date: _____

Comments:

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

SECTION G – COMMUNITY INFORMATION (RECOMMENDED FOR COMMUNITY OFFICIAL COMPLETION)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Section A, B, C, E, G, or H of this Elevation Certificate. Complete the applicable item(s) and sign below when:

G1. ☐ The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by state law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2.a. ☐ A local official completed Section E for a building located in Zone A (without a BFE), Zone AO, or Zone AR/AO, or when item E5 is completed for a building located in Zone AO.

G2.b. ☐ A local official completed Section H for insurance purposes.

G3. ☐ In the Comments area of Section G, the local official describes specific corrections to the information in Sections A, B, E and H.

G4. ☐ The following information (Items G5–G11) is provided for community floodplain management purposes.

G5. Permit Number: _____ G6. Date Permit Issued: _____

G7. Date Certificate of Compliance/Occupancy Issued: _____

G8. This permit has been issued for: ☐ New Construction ☐ Substantial Improvement

G9.a. Elevation of as-built lowest floor (including basement) of the building: _____ ☐ feet ☐ meters Datum: _____

G9.b. Elevation of bottom of as-built lowest horizontal structural member: _____ ☐ feet ☐ meters Datum: _____

G10.a. BFE (or depth in Zone AO) of flooding at the building site: _____ ☐ feet ☐ meters Datum: _____

G10.b. Community's minimum elevation (or depth in Zone AO) requirement for the lowest floor or lowest horizontal structural member: _____ ☐ feet ☐ meters Datum: _____

G11. Variance issued? ☐ Yes ☐ No If yes, attach documentation and describe in the Comments area.

The local official who provides information in Section G must sign here. *I have completed the information in Section G and certify that it is correct to the best of my knowledge. If applicable, I have also provided specific corrections in the Comments area of this section.*

Local Official's Name: _____ Title: _____

NFIP Community Name: _____

Telephone: Ext.: _____ Email: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Date: _____

Comments (including type of equipment and location, per C2.e; description of any attachments; and corrections to specific information in Sections A, B, D, E, or H):

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: _____

City: _____ State: _____ ZIP Code: _____

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

SECTION H – BUILDING'S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES (SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)

The property owner, owner's authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building's first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). ***Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.***

H1. Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):

a) **For Building Diagrams 1A, 1B, 3, and 5–8.** Top of bottom floor (include above-grade floors only for buildings with crawlspaces or enclosure floors) is: _____ ☐feet ☐meters ☐above the LAG

b) **For Building Diagrams 2A, 2B, 4, and 6–9.** Top of next higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is: _____ ☐feet ☐meters ☐above the LAG

H2. Is **all** Machinery and Equipment servicing the building (as listed in Item H2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H instructions) for the appropriate Building Diagram?

☐Yes ☐No

SECTION I – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and H must sign here. *The statements in Sections A, B, and H are correct to the best of my knowledge.* **Note:** If the local floodplain management official completed Section H, they should indicate in Item G2.b and sign Section G.

☐Check here if attachments are provided (including required photos) and describe each attachment in the Comments area.

Property Owner or Owner's Authorized Representative Name: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ Email: _____

Date: _____

Comments:

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N. Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

Instructions: Insert below at least two and when possible four photographs showing each side of the building (for example, may only be able to take front and back pictures of townhouses/rowhouses). Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." Photographs must show the foundation. When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.

Photo One

Photo One Caption: North Side

Clear Photo One

Photo Two

Photo Two Caption: North Side and West Side

Clear Photo Two

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

BUILDING PHOTOGRAPHS

Continuation Page

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

Insert the third and fourth photographs below. Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.

Photo Three

Photo Three Caption: East Side

Clear Photo Three

Photo Four

Photo Four Caption:

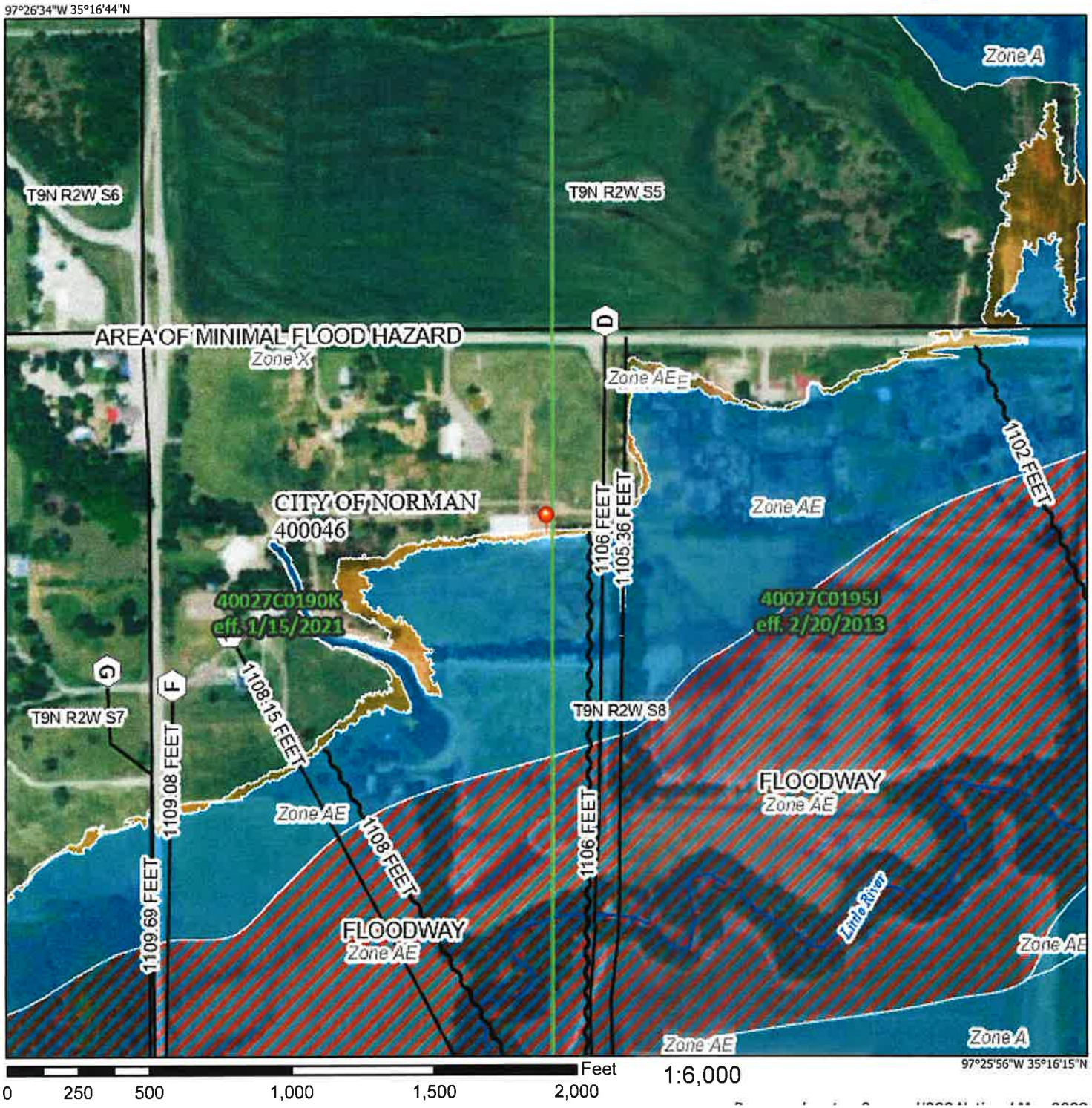
Clear Photo Four

National Flood Hazard Layer FIRMette

FEMA

West 2

Item 2.



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FI T

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
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 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

N

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 5/29/2025 at 8:28 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 iden FIRM panel number, and FIRM effective date. Map ima unmapped and unmodernized areas cannot be used f regulatory purposes.

Form Instructions

U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
National Flood Insurance Program

OMB Control No. 1660-0008
Expiration Date: 0

Item 2.

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A – PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

A1. Building Owner's Name: Jackson Freedom Farms LLC

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N. Porter Avenue

City: Norman State: OK ZIP Code: 73071

A3. Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number:
Part of the NW/4 Section 8, T. 9 N., R. 2 W., I.M.

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): Accessory-South

A5. Latitude/Longitude: Lat. 35°16'12.55"N Long. 97°26'13.02"W Horiz. Datum: ☐NAD 1927 ☐NAD 1983 ☒WGS 84

A6. Attach at least two and when possible four clear color photographs (one for each side) of the building (see Form pages 7 and 8).

A7. Building Diagram Number: 1A

A8. For a building with a crawlspace or enclosure(s):

a) Square footage of crawlspace or enclosure(s): 0.00 sq. ft.

b) Is there at least one permanent flood opening on two different sides of each enclosed area? ☐Yes ☐No ☒N/A

c) Enter number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade:
Non-engineered flood openings: 0 Engineered flood openings: 0

d) Total net open area of non-engineered flood openings in A8.c: 0.00 sq. in.

e) Total rated area of engineered flood openings in A8.c (attach documentation – see Instructions): 0.00 sq. ft.

f) Sum of A8.d and A8.e rated area (if applicable – see Instructions): 0.00 sq. ft.

A9. For a building with an attached garage:

a) Square footage of attached garage: sq. ft.

b) Is there at least one permanent flood opening on two different sides of the attached garage? ☐Yes ☐No ☒N/A

c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade:
Non-engineered flood openings: 0 Engineered flood openings: 0

d) Total net open area of non-engineered flood openings in A9.c: 0.00 sq. in.

e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): 0.00 sq. ft.

f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): 0.00 sq. ft.

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1.a. NFIP Community Name: City of Norman B1.b. NFIP Community Identification Number: 400046

B2. County Name: Cleveland B3. State: OK B4. Map/Panel No.: 40027C0195 B5. Suffix: J

B6. FIRM Index Date: B7. FIRM Panel Effective/Revised Date: 02/20/2013

B8. Flood Zone(s): AE and A B9. Base Flood Elevation(s) (BFE) (Zone AO, use Base Flood Depth): 1105.36

B10. Indicate the source of the BFE data or Base Flood Depth entered in Item B9:
☐FIS ☒FIRM ☐Community Determined ☐Other:

B11. Indicate elevation datum used for BFE in Item B9: ☐NGVD 1929 ☒NAVD 1988 ☐Other/Source:

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐Yes ☒No
Designation ☐CBRS ☐OPA

B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)? ☐Yes ☒No

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N. Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐Construction Drawings* ☐Building Under Construction* ☒Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, AO, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, A99. Complete Items C2.a–h below according to the Building Diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: Norman GPS 366 Vertical Datum: NAVD 88

Indicate elevation datum used for the elevations in items a) through h) below.

☐NGVD 1929 ☒NAVD 1988 ☐Other:

Datum used for building elevations must be the same as that used for the BFE. Conversion factor used? ☐Yes ☒No
If Yes, describe the source of the conversion factor in the Section D Comments area.

		Check the measurement used:
a) Top of bottom floor (including basement, crawlspace, or enclosure floor):	1106.17	☒ feet ☐ meters
b) Top of the next higher floor (see Instructions):		☐ feet ☐ meters
c) Bottom of the lowest horizontal structural member (see Instructions):		☐ feet ☐ meters
d) Attached garage (top of slab):		☒ feet ☐ meters
e) Lowest elevation of Machinery and Equipment (M&E) servicing the building (describe type of M&E and location in Section D Comments area):	N/A	☐ feet ☐ meters
f) Lowest Adjacent Grade (LAG) next to building: ☐Natural ☐Finished	1104.80	☒ feet ☐ meters
g) Highest Adjacent Grade (HAG) next to building: ☐Natural ☐Finished	1106.00	☒ feet ☐ meters
h) Finished LAG at lowest elevation of attached deck or stairs, including structural support:	N/A	☐ feet ☐ meters

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by state law to certify elevation information.
I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Were latitude and longitude in Section A provided by a licensed land surveyor? ☒Yes ☐No

☐ Check here if attachments and describe in the Comments area.

Certifier's Name: Randall Mansfield License Number: 1613

Title: Land Surveyor

Company Name: Cowan Group Engineering

Address: 7100 N Classen Boulevard, Suite 500

City: Oklahoma City State: OK ZIP Code: 73116

Telephone: 405-463-3369 Ext.: Email: rmansfield@cowangroup.co

Place Seal Here
REGISTERED PROFESSIONAL LAND SURVEYOR
RANDALL A. MANSFIELD
1613
OKLAHOMA

Date: 6/4/2025

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including source of conversion factor in C2; type of equipment and location per C2.e; and description of any attachments):

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

SECTION E – BUILDING MEASUREMENT INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO, ZONE AR/AO, AND ZONE A (WITHOUT BFE)

For Zones AO, AR/AO, and A (without BFE), complete Items E1–E5. For Items E1–E4, use natural grade, if available. If the Certificate is intended to support a Letter of Map Change request, complete Sections A, B, and C. Check the measurement used. In Puerto Rico only, enter meters.

Building measurements are based on: ☐Construction Drawings* ☐Building Under Construction* ☐Finished Construction

*A new Elevation Certificate will be required when construction of the building is complete.

E1. Provide measurements (C.2.a in applicable Building Diagram) for the following and check the appropriate boxes to show whether the measurement is above or below the natural HAG and the LAG.

a) Top of bottom floor (including basement, crawlspace, or enclosure) is: _____ ☐ feet ☐ meters ☐above or ☐below the HAG.

b) Top of bottom floor (including basement, crawlspace, or enclosure) is: _____ ☐ feet ☐ meters ☐above or ☐below the LAG.

E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (C2.b in applicable Building Diagram) of the building is: _____ ☐ feet ☐ meters ☐above or ☐below the HAG.

E3. Attached garage (top of slab) is: _____ ☐ feet ☐ meters ☐above or ☐below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is: _____ ☐ feet ☐ meters ☐above or ☐below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown The local official must certify this information in Section G.

SECTION F – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without BFE) or Zone AO must sign here. *The statements in Sections A, B, and E are correct to the best of my knowledge*

☐Check here if attachments and describe in the Comments area.

Property Owner or Owner's Authorized Representative Name: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Telephone: Ext.: _____ Email: _____

Date: _____

Comments:

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

SECTION G – COMMUNITY INFORMATION (RECOMMENDED FOR COMMUNITY OFFICIAL COMPLETION)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Section A, B, C, E, G, or H of this Elevation Certificate. Complete the applicable item(s) and sign below when:

G1. ☐ The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by state law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2.a. ☐ A local official completed Section E for a building located in Zone A (without a BFE), Zone AO, or Zone AR/AO, or when item E5 is completed for a building located in Zone AO.

G2.b. ☐ A local official completed Section H for insurance purposes.

G3. ☐ In the Comments area of Section G, the local official describes specific corrections to the information in Sections A, B, E and H.

G4. ☐ The following information (Items G5–G11) is provided for community floodplain management purposes.

G5. Permit Number: _____ G6. Date Permit Issued: _____

G7. Date Certificate of Compliance/Occupancy Issued: _____

G8. This permit has been issued for: ☐ New Construction ☐ Substantial Improvement

G9.a. Elevation of as-built lowest floor (including basement) of the building: _____ ☐ feet ☐ meters Datum: _____

G9.b. Elevation of bottom of as-built lowest horizontal structural member: _____ ☐ feet ☐ meters Datum: _____

G10.a. BFE (or depth in Zone AO) of flooding at the building site: _____ ☐ feet ☐ meters Datum: _____

G10.b. Community's minimum elevation (or depth in Zone AO) requirement for the lowest floor or lowest horizontal structural member: _____ ☐ feet ☐ meters Datum: _____

G11. Variance issued? ☐ Yes ☐ No If yes, attach documentation and describe in the Comments area.

The local official who provides information in Section G must sign here. *I have completed the information in Section G and certify that it is correct to the best of my knowledge. If applicable, I have also provided specific corrections in the Comments area of this section.*

Local Official's Name: _____ Title: _____

NFIP Community Name: _____

Telephone: _____ Ext.: _____ Email: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Date: _____

Comments (including type of equipment and location, per C2.e; description of any attachments; and corrections to specific information in Sections A, B, D, E, or H):

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: _____

City: _____ State: _____ ZIP Code: _____

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

SECTION H – BUILDING'S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES (SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)

The property owner, owner's authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building's first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). ***Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.***

H1. Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):

a) **For Building Diagrams 1A, 1B, 3, and 5–8.** Top of bottom floor (include above-grade floors only for buildings with crawlspaces or enclosure floors) is: _____ ☐feet ☐meters ☐above the LAG

b) **For Building Diagrams 2A, 2B, 4, and 6–9.** Top of next higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is: _____ ☐feet ☐meters ☐above the LAG

H2. Is **all** Machinery and Equipment servicing the building (as listed in Item H2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H instructions) for the appropriate Building Diagram?

☐Yes ☐No

SECTION I – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and H must sign here. *The statements in Sections A, B, and H are correct to the best of my knowledge.* **Note:** If the local floodplain management official completed Section H, they should indicate in Item G2.b and sign Section G.

☐Check here if attachments are provided (including required photos) and describe each attachment in the Comments area.

Property Owner or Owner's Authorized Representative Name: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ Email: _____

Date: _____

Comments:

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N. Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

Instructions: Insert below at least two and when possible four photographs showing each side of the building (for example, may only be able to take front and back pictures of townhouses/rowhouses). Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." Photographs must show the foundation. When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.

Photo One

Photo One Caption: Front View and South Side

Clear Photo One

Photo Two

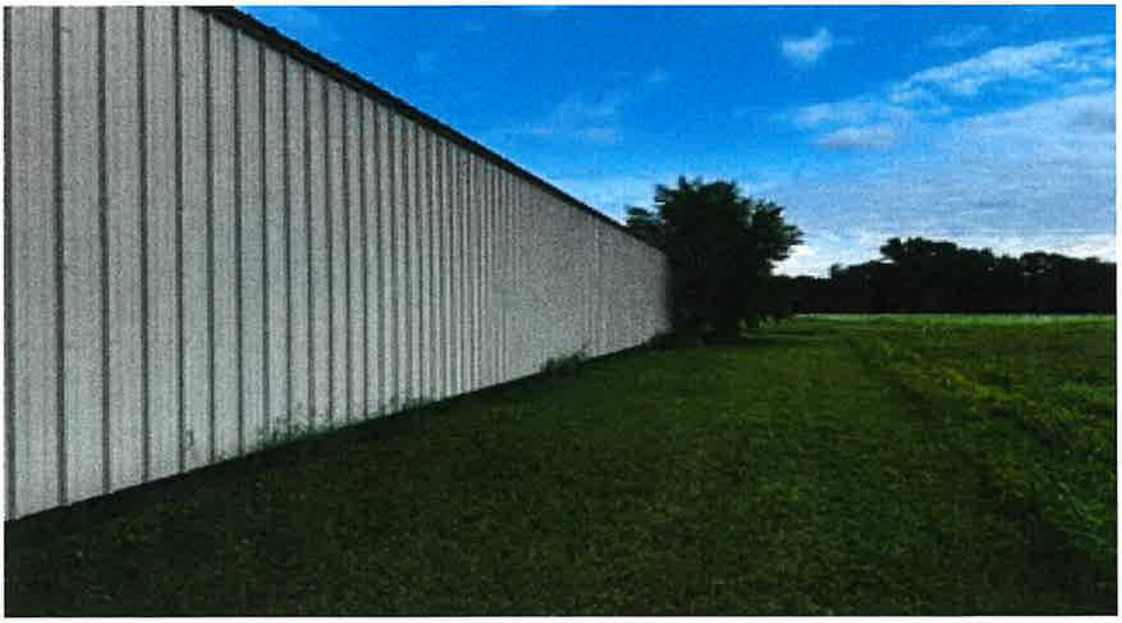


Photo Two Caption: Rear View

Clear Photo Two

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

BUILDING PHOTOGRAPHS

Continuation Page

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

Insert the third and fourth photographs below. Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.

Photo Three

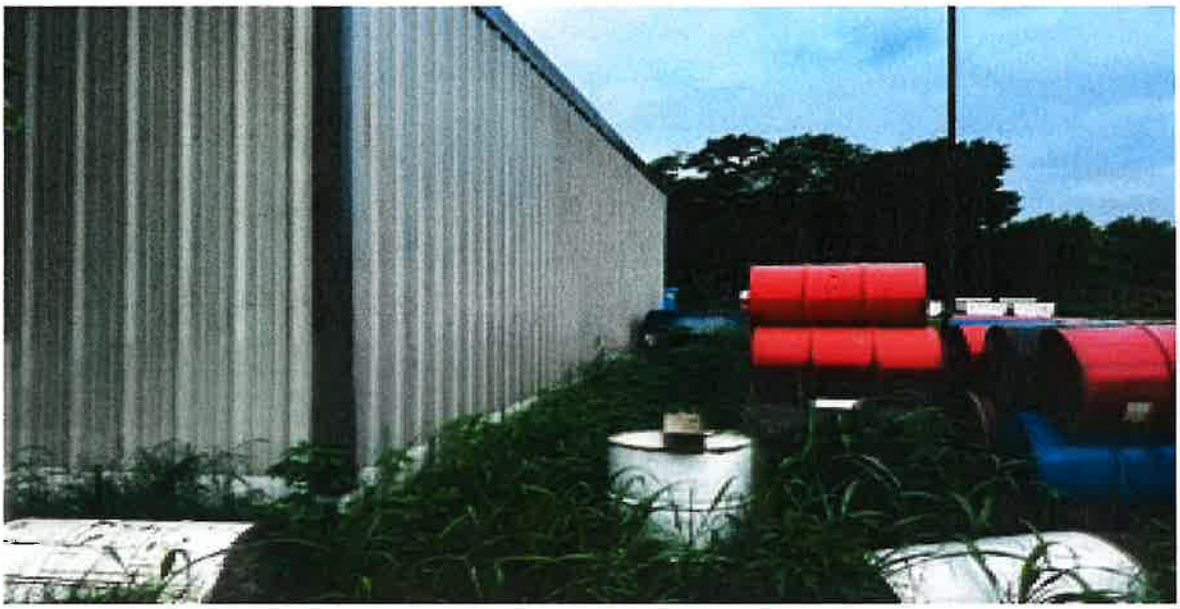


Photo Three Caption: North Side

Clear Photo Three

Photo Four

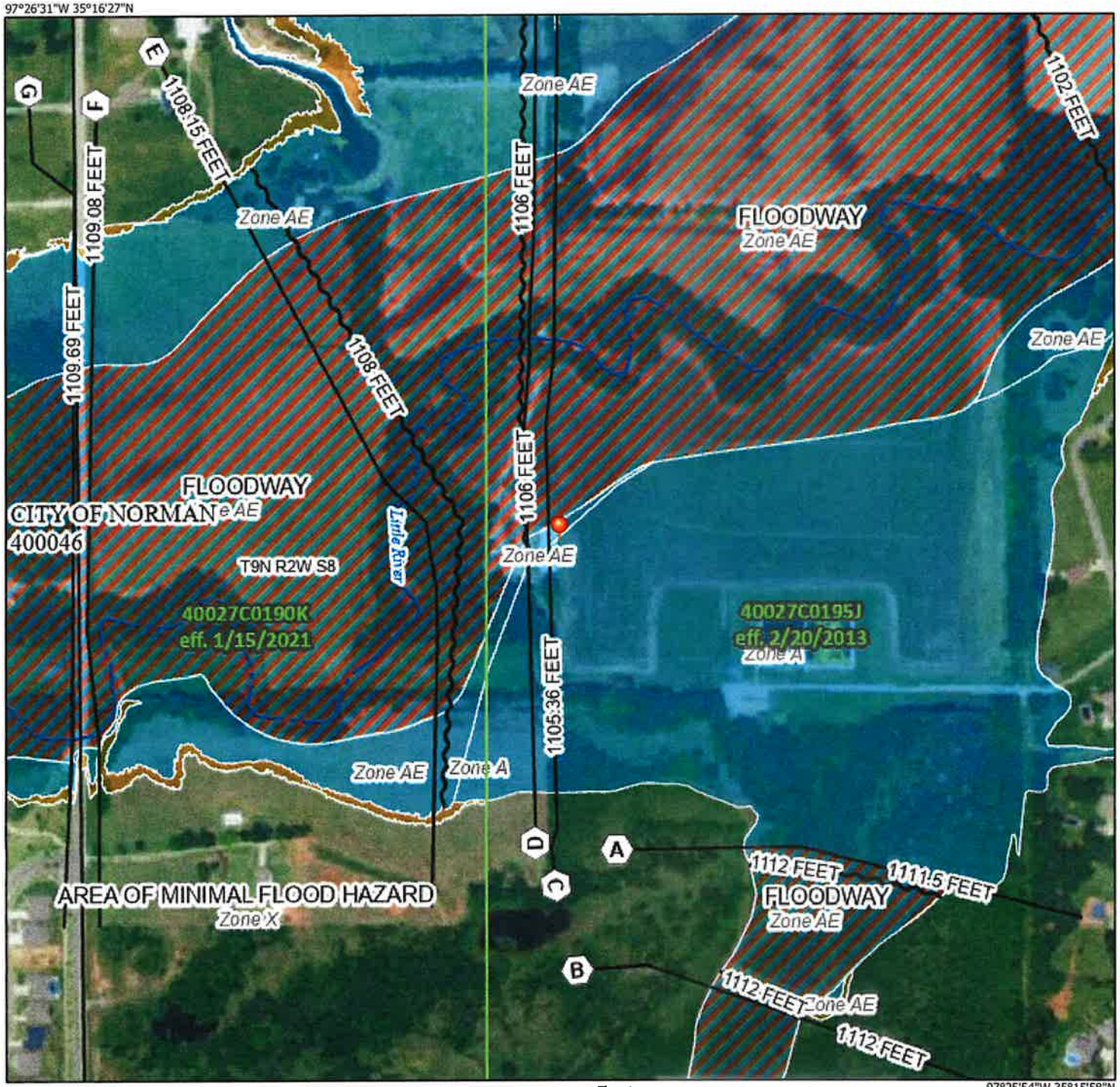
Photo Four Caption: North Side and Front View

Clear Photo Four

National Flood Hazard Layer FIRMette

FEMA

97°26'31"W 35°16'27"N



97°25'54"W 35°15'58"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIR

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
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 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

N

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 5/29/2025 at 6:13 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 ident FIRM panel number, and FIRM effective date. Map ima unmapped and unmodernized areas cannot be used fo regulatory purposes.

Form Instructions

U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
National Flood Insurance Program

OMB Control No. 1660-0008
Expiration Date: 0

Item 2.

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A – PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

A1. Building Owner's Name: Jackson Freedom Farms LLC

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N. Porter Avenue

City: Norman State: OK ZIP Code: 73071

A3. Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number:
Part of the NW/4 Section 8, T. 9 N., R. 2 W., I.M.

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): Accessory-East

A5. Latitude/Longitude: Lat. 35°16'29.24"N Long. 97°26'14.39"W Horiz. Datum: ☐NAD 1927 ☐NAD 1983 ☒WGS 84

A6. Attach at least two and when possible four clear color photographs (one for each side) of the building (see Form pages 7 and 8).

A7. Building Diagram Number: 1A

A8. For a building with a crawlspace or enclosure(s):

a) Square footage of crawlspace or enclosure(s): 0.00 sq. ft.

b) Is there at least one permanent flood opening on two different sides of each enclosed area? ☐Yes ☐No ☒N/A

c) Enter number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade:
Non-engineered flood openings: 0 Engineered flood openings: 0

d) Total net open area of non-engineered flood openings in A8.c: 0.00 sq. in.

e) Total rated area of engineered flood openings in A8.c (attach documentation – see Instructions): 0.00 sq. ft.

f) Sum of A8.d and A8.e rated area (if applicable – see Instructions): 0.00 sq. ft.

A9. For a building with an attached garage:

a) Square footage of attached garage: sq. ft.

b) Is there at least one permanent flood opening on two different sides of the attached garage? ☐Yes ☐No ☒N/A

c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade:
Non-engineered flood openings: 0 Engineered flood openings: 0

d) Total net open area of non-engineered flood openings in A9.c: 0.00 sq. in.

e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): 0.00 sq. ft.

f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): 0.00 sq. ft.

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1.a. NFIP Community Name: City of Norman B1.b. NFIP Community Identification Number: 400046

B2. County Name: Cleveland B3. State: OK B4. Map/Panel No.: 40027C0190 B5. Suffix: J

B6. FIRM Index Date: B7. FIRM Panel Effective/Revised Date: 02/20/2013

B8. Flood Zone(s): AE and A B9. Base Flood Elevation(s) (BFE) (Zone AO, use Base Flood Depth): 1106.00

B10. Indicate the source of the BFE data or Base Flood Depth entered in Item B9:
☐FIS ☒FIRM ☐Community Determined ☐Other:

B11. Indicate elevation datum used for BFE in Item B9: ☐NGVD 1929 ☒NAVD 1988 ☐Other/Source:

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐Yes ☒No
Designation ☐CBRS ☐OPA

B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)? ☐Yes ☒No

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N. Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐Construction Drawings* ☐Building Under Construction* ☒Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, AO, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, A99. Complete Items C2.a–h below according to the Building Diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: Norman GPS 366 Vertical Datum: NAVD 88

Indicate elevation datum used for the elevations in items a) through h) below.

☐NGVD 1929 ☒NAVD 1988 ☐Other:

Datum used for building elevations must be the same as that used for the BFE. Conversion factor used? ☐Yes ☒No
If Yes, describe the source of the conversion factor in the Section D Comments area.

		Check the measurement used:
a) Top of bottom floor (including basement, crawlspace, or enclosure floor):	1107.00	☒ feet ☐ meters
b) Top of the next higher floor (see Instructions):		☐ feet ☐ meters
c) Bottom of the lowest horizontal structural member (see Instructions):		☐ feet ☐ meters
d) Attached garage (top of slab):		☒ feet ☐ meters
e) Lowest elevation of Machinery and Equipment (M&E) servicing the building (describe type of M&E and location in Section D Comments area):	N/A	☐ feet ☐ meters
f) Lowest Adjacent Grade (LAG) next to building: ☐Natural ☐Finished	1105.3	☒ feet ☐ meters
g) Highest Adjacent Grade (HAG) next to building: ☐Natural ☐Finished	1107.9	☒ feet ☐ meters
h) Finished LAG at lowest elevation of attached deck or stairs, including structural support:	N/A	☐ feet ☐ meters

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by state law to certify elevation information.
I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Were latitude and longitude in Section A provided by a licensed land surveyor? ☒Yes ☐No

☐ Check here if attachments and describe in the Comments area.

Certifier's Name: Randall Mansfield License Number: 1613

Title: Land Surveyor

Company Name: Cowan Group Engineering

Address: 7100 N Classen Boulevard, Suite 500

City: Oklahoma City State: OK ZIP Code: 73116

Telephone: 405-463-3369 Ext.: Email: rmansfield@cowangroup.co

Date: 6/4/2026

Place Seal Here
REGISTERED PROFESSIONAL LAND SURVEYOR
RANDALL A. MANSFIELD
1613
OKLAHOMA

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including source of conversion factor in C2; type of equipment and location per C2.e; and description of any attachments):

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

SECTION E – BUILDING MEASUREMENT INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO, ZONE AR/AO, AND ZONE A (WITHOUT BFE)

For Zones AO, AR/AO, and A (without BFE), complete Items E1–E5. For Items E1–E4, use natural grade, if available. If the Certificate is intended to support a Letter of Map Change request, complete Sections A, B, and C. Check the measurement used. In Puerto Rico only, enter meters.

Building measurements are based on: ☐Construction Drawings* ☐Building Under Construction* ☐Finished Construction

*A new Elevation Certificate will be required when construction of the building is complete.

E1. Provide measurements (C.2.a in applicable Building Diagram) for the following and check the appropriate boxes to show whether the measurement is above or below the natural HAG and the LAG.

a) Top of bottom floor (including basement, crawlspace, or enclosure) is: _____ ☐ feet ☐ meters ☐above or ☐below the HAG.

b) Top of bottom floor (including basement, crawlspace, or enclosure) is: _____ ☐ feet ☐ meters ☐above or ☐below the LAG.

E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (C2.b in applicable Building Diagram) of the building is: _____ ☐ feet ☐ meters ☐above or ☐below the HAG.

E3. Attached garage (top of slab) is: _____ ☐ feet ☐ meters ☐above or ☐below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is: _____ ☐ feet ☐ meters ☐above or ☐below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown The local official must certify this information in Section G.

SECTION F – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without BFE) or Zone AO must sign here. *The statements in Sections A, B, and E are correct to the best of my knowledge*

☐Check here if attachments and describe in the Comments area.

Property Owner or Owner's Authorized Representative Name: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Telephone: Ext.: _____ Email: _____

Date: _____

Comments:

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number: _____

Company NAIC Number: _____

SECTION G – COMMUNITY INFORMATION (RECOMMENDED FOR COMMUNITY OFFICIAL COMPLETION)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Section A, B, C, E, G, or H of this Elevation Certificate. Complete the applicable item(s) and sign below when:

G1. ☐ The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by state law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2.a. ☐ A local official completed Section E for a building located in Zone A (without a BFE), Zone AO, or Zone AR/AO, or when item E5 is completed for a building located in Zone AO.

G2.b. ☐ A local official completed Section H for insurance purposes.

G3. ☐ In the Comments area of Section G, the local official describes specific corrections to the information in Sections A, B, E and H.

G4. ☐ The following information (Items G5–G11) is provided for community floodplain management purposes.

G5. Permit Number: _____ G6. Date Permit Issued: _____

G7. Date Certificate of Compliance/Occupancy Issued: _____

G8. This permit has been issued for: ☐ New Construction ☐ Substantial Improvement

G9.a. Elevation of as-built lowest floor (including basement) of the building: _____ ☐ feet ☐ meters Datum: _____

G9.b. Elevation of bottom of as-built lowest horizontal structural member: _____ ☐ feet ☐ meters Datum: _____

G10.a. BFE (or depth in Zone AO) of flooding at the building site: _____ ☐ feet ☐ meters Datum: _____

G10.b. Community's minimum elevation (or depth in Zone AO) requirement for the lowest floor or lowest horizontal structural member: _____ ☐ feet ☐ meters Datum: _____

G11. Variance issued? ☐ Yes ☐ No If yes, attach documentation and describe in the Comments area.

The local official who provides information in Section G must sign here. *I have completed the information in Section G and certify that it is correct to the best of my knowledge. If applicable, I have also provided specific corrections in the Comments area of this section.*

Local Official's Name: _____ Title: _____

NFIP Community Name: _____

Telephone: _____ Ext.: _____ Email: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Date: _____

Comments (including type of equipment and location, per C2.e; description of any attachments; and corrections to specific information in Sections A, B, D, E, or H):

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:	**FOR INSURANCE COMPANY USE**
City: _____ State: _____ ZIP Code: _____	Policy Number: _____ Company NAIC Number: _____

SECTION H – BUILDING'S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES (SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)

The property owner, owner's authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building's first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). ***Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.***

H1. Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):

a) **For Building Diagrams 1A, 1B, 3, and 5–8.** Top of bottom floor (include above-grade floors only for buildings with crawlspaces or enclosure floors) is: _____ ☐feet ☐meters ☐above the LAG

b) **For Building Diagrams 2A, 2B, 4, and 6–9.** Top of next higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is: _____ ☐feet ☐meters ☐above the LAG

H2. Is **all** Machinery and Equipment servicing the building (as listed in Item H2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H instructions) for the appropriate Building Diagram?

☐Yes ☐No

SECTION I – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and H must sign here. *The statements in Sections A, B, and H are correct to the best of my knowledge.* **Note:** If the local floodplain management official completed Section H, they should indicate in Item G2.b and sign Section G.

☐Check here if attachments are provided (including required photos) and describe each attachment in the Comments area.

Property Owner or Owner's Authorized Representative Name: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ Email: _____

Date: _____

Comments:

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:
4701 N. Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

Instructions: Insert below at least two and when possible four photographs showing each side of the building (for example, may only be able to take front and back pictures of townhouses/rowhouses). Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." Photographs must show the foundation. When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.

Photo One

Photo One Caption: East Side

Clear Photo One

Photo Two

Photo Two Caption: West Side and North side

Clear Photo Two

Form Instructions

ELEVATION CERTIFICATE

IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

BUILDING PHOTOGRAPHS

Continuation Page

Item 2.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4701 N Porter Avenue

City: Norman State: OK ZIP Code: 73071

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

Insert the third and fourth photographs below. Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.

Photo Three

Photo Three Caption:

Clear Photo Three

Photo Four

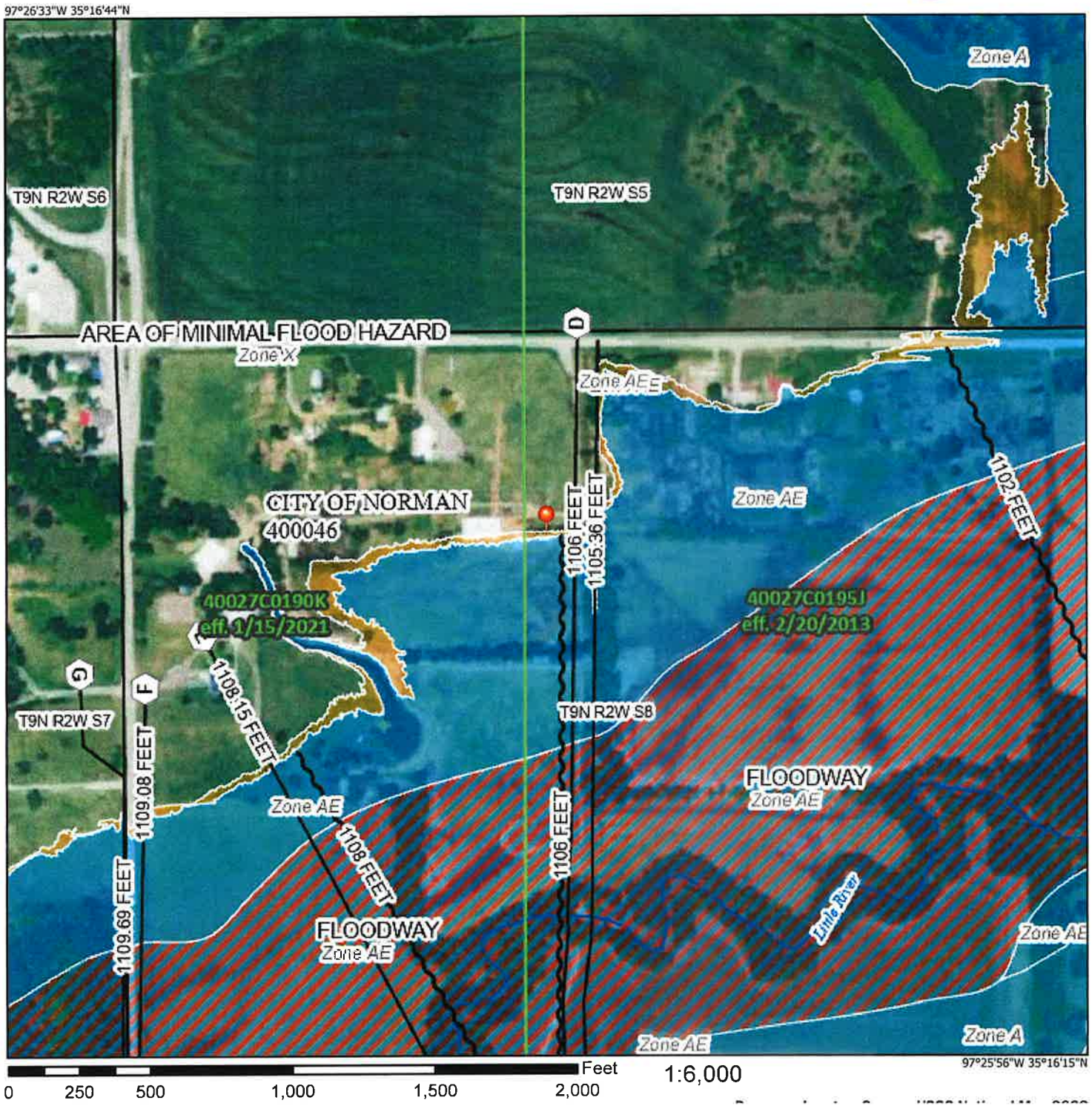
Photo Four Caption:

Clear Photo Four

EAST 3

National Flood Hazard Layer FIRMette

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIR

Item 2.

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
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 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

N

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 5/29/2025 at 8:30 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 iden FIRM panel number, and FIRM effective date. Map im unmapped and unmodernized areas cannot be used f regulatory purposes.

STAFF REPORT 08/04/2025 **PERMIT NO. 726**

ITEM: This Floodplain Permit Application is for the proposed installation of a chain-link fence and repair of the front and rear deck at 421 South Flood Ave. in the floodway of Imhoff Creek.

BACKGROUND:
APPLICANT: Angel Jacquez
ENGINEER: Kevan Parker, P.E.

The applicant received a notice of violation letter on May 11th for a fence installation and deck construction in the Imhoff Creek floodplain. After investigating, it was determined that majority of the work was replacing an existing deck, but that a chain link had been installed without a permit. Additionally, it appeared the front deck had been extended beyond its original footprint. The applicant then began working with staff to identify what work had been completed and started the process of obtaining a floodplain permit for the completed work.

The chain link fence was installed around the perimeter of the back yard to provide safety for anyone in the yard from falling into the open channel that is immediately adjacent to the property. The applicant indicated that the rear deck and storage building were deteriorated to the point that replacement of the wood was necessary for safety reasons. Additionally, the existing stairs from the deck to the yard were very steep, so they were extended outward to make them safer, and a new rail was provided. The front deck was initially extended in size, but after meeting with City staff it was explained that no new development was allowed in the floodway and that expanded footprint of the deck would very likely not be permissible. The applicant then had the front deck modified to return it to its original dimensions with the addition of a railing for safety.

The applicant's engineer provided a floodplain analysis report with detailed explanation of the work completed as well as compensatory storage calculations provided.

STAFF ANALYSIS:
Site located in Little River Basin or its Tributaries? Yes __ No ✓

According to the latest FIRM, the site of the proposed work is located in the Imhoff Creek Floodplain (Zone AE). At the proposed site, the BFE is 1151.0'. Cumulative substantial improvement assessment is calculated using the cost of the deck and storage shed only and is approximately 2.79%.

Applicable Ordinance Sections:		Subject Area:
36-533	(e)2(a)……	Fill restrictions
	(e)2(e)…..……	Compensatory storage
	(e)(3)(j)...…….	Fencing in the floodplain
	(f)(3)(8) …….....	No rise considerations

(e)2(a) and (e)2(e) Fill Restrictions in the Floodplain and Compensatory Storage – Fill is restricted because storage capacity is removed from floodplains, natural drainage patterns are adversely altered, and erosion problems can develop. Compensatory storage must be provided within the general location of any storage that is displaced by fill or other development activity and must serve the equivalent hydrologic function as the portion which is displaced with respect to the area and elevation of the floodplain.

The applicant's engineer has supplied a floodplain analysis with calculations for the new fence and deck. 1.67 cubic feet of material was added with this project and the applicant has indicated that this volume of material will be removed from the area adjacent to the deck.

(e)(3)(j) Fencing in the Floodplain – All new fences or replacement of existing fences in the SFHA require a floodplain permit. Approved fences shall be designed and installed to be breakaway or in some other manner so that flows will not be impeded.

The applicant has installed a chain-link fence meeting this ordinance requirement.

(f)3(a)(8) No Rise Considerations – For proposed development within any flood hazard area (except for those designated as regulatory floodways), certification that a rise of no more than 0.05 ft. will occur in the BFE on any adjacent property as a result of the proposed work is required. For proposed development within a designated regulatory floodway, certification that no increase in the BFE on any adjacent property as a result of the proposed work is required.

The project engineer has submitted a No Rise statement and floodplain analysis report indicating that this project will not cause a rise in the BFE at this location, meeting the ordinance requirements.

RECOMMENDATION: Staff recommends Floodplain Permit Application #726 be approved.

ACTION TAKEN: _____

City of Norman

Floodplain Permit Application

Floodplain Permit No. 726

Building Permit No. _____

Date 8/4/2025

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: Angel Jacquez ADDRESS: 421 S. Flood Ave Norman, OK 73069

TELEPHONE: 757-297-1427 SIGNATURE: Signed by: Angel Jacquez

BUILDER: Steve Jagger & Mike Costello ADDRESS: 426 Keith Street Norman, OK 73071 2011 Ridgewood Dr. Moore, OK 73160

TELEPHONE: 405-642-0245 405-420-4070 SIGNATURE: Signed by: [signature] Signed by: [signature]

ENGINEER: Kevan Parker (RHOMBIC, LLC) ADDRESS: 201 David L Boren Blvd Suite 221 Norman, OK 73072

TELEPHONE: 405-695-8224 SIGNATURE: DocuSigned by: Kevan Parker

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.

Project location at 421 S. Flood Ave. Norman, OK 73069.

DESCRIPTION OF WORK (Check all applicable boxes):

A. STRUCTURAL DEVELOPMENT

ACTIVITY	STRUCTURE TYPE
☐ New Structure	☐ Residential (1-4 Family)
☐ Addition	☐ Residential (More than 4 Family)
☑ Alteration	☐ Non-Residential (Flood proofing? ☐ Yes)
☐ Relocation	☐ Combined Use (Residential & Commercial)
☐ Demolition	☐ Manufactured (Mobile) Home
☑ Replacement	☐ In Manufactured Home Park? ☐ Yes

ESTIMATED COST OF PROJECT $ 9,600.00 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.

Replaced existing back deck and shed using original footprint. Back deck stairs were adjusted to reduce steepness and improve safety.

A 184ft black chain link fence was installed around the perimeter of the back yard. Safety rails were installed on front deck to improve safety.

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:
Project is outside creek channel and floodway; no fill or grading proposed.

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:
Existing residential lot, no subdivision or 5+ acre development

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:
Minor residential improvements (back deck, front deck, and fence) on existing developed lot. No changes to drainage, elevation, utilities, or vegitation.

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

☑ Not Applicable:
The work is limited to replacing an existing deck using the same footprint and does not alter the stream channel or affect the flow line

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

☑ Not Applicable:
No new or substantially improved enclosed structures. Project includes back deck, front deck, and fence only.

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:
No alteration or relocation of any watercourse or drainage.

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.: 0280 J, 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 1151.0' Ft. NGVD (MSL) ☑ Unavailable

See Section 4 for additional instructions.

SIGNED: _____ **DATE:** 7/30/2025

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.

The City of
NORMAN
225 N. Webster · P.O. Box 370
Norman, Oklahoma 73069 · 73070

June 16, 2025

Certified Mail
Regular U.S. Mail

Angel and Abigail Jacquez
421 S Flood Avenue
Norman, OK 73072

Re: Illegal Fill and Remodel in the Imhoff Creek Floodway

To Whom It May Concern:

City staff investigated illegal modifications to the structure and illegal fill material in the floodplain located at 421 S. Flood. Specifically, the violation consists of remodeling of a structure without a floodplain permit, installation of a new deck and renovations of existing elements of the structure and that are located at the area indicated on the attached map and are located within the City of Norman (1% chance) floodplain/floodway Zone AE.

City records indicate that floodplain permits have not been obtained to perform modifications or place fill within the floodplain, which is a violation of the floodplain ordinance. In summary, you are in violation of the City Code of Ordinances Chapter 36 Section 533 FH, Flood Hazard District, which has been adopted by City Council.

Section 533 FH (f)(14) - Enforcement of Violations

a. Each day during which a violation exists shall constitute a separate offense.
b. For each offense cited, a penalty of not less than $50.00 nor more than $750.00 shall be assessed to:
    1. The owners of record; and/or
    2. Any person employed in connection therewith and who may have assisted in the commission of such violation.
        i. In addition to the penalties provided in NCC 1-114, the City may institute appropriate actions or proceedings at law or equity for the enforcement of the provisions of this article or to correct the violations thereof. The conviction and punishment of any person hereunder shall not relieve such person from the responsibility to correct prohibited buildings, structures, obstructions, or improvements, nor prevent the enforcement, correction, or removal thereof.
        ii. The legally recorded owner of any property located in a special flood hazard area onto which fill material of any nature has been applied, with or without his knowledge and in violation of the provisions of this article, shall immediately, and at his expense, remove all such material upon written request to do so by the Director of Public Works. Upon failure of the property owner to complete this work in a timely manner, the City Council may order the work to be completed and expenses charged to the property owner or levied against the property.
        iii. Any and all apprehended persons depositing fill material of any nature in violation of this article shall be prosecuted to the fullest extent of the law.

Please be aware that any development including modifications or placing of fill in the floodplain requires a floodplain permit from the City. More information is available on the City's website

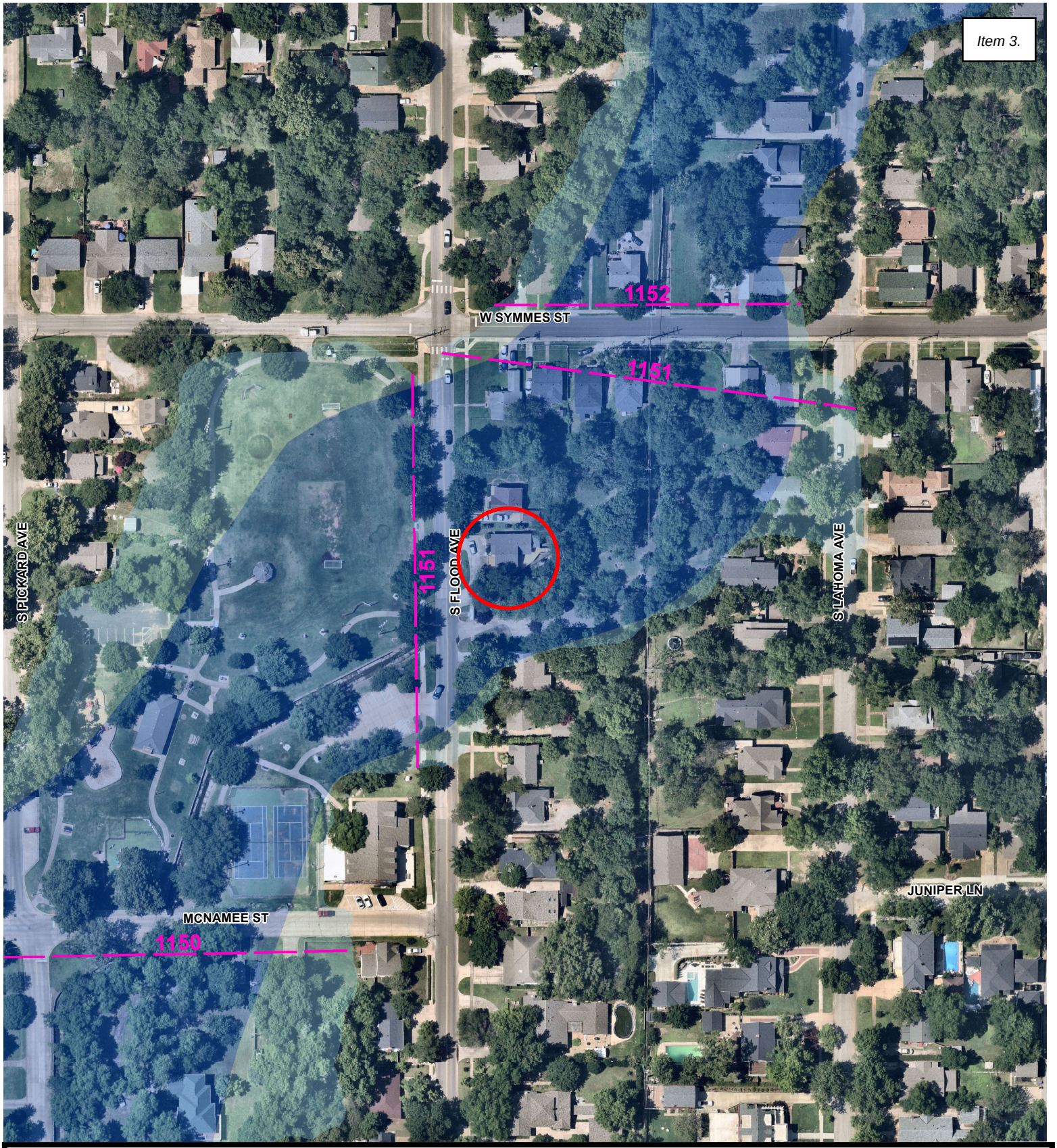
(www.normanok.gov) by clicking the Flood Hazard Protection link on the Stormwater Division's home page. The floodplain permit application form can be downloaded from the website also.

Please apply for floodplain permits or return the property to the undisturbed or unimproved condition by July 16, 2025. Failure to comply may result in the aforementioned penalties, as well as any other means of removal or compliance attainment allowed by law. Please contact Jason Murphy at (405) 366-5455 if you need further information about the floodplain permit.

Respectfully,

Scott Sturtz, P.E., C.F.M.
Director of Public Works – Floodplain Administrator

cc: Darrell Pyle, City Manager
Shannon Stevenson, Assistant City Manager
Tim Miles, City Engineer
Beth Muckala, Assistant City Attorney III
Jason Murphy, Stormwater Program Manager
Todd McLellan, Development Engineer



421 S. Flood Ave.

Legend

- BFE 2021
- 1% Chance Floodplain
- Floodway

0 55 110 2

FLOODPLAIN ANALYSIS

FOR PROPOSED

FRONT AND REAR DECKS

CHAIN LINK FENCING

421 South Flood Avenue

Norman, OK

The owner of 421 South Flood Avenue has replaced the deck structures on the front and rear of the property. Additionally, the owner has constructed a chain link fence surrounding the property.

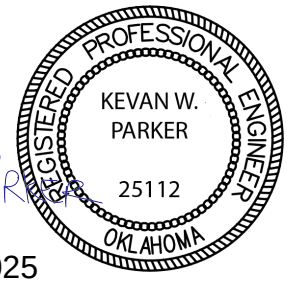
The purpose of this report is to determine if the improvements to the property pose and impact to existing floodwater conditions.

The decks are be replaced as the existing decks pose a safety hazard to the property owners. The new front deck is of the same size and shape as the existing. The back deck is of the same size and shape as the existing with the addition of three additional columns for structural support. The impacts from the chain link fence are nominal.

The net additional material added to the property is the volume displace by the three 4x4 posts added to the deck.

The area of construction is currently in the 0.1% Special Flood Hazard Area (SFHA). The BFE for the tributary to Imhoff Creek is 1151.0 ft as taken from section T-T as take from FEMA Flood Map 40027C0280J effection 2021. The current finished floor of the house is assumed at El. 1148.0 ft taken from City of Norman elevation data. The deck is below the BFE but does not impact the area do to the replacement of the existing deck structure.

The volume of material added from the new deck is calculated as 1.67CF. To offset this impact, 1.67 CF soil will be removed from SFHA adjacent to the deck to provide compensatory storage for the floodwaters. As a result, there will be no impact on floodwater or to the BFE due to this construction.

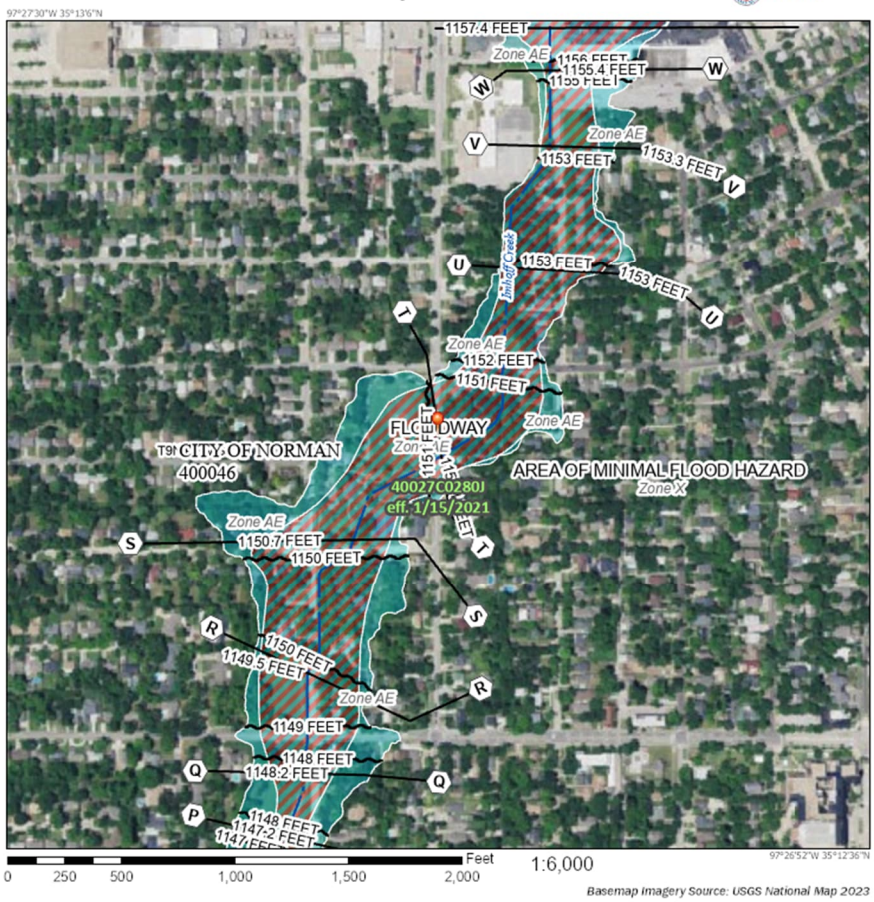


Fri, July 25, 2025

Figure 1:Site Photo December 2024

Figure 2: Site Photo June 2025

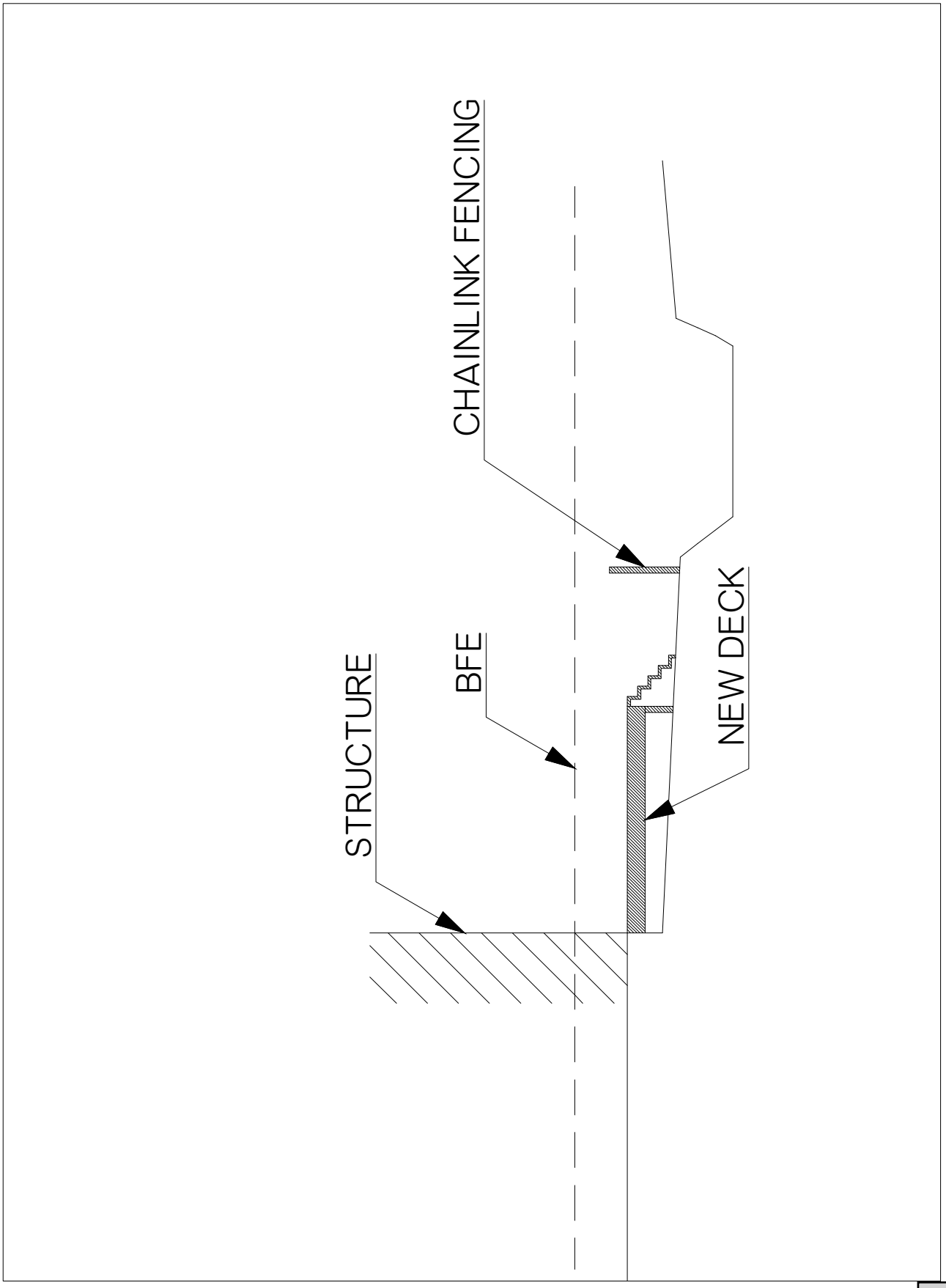
National Flood Hazard Layer FIRMette



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 7/2/2025 at 6:50 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.


CHAINLINK FENCING
BFE
NEW DECK
STRUCTURE

421 S. Flood

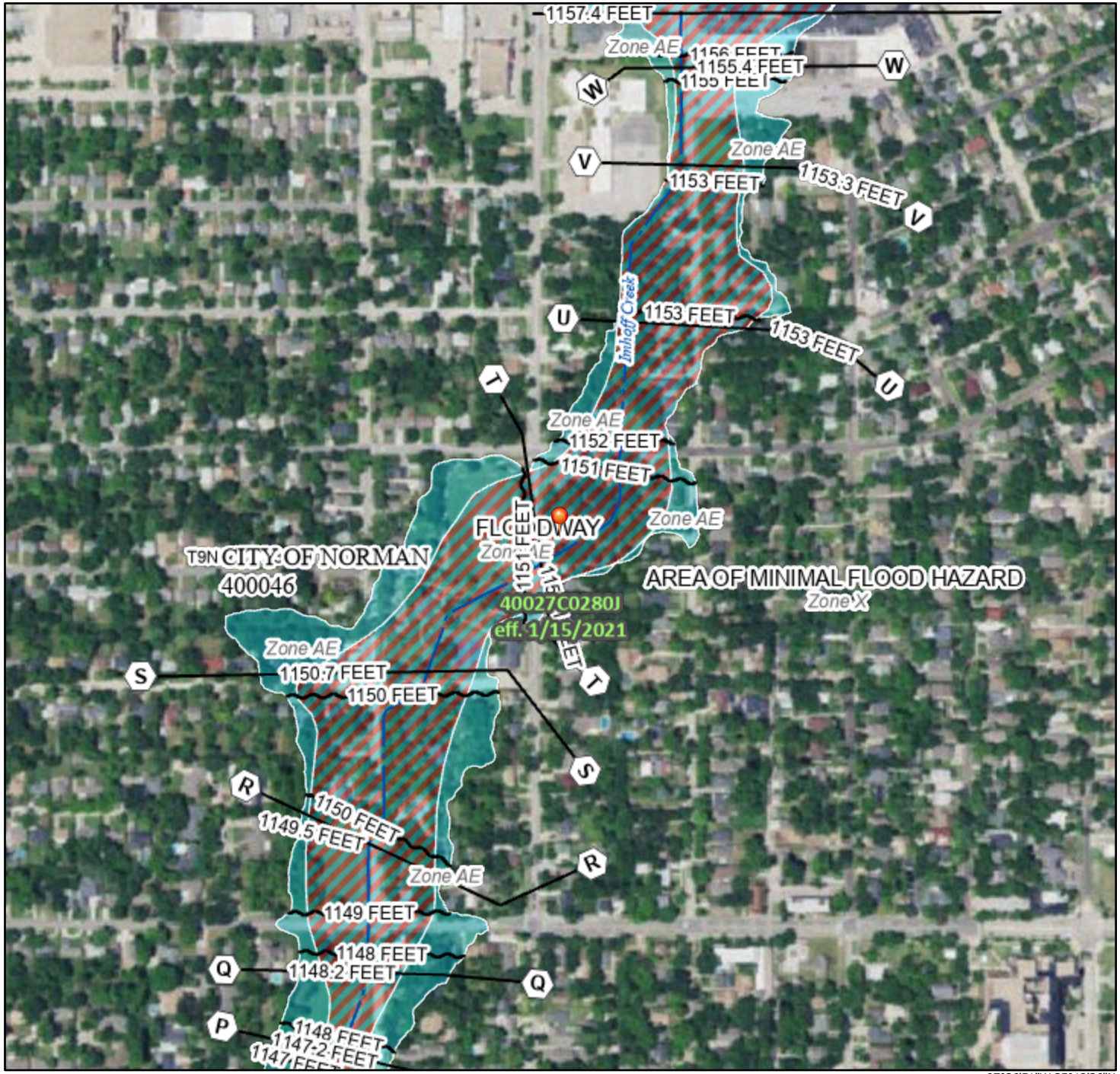
Legend

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

National Flood Hazard Layer FIRMette

FEMA

97°27'29"W 35°13'6"N



97°26'51"W 35°12'36"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

Item 3.

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR F UT

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
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 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

N

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 7/30/2025 at 3:05 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.

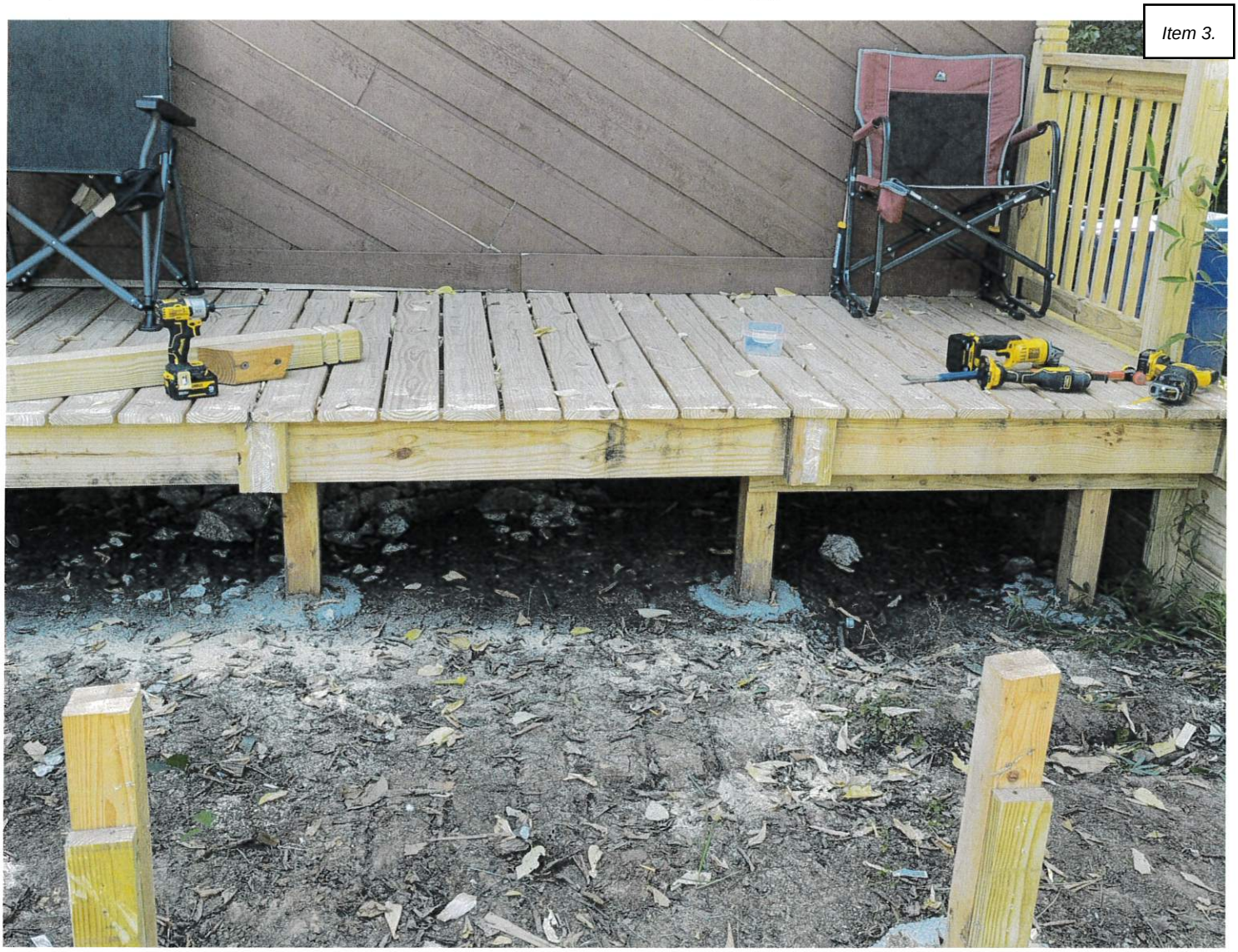
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community ide FIRM panel number, and FIRM effective date. Map im unmapped and unmodernized areas cannot be used regulatory purposes.

Scope of Work

1. Fence Installation: A black chain link fence was installed in the backyard, totaling 184 feet in length.

2. Back Deck Repairs and Safety Improvements: The existing back deck was identified by the home inspector as damaged and unsafe prior to the purchase of the home. The back deck was repaired and rebuilt using the exact original footprint. There was no expansion or increase in square footage. The original stairs were dangerously steep and presented a safety risk, especially for my pregnant wife. They were rebuilt with a safer incline and hand railings on both sides to allow for safe access. Two 4x4 support posts were installed beneath the staircase no additional fill beyond these two posts was added. Additionally, a deteriorated shed that previously sat on the deck was replaced. The new shed remains entirely within the original deck boundaries, is uninhabitable, and is used solely for storage.

3. Front Deck Modification for Safety: Front deck was replaced within the same footprint. Three 4x4 support posts were added under the deck for structural stability. Handrails are secured to the deck frame using heavy-duty structural screws to reduce fall risk and improve safety. No expansion or additional fill beyond these three posts was added.




SPIB No.2 PRIME


421
Welcome

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421 S Flood Ave
423 S Flood Ave
Norman, Oklahoma
Google Street View
Mar 2024
See more dates
Share
W Symmes St
W Apache St
McNamee St
Google
Image capture: Mar 2024
© 2025 Google
United States
Terms
Privacy
Report a problem

STAFF REPORT 08/04/2025 **PERMIT NO. 729**

ITEM: This Floodplain Permit Application is for the construction of a private road through the Prairie Creek floodplain for the proposed Ridgeline Estates Certificate of Survey.

BACKGROUND:
APPLICANT: Tim Pollard
ENGINEER: Jim Speck PE, PLS, CFeds

The applicant previously submitted an application for this project in January 2025 that was postponed due to lack of secondary access being resolved at the time that application was considered by the Floodplain Permit Committee. This application is being submitted for consideration with the addition of that secondary access road.

The applicant is the owner of a 160-acre parcel located south of Cedar Lane Road and approximately 3800 feet east of the intersection with 132nd Ave. SE. They have applied for a Rural Certificate of Survey to subdivide the portion of the lot located on the east side of Prairie Creek. Obtaining access to this parcel will require a private access road on the east side of Prairie Creek off Cedar Lane Road through the Prairie Creek Zone A floodplain. Due to the number of proposed lots, a secondary access will be required at the south end of the development. The applicant has indicated that a secondary access road, running parallel to Post Oak Road, will be completed with this project. It is currently indicated as Petunia Lane on the submitted plans.

The applicant included in their application copies of the HEC-RAS model and StreamStats model used to determine the BFE and the flows associated with not only the 100-year elevation but the 2, 5, 10, 25, and 50 year events as well. The BFE for this location was determined to be 1044.8' at Cedar Lane. The lowest elevation on Cedar Lane Road in this area is 1041.5'. According the engineer's report, even at the 2-year event level of 1042.9' Cedar Lane Road would be inundated with flood waters.

The proposed access road (Nico Drive) would be located along the eastern border of the property and is designed so that most of the road is below the elevation of the lowest elevation of Cedar Lane Road. The applicant's engineer indicated in their floodplain analysis report that the HEC-RAS model showed no increase in the BFE as a result of construction. This proposed road also crosses a trib to Prairie Creek and a 64 linear foot 4' X 6' RCB would be installed to handle the flow from this trib through the floodplain. In addition, there is a 24" CMP culvert 48 feet in length to be installed under the drive approach adjacent to Cedar Lane Road. Additionally, the applicant has indicated that CAD program used to design and draw the road calculated that approximately 30,000 CF of compensatory would need to be created. This area is indicated on the plans as a 66' X 300' X 1.5' depth excavation located on the western side of the drive in the floodplain.

As indicated above, the access road would be inundated with flood waters even during a 2-year event, as would Cedar Lane itself. The applicant is proposing the installation of Petunia Lane on the north side of Post Oak Road running east to connect to Post Oak Road outside of Norman City limits. This is particularly important given that Nico Drive would very likely be underwater during most storm events.

STAFF ANALYSIS:
Site located in Little River Basin or its Tributaries? Yes __ No✓

According to the latest FIRM, the site of the proposed work is located in the Prairie Creek floodplain (Zone A). At the proposed site, the BFE is approximately 1044.8 ft.

Applicable Ordinance Sections:		Subject Area:
36-533	(e)2(a)……	Fill restrictions
	(e)2(e)…..……	Compensatory storage
	(f)3(a)(8)…..……......	No rise considerations

(e)2(a) and (e)2(e) Fill Restrictions in the Floodplain and Compensatory Storage – Fill is restricted because storage capacity is removed from floodplains, natural drainage patterns are adversely altered, and erosion problems can develop. Compensatory storage must be provided within the general location of any storage that is displaced by fill or other development activity and must serve the equivalent hydrologic function as the portion which is displaced with respect to the area and elevation of the floodplain.

According to the plans submitted by the applicant, approximately 30,000 cubic feet of compensatory storage will be provided in the adjacent floodplain to offset the fill required to construct the road and install the drainage infrastructure.

(f)3(a)(8) No Rise Considerations – For proposed development within any flood hazard area (except for those designated as regulatory floodways), certification that a rise of no more than 0.05 ft. will occur in the BFE on any adjacent property as a result of the proposed work is required. For proposed development within a designated regulatory floodway, certification that no increase in the BFE on any adjacent property as a result of the proposed work is required.

The project engineer has indicated in their report that no increase in the BFE would be expected as a result of this project.

RECOMMENDATION: Staff recommends Floodplain Permit Application #729 be approved with the following conditions:

1. As-builts of Nico Drive and compensatory storage are provided before final acceptance.
2. City staff verify that secondary access road is accessible prior to final acceptance.

ACTION TAKEN: _____

City of Norman

Floodplain Permit Application

Floodplain Permit No. 729

Building Permit No. _____

Date 8/4/2025

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: _____ ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

BUILDER: _____ ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

ENGINEER: Jim C. Speck ADDRESS: 8500 Bethel Road, Shawnee, OK 74804

TELEPHONE: 405-964-2910 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.

NW/4 NE/4 Section 18, Township 8 North, Range 1 East, IM

DESCRIPTION OF WORK (Check all applicable boxes):

A. STRUCTURAL DEVELOPMENT

ACTIVITY	STRUCTURE TYPE
☐ New Structure	☐ Residential (1-4 Family)
☐ Addition	☐ Residential (More than 4 Family)
☐ Alteration	☐ Non-Residential (Flood proofing? ☐ Yes)
☐ Relocation	☐ Combined Use (Residential & Commercial)
☐ Demolition	☐ Manufactured (Mobile) Home
☐ Replacement	☐ In Manufactured Home Park? ☐ 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.

Floodplain permit is for Private Road crossing Special Flood Hazard Area. A secondary access is available.

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:

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:
Slope of stream documented on Exhibits

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

☐ Not Applicable:
Elevations of road shown on drawings.

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.: 40027C0340H, Dated: 9/26/2008

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 1044.79 Ft. NGVD (MSL) ☐ Unavailable

See Section 4 for additional instructions.

SIGNED: _____ **DATE:** 7/29/2025

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.)

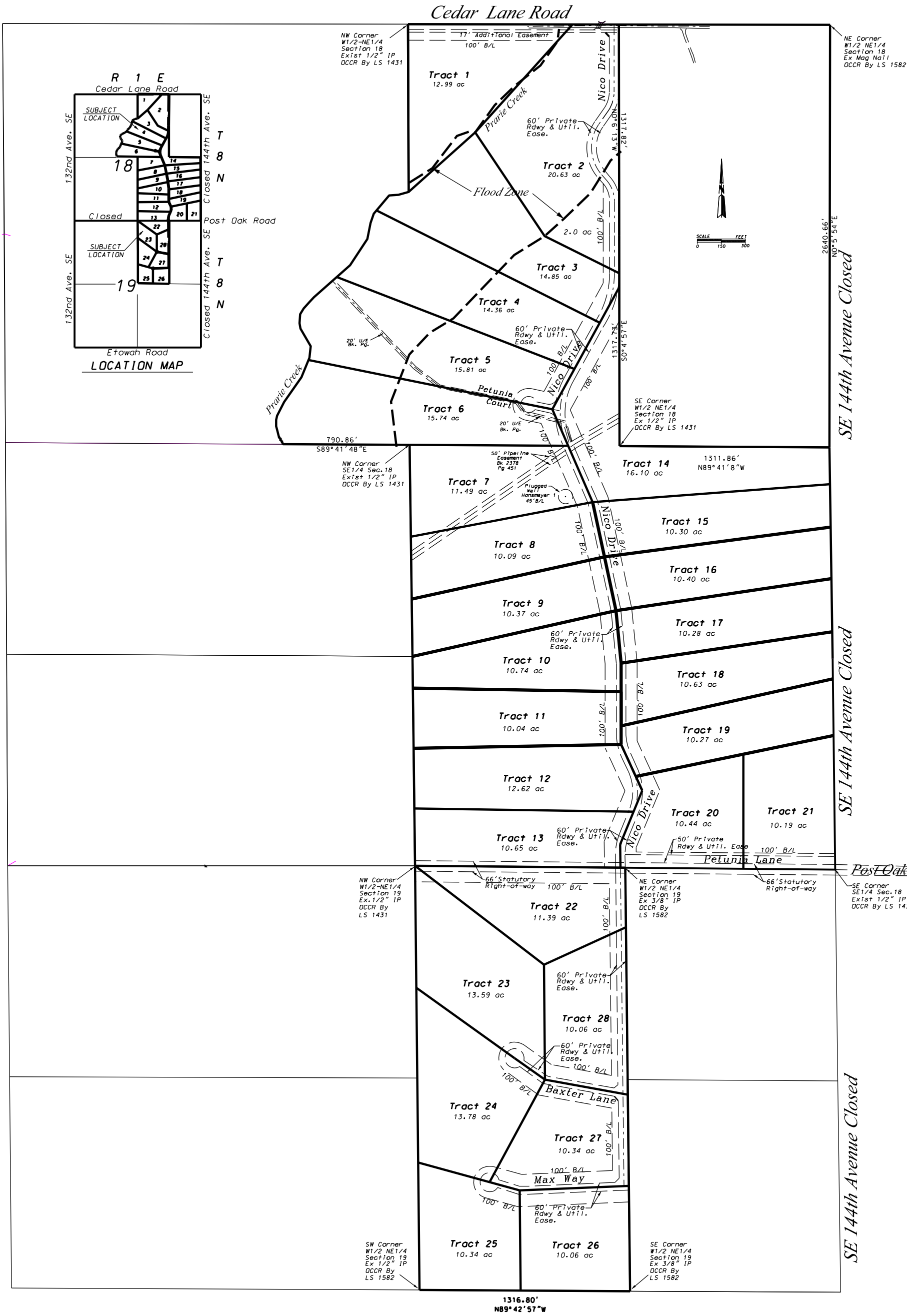
1. FEMA Elevation Certificate
   and/or
2. FEMA Floodproofing Certificate

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.

RIDGELINE ESTATES

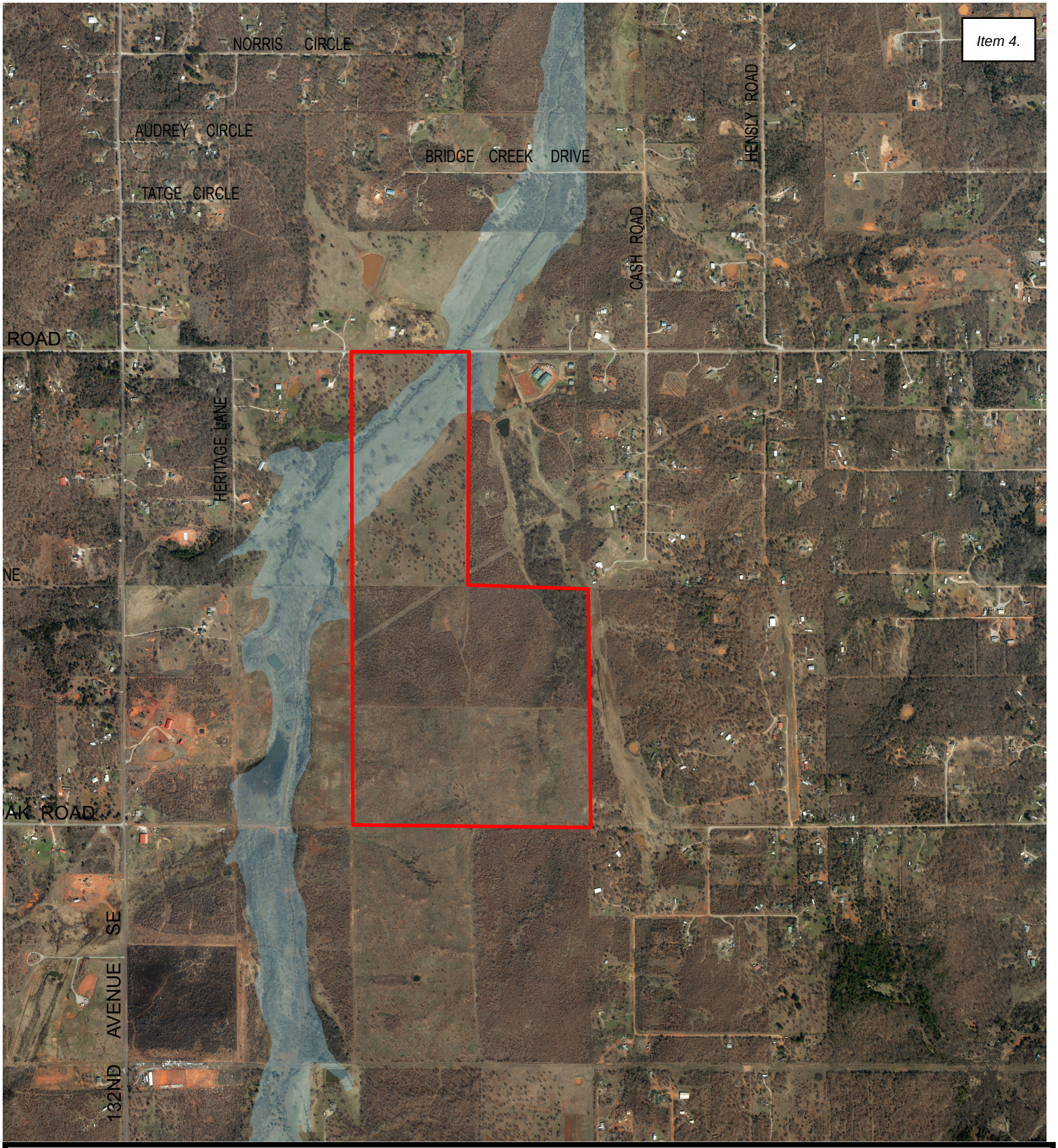
A NORMAN RURAL CERTIFICATE OF SURVEY SUBDIVISION

PART OF SECTION 18, & PART OF SECTION 19,
T8N, R1E, I.M., NORMAN, CLEVELAND COUNTY, OKLAHOMA



POLLARD & WHITED SURVEYING, INC.
2514 Tee Drive Norman, OK 73069
405-366-0001
CA 2380 exp.6-30-27 tpollard@pwsurveying.com

Ridgeline Estates Site Plan	
Norman Rural CDS Subdivision	
Part of Sec's 18 & 19, T8N, R1E, IM	
Norman, Cleveland County, Oklahoma	
July 10, 2025	Drawn By: T. Pollard
18-8n1e.dgn	Sheet 1 of 1



Ridgeline Estates COS

Legend

- BFE 2021
- 1% Chance Floodplain
- Floodway

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S

1 inch = 1,442 feet

The City of Norman assumes no responsibility for errors or omissions in the information presented.

SPECK ENGINEERING
8500 Bethel Road
Shawnee, OK 74804

FLOODPLAIN ANALYSIS
PRAIRIE CREEK @ CEDAR LANE ROAD

The owner of a 160 acre parcel of land located in Section 18, Township 8 North, Range 1 East, IM is attempting to subdivide a portion located east of Prairie Creek. A portion of this parcel is located within a Zone A area. The only access to this parcel is from Cedar Lane Road. A majority of this access is located west of Prairie Creek with a relatively small portion of access located east of Prairie Creek. To get access to the proposed subdivided portion would require crossing Prairie Creek from the east or a road entering in the small access point east of Prairie Creek. The former would require crossing the floodplain while the later would require only locating a road within the floodplain and, therefore, would be less impact on said floodplain.

To determine the actual Base Flood Elevation (BFE) for this area, cross sections of Prairie Creek were taken and a HEC-RAS model was generated. Flows were determined with the use of StreamStats report (Exhibit A) , which is model generated by the USGS using regression equations. These equations are frequently used in conjunction with a normal depth analysis and/or a HEC-RAS analysis to determine BFE's in Zone A areas.

The results of this analysis is attached (Exhibit B) and indicate a 100-year BFE of 1044.8 at Cedar Lane. The lowest elevation of Cedar Lane along this corridor is 1041.5 which indicates Cedar Lane would be inundated. Along with the 100 year elevations, the 2, 5, 10, 25, and 50 year elevations were determined. Even the 2-year elevation was determine to be 1042.9 which also would inundate Cedar Lane.

A proposed plan/profile has been generated for the proposed road (Nico Drive). The access road is proposed to be along the east border of the property and is designed so that a large portion of the road thru the floodplain is below the elevation of the low portion of Cedar Lane. With this proposed design subsequent HEC-RAS analysis (Exhibit D) was performed and indicated there would NO increase in the BFE as a result of the construction.

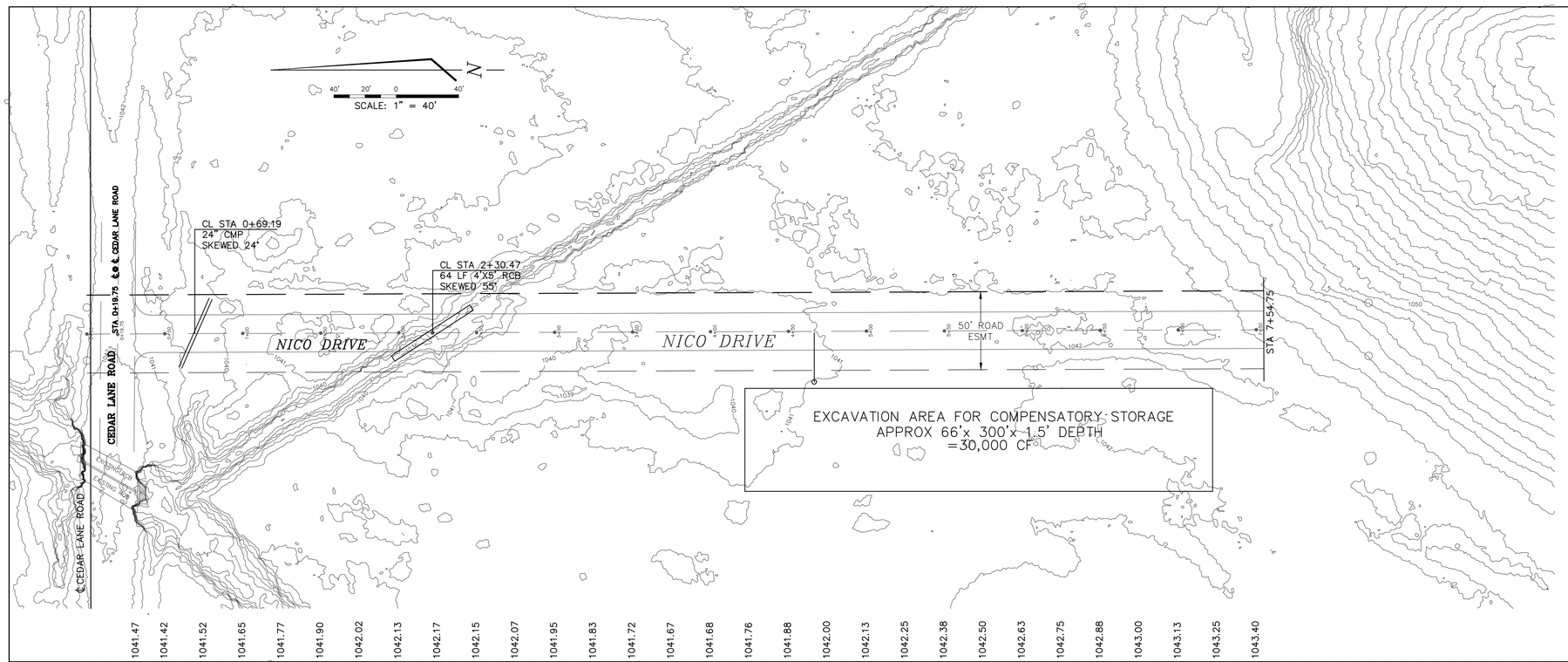
The road would also cross a tributary to Prairie Creek so structure/s are proposed for this crossing. Since the 2-year flood completely inundates Cedar Lane and the proposed road, the structures were designed to pass the 2-year flows based on the StreamStats report for the tributary (Exhibit C) as any larger flows would be irrelevant since the whole area would be inundated.

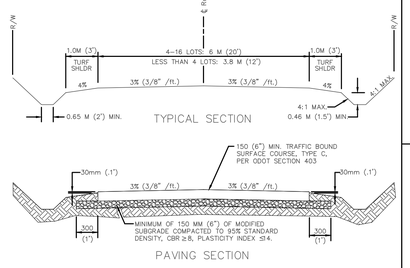
Negotiations are underway with Cleveland County for a second access via Post Oak Road. The County has verbally agreed to accept the maintenance of Post Oak Road upon completion of this project. However, the County required an application be submitted to the City of Norman prior to the County approving the opening of Post Oak Road.

12/16/21

Jim C. Speck PE, PLS, CFedS

REGISTERED PROFESSIONAL ENGINEER
JIM C. SPECK
20040
OKLAHOMA

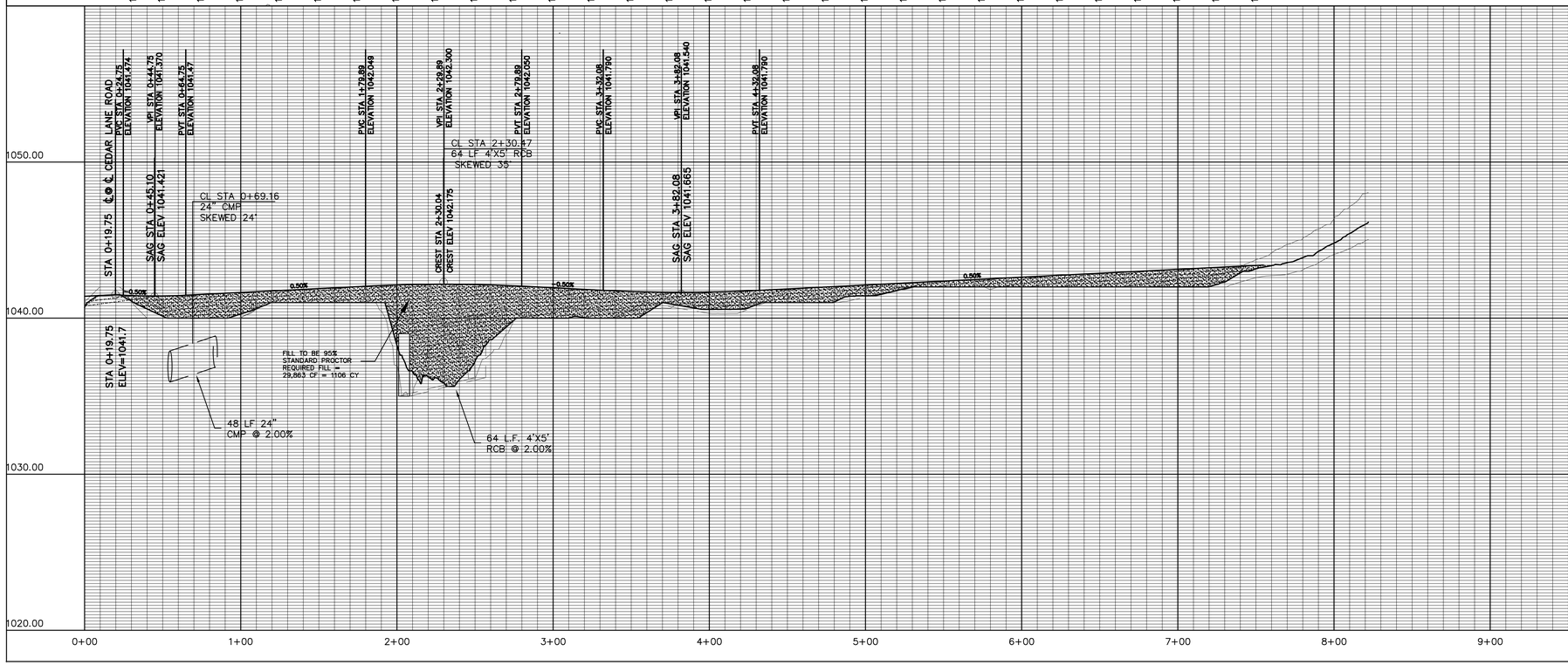




NOTES:
1. TRAFFIC BOUND SURFACE COURSE (TBSC) AND SUBGRADE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
2. TBSC SHALL BE CONSTUCTED IN ACCORDANCE WITH ODOT STANDARD SPECIFICATIONS, SECTION 310, METHOD A.

METRIC UNITS ARE IN MM WITH ENGLISH UNITS IN PARENTHESIS, UNLESS INDICATED OTHERWISE.

RURAL PRIVATE ROAD



NICO DRIVE

SPECK ENGINEERING
8500 BETHEL ROAD
SHAWNEE, OK 74804
(405) 964-2910
C. A. 3858 EXP. 6-30-25

OKLAHOMA PROFESSIONAL ENGINEER — JIM C. SPECK — 12-16-24 — REGISTERED PROFESSIONAL ENGINEER

DECEMBER 16, 2024

JOB NUMBER	240905
DATE	DECEMBER, 2024
DESIGNED	J.C.S.
DRAWN	J.C.S.
CHECKED	
SCALE	HORIZ. 1" = 40' VERT. 1" = 4'

REV.	DATE	DESCRIPTION	BY

PLAN \ PROFILE
NICO DRIVE
RIDGELINE ESTATES
CITY OF NORMAN
CLEVELAND COUNTY – OKLAHOMA

SHEET NO. 1 OF

ROAD PROFILE.DWG
12-16-24 11:30 AM

CULVERT DESIGN
STA 0+69.16 CMP
Drainage Area = 12.24 ac

Surface Type	k	Length		
Concrete/Asphalt	0.372	0		0
Commercial	0.445	0		0
Residential	0.511	0		0
Rocky, Bare Soil	0.604	0		0
Cultivated	0.775	0		0
Woodland, Thin Gras:	0.942	0		0
Average Pasture	1.040	500		520
Tall Grass	1.130	0		0
Total	1.040	500		520
Channel Type				
Straight, Clean	0.00592	0		0
Average	0.00835	0		0
Meandering	0.01020	1655		16.881
V-Ditch	0.01252	0		0
Total	0.01020	1655		16.881
C	0.35			
Lo	500			
Slope Overland	6.600%			
Lf	1655			
Slope Channel	2.54%			
To	17.9 min		Vo = 0.5	
Tf	12.6 min		Vf = 2.2	
Tc	30.5 min			
I(2)	3.09	Q(2)		13.25
I(5)	3.40	Q(5)		14.55
I(10)	3.87	Q(10)		16.57
I(25)	4.48	Q(25)		21.12
I(50)	5.10	Q(50)		26.19
I(100)	5.66	Q(100)		30.32

STA 0+69.16 CMP (CONT)

CULVERT CAPACITY--2 YEAR STORM

Pipe Diameter (in)		Assume	24 in	CMP	
(18 inch is minimum allowed by ODEQ standards)					
Headwater Depth (ft)	(WSEL-Inv)	Assume	2.4 ft		
Slope (%)		Assume	2.00%		
	X-Sectional Area		2.64		
	Wetted Perimeter		6.28		
	Hydraulic Radius		0.42		
Qp (Orifice Equation)			Cd = .60	17.90	
Qp (Orifice Equation)	Mitered 45 Degrees		Cd = .60	25.31	0.707106781
Qp (Manning Equation)			n=.023	18.13	
	Maximum capacity =		17.90 cfs	**OK**	

CULVERT CAPACITY--5 YEAR STORM

Pipe Diameter (in)		Assume	24 in	CMP	
(18 inch is minimum allowed by ODEQ standards)					
Headwater Depth (ft)	(WSEL-Inv)	Assume	2.4 ft		
Slope (%)		Assume	2.00%		
	X-Sectional Area		2.64		
	Wetted Perimeter		6.28		
	Hydraulic Radius		0.42		
Qp (Orifice Equation)			Cd = .60	17.90	
Qp (Orifice Equation)	Mitered 45 Degrees		Cd = .60	25.31	0.707106781
Qp (Manning Equation)			n=.023	18.13	
	Maximum capacity =		17.90 cfs	**OK**	

CULVERT CAPACITY--10 YEAR STORM

Pipe Diameter (in)		Assume	24 in	CMP	
(18 inch is minimum allowed by ODEQ standards)					
Headwater Depth (ft)	(WSEL-Inv)	Assume	2.4 ft		
Slope (%)		Assume	2.00%		
	X-Sectional Area		2.64		
	Wetted Perimeter		6.28		
	Hydraulic Radius		0.42		
Qp (Orifice Equation)			Cd = .60	17.90	
Qp (Orifice Equation)	Mitered 45 Degrees		Cd = .60	25.31	0.707106781
Qp (Manning Equation)			n=.023	18.13	
	Maximum capacity =		17.90 cfs	**OK**	

CULVERT DESIGN
STA 2+30.47 RCB BOX
Drainage Area = 691 ac

Q(2)	312.00
Q(5)	579.00
Q(10)	808.00
Q(25)	1160.00
Q(50)	1530.00
Q(100)	1800.00

STA 2+30.47 RCB BOX (CONT)

CULVERT CAPACITY--2 YEAR STORM

Pipe Height (in)		Assume	60	RCB
Pipe Width (in)		Assume	48	RCB
Manning's n			n=.012	
Pipe slope			2.00%	
Pipe length (ft)			60	
	X-Sectional Area		20.00	
	Wetted Perimeter		18.00	
	Hydraulic Radius		1.11	
Depth (in)		Assume	60	
Headwater Depth (ft)			1	
Energy Grade			0.000	
Number			1	
Q Partial (cfs)			376.8 cfs	
Q Full Flow (cfs)			376.8 cfs	
	Calc Flow		312.0 cfs	
			OK	

VOLUMES:

Using conversion factor of 1.

Volume of GROUND2-NICO based on a planar tin.

Area	Net Volume	Plan Area	Average Z
Positive Volume	Negative Volume		
2340.371	-32203.586	42828.701	-0.697
	-29863.215		

SPECK ENGINEERING
8500 Bethel Road
Shawnee, OK 74804

FLOODPLAIN ANALYSIS
PRAIRIE CREEK @ CEDAR LANE ROAD

The owner of a 160 acre parcel of land located in Section 18, Township 8 North, Range 1 East, IM is attempting to subdivide a portion located east of Prairie Creek. A portion of this parcel is located within a Zone A area. The only access to this parcel is from Cedar Lane Road. A majority of this access is located west of Prairie Creek with a relatively small portion of access located east of Prairie Creek. To get access to the proposed subdivided portion would require crossing Prairie Creek from the east or a road entering in the small access point east of Prairie Creek. The former would require crossing the floodplain while the later would require only locating a road within the floodplain and, therefore, would be less impact on said floodplain.

To determine the actual Base Flood Elevation (BFE) for this area, cross sections of Prairie Creek were taken and a HEC-RAS model was generated. Flows were determined with the use of StreamStats report (Exhibit A) , which is model generated by the USGS using regression equations. These equations are frequently used in conjunction with a normal depth analysis and/or a HEC-RAS analysis to determine BFE's in Zone A areas.

The results of this analysis is attached (Exhibit B) and indicate a 100-year BFE of 1044.8 at Cedar Lane. The lowest elevation of Cedar Lane along this corridor is 1041.5 which indicates Cedar Lane would be inundated. Along with the 100 year elevations, the 2, 5, 10, 25, and 50 year elevations were determined. Even the 2-year elevation was determine to be 1042.9 which also would inundate Cedar Lane.

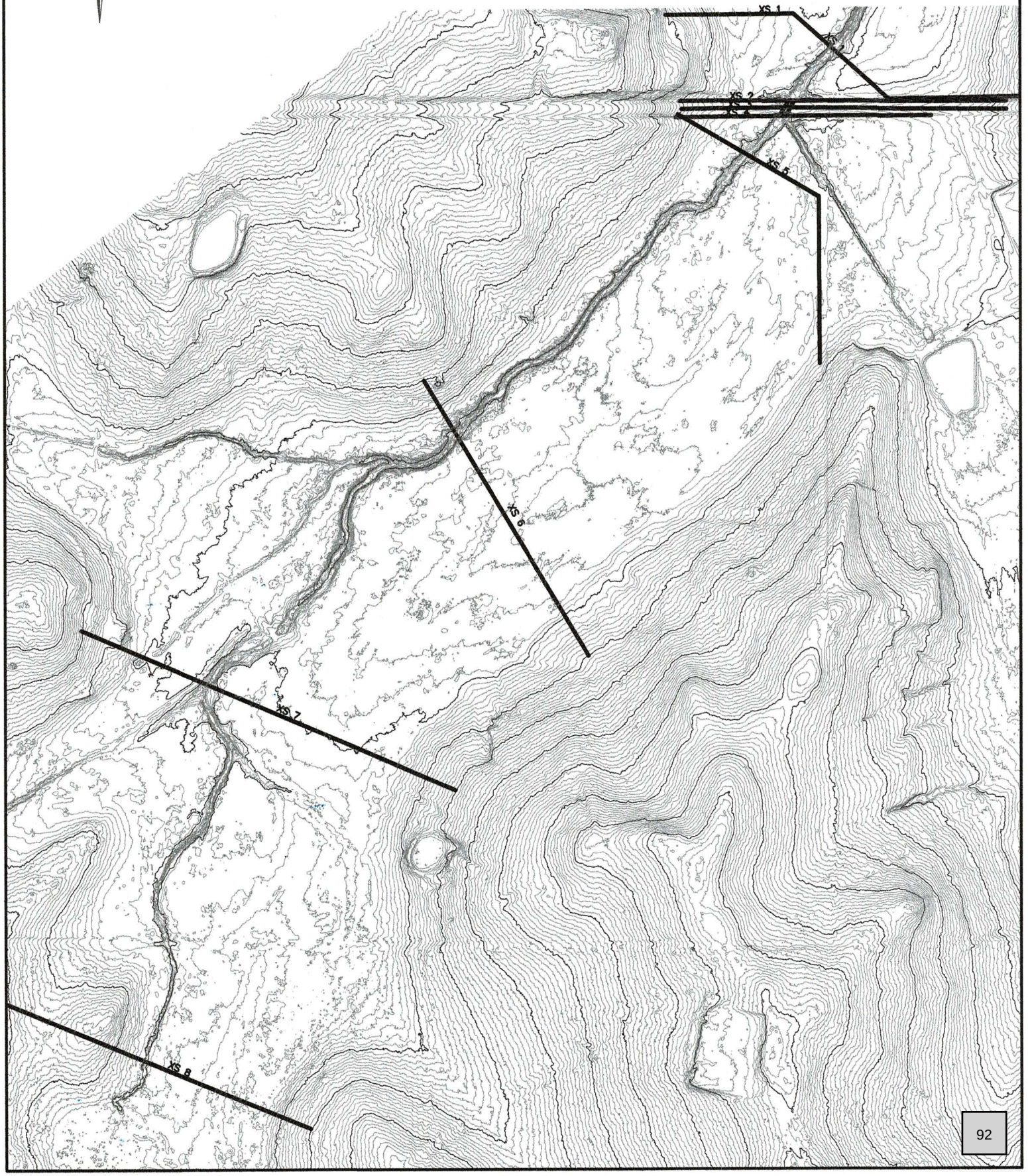
A proposed plan/profile has been generated for the proposed road (Nico Drive). The access road is proposed to be along the east border of the property and is designed so that a large portion of the road thru the floodplain is below the elevation of the low portion of Cedar Lane. With this proposed design subsequent HEC-RAS analysis (Exhibit D) was performed and indicated there would NO increase in the BFE as a result of the construction.

The road would also cross a tributary to Prairie Creek so structure/s are proposed for this crossing. Since the 2-year flood completely inundates Cedar Lane and the proposed road, the structures were designed to pass the 2-year flows based on the StreamStats report for the tributary (Exhibit C) as any larger flows would be irrelevant since the whole area would be inundated.

REGISTERED PROFESSIONAL ENGINEER
JIM C. SPECK
12/16/24
20040
OKLAHOMA

Jim C. Speck PE, PLS, CFedS

Cross Section Map
RIDGELINE ESTATES
SCALE 1" =400"



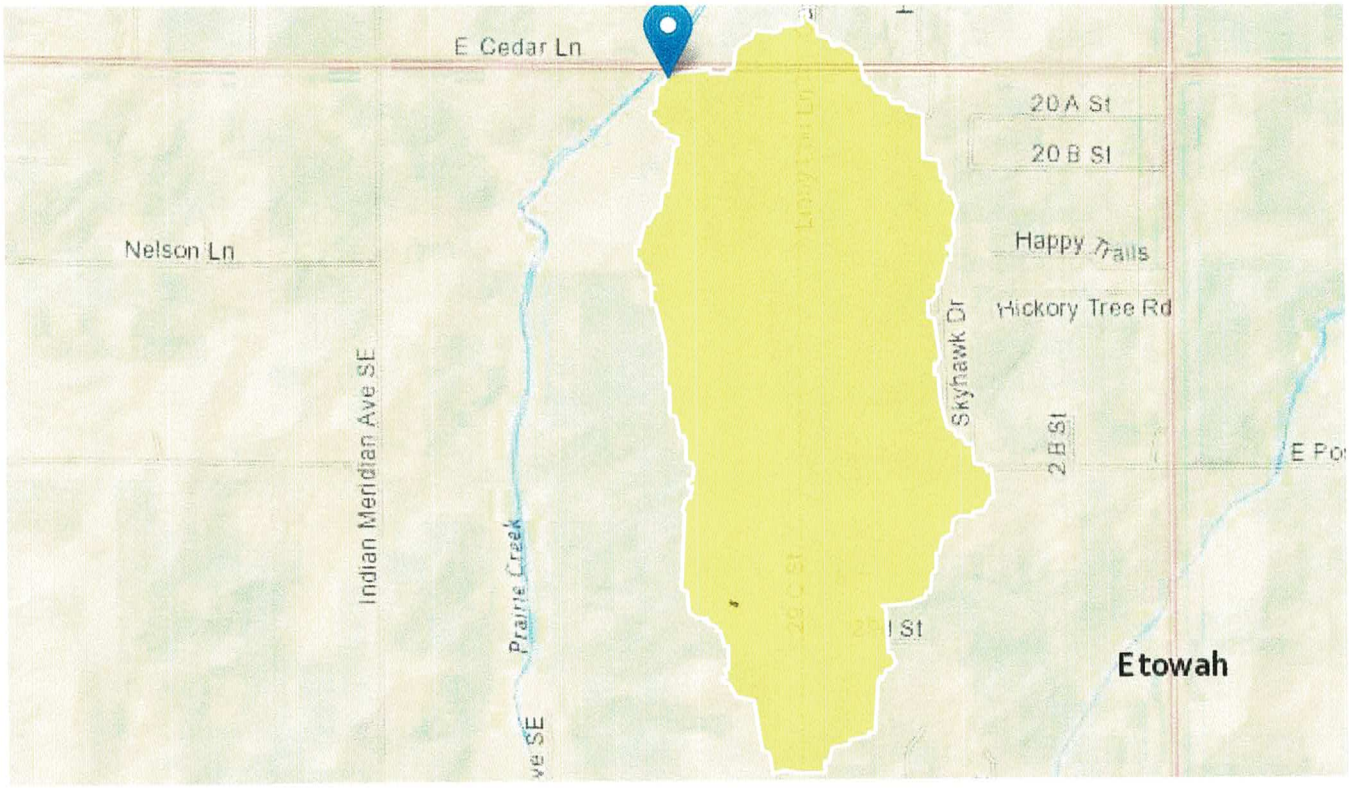
SPECK
ENGINEERING
8500 BETHEL ROAD
SHAWNEE, OK 74804

EXHIBIT C

Q5 STREAM STATS REPORT
TRIBUTARY TO PRAIRIE CREEK

Q5 StreamStats Report

Region ID: OK
Workspace ID: OK20240919004152339000
Clicked Point (Latitude, Longitude): 35.17396, -97.23468
Time: 2024-09-18 19:42:16 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM10M	Mean basin slope computed from 10 m DEM	7.1	percent
CANOPY_PCT	Percentage of drainage area covered by canopy as described in OK SIR 2009_5267	47.51	percent
CONTDA	Area that contributes flow to a point on a stream	1.08	square miles
CSL10_85fm	Change in elevation between points 10 and 85 percent of length along main channel to basin divide divided by length between points ft per mi	49.9	feet per mi

Parameter Code	Parameter Description	Value	Unit
DAUNREG	Unregulated drainage area used in OK regulated equations	1.08	square miles
DRNAREA	Area that drains to a point on a stream		square miles
ELEV	Mean Basin Elevation	1120	feet
OUTLETELEV	Elevation of the stream outlet in feet above NAVD88	1040	feet
PRECIPOUT	Mean annual precip at the stream outlet (based on annual PRISM precip data in inches from 1971-2000)	38.7	inches

Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Region 2 Unregulated 2019 5143]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	1.08	square miles	0.1	2510
CSL10_85fm	Stream Slope 10 and 85 Method ft per mi	49.9	feet per mi	1.98	342

Peak-Flow Statistics Parameters [Peak Region 2 NRCS Regulated 2019 5143]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DAUNREG	Unregulated Drainage Area	1.08	square miles	0.1	2510
CSL10_85fm	Stream Slope 10 and 85 Method ft per mi	49.9	feet per mi	1.98	342

Peak-Flow Statistics Flow Report [Peak Region 2 Unregulated 2019 5143]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
50-percent AEP flood	312	ft^3/s	46.9	2

Statistic	Value	Unit	ASEp	Equiv. Yrs.
20-percent AEP flood	579	ft^3/s	36.2	5
10-percent AEP flood	808	ft^3/s	35	8
4-percent AEP flood	1160	ft^3/s	39.9	9
2-percent AEP flood	1530	ft^3/s	37.1	11
1-percent AEP flood	1800	ft^3/s	39.9	12
0.2-percent AEP flood	2840	ft^3/s	50.7	12

Peak-Flow Statistics Flow Report [Peak Region 2 NRCS Regulated 2019 5143]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
Regulated 50-percent AEP flood	312	ft^3/s	46.9	2
Regulated 20-percent AEP flood	579	ft^3/s	36.2	5
Regulated 10-percent AEP flood	808	ft^3/s	35	8
Regulated 4-percent AEP flood	1160	ft^3/s	39.9	9
Regulated 2-percent AEP flood	1530	ft^3/s	37.1	11
Regulated 1-percent AEP flood	1800	ft^3/s	39.9	12
Regulated 0.2-percent AEP flood	2840	ft^3/s	50.7	12

Peak-Flow Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
50-percent AEP flood	312	ft^3/s	46.9	2
20-percent AEP flood	579	ft^3/s	36.2	5
10-percent AEP flood	808	ft^3/s	35	8
4-percent AEP flood	1160	ft^3/s	39.9	9
2-percent AEP flood	1530	ft^3/s	37.1	11
1-percent AEP flood	1800	ft^3/s	39.9	12
0.2-percent AEP flood	2840	ft^3/s	50.7	12
Regulated 50-percent AEP flood	312	ft^3/s	46.9	2

Statistic	Value	Unit	ASEp	Equiv. Yrs.
Regulated 20-percent AEP flood	579	ft^3/s	36.2	5
Regulated 10-percent AEP flood	808	ft^3/s	35	8
Regulated 4-percent AEP flood	1160	ft^3/s	39.9	9
Regulated 2-percent AEP flood	1530	ft^3/s	37.1	11
Regulated 1-percent AEP flood	1800	ft^3/s	39.9	12
Regulated 0.2-percent AEP flood	2840	ft^3/s	50.7	12

Peak-Flow Statistics Citations

Lewis, J.M., Hunter, S.L., and Labriola, L.G.,2019, Methods for estimating the magnitude and frequency of peak streamflows for unregulated streams in Oklahoma developed by using streamflow data through 2017: U.S. Geological Survey Scientific Investigations Report 2019–5143, 39 p. (https://doi.org/10.3133/sir20195143)

Flow-Duration Statistics

Flow-Duration Statistics Parameters [Duration Region 3 2009 5267]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	1.08	square miles	8	2296
ELEV	Mean Basin Elevation	1120	feet	625	1527
CANOPY_PCT	Percent Area Under Canopy	47.51	percent	8.41	83.5
PRECIPOUT	Mean Annual Precip at Gage	38.7	inches	38	58

Flow-Duration Statistics Disclaimers [Duration Region 3 2009 5267]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Flow-Duration Statistics Flow Report [Duration Region 3 2009 5267]

Statistic	Value	Unit
20 Percent Duration	0.186	ft^3/s
50 Percent Duration	0.024	ft^3/s
80 Percent Duration	0	ft^3/s
90 Percent Duration	0	ft^3/s

Statistic	Value	Unit
95 Percent Duration	0	ft^3/s

Flow-Duration Statistics Citations

Esralew, R.A., Smith, S.J.,2009, Methods for estimating flow-duration and annual mean-flow statistics for ungaged streams in Oklahoma: U.S. Geological Survey Scientific Investigations Report 2009-5267, 131 p. (http://pubs.usgs.gov/sir/2009/5267/)

General Flow Statistics

General Flow Statistics Parameters [Duration Region 3 2009 5267]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	1.08	square miles	8	2296
PRECIPOUT	Mean Annual Precip at Gage	38.7	inches	38	58

General Flow Statistics Disclaimers [Duration Region 3 2009 5267]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Duration Region 3 2009 5267]

Statistic	Value	Unit
Average daily streamflow	0.375	ft^3/s

General Flow Statistics Citations

Esralew, R.A., Smith, S.J.,2009, Methods for estimating flow-duration and annual mean-flow statistics for ungaged streams in Oklahoma: U.S. Geological Survey Scientific Investigations Report 2009-5267, 131 p. (http://pubs.usgs.gov/sir/2009/5267/)

Bankfull Statistics

Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.19305	59927.7393

Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.200772	59927.66594

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

Statistic	Value	Unit

Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

Statistic	Value	Unit

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit

Bankfull Statistics Citations

Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 9]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 9]

Statistic	Value	Unit

Maximum Probable Flood Statistics Citations

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Application Version: 4.24.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

SPECK
ENGINEERING
8500 BETHEL ROAD
SHAWNEE, OK 74804

EXHIBIT D

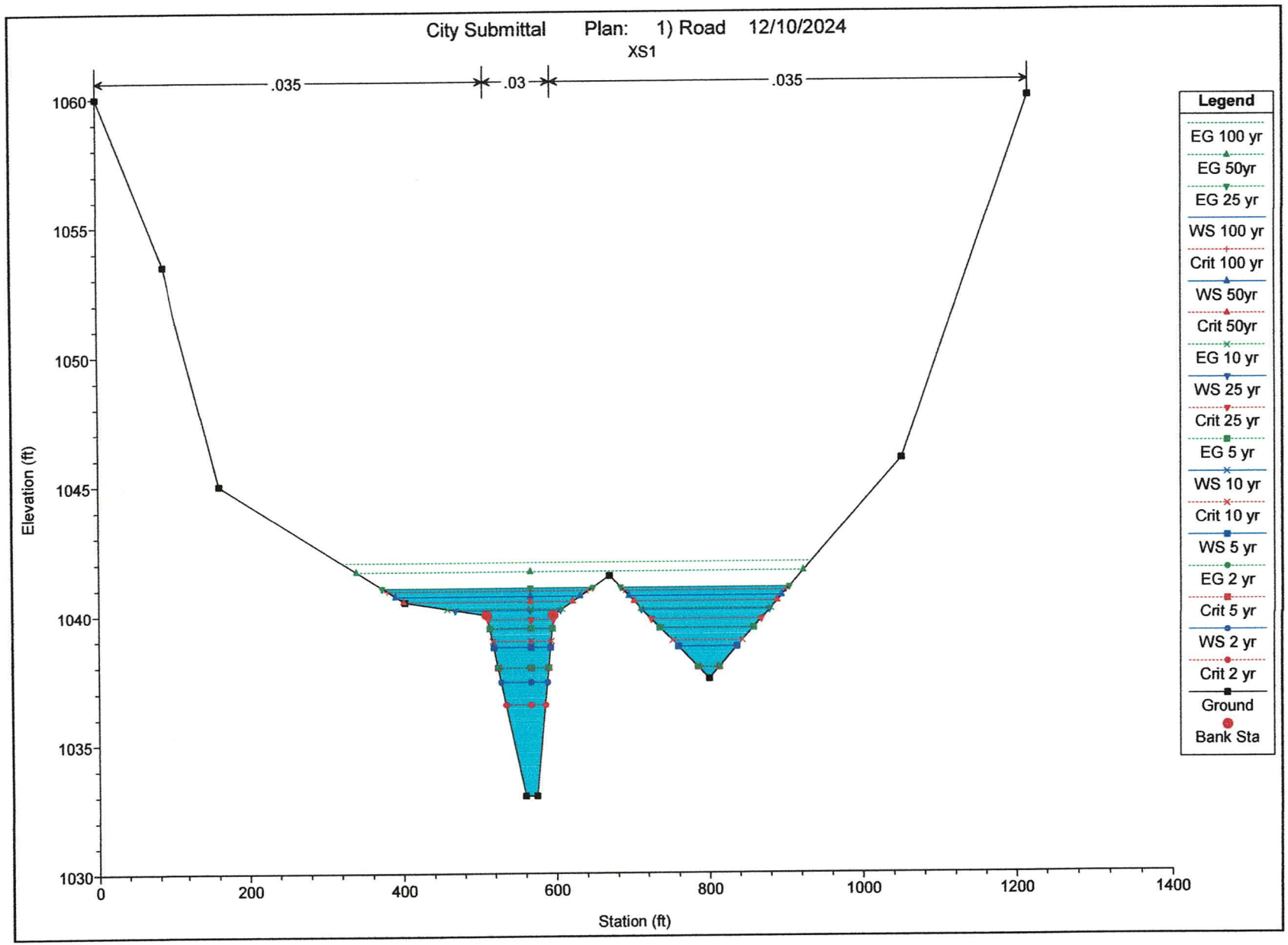
HEC ANALYSIS W/PROPOSED ROAD

HEC-RAS Plan: Road River: Prairie Creek Reach: Reach1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	4383	100 yr	5870.00	1048.00	1056.18		1056.61	0.002928	9.00	1298.19	514.62	0.59
Reach1	4383	50yr	4990.00	1048.00	1055.84	1055.50	1056.29	0.003238	9.17	1125.39	508.56	0.62
Reach1	4383	25 yr	3780.00	1048.00	1055.19	1055.19	1055.85	0.004961	10.62	798.54	496.89	0.75
Reach1	4383	10 yr	2650.00	1048.00	1054.95		1055.40	0.003405	8.56	678.47	455.53	0.62
Reach1	4383	5 yr	1890.00	1048.00	1055.11		1055.30	0.001443	5.67	755.48	495.34	0.40
Reach1	4383	2 yr	1000.00	1048.00	1054.13	1053.75	1054.43	0.002043	6.02	344.03	366.13	0.47
Reach1	3069	100 yr	5870.00	1043.00	1051.58	1051.58	1052.24	0.003764	9.13	1353.11	902.45	0.69
Reach1	3069	50yr	4990.00	1043.00	1051.49	1051.49	1052.05	0.003201	8.32	1268.73	899.90	0.64
Reach1	3069	25 yr	3780.00	1043.00	1051.49	1051.27	1051.81	0.001830	6.29	1270.60	899.95	0.48
Reach1	3069	10 yr	2650.00	1043.00	1050.89	1050.89	1051.43	0.002697	7.06	751.93	774.65	0.57
Reach1	3069	5 yr	1890.00	1043.00	1049.48	1049.48	1051.27	0.009037	10.72	176.35	49.43	1.00
Reach1	3069	2 yr	1000.00	1043.00	1047.88	1047.88	1049.26	0.009834	9.42	106.11	38.47	1.00
Reach1	1858	100 yr	5870.00	1035.00	1047.47	1047.47	1048.39	0.002433	9.26	1221.34	697.03	0.57
Reach1	1858	50yr	4990.00	1035.00	1047.32	1047.32	1048.13	0.002099	8.49	1113.56	693.40	0.53
Reach1	1858	25 yr	3780.00	1035.00	1044.46	1044.46	1047.43	0.008381	13.84	273.14	46.58	1.01
Reach1	1858	10 yr	2650.00	1035.00	1044.16	1042.94	1045.78	0.004735	10.22	259.41	45.49	0.75
Reach1	1858	5 yr	1890.00	1035.00	1043.96		1044.85	0.002649	7.55	250.45	44.78	0.56
Reach1	1858	2 yr	1000.00	1035.00	1043.12		1043.46	0.001131	4.67	214.27	41.74	0.36
Reach1	535	100 yr	5870.00	1033.20	1044.84		1045.00	0.000636	4.77	2416.52	892.00	0.30
Reach1	535	50yr	4990.00	1033.20	1044.55		1044.71	0.000626	4.61	2157.47	882.36	0.30
Reach1	535	25 yr	3780.00	1033.20	1044.14		1044.29	0.000580	4.28	1797.71	868.80	0.28
Reach1	535	10 yr	2650.00	1033.20	1043.73		1043.86	0.000484	3.76	1447.27	855.39	0.25
Reach1	535	5 yr	1890.00	1033.20	1043.36		1043.48	0.000418	3.36	1136.13	843.30	0.23
Reach1	535	2 yr	1000.00	1033.20	1042.85		1042.90	0.000175	2.06	773.25	384.00	0.15
Reach1	370	100 yr	5870.00	1033.70	1044.78	1042.14	1044.91	0.000376	3.96	2521.32	674.21	0.24
Reach1	370	50yr	4990.00	1033.70	1044.50	1041.80	1044.62	0.000330	3.63	2337.94	658.14	0.22
Reach1	370	25 yr	3780.00	1033.70	1044.12	1041.07	1044.20	0.000252	3.08	2088.88	635.66	0.19
Reach1	370	10 yr	2650.00	1033.70	1043.74	1038.80	1043.79	0.000166	2.42	1851.68	606.68	0.15
Reach1	370	5 yr	1890.00	1033.70	1043.39	1037.85	1043.43	0.000112	1.93	1645.06	577.36	0.12
Reach1	370	2 yr	1000.00	1033.70	1042.86	1036.50	1042.87	0.000050	1.22	1350.58	532.79	0.08
Reach1	338		Culvert									
Reach1	313	100 yr	5870.00	1033.00	1042.72	1042.72	1043.65	0.003355	10.27	1116.13	531.50	0.62

HEC-RAS Plan: Road River: Prairie Creek Reach: Reach1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	313	50yr	4990.00	1033.00	1042.48	1042.48	1043.37	0.003152	9.76	988.86	508.52	0.60
Reach1	313	25 yr	3780.00	1033.00	1042.08	1042.08	1042.91	0.002822	8.94	794.04	471.18	0.56
Reach1	313	10 yr	2650.00	1033.00	1039.76	1039.76	1042.80	0.010020	13.98	189.60	32.88	1.03
Reach1	313	5 yr	1890.00	1033.00	1038.95	1038.61	1041.04	0.007926	11.58	163.17	32.30	0.91
Reach1	313	2 yr	1000.00	1033.00	1038.04		1038.90	0.004008	7.47	133.81	31.63	0.64
Reach1	100	100 yr	5870.00	1033.00	1041.04	1040.93	1042.02	0.003976	9.20	954.02	492.69	0.71
Reach1	100	50yr	4990.00	1033.00	1040.73	1040.53	1041.67	0.003982	8.82	807.00	440.99	0.71
Reach1	100	25 yr	3780.00	1033.00	1040.19	1039.81	1041.06	0.003976	8.15	602.59	303.79	0.69
Reach1	100	10 yr	2650.00	1033.00	1039.45	1038.97	1040.24	0.003978	7.54	427.79	201.85	0.68
Reach1	100	5 yr	1890.00	1033.00	1038.73	1037.95	1039.47	0.003983	7.05	302.13	150.33	0.67
Reach1	100	2 yr	1000.00	1033.00	1037.39	1036.52	1037.96	0.003979	6.06	165.10	60.18	0.64


City Submittal Plan: 1) Road 12/10/2024
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600
800
1000
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Station (ft)
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EG 100 yr
EG 50yr
EG 25 yr
WS 100 yr
Crit 100 yr
WS 50yr
Crit 50yr
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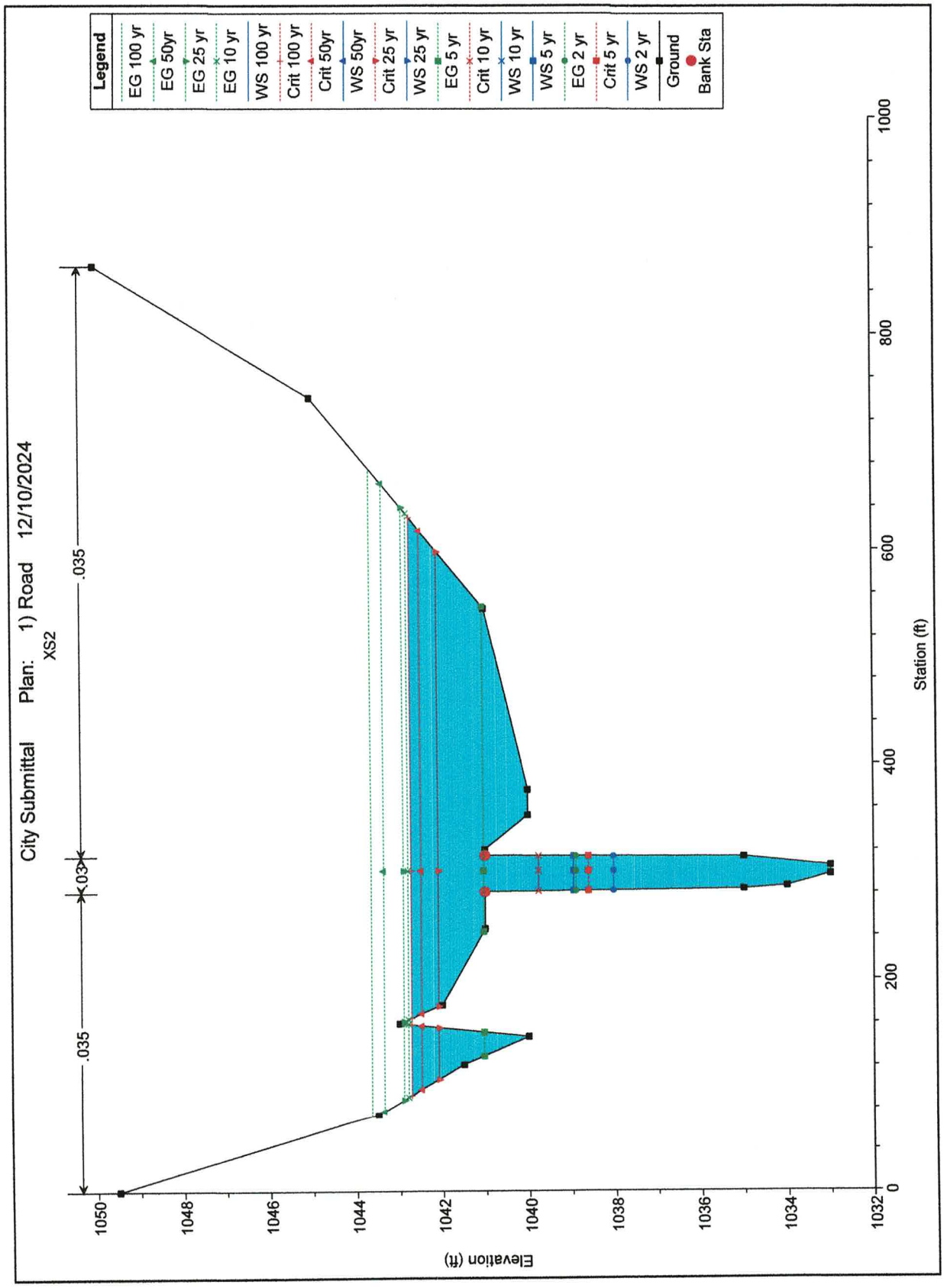
Bank Sta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.03
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EG 50yr
EG 25 yr
EG 10 yr
WS 100 yr
Crit 100 yr
Crit 50yr
WS 50yr
Crit 25 yr
WS 25 yr
EG 5 yr
Crit 10 yr
WS 10 yr
WS 5 yr
EG 2 yr
Crit 5 yr
WS 2 yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
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1048
1046
1044
1042
1040
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1036
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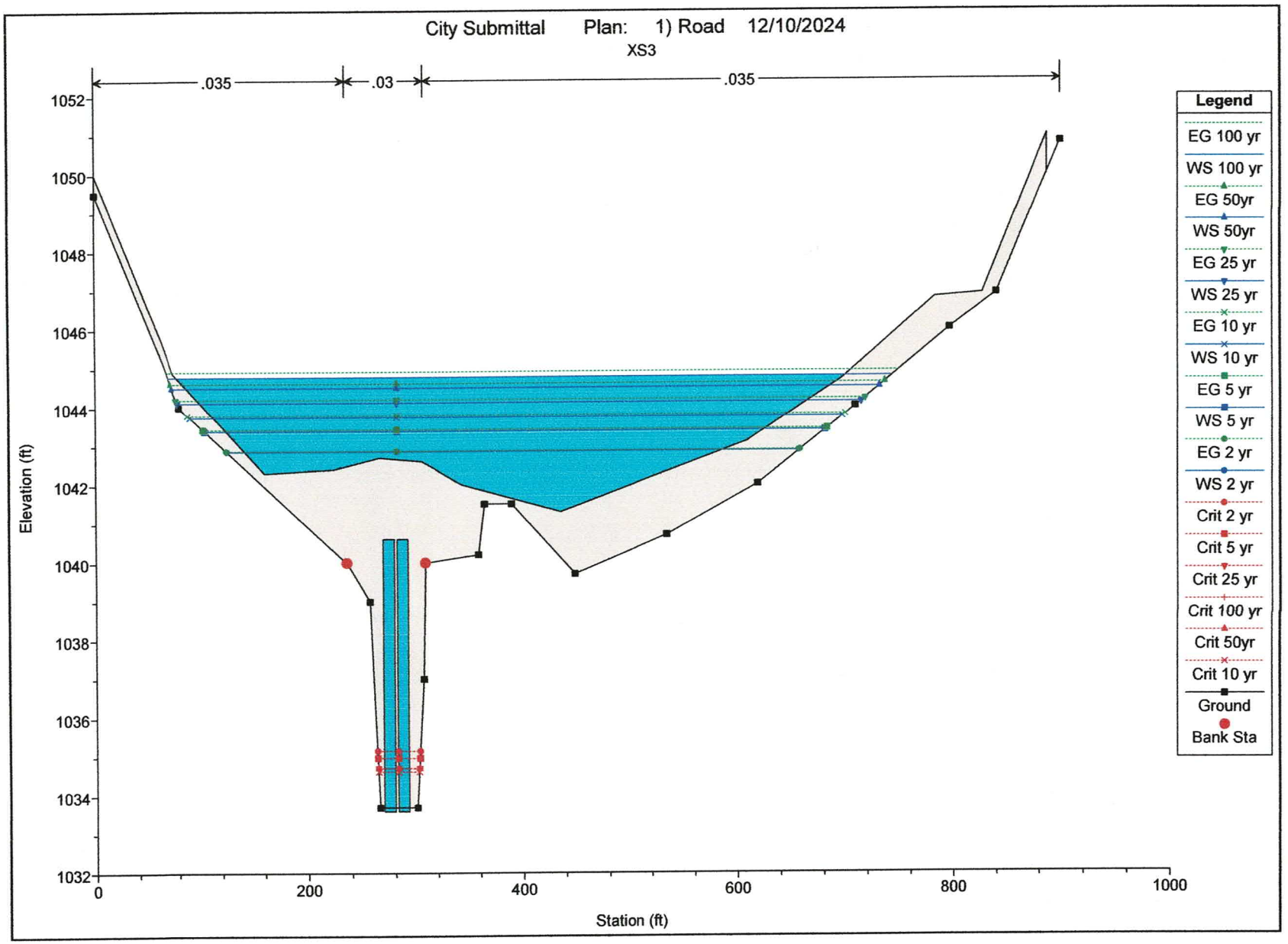
600
800
1000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1042
1040
1038
1036
1034
1032
0
200
400
600
800
1000
Station (ft)
Legend
EG 100 yr
WS 100 yr
EG 50yr
WS 50yr
EG 25 yr
WS 25 yr
EG 10 yr
WS 10 yr
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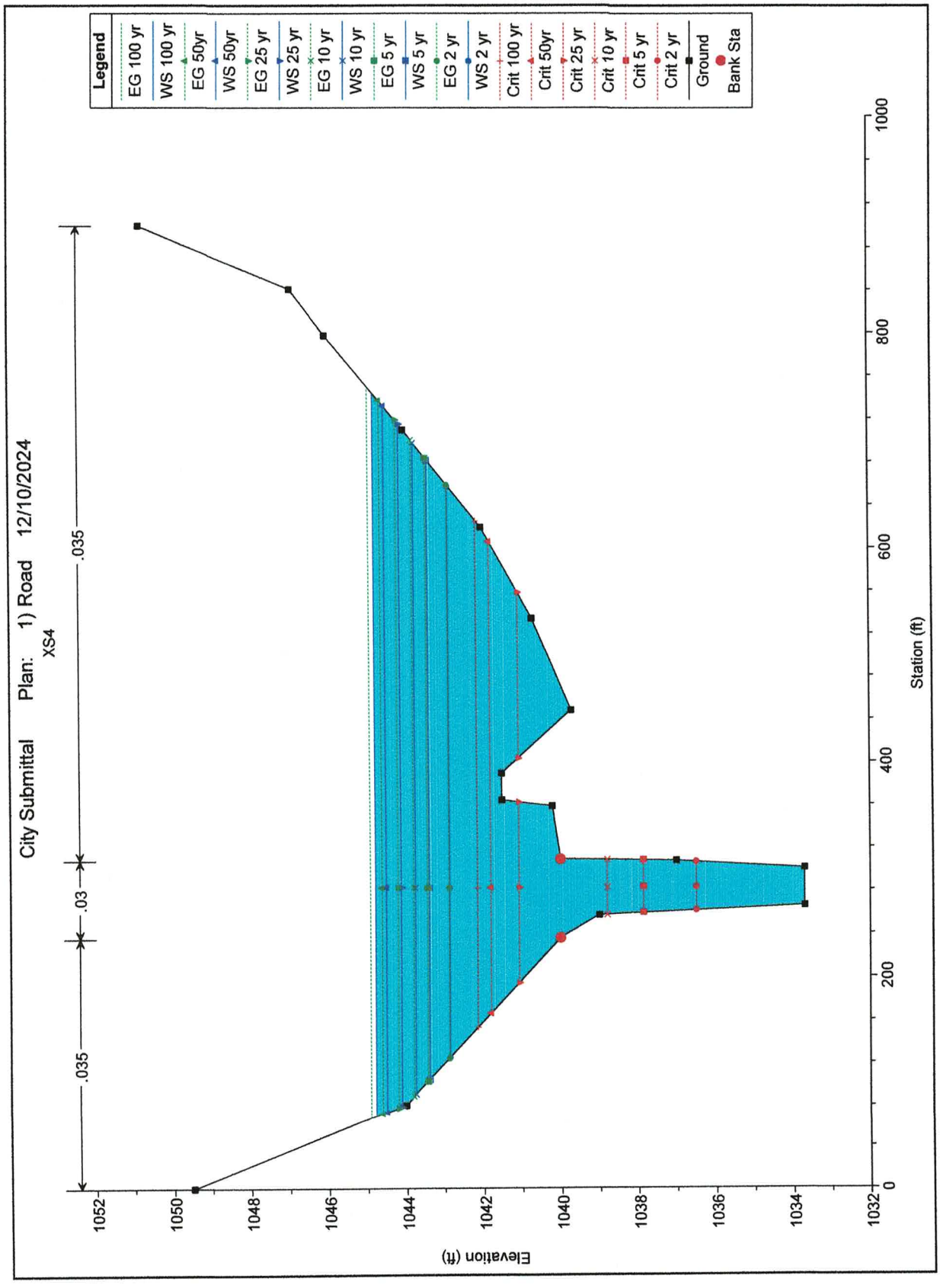
WS 2 yr
Crit 2 yr
Crit 5 yr
Crit 25 yr
Crit 100 yr
Crit 50yr
Crit 10 yr
Ground
Bank Sta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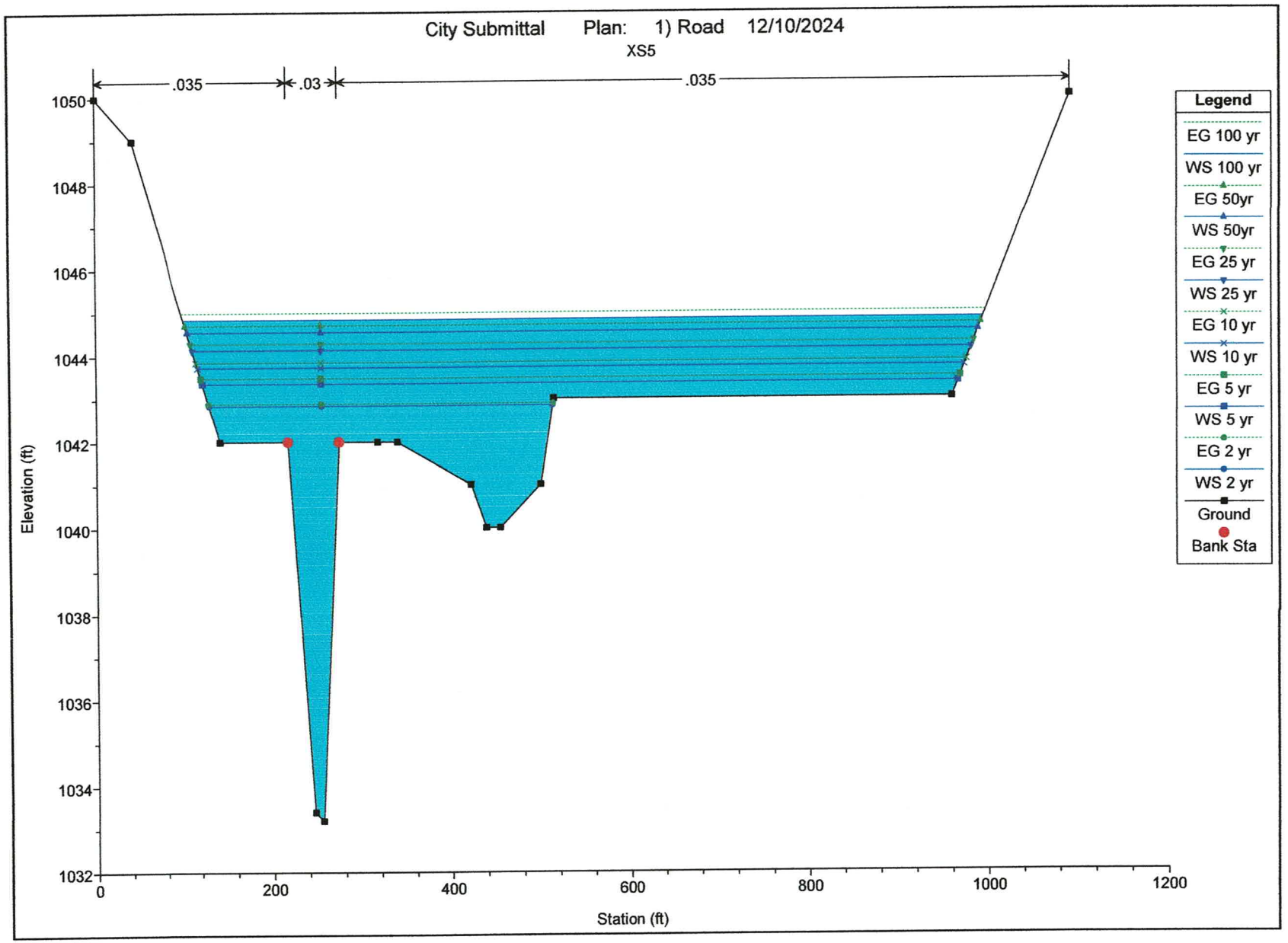
WS 25 yr
EG 10 yr
WS 10 yr
EG 5 yr
WS 5 yr
EG 2 yr
WS 2 yr
Crit 100 yr
Crit 50yr
Crit 25 yr
Crit 10 yr
Crit 5 yr
Crit 2 yr
Ground
Bank Sta
Elevation (ft)
1052
1050
1048
1046
1044
1042
1040
1038
1036
1034
1032
0
200
400
600
800
1000
Station (ft)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EG 25 yr
WS 25 yr
EG 10 yr
WS 10 yr
EG 5 yr
WS 5 yr
EG 2 yr
WS 2 yr
Ground
Bank Sta
Elevation (ft)
1050
1048
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1044
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1040
1038
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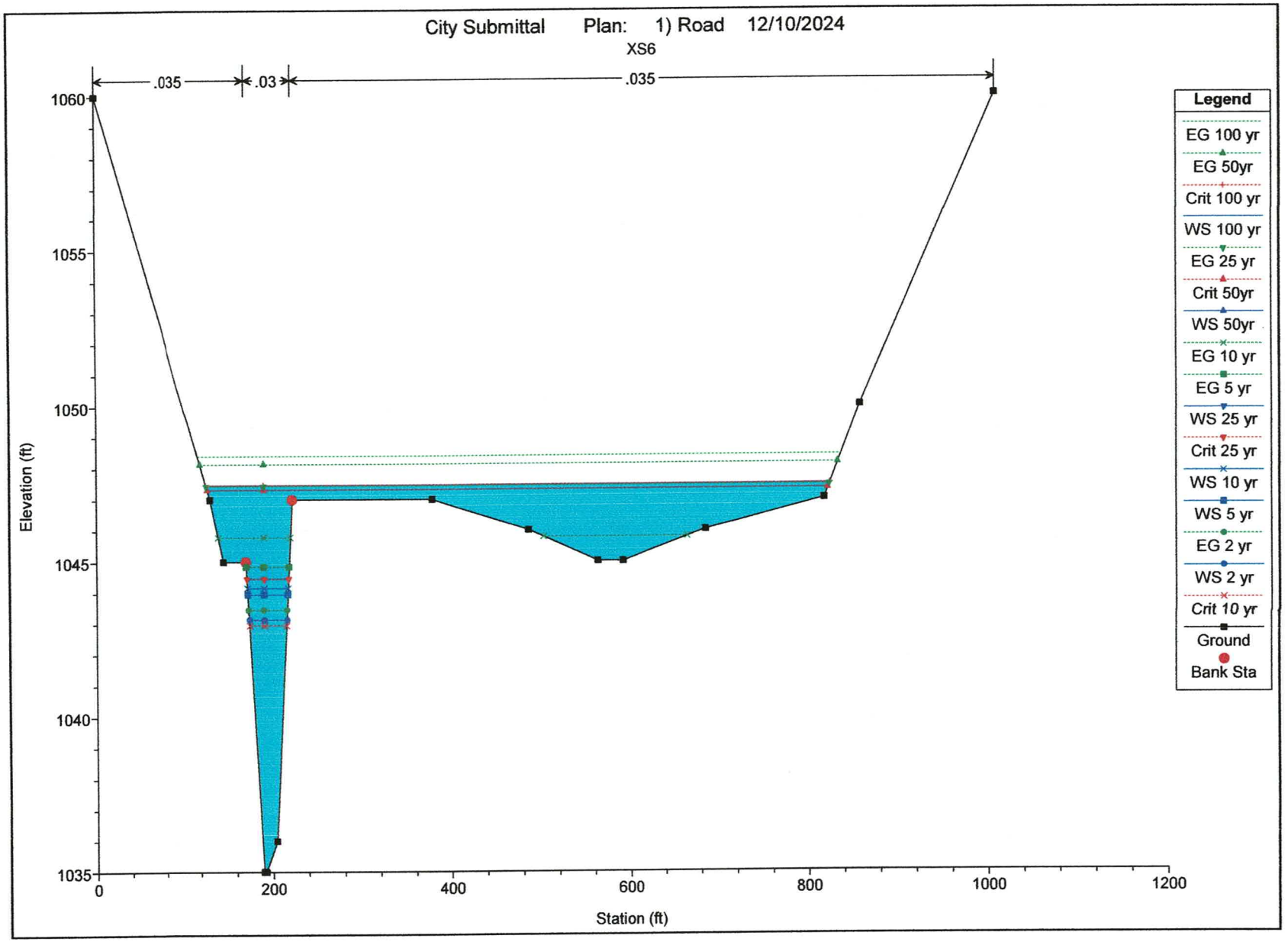
0
200
400
600
800
1000
1200
Station (ft)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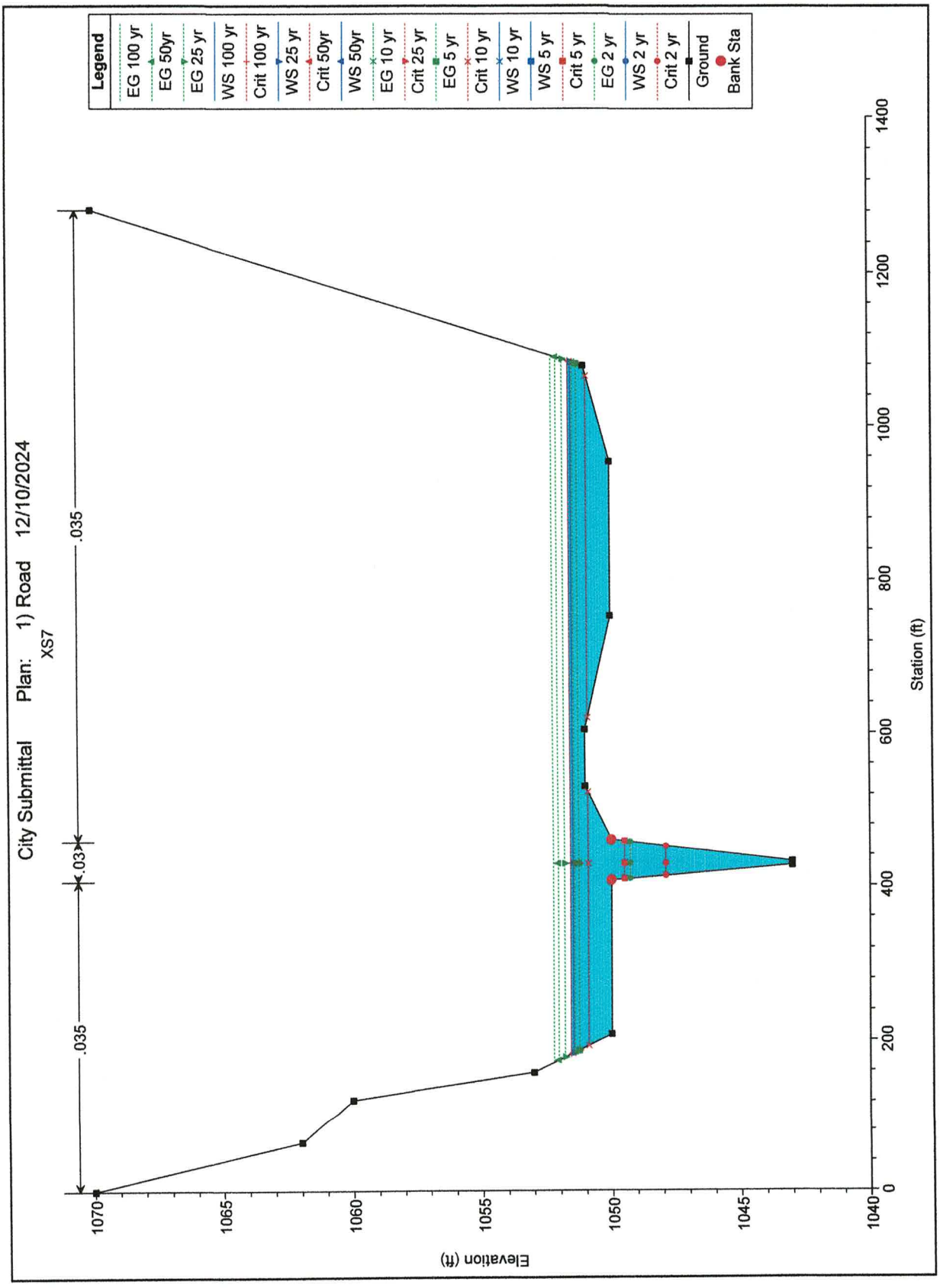
200
400
600
800
1000
1200
Station (ft)
Legend
EG 100 yr
EG 50yr
Crit 100 yr
WS 100 yr
EG 25 yr
Crit 50yr
WS 50yr
EG 10 yr
EG 5 yr
WS 25 yr
Crit 25 yr
WS 10 yr
WS 5 yr
EG 2 yr
WS 2 yr
Crit 10 yr
Ground
Bank Sta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EG 25 yr
WS 100 yr
Crit 100 yr
WS 25 yr
Crit 50yr
WS 50yr
EG 10 yr
Crit 25 yr
EG 5 yr
Crit 10 yr
WS 10 yr
WS 5 yr
Crit 5 yr
EG 2 yr
WS 2 yr
Crit 2 yr
Ground
Bank Sta
Elevation (ft)
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1060
1055
1050
1045
1040
Station (ft)
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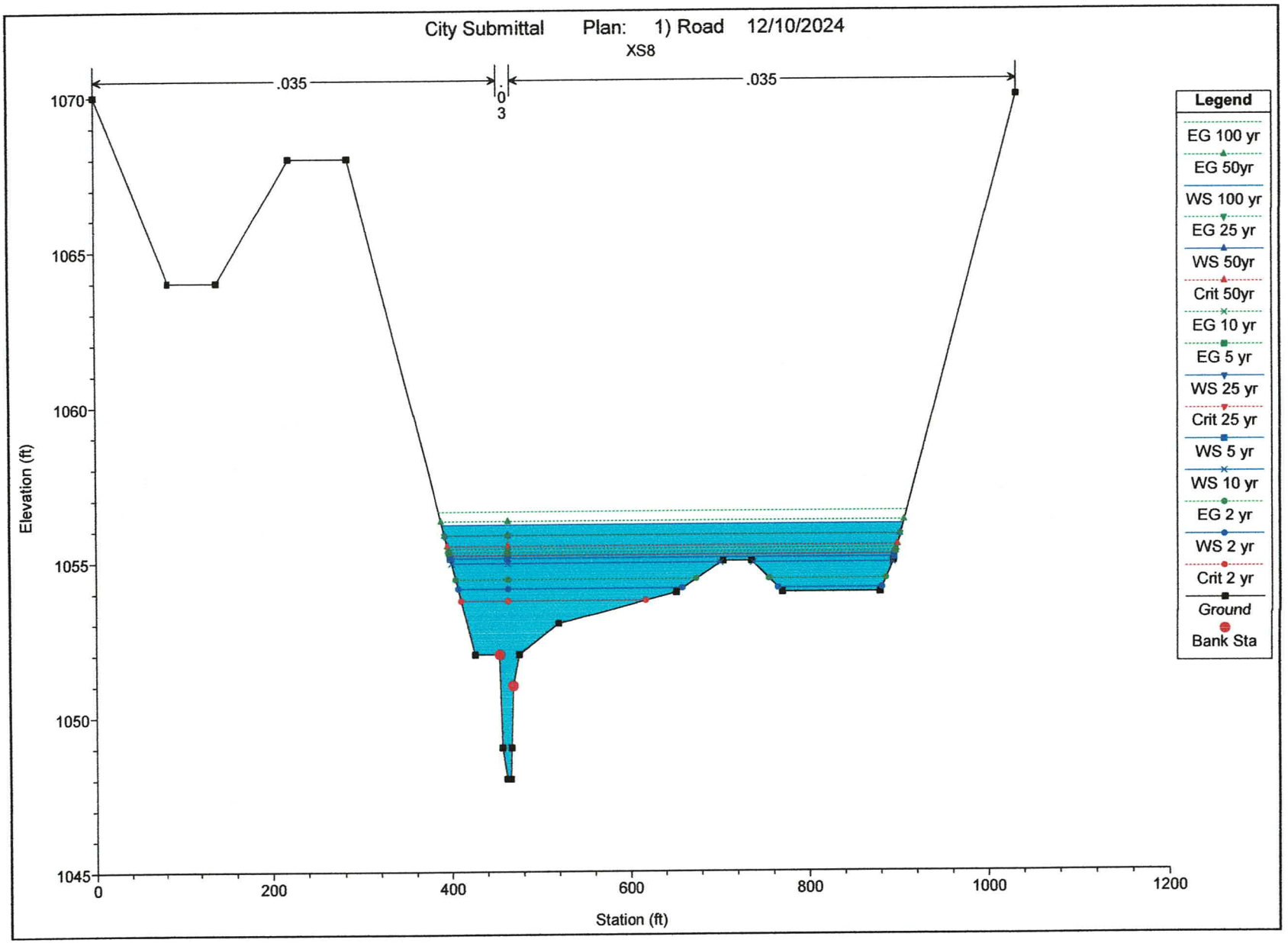
400
600
800
1000
1200
1400


City Submittal Plan: 1) Road 12/10/2024
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0.03
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1050
1045
0
200
400
600
800
1000
1200
Station (ft)
Legend
EG 100 yr
EG 50yr
WS 100 yr
EG 25 yr
WS 50yr
Crit 50yr
EG 10 yr
EG 5 yr
WS 25 yr
Crit 25 yr
WS 5 yr
WS 10 yr
EG 2 yr
WS 2 yr
Crit 2 yr
Ground
Bank Sta

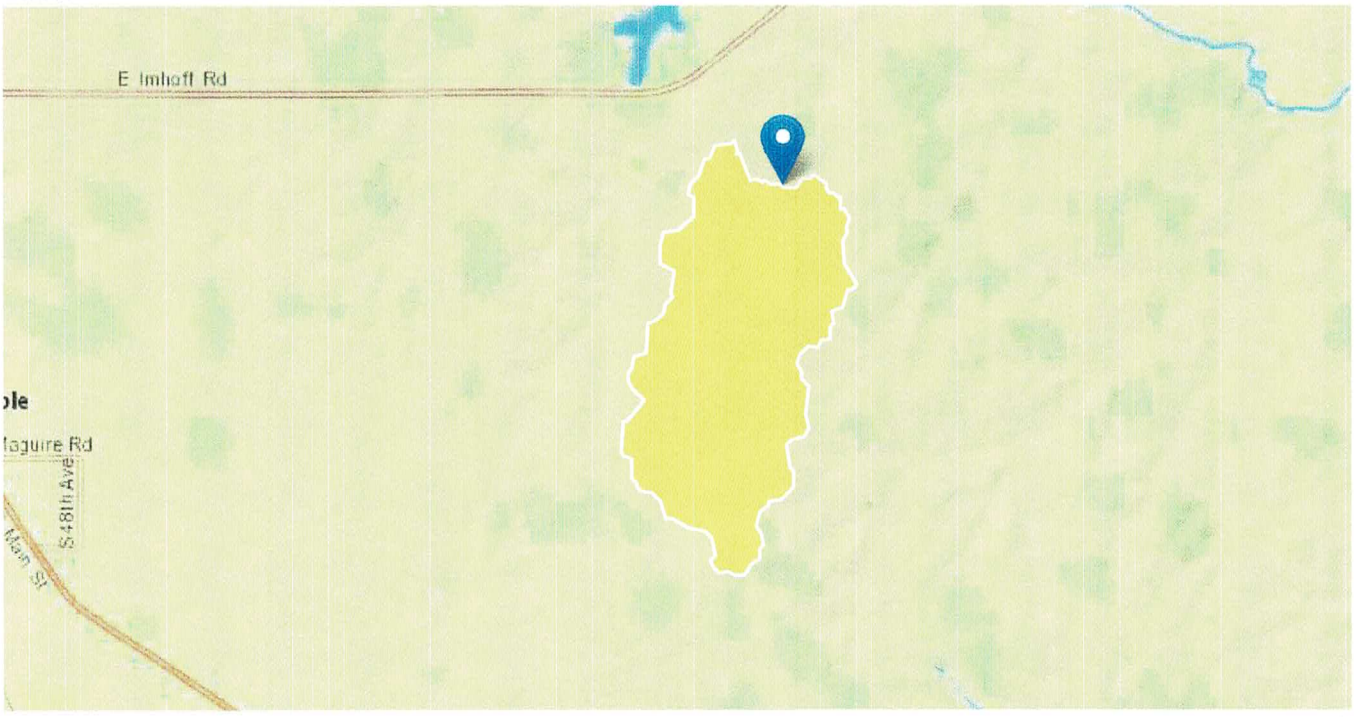
SPECK
ENGINEERING
8500 BETHEL ROAD
SHAWNEE, OK 74804

EXHIBIT A

Q6 STREAM STATS REPORT
PRAIRIE CREEK

Q6 StreamStats Report

Region ID: OK
Workspace ID: OK20240919004510930000
Clicked Point (Latitude, Longitude): 35.17454, -97.23493
Time: 2024-09-18 19:45:37 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM10M	Mean basin slope computed from 10 m DEM	7.1	percent
CANOPY_PCT	Percentage of drainage area covered by canopy as described in OK SIR 2009_5267	48.89	percent
CONTDA	Area that contributes flow to a point on a stream	7.18	square miles
CSL10_85fm	Change in elevation between points 10 and 85 percent of length along main channel to basin divide divided by length between points ft per mi	26.6	feet per mi
DAUNREG	Unregulated drainage area used in OK regulated equations	7.18	square miles

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream		square miles
ELEV	Mean Basin Elevation	1140	feet
OUTLETELEV	Elevation of the stream outlet in feet above NAVD88	1040	feet
PRECIPOUT	Mean annual precip at the stream outlet (based on annual PRISM precip data in inches from 1971-2000)	38.67	inches

Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Region 2 Unregulated 2019 5143]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	7.18	square miles	0.1	2510
CSL10_85fm	Stream Slope 10 and 85 Method ft per mi	26.6	feet per mi	1.98	342

Peak-Flow Statistics Parameters [Peak Region 2 NRCS Regulated 2019 5143]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DAUNREG	Unregulated Drainage Area	7.18	square miles	0.1	2510
CSL10_85fm	Stream Slope 10 and 85 Method ft per mi	26.6	feet per mi	1.98	342

Peak-Flow Statistics Flow Report [Peak Region 2 Unregulated 2019 5143]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
50-percent AEP flood	1000	ft^3/s	46.9	2
20-percent AEP flood	1890	ft^3/s	36.2	5
10-percent AEP flood	2650	ft^3/s	35	8
4-percent AEP flood	3780	ft^3/s	39.9	9
2-percent AEP flood	4990	ft^3/s	37.1	11

Statistic	Value	Unit	ASEp	Equiv. Yrs.
1-percent AEP flood	5870	ft^3/s	39.9	12
0.2-percent AEP flood	9360	ft^3/s	50.7	12

Peak-Flow Statistics Flow Report [Peak Region 2 NRCS Regulated 2019 5143]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
Regulated 50-percent AEP flood	1000	ft^3/s	46.9	2
Regulated 20-percent AEP flood	1890	ft^3/s	36.2	5
Regulated 10-percent AEP flood	2650	ft^3/s	35	8
Regulated 4-percent AEP flood	3780	ft^3/s	39.9	9
Regulated 2-percent AEP flood	4990	ft^3/s	37.1	11
Regulated 1-percent AEP flood	5870	ft^3/s	39.9	12
Regulated 0.2-percent AEP flood	9360	ft^3/s	50.7	12

Peak-Flow Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp	Equiv. Yrs.
50-percent AEP flood	1000	ft^3/s	46.9	2
20-percent AEP flood	1890	ft^3/s	36.2	5
10-percent AEP flood	2650	ft^3/s	35	8
4-percent AEP flood	3780	ft^3/s	39.9	9
2-percent AEP flood	4990	ft^3/s	37.1	11
1-percent AEP flood	5870	ft^3/s	39.9	12
0.2-percent AEP flood	9360	ft^3/s	50.7	12
Regulated 50-percent AEP flood	1000	ft^3/s	46.9	2
Regulated 20-percent AEP flood	1890	ft^3/s	36.2	5
Regulated 10-percent AEP flood	2650	ft^3/s	35	8
Regulated 4-percent AEP flood	3780	ft^3/s	39.9	9
Regulated 2-percent AEP flood	4990	ft^3/s	37.1	11
Regulated 1-percent AEP flood	5870	ft^3/s	39.9	12
Regulated 0.2-percent AEP flood	9360	ft^3/s	50.7	12

Peak-Flow Statistics Citations

Lewis, J.M., Hunter, S.L., and Labriola, L.G.,2019, Methods for estimating the magnitude and frequency of peak streamflows for unregulated streams in Oklahoma developed by using streamflow data through 2017: U.S. Geological Survey Scientific Investigations Report 2019–5143, 39 p. (https://doi.org/10.3133/sir20195143)

Flow-Duration Statistics

Flow-Duration Statistics Parameters [Duration Region 3 2009 5267]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	7.18	square miles	8	2296
ELEV	Mean Basin Elevation	1140	feet	625	1527
CANOPY_PCT	Percent Area Under Canopy	48.89	percent	8.41	83.5
PRECIPOUT	Mean Annual Precip at Gage	38.67	inches	38	58

Flow-Duration Statistics Disclaimers [Duration Region 3 2009 5267]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Flow-Duration Statistics Flow Report [Duration Region 3 2009 5267]

Statistic	Value	Unit
20 Percent Duration	1.47	ft^3/s
50 Percent Duration	0.201	ft^3/s
80 Percent Duration	0	ft^3/s
90 Percent Duration	0	ft^3/s
95 Percent Duration	0	ft^3/s

Flow-Duration Statistics Citations

Esralew, R.A., Smith, S.J.,2009, Methods for estimating flow-duration and annual mean-flow statistics for ungaged streams in Oklahoma: U.S. Geological Survey Scientific Investigations Report 2009-5267, 131 p. (http://pubs.usgs.gov/sir/2009/5267/)

General Flow Statistics

General Flow Statistics Parameters [Duration Region 3 2009 5267]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	7.18	square miles	8	2296
PRECIPOUT	Mean Annual Precip at Gage	38.67	inches	38	58

General Flow Statistics Disclaimers [Duration Region 3 2009 5267]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Duration Region 3 2009 5267]

Statistic	Value	Unit
Average daily streamflow	2.58	ft^3/s

General Flow Statistics Citations

Esralew, R.A., Smith, S.J.,2009, Methods for estimating flow-duration and annual mean-flow statistics for ungaged streams in Oklahoma: U.S. Geological Survey Scientific Investigations Report 2009-5267, 131 p. (http://pubs.usgs.gov/sir/2009/5267/)

Bankfull Statistics

Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.19305	59927.7393

Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.200772	59927.66594

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

Statistic	Value	Unit

Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

Statistic	Value	Unit

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit

Bankfull Statistics Citations

Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 9]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area		square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 9]

Statistic	Value	Unit

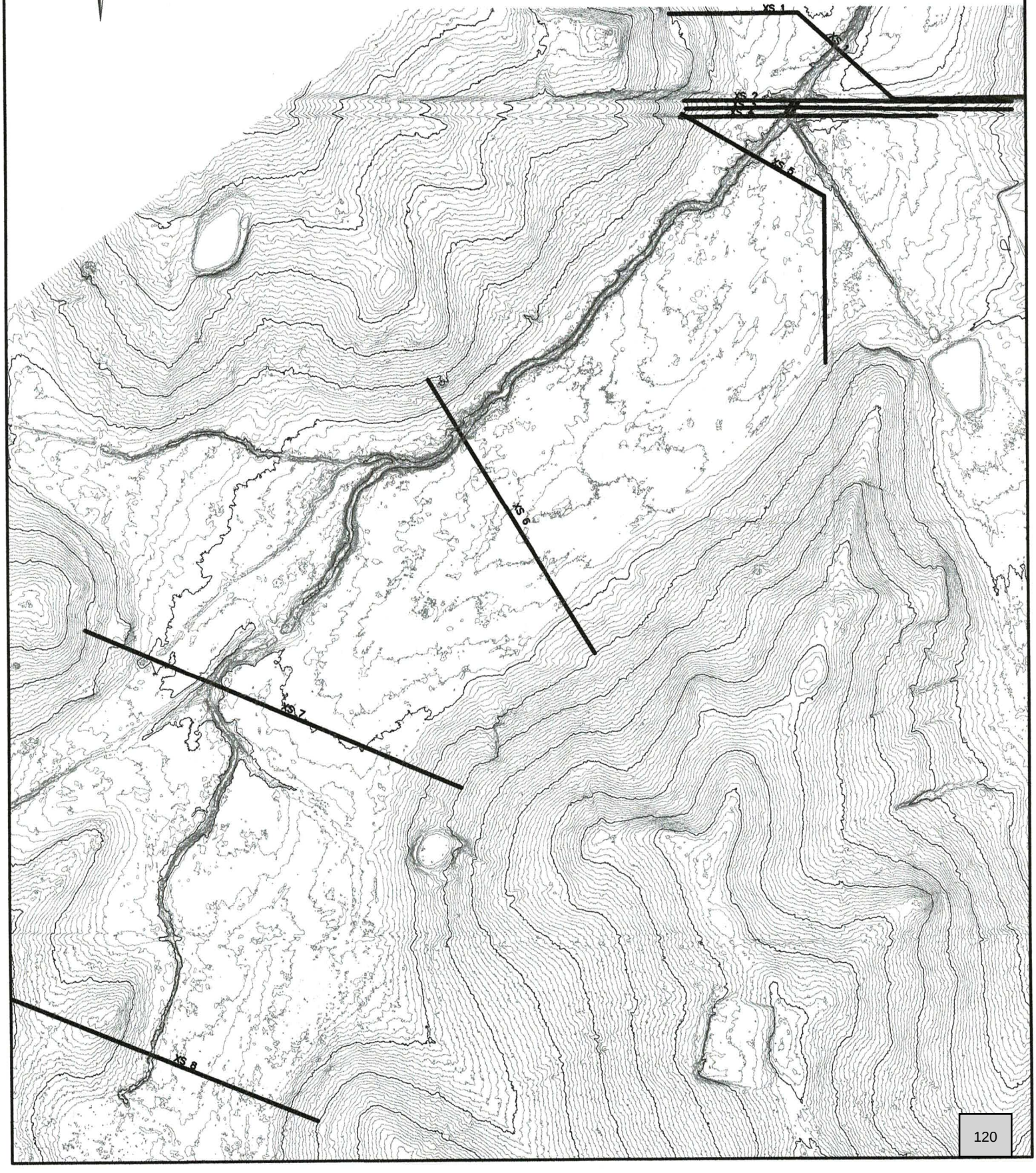
Maximum Probable Flood Statistics Citations

Application Version: 4.24.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

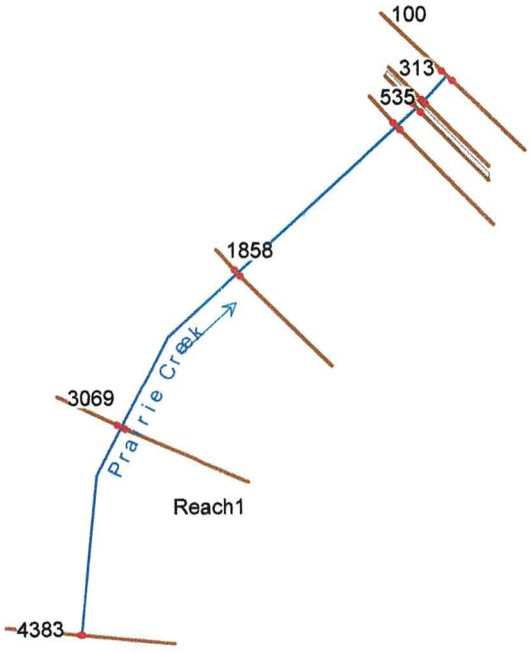
Cross Section Map
RIDGELINE ESTATES
SCALE 1" =400"



SPECK
ENGINEERING
8500 BETHEL ROAD
SHAWNEE, OK 74804

EXHIBIT B

EXISTING HEC ANALYSIS



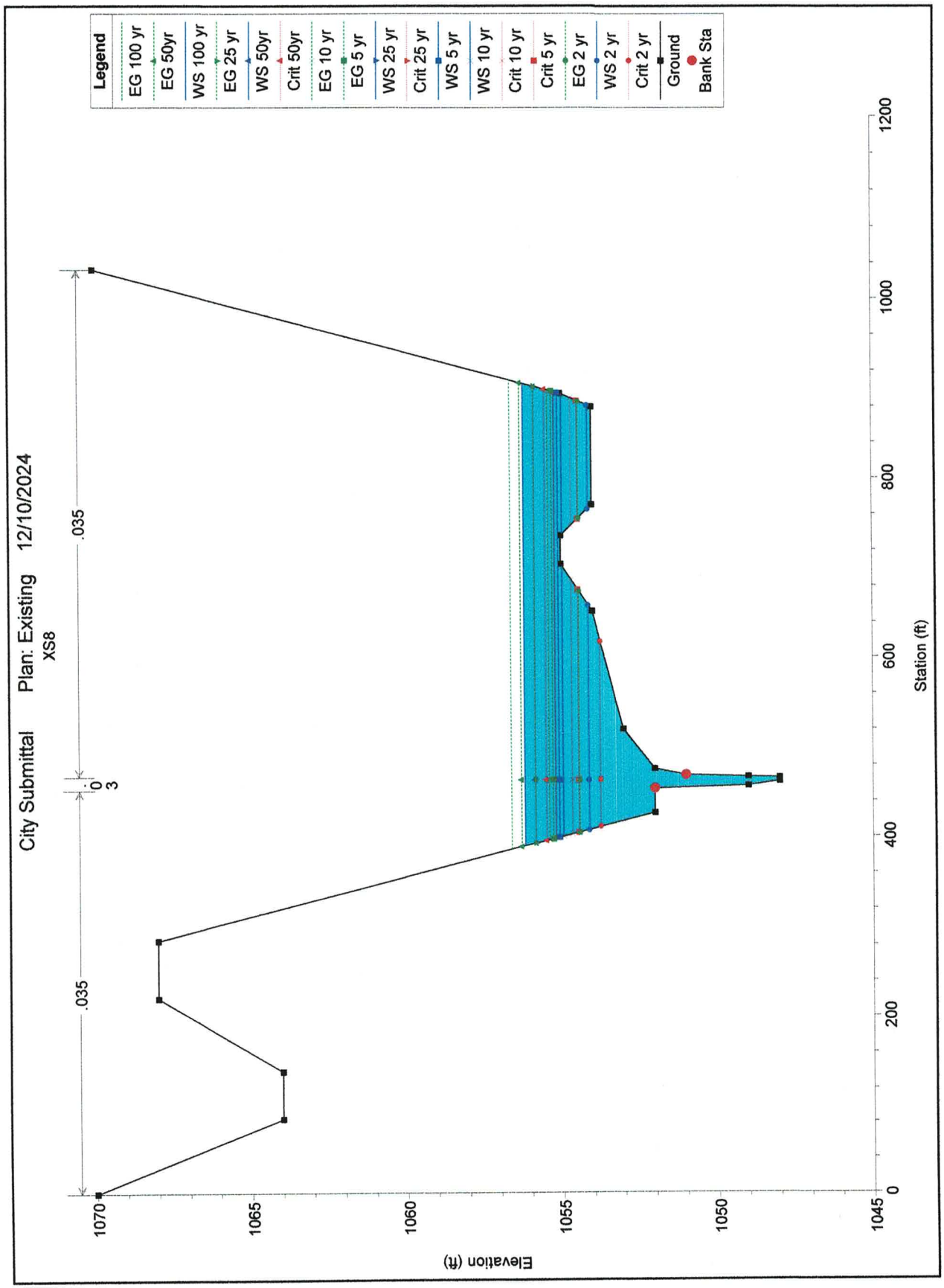
Some schematic data outside default extents (see View/Set Schematic Plot Extents...)

HEC-RAS Plan: Existing River: Prairie Creek Reach: Reach1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	4383	100 yr	5870.00	1048.00	1056.18		1056.61	0.002928	9.00	1298.19	514.62	0.59
Reach1	4383	50yr	4990.00	1048.00	1055.84	1055.50	1056.29	0.003238	9.17	1125.39	508.56	0.62
Reach1	4383	25 yr	3780.00	1048.00	1055.19	1055.19	1055.85	0.004961	10.62	798.54	496.89	0.75
Reach1	4383	10 yr	2650.00	1048.00	1054.95	1054.67	1055.40	0.003388	8.55	679.92	455.87	0.62
Reach1	4383	5 yr	1890.00	1048.00	1055.08	1054.46	1055.28	0.001508	5.78	743.33	494.90	0.41
Reach1	4383	2 yr	1000.00	1048.00	1054.13	1053.75	1054.43	0.002043	6.02	344.03	366.13	0.47
Reach1	3069	100 yr	5870.00	1043.00	1051.58	1051.58	1052.24	0.003764	9.13	1353.11	902.45	0.69
Reach1	3069	50yr	4990.00	1043.00	1051.49	1051.49	1052.05	0.003201	8.32	1268.73	899.90	0.64
Reach1	3069	25 yr	3780.00	1043.00	1051.49	1051.27	1051.81	0.001830	6.29	1270.60	899.95	0.48
Reach1	3069	10 yr	2650.00	1043.00	1050.89	1050.89	1051.43	0.002697	7.06	751.93	774.65	0.57
Reach1	3069	5 yr	1890.00	1043.00	1049.63	1049.48	1051.27	0.008075	10.27	183.95	50.48	0.95
Reach1	3069	2 yr	1000.00	1043.00	1047.88	1047.88	1049.26	0.009834	9.42	106.11	38.47	1.00
Reach1	1858	100 yr	5870.00	1035.00	1047.47	1047.47	1048.39	0.002433	9.26	1221.34	697.03	0.57
Reach1	1858	50yr	4990.00	1035.00	1047.32	1047.32	1048.13	0.002099	8.49	1113.56	693.40	0.53
Reach1	1858	25 yr	3780.00	1035.00	1044.46	1044.46	1047.43	0.008381	13.84	273.14	46.58	1.01
Reach1	1858	10 yr	2650.00	1035.00	1042.94	1042.94	1045.50	0.008750	12.81	206.80	41.09	1.01
Reach1	1858	5 yr	1890.00	1035.00	1043.06		1044.30	0.004182	8.93	211.58	41.51	0.70
Reach1	1858	2 yr	1000.00	1035.00	1042.88		1043.25	0.001290	4.90	204.15	40.85	0.39
Reach1	535	100 yr	5870.00	1033.20	1044.90		1044.97	0.000281	3.19	3229.71	894.09	0.20
Reach1	535	50yr	4990.00	1033.20	1044.61		1044.67	0.000260	2.99	2969.40	884.43	0.19
Reach1	535	25 yr	3780.00	1033.20	1044.20		1044.25	0.000219	2.64	2607.08	870.81	0.17
Reach1	535	10 yr	2650.00	1033.20	1043.79		1043.82	0.000164	2.20	2252.06	857.25	0.15
Reach1	535	5 yr	1890.00	1033.20	1043.42		1043.44	0.000127	1.87	1939.00	845.11	0.13
Reach1	535	2 yr	1000.00	1033.20	1042.88		1042.90	0.000072	1.32	1489.04	822.29	0.10
Reach1	370	100 yr	5870.00	1033.70	1044.79	1041.86	1044.91	0.000342	3.78	2612.76	675.03	0.22
Reach1	370	50yr	4990.00	1033.70	1044.52	1041.54	1044.62	0.000299	3.46	2428.27	658.89	0.21
Reach1	370	25 yr	3780.00	1033.70	1044.13	1041.04	1044.21	0.000227	2.92	2177.44	636.27	0.18
Reach1	370	10 yr	2650.00	1033.70	1043.75	1038.79	1043.79	0.000149	2.29	1937.93	607.28	0.14
Reach1	370	5 yr	1890.00	1033.70	1043.39	1037.85	1043.43	0.000100	1.82	1729.84	577.78	0.12
Reach1	370	2 yr	1000.00	1033.70	1042.87	1036.50	1042.89	0.000043	1.14	1439.89	533.96	0.08
Reach1	338		Culvert									
Reach1	313	100 yr	5870.00	1033.00	1042.72	1042.72	1043.65	0.003355	10.27	1116.13	531.50	0.62

HEC-RAS Plan: Existing River: Prairie Creek Reach: Reach1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	313	50yr	4990.00	1033.00	1042.48	1042.48	1043.37	0.003152	9.76	988.86	508.52	0.60
Reach1	313	25 yr	3780.00	1033.00	1042.08	1042.08	1042.91	0.002822	8.94	794.04	471.18	0.56
Reach1	313	10 yr	2650.00	1033.00	1039.76	1039.76	1042.80	0.010020	13.98	189.60	32.88	1.03
Reach1	313	5 yr	1890.00	1033.00	1038.95	1038.61	1041.04	0.007926	11.58	163.18	32.30	0.91
Reach1	313	2 yr	1000.00	1033.00	1038.03		1038.90	0.004009	7.47	133.81	31.63	0.64
Reach1	100	100 yr	5870.00	1033.00	1041.04	1040.93	1042.02	0.003976	9.20	954.02	492.69	0.71
Reach1	100	50yr	4990.00	1033.00	1040.73	1040.53	1041.67	0.003982	8.82	807.00	440.99	0.71
Reach1	100	25 yr	3780.00	1033.00	1040.19	1039.81	1041.06	0.003976	8.15	602.59	303.79	0.69
Reach1	100	10 yr	2650.00	1033.00	1039.45	1038.97	1040.24	0.003978	7.54	427.79	201.85	0.68
Reach1	100	5 yr	1890.00	1033.00	1038.73	1037.95	1039.47	0.003983	7.05	302.13	150.33	0.67
Reach1	100	2 yr	1000.00	1033.00	1037.39	1036.52	1037.96	0.003979	6.06	165.10	60.18	0.64


City Submittal Plan: Existing 12/10/2024
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.035
Legend
EG 100 yr
EG 50yr
WS 100 yr
EG 25 yr
WS 50yr
Crit 50yr
EG 10 yr
EG 5 yr
WS 25 yr
Crit 25 yr
WS 5 yr
WS 10 yr
Crit 10 yr
Crit 5 yr
EG 2 yr
WS 2 yr
Crit 2 yr
Ground
Bank Sta
Elevation (ft)
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1055
1050
1045
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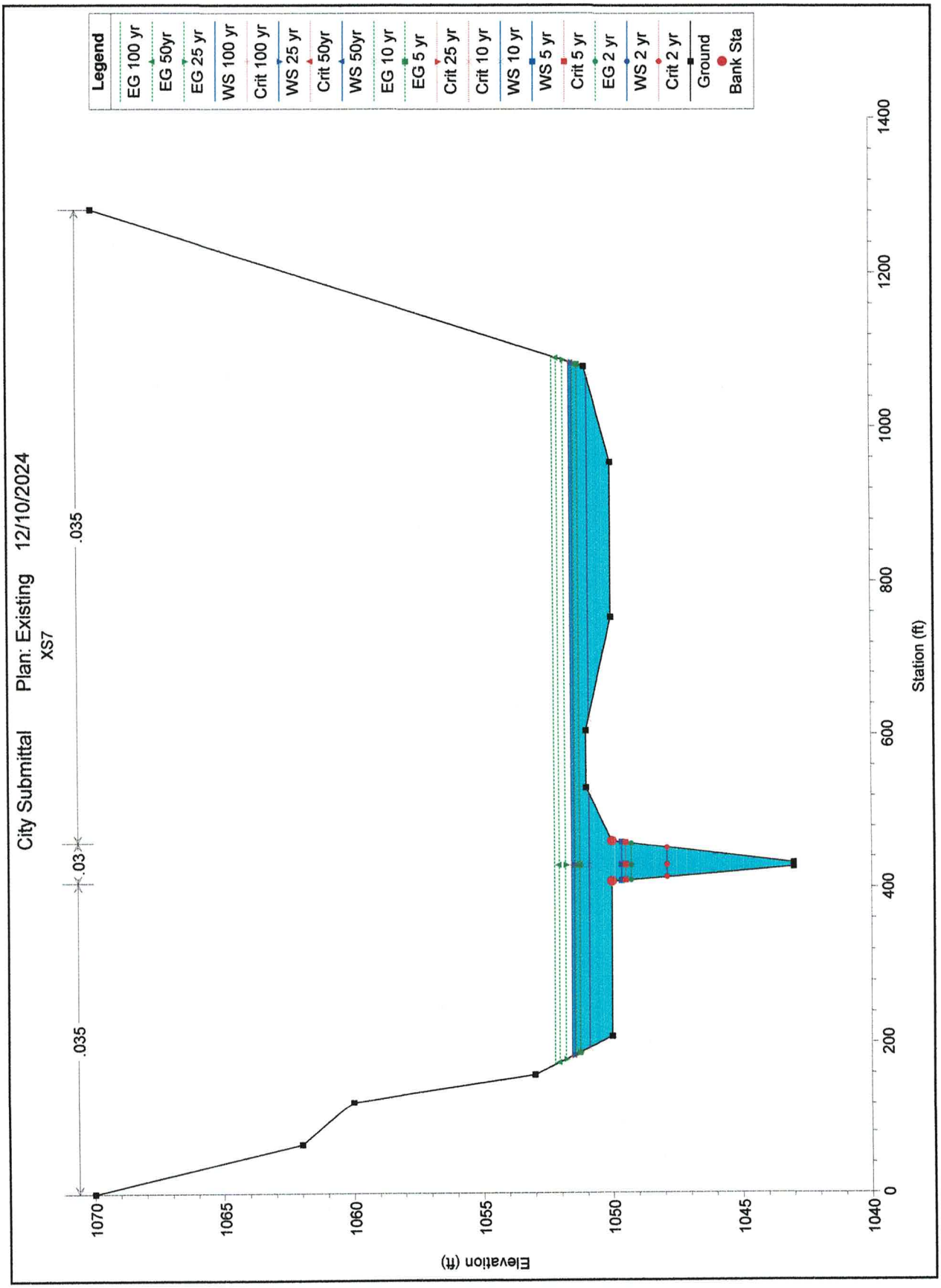
400
600
800
1000
1200
Station (ft)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EG 50yr
EG 25 yr
WS 100 yr
Crit 100 yr
WS 25 yr
Crit 50yr
WS 50yr
EG 10 yr
EG 5 yr
Crit 25 yr
Crit 10 yr
WS 10 yr
WS 5 yr
Crit 5 yr
EG 2 yr
WS 2 yr
Crit 2 yr
Ground
Bank Sta
Elevation (ft)
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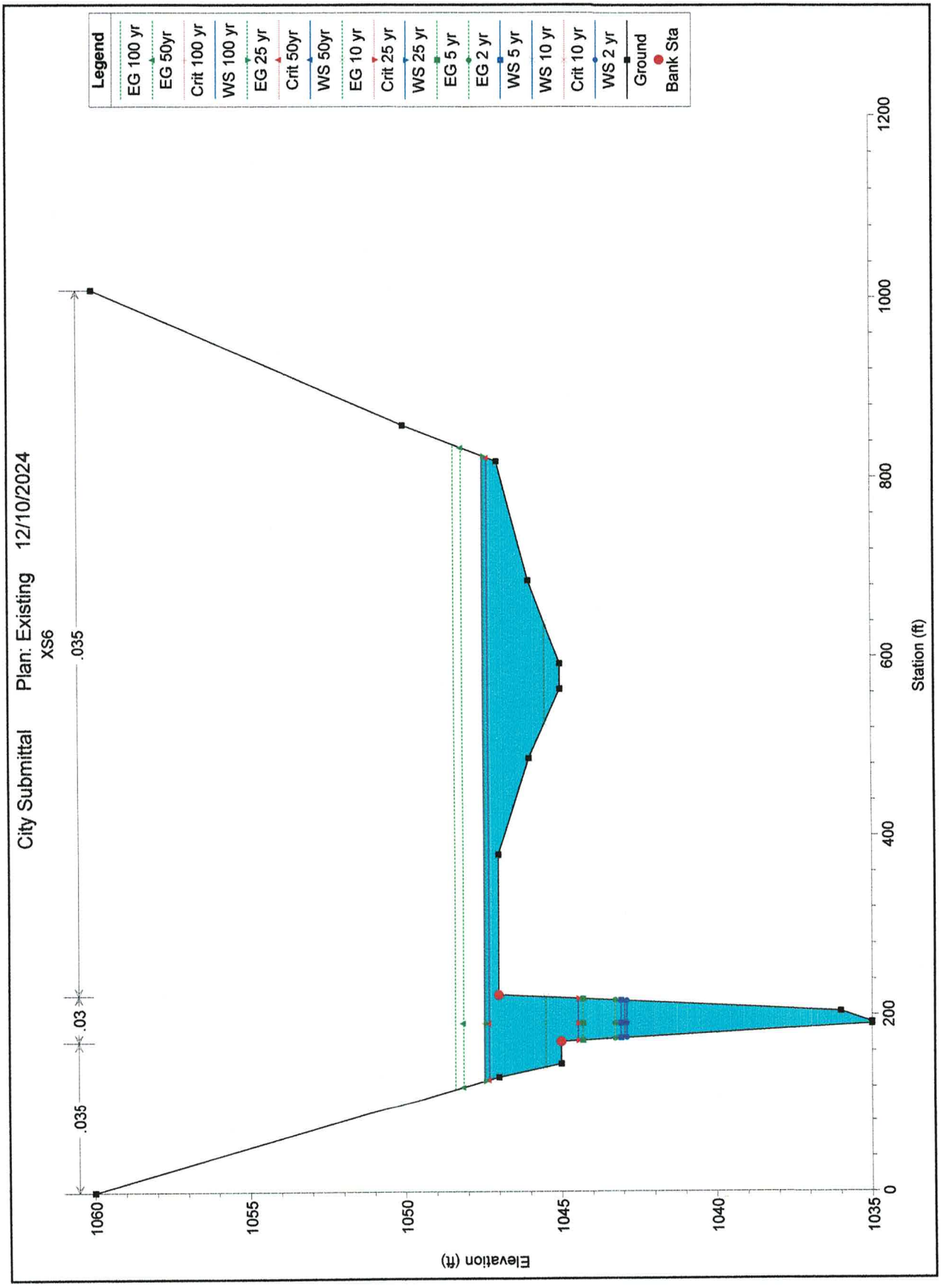
Station (ft)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EG 50yr
Crit 100 yr
WS 100 yr
EG 25 yr
Crit 50yr
WS 50yr
EG 10 yr
Crit 25 yr
WS 25 yr
EG 5 yr
EG 2 yr
WS 5 yr
WS 10 yr
Crit 10 yr
WS 2 yr
Ground
Bank Sta
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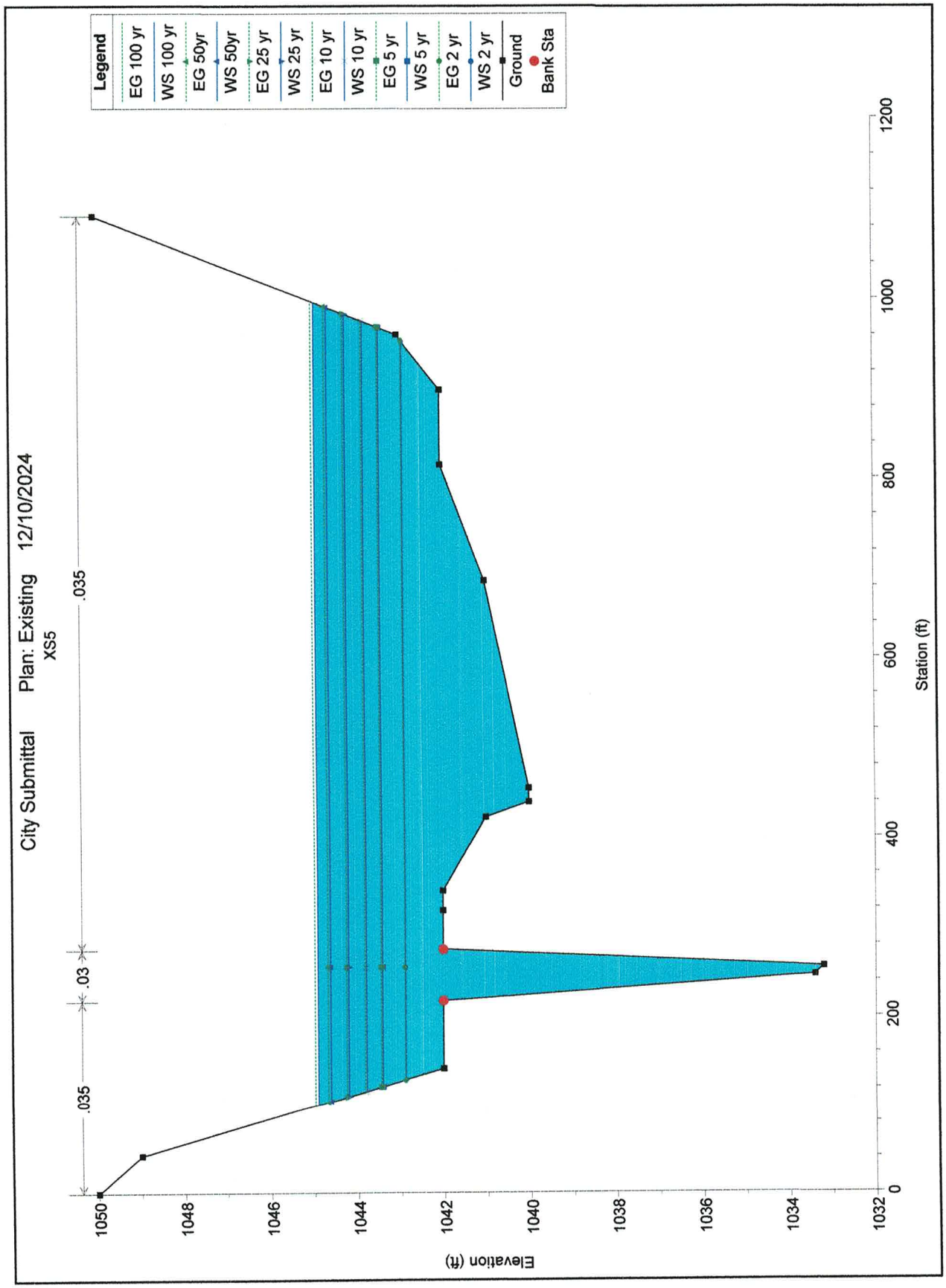
Station (ft)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WS 50yr
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WS 5 yr
EG 2 yr
WS 2 yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
1050
1048
1046
1044
1042
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1000
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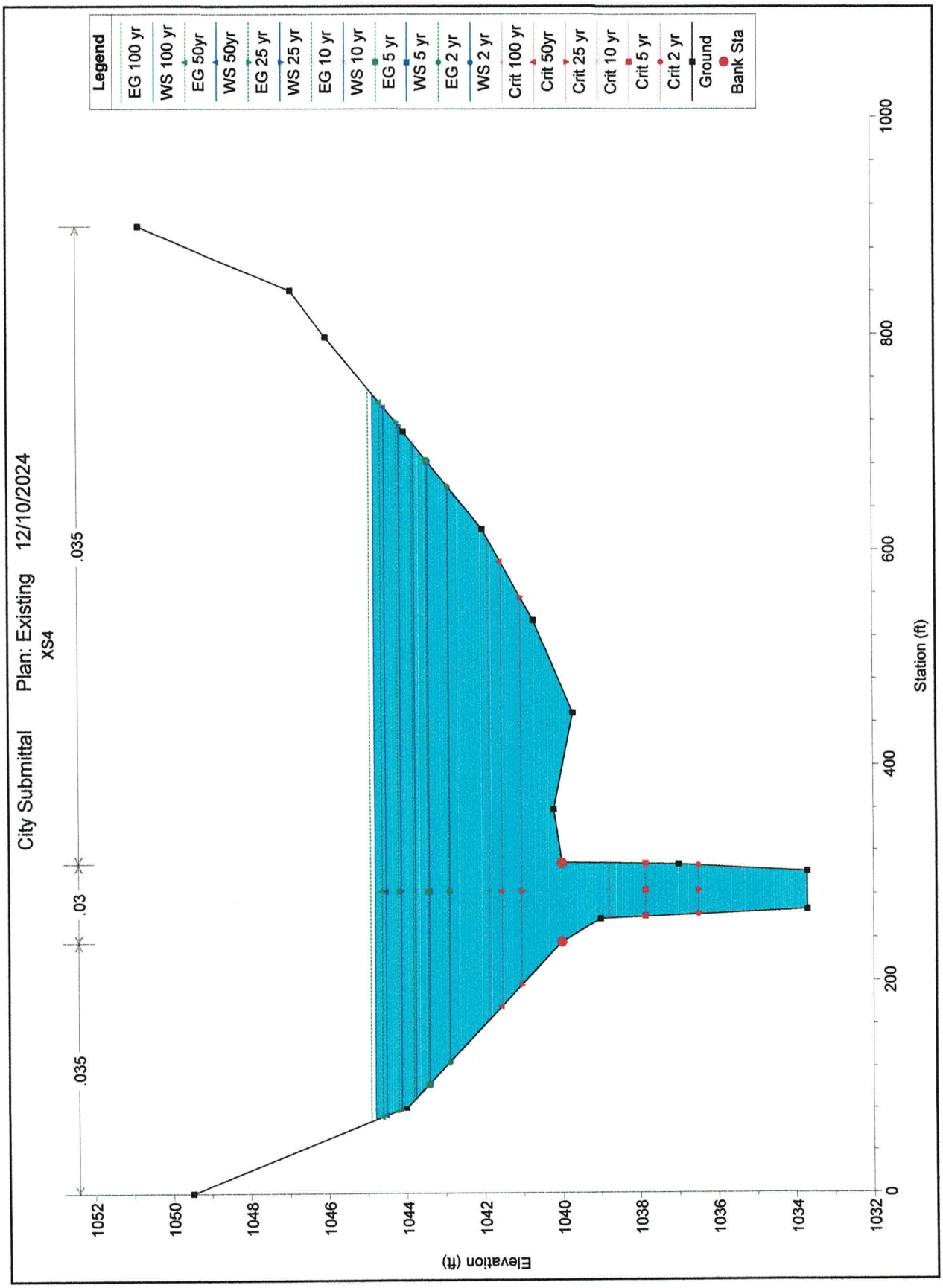
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WS 100 yr
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WS 50yr
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WS 25 yr
EG 10 yr
WS 10 yr
EG 5 yr
WS 5 yr
EG 2 yr
WS 2 yr
Crit 100 yr
Crit 50yr
Crit 25 yr
Crit 10 yr
Crit 5 yr
Crit 2 yr
Ground
Bank Sta
Elevation (ft)
1052
1050
1048
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1044
1042
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1038
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1032
Station (ft)
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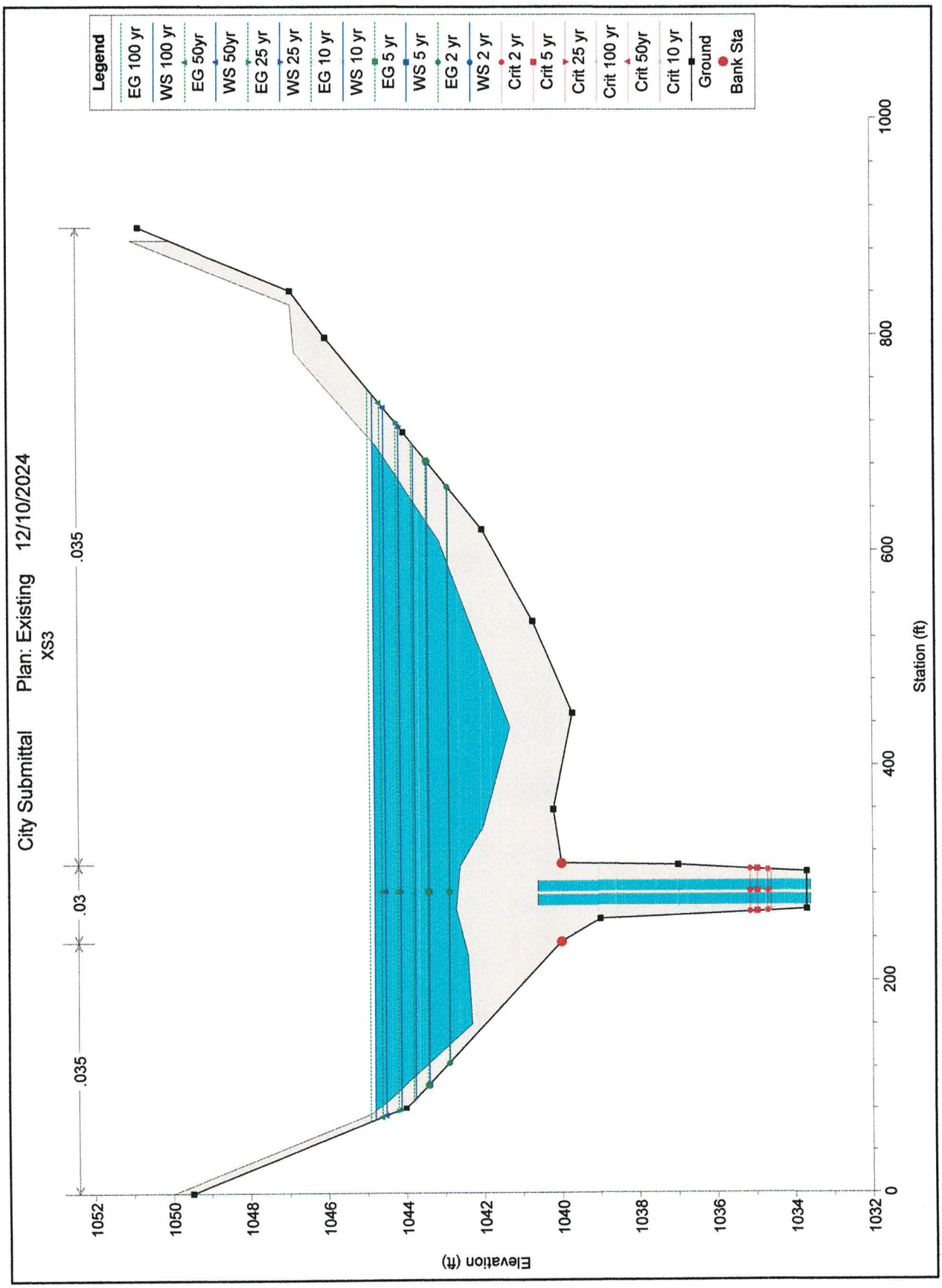
200
400
600
800
1000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EG 50yr
WS 50yr
EG 25 yr
WS 25 yr
EG 10 yr
WS 10 yr
EG 5 yr
WS 5 yr
EG 2 yr
WS 2 yr
Crit 2 yr
Crit 5 yr
Crit 25 yr
Crit 100 yr
Crit 50yr
Crit 10 yr
Ground
Bank Sta
Elevation (ft)
Station (ft)
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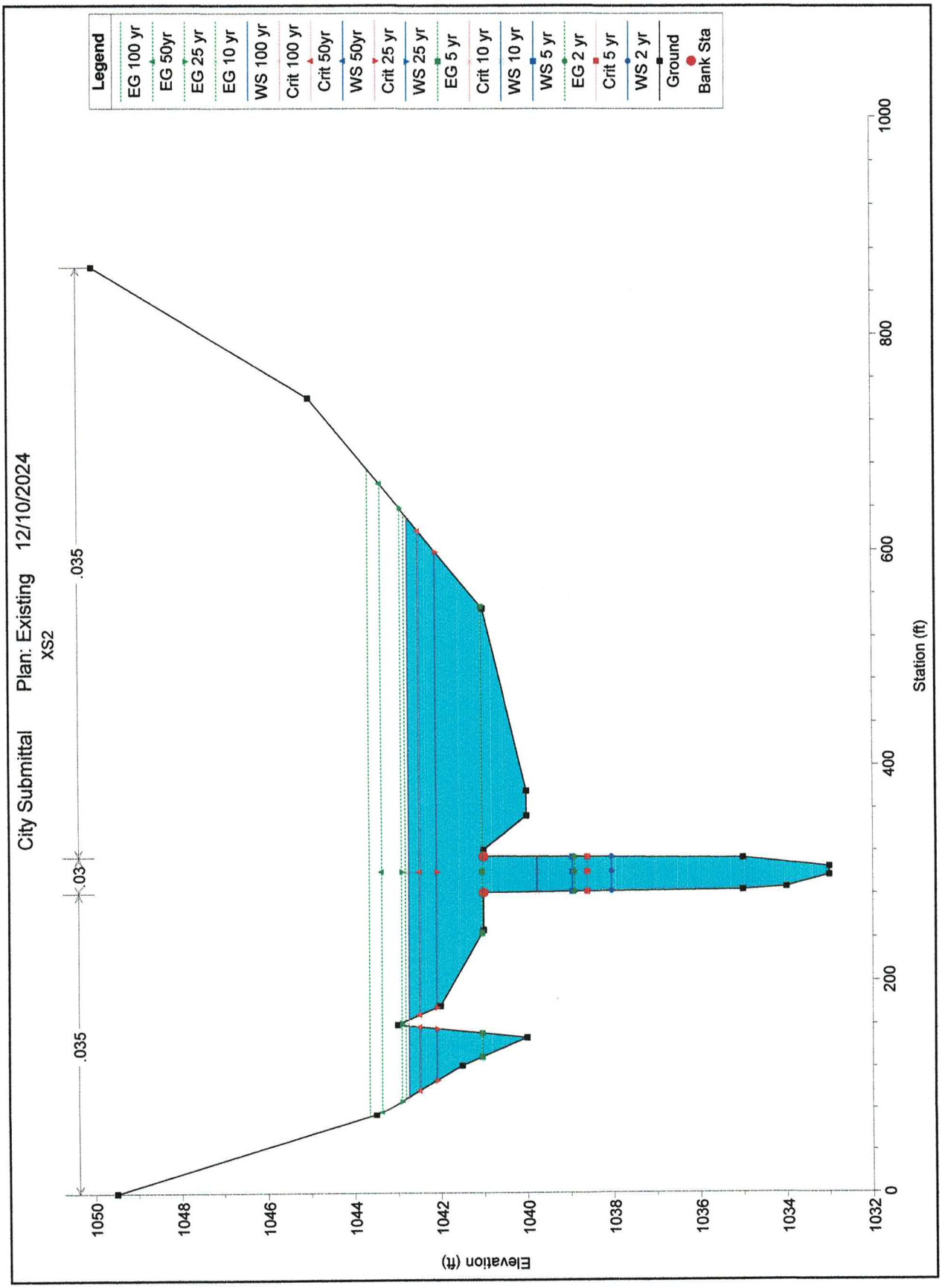
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Legend
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EG 50yr
EG 25 yr
EG 10 yr
WS 100 yr
Crit 100 yr
Crit 50yr
WS 50yr
Crit 25 yr
WS 25 yr
EG 5 yr
Crit 10 yr
WS 10 yr
WS 5 yr
EG 2 yr
Crit 5 yr
WS 2 yr
Ground
Bank Sta
Elevation (ft)
1050
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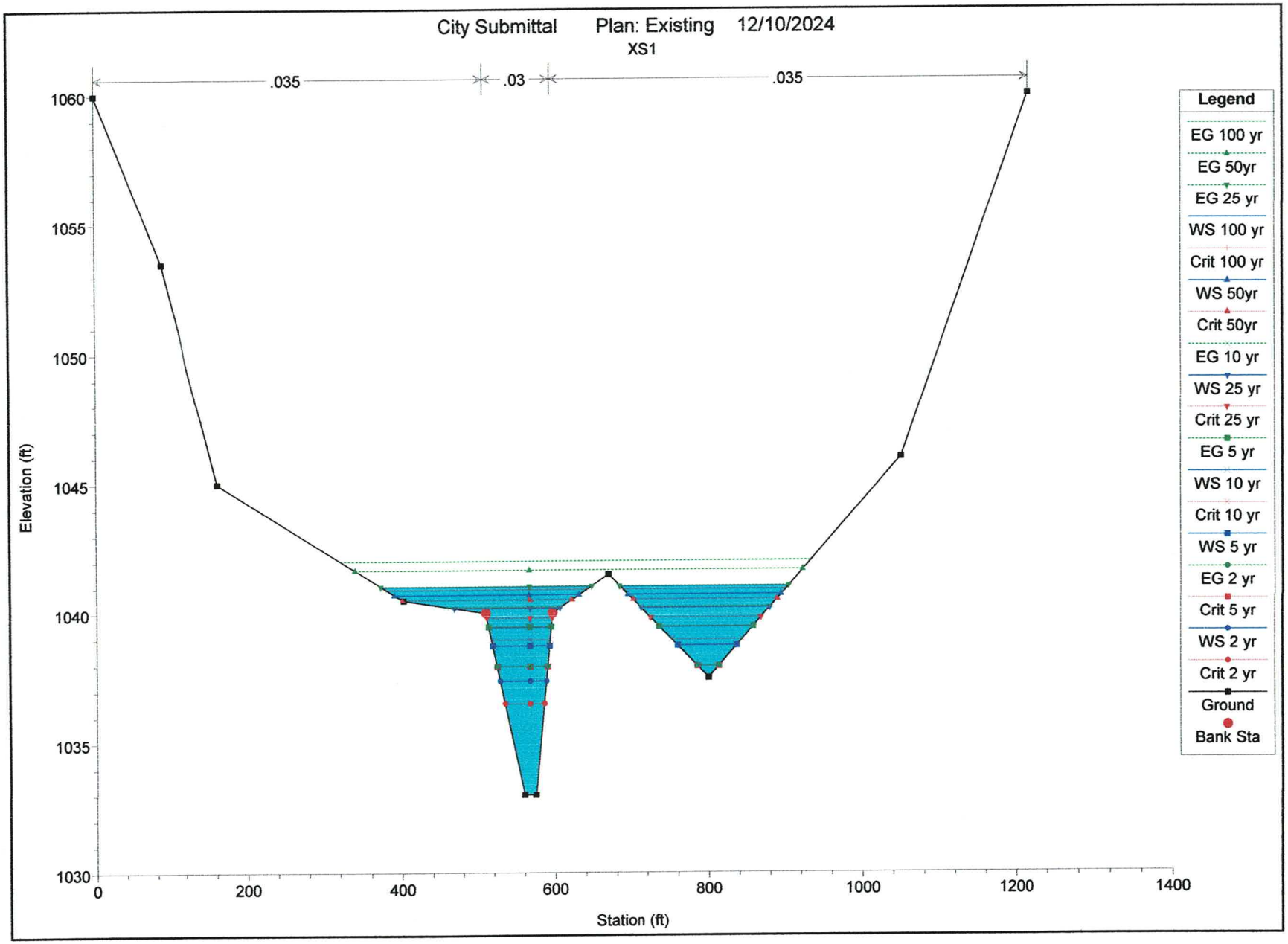
Station (ft)


City Submittal Plan: Existing 12/10/2024
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.03
.035
Elevation (ft)
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1055
1050
1045
1040
1035
1030
0
200
400
600
800
1000
1200
1400
Station (ft)
Legend
EG 100 yr
EG 50yr
EG 25 yr
WS 100 yr
Crit 100 yr
WS 50yr
Crit 50yr
EG 10 yr
WS 25 yr
Crit 25 yr
EG 5 yr
WS 10 yr
Crit 10 yr
WS 5 yr
EG 2 yr
Crit 5 yr
WS 2 yr
Crit 2 yr
Ground
Bank Sta

Ridgeline Estates Connection to Post Oak in Cleveland County

Legend

- BFE 2021
- 1% Chance Floodplain
- Floodway

0 250 500 1,000 Feet

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