office memorandum

DATE: February 5, 2015

TO: Steve Lewis, City Manager

FROM: Shawn O'Leary, Director of Public Works
City Flood Plain Administrator

SUBJECT: University House Addition (aka Bishop's Landing)
Flood Plain Concerns

I am writing in reply to a number of concerns in recent days and weeks regarding the captioned subject. The City Flood Plain Permit Committee approved Flood Plain Permit No. 553 on December 1, 2014 for the proposed University House Addition on the condition that the City Council must also authorize specific elements of the permit as part of the consideration of the preliminary plat application. The preliminary plat application is currently scheduled for consideration by the City Council on Tuesday, February 10, 2015.

The preliminary plat for University House Norman Addition, a Planned Unit Development, a Replat of a Replat of Block 3, Miller Addition contains 7.4 acres of land subdivided into one lot and one block. The property is located on the north side of Brooks Street and west of the BNSF railroad tracks. The developer proposes to replace the existing Bishops Landing Apartment Complex on this parcel with a new multi-story residential apartment complex with 430 apartment units and a multi-story parking garage (Attachment 1)

The following questions have been asked of city staff in recent days with regard to Flood Plain Permit No. 553:

1. ***Flood Plain Permit No. 553 appears to allow a rise in the Base Flood Elevation (BFE) as a result of and downstream from the proposed University House Norman Project. Is this a violation of the City's Flood Plain Ordinance which contains a "no rise" requirement?***

   No, there is not a rise in the BFE downstream from Brooks Street and this is not a violation of the City's Flood Plain Ordinance.

   The Developer's engineer, Mr. Dean Koleada, P.E., of Huitt-Zollers, Inc., submitted existing and proposed floodplain mapping as part of the floodplain permit application. Although Mr. Koleada's "Proposed Conditions Map" indicates a rise in the BFE just south of the reinforced concrete box (RCB) bridge on Brooks Street, Mr. Koleada has determined that the existing Federal Emergency Management Agency (FEMA) flood plain map in this portion of Bishop Creek is inaccurate. Thus, Mr. Koleada's "Proposed Conditions Map" is not indicating a rise in the BFE, but is actually a more accurate representation of the flood plain map downstream of Brooks Street (Attachment 2).

To illustrate this point, Mr. Koleada has prepared an application to FEMA for a Conditional Letter of Map Revision (CLOMR) for this portion of Bishop Creek. Mr. Koleada cannot submit the application to FEMA until he has acquired all local flood plain permits. The CLOMR application cannot be submitted to FEMA until the City Council approves City Flood Plain Permit No. 553 as part of the preliminary plat application. Thus, Mr. Koleada's assertion that the existing FEMA flood plain map is inaccurate cannot be confirmed until the CLOMR application is reviewed by FEMA.

As required by the City's Flood Plain Ordinance and the City's Subdivision Regulations, city staff in the Engineering Division of the Public Works Department have conducted a thorough review of all material submitted by the applicant and the applicant's engineer. City staff members, who are licensed professional civil engineers in the state of Oklahoma, conducted detailed analyses of the engineering plans, engineering studies and engineering reports including those directly related to the flood plain application. City staff concurs in the engineering approach, engineering principles, engineering assumptions/calculations and the engineering models provided by Mr. Koleada. In addition, city staff has confirmed that Mr. Koleada's submittals are in compliance with the City's adopted Engineering Design Criteria. Finally, if authorized by City Council, there will be another detailed level of review of Mr. Koleada's submittals by FEMA during the review of the CLOMR application. FEMA contracts with an independent third party engineering firm, Michael Baker Corporation, to conduct the engineering analysis of the CLOMR application.

In addition, Section 5(a)(viii) of the City's Flood Plain Ordinance requires the Developer's engineer to prove that the project will not cause a rise in the BFE by submitting a "No Rise" certification signed and stamped by a licensed professional engineer in Oklahoma. Mr. Koleada has submitted two such certifications for this project, one for the floodway and the other for the flood plain (Attachment 3 and 4). In compliance with the City's Flood Plain Ordinance, Mr. Koleada certifies a rise no greater than 0.05 feet in the BFE (which is effectively considered a "no rise" by industry standards).

Finally, city staff presented this information to the City Flood Plain Permit Committee on December 1, 2015 prior to the vote of 7-0 in favor of Flood Plain Permit No. 553 (Attachment 5).

2. ***Flood Plain Permit No. 553 appears to allow the developer's engineer to establish his own flood plain design criteria for his engineering analysis rather than using the adopted FEMA maps and models. Is this true?***

Yes, FEMA procedures allow for scientific study and engineering analysis to accurately depict the status of the floodplain under existing conditions if it can be shown that FEMA data or maps on file do not completely or accurately depict existing conditions.

It is important for effective Floodplain administration that the most accurate and reliable information be obtained from which to make regulatory decisions. As noted above, review of the data on file with FEMA for this particular area revealed inaccuracies. It is standard procedure in the National Flood Insurance Program (NFIP) administered by FEMA to provide more recent and more accurate scientific data and information to accurately describe the floodplain area. Because the FEMA flood plain maps and models for this portion of Bishop Creek were developed in 1977 and have not been re-studied since that time, Mr. Koleada followed the standard process of using current engineering practices to validate the flood plain map.

During his engineering study of Bishop Creek, Mr. Koleada discovered an error in the FEMA floodplain model at the Brooks Street RCB. Mr. Koleada contacted the FEMA Map Service Center to obtain the existing Bishop Creek hydraulic model that was used to develop the floodplain maps. FEMA officials responded that there is no digital or electronic model for this creek and the best available data was developed in 1977 (Attachment 6).

Mr. Koleada used the FEMA data and ran the hydraulic model. He determined that his model matched the floodplain maps very well except in the area south of the Brooks Street RCB. Upon further investigation, Mr. Koleada concluded that the FEMA model assumes that the RCB acts as a "bottleneck" and backs up the 100-year or 1% chance storm event onto the Bishops Landing property. In reality, Mr. Koleada determined that the RCB at Brooks Street is too small to handle a heavy rain event therefore the storm water in Bishop Creek overtops Brooks Street. The overtopping of Brooks Street during heavy rains has been observed many times by city staff in the City Storm Water Division of the Public Works Department. Because storm water overtops Brooks Street, Mr. Koleada purports that the BFE just south of Brooks Street is actually 2 feet higher than what is indicated on the current FEMA maps. City staff concurs with the Mr. Koleada's findings. The process used to confirm these findings is to allow Mr. Koleada to submit the technical elements of the CLOMR application in accordance with 44 CFR part 72. FEMA officials will then conduct a thorough review of Mr. Koleada's engineering analysis and model to determine if the presented materials more accurately depict the floodplain conditions that currently exist. If FEMA officials concur with his findings, the official FEMA flood plain map for this portion of Bishop Creek will be revised to reflect the updated engineering analysis.

3. ***Flood Plain Permit No. 553 for the University House Norman Addition indicates that the east side stream bank of Bishop Creek, north of Brooks Street, which is located in the FEMA floodway is being "cut into" or modified. Is this allowed by the City's Flood Plain Ordinance?***

Yes, this is allowed by the City Flood Plain Ordinance, Section 4(b)(1)(iii), but only by City Council approval as part of the preliminary plat application.

Flood Plain Permit No. 553 indicates that the portion of the parcel east of Bishop Creek will be excavated to an average depth of 4 feet (Attachment 7). The soil material (cut) will be used to fill the area of the parcel west of Bishop Creek to raise that area out of the currently mapped flood plain. The east bank of Bishop Creek will be lowered during this excavation by approximately 3 feet; however neither the actual stream nor the stream flowline will be modified by this excavation. If approved, city staff will carefully monitor the cut and fill process used by the Developer's contractor.

4. ***Flood Plain Permit No. 553 for the University House Norman Addition illustrates that the east bank of the proposed excavated area east of Bishop Creek has a very steep slope. How does the Developer propose to address the steepness of the slope, i.e. a retaining wall or other slope stabilization method****?*

Although the cross sectional drawing provided by the Developer's engineer appears to illustrate a very steep slope, the actual slope of the embankment is less than or flatter than the City's minimum design criteria (Attachment 8). The actual proposed slope in this case will be 4:1 or 4 horizontal feet to 1 vertical foot. The City's minimum design criterion is 3:1, which is the steepest slope that can safely be mowed or maintained by conventional means. The City currently maintains many storm water channels and basins with slopes of 3:1.

5. ***Flood Plain Permit No. 553 is contingent on a Conditional Letter of Map Revision (CLOMR) to be issued by FEMA. Who is the applicant for this CLOMR, the City or the Developer?***

Technically, the City is the applicant for the CLOMR because the City serves as the Flood Plain Administrator for the FEMA NFIP program in Norman.

At this stage in the process, both here in Norman and throughout the United States, private practicing engineers actually prepare the technical elements of the CLOMR application including the detailed hydraulic engineering analyses. Those private engineers frequently work for developers, but they also commonly work for private property owners, cities, counties, states, universities or other interested landowners. The engineering analysis by the private engineer must first be approved by the City's Flood Plain Administrator (who is also a licensed professional engineer (PE) and a Certified Floodplain Manager (CFM) in Oklahoma) including any necessary local flood plain permits. The City's Flood Plain Administrator must sign a Community Acknowledgment Form (CAF) as part of the CLOMR application to FEMA. Then the technical information is submitted to FEMA for technical review as a Conditional Letter of Map Revision (CLOMR). If the CLOMR is approved, then the proposed work will need to occur and be documented. Once it is confirmed the work proposed in

the CLOMR has been accomplished as planned, then a LOMR will be considered by FEMA. This can be a three to six month process.

Any revision to the FEMA maps must be first approved by FEMA and then by the City Flood Plain Permit Committee, the City Planning Commission and the Norman City Council as an amendment to the City's Flood Plain Ordinance.

6. ***Does the U.S. Army Corps of Engineers (USACE) or other federal/state agencies have to issue a permit for this project?***

No, the USACE has reviewed this project and has determined that because all proposed work in the Bishop Creek watershed will be performed above the ordinary high water mark, a USACE permit is not required (Attachment 9).

The United States Department of the Interior, Fish and Wildlife Service, has also reviewed this project relative to threatened and endangered species that may occur in the project area. It has been determined that no critical habitats exist within the project area (Attachment 10).

If the Developer's CLOMR application is allowed to proceed, additional local, state and federal notifications and agency reviews will be required.

7. ***Is the City's CRS rating with FEMA in jeopardy if Council approves Flood Plain Permit No. 553?***

No, the City's CRS rating with FEMA is based on a wide range of programs and policies. It is highly unlikely that one single project will affect the City's CRS rating. In fact, FEMA officials have indicated that the University House Norman Project may be viewed instead as a model of flood plain management if it is completed as proposed by Mr. Koleada. The proposed removal of several pre-existing, non-conforming buildings from the floodplain and floodway is one of the key goals of the FEMA NFIP CRS Program.

For those unfamiliar with the CRS Program, it is an acronym for the "Community Rating System" administered by FEMA. It is optional for jurisdictions to join the CRS, but for those that do, property owners within that community are rewarded with reductions to their flood insurance rates.

The City's acceptance into the FEMA NFIP CRS Program took place on October 1, 2011 as a "Class 5" community. The rating system uses a scale of 1 to 10, with 1 being the highest rating. Norman is the first community in Oklahoma to enter the CRS Program with a rating of 5 or better. It is very common for communities to enter the program with a rating of 9 or 10 and then to improve their rating over time. Norman received such a high rating due to its advanced flood plain management programs, policies, maintenance practices, public education and information. Norman's current Flood Plain Ordinance is

one of several factors considered by FEMA for the CRS Program. Flood insurance rates are reduced 5% for every rating point in the CRS. Thus, Norman property owners receive a 25% discount on flood insurance.

Multiple city departments in the City of Norman dedicated hundreds of staff hours for over three years to fulfill the stringent application requirements of the FEMA CRS Program. Approximately 21,180 communities in the U.S. participate in the NFIP. About 1,090 or 5.1% of those communities participate in the CRS Program including twelve (12) other communities in Oklahoma. Only 52 communities in the U.S. or 0.25% of the NFIP communities have received a CRS class rating of 5 or better.

8. **Section 3(c) of the City's Flood Plain Ordinance indicates that the City Planning Commission shall review amendments to the Flood Hazard District Boundaries. Did that occur in this case?**

Yes, under the language of Section 3(c) "the Flood Hazard District may be amended by ordinance by the City Council from time to time when later flood hazard information becomes available. The Planning Commission shall review such later information and recommend to the City Council any changes to the district boundaries."

If City Council were to approve this application and to allow the CLOMR application to be submitted to FEMA, in accordance with this Section the Planning Commission will have the opportunity to review the proposed amendment to the Flood Hazard District Boundaries. The FEMA findings regarding the LOMR will be reviewed by the Planning Commission prior to any local amendment to the City's Flood Plain Ordinance and the associated Flood Insurance Rate Map (FIRM) as proposed by the applicant. The local amendment to the Flood Hazard District must be approved by the City Council following the recommendation from the Planning Commission. Even if City Council approves the amendment to the Flood Hazard District Boundaries, the applicant still has one remaining local regulatory step in the process. The applicant cannot obtain a building permit for the project until the City Development Committee and the City Council have approved the Final Plat for University House Norman Addition.

The last paragraph of Section 3(c) provides that surveys and studies should be presented to Planning Commission for review and that "Planning Commission shall obtain a technical analysis of the information from an appropriate agency." City Staff and FEMA will provide technical review of the data and analysis submitted for a CLOMR and subsequent LOMR. The last sentence of Section 3(c) states: "Based upon the technical analysis the Planning Commission shall recommend to the City Council whether or not amendments to the zoning district boundaries should be effected *and whether to request a letter of map revision from FEMA.*" (italics added). The last italicized clause appears to be

misplaced and inconsistent with the LOMR process. At this stage in the LOMR process, if the land use plan change, PUD zoning application, and the Preliminary Plat (including the conditional Floodplain permit) are approved by the City Council, then the land developer may proceed with the CLOMR and LOMR applications to FEMA. If the CLOMR or the LOMR applications are not approved then the requirements of the PUD Zoning will not be met, and the public improvements required in the Preliminary Plat will not be achievable. The result is that no development will occur without another amendment to the PUD and the Preliminary Plat. The italicized language noted above is circular to the FEMA LOMR process and appears to not be consistent with Planning Commission review of an ordinance that might amend the Flood Hazard District boundaries.

However, it should be noted that City Planning Commission has reviewed the proposed amendment to the Flood Hazard District boundaries for the University House Norman Addition in their regular monthly meeting on December 11, 2014. Specifically, Item 12a on that agenda, Resolution No. R-1415-40, is an amendment to the flood plain designation on the property. The staff report is very clear to identify that the applicant is utilizing engineering methods to amend a portion of the floodplain and floodway including the submittal of a CLOMR application to FEMA. The proposed project will have no physical impact to the channel. The applicant submitted engineering studies to support the application. A technical analysis of the applicant's submittals was performed by city staff. The applicant paid all relevant fees. On a vote of 4-4, the Planning Commission effectively made "no recommendation" to the City Council on this application.

9. **The University of Oklahoma has an existing observatory dock located adjacent to Bishop Creek and the "Duck Pond" downstream of Brooks Street. Will this project have an adverse impact on the function of the dock?**

   No, the applicant's engineer has certified that there will be no rise (greater than 0.05 feet) in the base flood elevation downstream of Brooks Street as a result of the proposed development project. In fact, the engineering model prepared by Mr. Koleada indicates that there will be no change in the BFE or the storm water velocities south of Brooks Street. Therefore, the stream and pond associated with the observatory dock will continue to operate and function as they have for many years.

10. **There is an existing 10' x 5' reinforced concrete box culvert (RCB) bridge on Brooks Street over Bishop Creek. Did the Developer's engineer consider changes to the bridge rather than the earth filling process on their parcel in order to alter the flood plain boundaries?**

Yes, the applicant's engineer has indicated to city staff that his original engineering investigation for this project included possible changes to or replacement of the existing Brooks Street Bridge. Mr. Koleada indicated at the Planning Commission meeting that an enlargement or change to the existing box culvert bridge might adversely impact downstream properties.

The City of Norman is currently responsible for the maintenance and repair of this box culvert bridge because it is located on a public street. Recent city staff inspections indicate that the box culvert bridge is in good condition and not in need of major repair or replacement.

11. Will the University House Norman Addition project have "no adverse impact" on surrounding properties?

No Adverse Impact (NAI) is a concept or approach within the floodplain management discipline that ensures the action of any community or property owner, public or private, does not adversely impact the property and rights of others. Current Norman City codes and ordinances related to floodplain management certainly employ the concept of NAI.

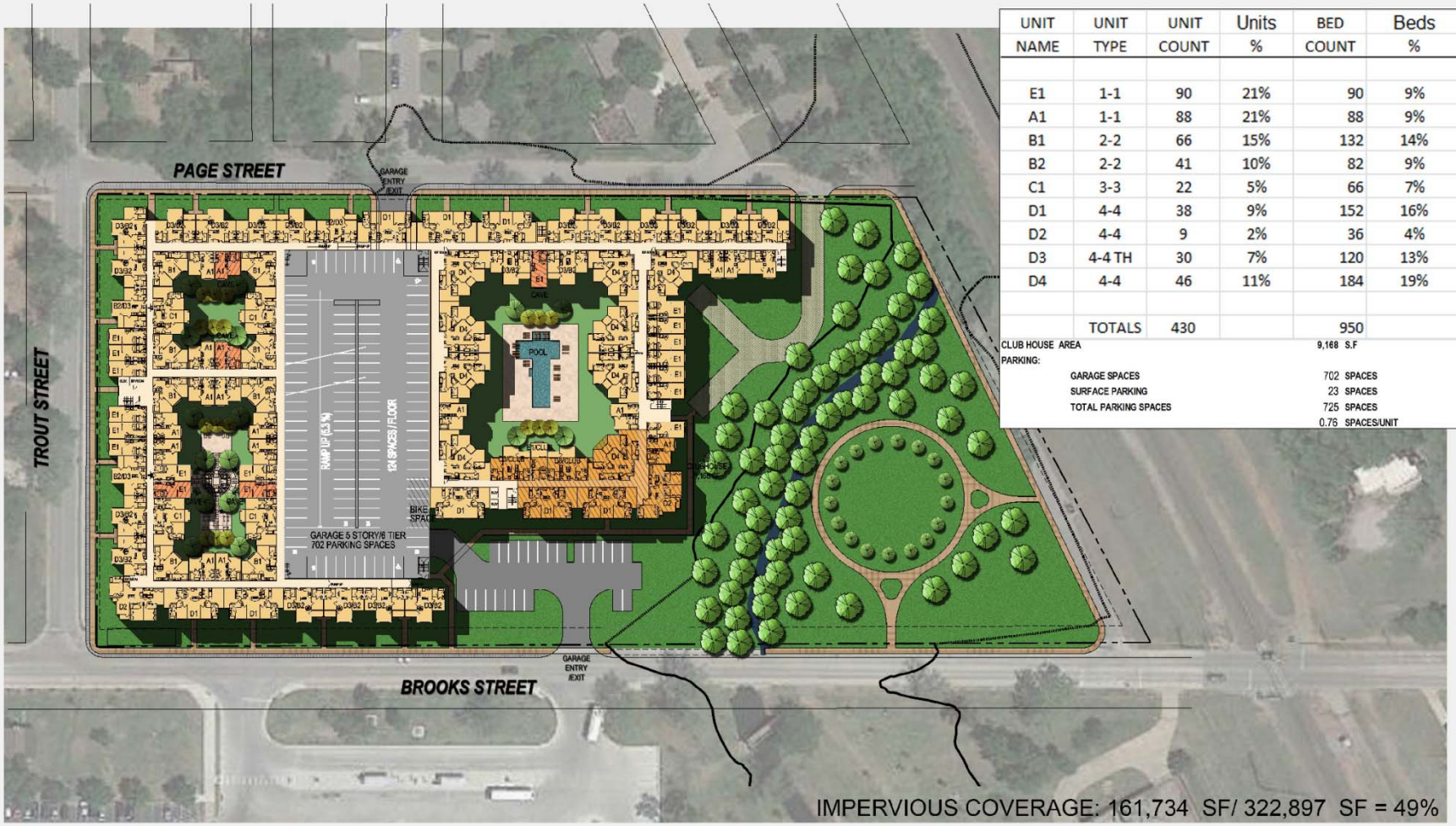
In the case of University House Norman Addition, city staff believes that the project as proposed will have no adverse impact on surrounding properties and the rights of others. In fact, the project is purported to have a positive impact by removing pre-existing, non-conforming buildings from the floodway and flood plain and providing additional compensatory storage for storm water on site.

I hope this information is helpful. If you have further questions or need additional information, please do not hesitate to ask. Thank you for your consideration.

cc:

Jeff Bryant, City Attorney
Kathryn Walker, Assistant City Attorney
Ken Danner, Subdivision Development Manager
Scott Sturtz, City Engineer
Susan Connors, Planning & Community Development Director
Todd McLellan, Development Engineer

Attachment 1



UNIT NAME	UNIT TYPE	UNIT COUNT	Units %	BED COUNT	Beds %	N.R. AREA
E1	1-1	90	21%	90	9%	475
A1	1-1	88	21%	88	9%	600
B1	2-2	66	15%	132	14%	828
B2	2-2	41	10%	82	9%	858
C1	3-3	22	5%	66	7%	1100
D1	4-4	38	9%	152	16%	1360
D2	4-4	9	2%	36	4%	1538
D3	4-4 TH	30	7%	120	13%	1499
D4	4-4	46	11%	184	19%	1495
	TOTALS	430		950		904

CLUB HOUSE AREA 9,168 S.F

PARKING:

GARAGE SPACES	702	SPACES
SURFACE PARKING	23	SPACES
TOTAL PARKING SPACES	725	SPACES
	0.75	SPACES/UNIT

SCALE: 1/40" = 1'-0" SHEET-SIZE

0' 40' 80' 160'

N

ARCHITECTURAL SITE PLAN
GROUND FLOOR PLAN

A202.1

Architectural conceptual site plans are for feasibility purpose only. Revisions may occur due to further investigation from regulatory authorities and building code analysis. Dimensions shown are of a strategic intent only. Refer to surveys and civil drawings for technical information and measurements.

BISHOP'S LANDING
INLAND AMERICAN
NORMAN, OKLAHOMA

11/10/2014

HPA#14558

HUMPHREYS & PARTNERS ARCHITECTS L.P.
5339 Alpha Road, Suite 300 Dallas, TX 75240 (972) 701-9636 (972) 701-9639
www.humphreys.com marketing@humphreys.com
DALLAS CHICAGO NEW YORK NEWPORT BEACH NEW ORLEANS ORLANDO SAN RAMON SCOTTSDALE
TORONTO EDMONTON MONTEVIDEO DUBAI HANOI

Attachment 2

HUITT-ZOLLARS

HUITT-ZOLLARS, INC. ı 2832 W. Wilshire Blvd. ı Oklahoma City, OK 73116 ı 405.842.0363 phone ı 405.842.0364 fax ı huitt-zollars.com

January 29, 2015

Todd M. McLellan, P.E., CFM
Development Engineer
City of Norman
201-A West Gray St.
Norman, OK 73069

Reference: University House Norman – Bishop Creek Tributary C Flood Study

Dear Mr. McLellan:

It has been brought to our attention that there are concerns in regards to the proposed University House Norman project as it relates to the existing FEMA floodplain base flood elevations (BFE's). This letter is intended to address these concerns based on facts we obtained while preparing the Bishop Creek Tributary C Flood Study.

Huitt-Zollars, Inc. followed standard engineering practices and procedures, and met FEMA flood study requirements when preparing the Bishop Creek Tributary C Flood Study. As a standard procedure, we requested current FEMA hydraulic models and back up data from the FEMA Library. Upon receiving data from FEMA, it was determined that they did not have the effective hydraulic models nor back up data supporting the FEMA floodplain boundaries for this area (Firm Map Panel 40027C0285H). Without an effective model, we followed the standard procedure of creating an "existing conditions" model to accurately show the current condition of the Bishop Creek Tributary C floodplain.

FEMA requires that the "existing conditions" model corrects any found errors, and incorporates more detailed topographic information. To meet these requirements, current City of Norman topographic information and supplemental field survey information were incorporated into the "existing conditions" model. In addition, errors found in the FEMA Effective maps were addressed.

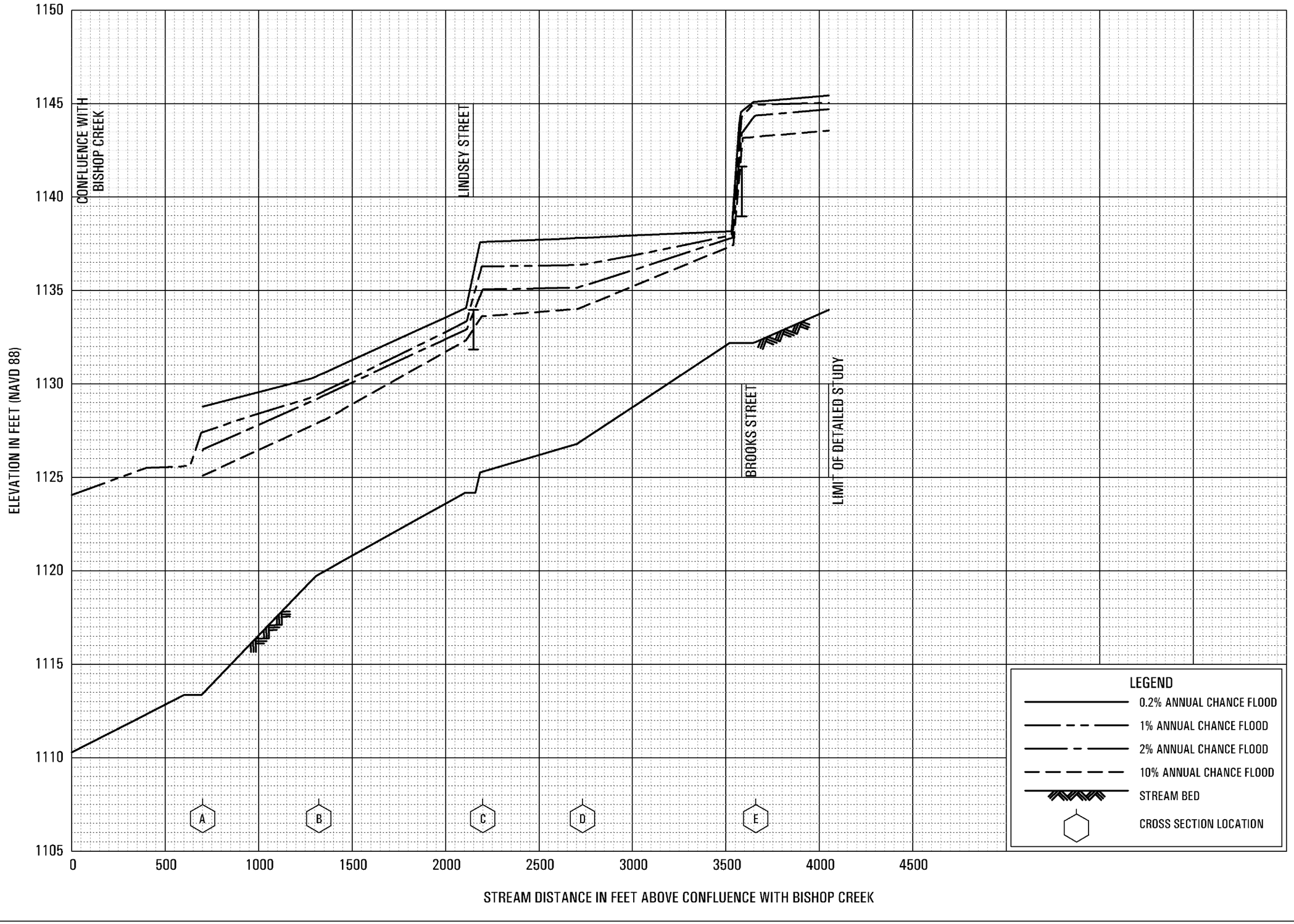
The FEMA Effective floodplain boundary lines shown crossing Brooks street are not consistent with the actual topography along Brooks. The BFE shown on the FIRM Map at cross section E-E is 1144, but the floodplain lines cross Brooks Street at an elevation of 1141.8. This implies that there could be an error in the FEMA model at the culvert under Brooks. This error could incorrectly allow more water to flow through the culvert than its actual capacity would allow. This error would lower the downstream BFE's incorrectly. In addition to the floodplain boundary line error, we found a discrepancy in the FEMA BFE at cross section E-E. An elevation of 1144 is shown on the FEMA FIRM Map, but the FEMA Flood Insurance Study (FIS) Flood Profile 14P shows the elevation to be 1145.

These discrepancies confirm that the effective FEMA models and information have errors that need to be corrected. Therefore the FEMA data at this location should not be relied upon, and the "existing conditions" model prepared by Huitt-Zollars, Inc. should serve as the corrected model for this area.

Sincerely,
HUITT-ZOLLARS, INC.

Dean Koleada, P.E.

Enclosures: FIS Flood Profiles 14P, FIRM Panel 40027C0285H



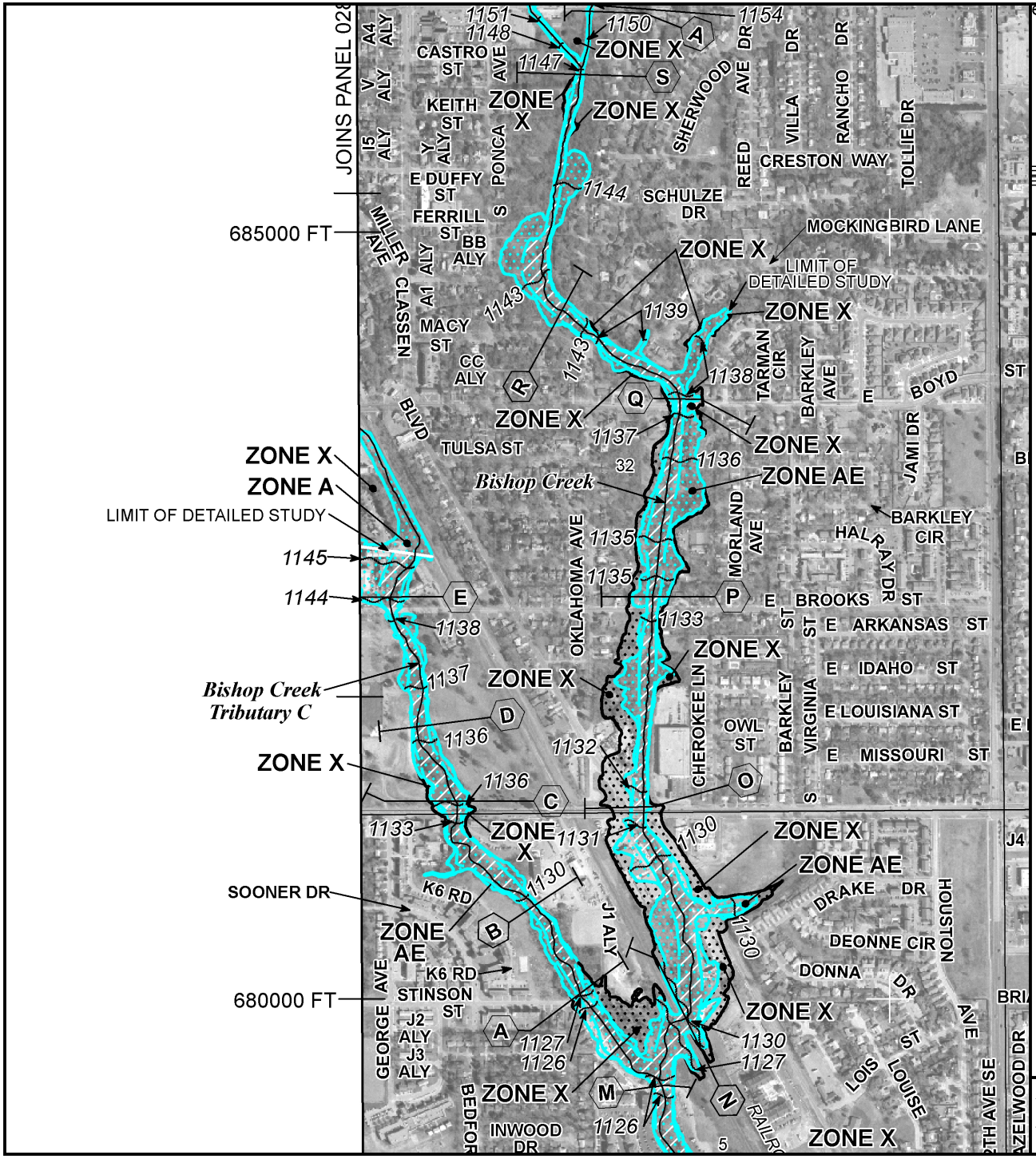
FLOOD PROFILES

BISHOP CREEK TRIBUTARY C

FEDERAL EMERGENCY MANAGEMENT AGENCY

CLEVELAND COUNTY, OK

AND INCORPORATED AREAS



e Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

0 500 1,000 1,500 2,000 FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0285H

FIRM

FLOOD INSURANCE RATE MAP

CLEVELAND COUNTY OKLAHOMA

AND INCORPORATED AREAS

PANEL 285 OF 475

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
NORMAN, CITY OF	400046	0285	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
40027C0285H

MAP REVISED
SEPTEMBER 26, 2008

Federal Emergency Management Agency

FILE LOCATION: F:\CAD\P\30144601 - Norman Student Housing\CAD\Sheet Sets\301446.01_FS102-PROPOSED.dwg LAST SAVED:11/10/2014 10:51 AM

LEGEND

PROPOSED 100-YEAR FLOODPLAIN

EXISTING 100-YEAR FLOODPLAIN

FEMA EFFECTIVE 100-YEAR FLOODPLAIN

0 100' 200'

SCALE: 1" = 100'

STA 40+21.75
PROPOSED 100-YEAR FLOODPLAIN
STA 39+28.48
STA 38+46.33
N89° 49' 03"E
717.00'
OHE
STA 37+94.99
PROPOSED FLOODWAY
STA 36+91.70
FEMA EFFECTIVE FLOODWAY
0° 11' 52"W
391.77'
EXISTING 100-YEAR FLOODPLAIN
S27° 46' 13"E
441.88'
PROPOSED FLOODWAY
FEMA EFFECTIVE 100-YEAR FLOODPLAIN
STA 36+14.58
FEMA EFFECTIVE 100-YEAR FLOODPLAIN
EXISTING 100-YEAR FLOODPLAIN
STA 35+14.32
PROPOSED 100-YEAR FLOODPLAIN
PROPOSED 100-YEAR FLOODPLAIN
STA 34+48.84
EXISTING 10'x5' RCB
S89° 48' 34"W
921.54'
STA 33+91.46
STA 33+62.65
STA 33+52.65
EXISTING 100-YEAR FLOODPLAIN
STA 32+55.02
PROPOSED 100-YEAR FLOODPLAIN
EXISTING 100-YEAR FLOODPLAIN
FEMA EFFECTIVE 100-YEAR FLOODPLAIN
PROPOSED 100-YEAR FLOODPLAIN
STA 30+33.32
FEMA EFFECTIVE FLOODWAY
PROPOSED FLOODWAY
STA 28+31.45
BISHOP CREEK TRIBUTARY C
STA 26+13.57
STA 24+13.82
STA 22+33.25
STA 20+78.95

APPROVED BY:	PROPOSED CONDITIONS
DRAWN BY: GWS	NORMAN STUDENT HOUSING FLOOD STUDY
CHECKED BY: DAK	NORMAN, OKLAHOMA

JOB NUMBER: 303812.01
SCALE: 1" = 60'
DATE: 11/07/14
SHEET FS102

DATE	REVISION	LEVEL

DATE	CHANGE ORDER	NUMBER

HUITT-ZOLLARS
Huitt-Zollars, Inc. Oklahoma City
CA 1489 EXP. 6-30-15
2832 W. Wilshire Blvd.
Oklahoma City, Oklahoma 73116
Phone (405) 842-0363
www.huitt-zollars.com

From: Koleada, Dean [mailto:dkoleada@Huitt-Zollars.com]
Sent: Friday, January 30, 2015 4:19 PM
To: Todd McLellan
Subject: RE: Bishops Landing - University House

Todd,

See the attached photo of the downstream side of the Brooks Street culvert. Based on our field survey, I labeled the elevations on the culvert. Per the FEMA FIRM Map, they are claiming that the BFE is 1138 just downstream of the culvert. My model calculates a BFE of 1140.58 at this same location. With an overcapacity culvert and floodwaters overtopping the road, the FEMA BFE seems too low. This location is 36' downstream of the culvert, which is the upstream side of the pedestrian bridge. The bottom chord of the pedestrian bridge is 1138.67 (per our field survey). This implies per the FEMA Map that the 100-yr WSEL stays below the bottom chord of the pedestrian bridge. Is there historical high water marks on the bridge, or historical pictures showing this area during a flood? This will prove the FEMA model is not correct. Let me know.

Thanks,

Dean Koleada, P.E., Associate |**Huitt-Zollars, Inc.**
Office 405.842.0363, Ext. 11618; Fax 405.842.0364


1141
1140
1138.5


1138.67

Attachment 3

HUITT-ZOLLARS

HUITT-ZOLLARS, INC. ı 2832 W. Wilshire Blvd. ı Oklahoma City, OK 73116 ı 405.842.0363 phone ı 405.842.0364 fax ı huitt-zollars.com

Professional Certification Form

Community: City of Norman and Cleveland County, OK
Community No.: 400046 and 400475
Identifier: University House Norman
Location: T-9-N, R-2-W, Section 32, Cleveland County, OK

I, Dean Koleada, P.E. , certify that the design for the proposed activity in the regulatory floodway will not result in any increase in the height of the 100-year flood (Base Flood Elevation).

Signature

11-10-14
Date

Associate
Title

Professional Civil Engineer
Type of License

25472
License Number

Address and Phone:

Huitt~Zollars, Inc.
2832 W.Wilshire Blvd.
Oklahoma City, OK 73116
(405) 842-0363
CA 1489, Exp. 06-30-2013

05/31/2016
License Expiration Date

Attachment 4

HUITT-ZOLLARS

HUITT-ZOLLARS, INC. ı 2832 W. Wilshire Blvd. ı Oklahoma City, OK 73116 ı 405.842.0363 phone ı 405.842.0364 fax ı huitt-zollars.com

Professional Certification Form

Community: City of Norman and Cleveland County, OK
Community No.: 400046 and 400475
Identifier: University House Norman
Location: T-9-N, R-2-W, Section 32, Cleveland County, OK

I, Dean Koleada, P.E. , certify that the design for the proposed activity in the 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).

Signature

11-10-14
Date

Associate
Title

Professional Civil Engineer
Type of License

25472
License Number

Address and Phone:

Huitt~Zollars, Inc.
2832 W.Wilshire Blvd.
Oklahoma City, OK 73116
(405) 842-0363
CA 1489, Exp. 06-30-2013

05/31/2016
License Expiration Date

Attachment 5

explained how each ordinance would be met and satisfied by the applicant. It was noted that this project would result in a net increase of approximately 1.3 acre-feet of storage due to this project. Based upon the information provided, staff recommended that this project be approved with the condition that FEMA approve the CLOMR before any work can begin in the flood plain with the exception of demolition of existing structures and pavement.

McLellan noted that the FEMA floodplain model is not correct and showed an illustration of how the existing flood plain and proposed flood plain do not match at Brooks Street due to the flaw in the FEMA model.

O'Leary opened the floor to committee for questions to staff or the applicant. Sturtz commented that this project will move multiple structures out of the floodplain. Danner asked for the perimeter sidewalk and utilities to be included in the permit.

Stansel questioned the application on item 8(a) about the modification of floodplain resulting in a change of 10% or more and also 8(c) actually modifying the stream bank or flow line of the channel would require City Council approval. O'Leary stated that (a) and (c) are applicable and that the committee could include those as a council action during the zoning and planning process or as a separate action to make sure it addresses this element of the zoning code. Connors stated it would be part of the ordinance or the resolution if it was a land use plan change. Danner commented there was a land use change with the floodplain.

Stansel commented that she and Suneson were on the original ordinance change committee and if these instances came up that it would go to council for approval before it was approved by the floodplain committee. Just to make sure that some more eyes were looking at it and more discussion was taking place. Hudson asked if any advertisement would have to be done for a separate action. O'Leary stated that the ordinance assumes that many of these applications might not be zoning and platting cases, that they would be stand-a-lone cases. O'Leary followed up by stating this project is all of that; it is zoning, preliminary plat and final plat processes, so the channel modification can be included in that consideration. O'Leary stated he didn't think it would take any additional advertisement than is already done. Planned zoning changes have already been advertised. McLellan stated that it doesn't say in the ordinance that additional advertising is required beyond the floodplain permit committee notification.

Hudson asked if she would include this as part of the zoning staff report. Danner stated he thought it would be the land use change because the applicant is modifying the land use of the floodplain. Danner commented that his report is going to reference to the LOMR and that no final plat can come forward until that has been accomplished. Hudson pointed out the committee is only changing the land use, not increasing the high density residential, it's already classified as high density residential.

O'Leary complimented the discussion and stated it would be taken under advisement with the legal department as far as the mechanism for council approval, but there will be at least two more checks and balances; one with FEMA and one with City Council both to consider these items as well as their zoning implications. McLellan pointed out the project was also going

Attachment 6

Baker

Michael Baker Corp.
FEMA Engineering Library
847 South Pickett Street
Alexandria, Virginia 22304
(877) 336-2627

Monday, November 10, 2014
10:34 AM

Please deliver this invoice to:

Name:	**Dean Koleada**
Representing:	**Huitt-Zollars, Inc.**
Fax:	**(405) 842-0364**
Phone:	**(405) 842-0363**
Topic:	**Payment Procedures Form for FEMA Data Request Number B1506002**

This invoice is from: **FEMA Engineering Library - FIS Information Specialist**

Janice Hastie at 703-212-4027

The additional cost to fill your data request will be: **$112**

If you agree to pay the above costs, please sign and return a copy of this sheet by email to LibraryRequest@riskmapcds.com or by fax at (703) 212-4090. If we do not receive your written agreement within two weeks, your case will be automatically dropped from our system. If you need the data after that time, you must resubmit your request AND the initial fee, wait your turn, and you may incur additional labor costs for relocating the requested data. Please note that the cost shown above is in addition to the initial fee already received. Materials will be released following receipt of the final fee.

Please read attachments before signing the agreement to pay forms. Thank you Janice Hastie

I agree to pay the above-noted costs to fill my request.

Signature: _____ Date: _____

Remember to include your Request Identification Number, B1506002, on your payment!

PAYMENT PROCEDURES

Checks or money orders must be made out to the NATIONAL FLOOD INSURANCE PROGRAM and mailed to:

Michael Baker Corp.
FEMA Engineering Library
847 S. Pickett St.
Alexandria, Virginia 22304

Please include the case number, B1506002, on your check or money order. If you wish to expedite the receipt of your check or money order, you may send it overnight by the carrier of your choice.

If you wish to pay by credit card, please complete the form below and send it to the address noted above, email it to LibraryRequest@riskmapcds.com, or fax this sheet to 703-212-4090.

CREDIT CARD INFORMATION

Name as it appears on credit card: _____
Please Print

Address:: _____

_____
Please Print

Email address for receipt: _____
Please Print

Telephone No.: _____ Case # : **B1506002**

VISA ☐ MASTERCARD ☐ AMOUNT PAID: **$112**

CREDIT CARD # ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

EXP. DATE: ☐☐ – ☐☐
Month Yea

SIGNATURE: _____

DATE: _____

Good Morning Dean

I have completed your FEMA request B1506002 and we have Located Hec-2 500 year flood model for Bishop Creek Tributary C in Norman OK. The data was located on Microfiche and will cover D and E with cross section C being a little of or just not matching well. The data was not revised in the 2013 FIS study it still remain the same in 1977 to 2013, sample enclosed. The clarity of the data is OK not the best but you will be able to read the model. There is no digital or electronic model for this creek and this is the best available data we have in the FEMA Library. Keep in mind this data is old. The model will be in PDF format and will be plced on the FTP site when the additional cost has been received and approved.

If you have any questions or concerns please call Janice Hastie at 703 212-4027 fax 703 212-4090 or email Janice.SmithHastie@mbakerintl.com.

Thank you

Janice Smith-Hastie

FEMA Engineering Library

FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER SURFACE ELEVATION		
CROSS SECTION	DISTANCE (1)	TOTAL WIDTH (FT.) (2)	WIDTH WITHIN CITY LIMITS (2) (FT.)	SECTION AREA (SQ.FT.)	MEAN VELOCITY (F.P.S.)	WITH FLOODWAY (N.G.V.D.)	WITHOUT FLOODWAY (N.G.V.D.)	DIFFERENCE (FT.)
BISHOP CREEK - TRIB B (CONT)								
H	29+30	65	0	160	5.0	1177.8	1177.0	0.8
I	36+50	60	0	210	4.0	1183.3	1182.3	1.0
BISHOP CREEK - TRIB C								
A	6+20	35	35	290	6.9	1124.1	1124.3	-0.2
B	6+50		- Bridge Section -					
C	7+00	60	0	370	5.4	1125.6	1125.6	0.0
D	13+25	70	0	420	4.8	1129.4	1129.1	0.3
E	21+30	70	0	380	5.3	1134.4	1133.5	0.9
F	21+70		- Bridge Section -					
G	22+00	200	0	1,490	1.3	1136.8	1136.0	0.8
H	27+25	100	0	770	2.6	1136.9	1136.1	0.8
I	35+60	65	0	210	9.5	1137.8	1137.8	0.0
J	36+10		- Bridge Section -					
K	36+60	140	140	850	2.4	1145.5	1144.6	0.9
L	40+50	170	170	1,280	1.6	1145.7	1144.8	0.9
IMHOFF CREEK								
A	8+50	640	640	2,520	2.4	1096.7	1095.7	1.0
B	20+00	260	260	1,100	5.5	1097.5	1096.6	0.9
C	28+90	130	130	740	8.2	1099.1	1098.3	0.8
D	29+40		- Bridge Section -					
E	31+40		- Bridge Section -					
F	31+90	130	130	750	8.1	1101.1	1101.0	0.1
G	49+80	80	80	520	10.9	1107.7	1107.7	0.0
H	52+80		- Bridge Section -					
I	60+00	80	80	600	9.5	1113.8	1113.7	0.1

(1) Stream Stationing in Feet.
(2) Measured along cross section alignment.

17

TABLE 2

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

NORMAN, OKLAHOMA

CLEVELAND CO.

FLOODWAY DATA

STREAMS IN NORMAN, OKLAHOMA

1977 FIS

Sample

03. CONVERSION

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Bishop Creek Tributary B								
A	350	15	70	12.3	1,152.5	1,152.0[2]	1,152.0[2]	0.0
C	600	120	890	0.9	1,157.1	1,157.1	1,158.0	0.9
D	1,180	40	150	5.7	1,158.7	1,158.7	1,159.1	0.4
F	2,060	80	160	5.2	1,167.3	1,167.3	1,167.8	0.5
H	2,930	65	160	5.0	1,177.0	1,177.0	1,177.8	0.8
I	3,650	60	210	4.0	1,182.3	1,182.3	1,183.3	1.0
Bishop Creek Tributary C								
C	700	60	370	5.4	1,127.2	1,127.2	1,127.2	0.0
D	1,325	70	420	4.8	1,129.1	1,129.1	1,129.4	0.3
G	2,200	200	1,490	1.3	1,136.0	1,136.0	1,136.8	0.8
H	2,725	100	770	2.6	1,136.1	1,136.1	1,136.9	0.8
K	3,660	140	850	2.4	1,144.6	1,144.6	1,145.5	0.9

[1]Distance in Feet Above Mouth
[2]Water-Surface Elevation Computed Without Considering Backwater Effects from Bishop Creek

1-20-1999

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

CLEVELAND COUNTY, OK
AND INCORPORATED AREAS

FLOODWAY DATA CONVERSION + 0.369

BISHOP CREEK TRIBUTARY B - BISHOP CREEK TRIBUTARY C

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE
Bishop Creek Tributary C								
A	700	60	370	5.4	1,127.6	1,127.6	1,127.6	0.0
B	1,325	70	420	4.8	1,129.5	1,129.5	1,129.8	0.3
C	2,200	200	1,490	1.3	1,136.4	1,136.4	1,137.2	0.8
D	2,725	100	770	2.6	1,136.5	1,136.5	1,137.3	0.8
E	3,660	140	850	2.4	1,145.0	1,145.0	1,145.9	0.9

[1] Feet above confluence with Bishop Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

CLEVELAND COUNTY, OK

AND INCORPORATED AREAS

FLOODWAY DATA +0.369

BISHOP CREEK TRIBUTARY C

2-20-13

To obtain current elevation, description, and/or location information for bench marks shown on the FIRM for this jurisdiction, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their Web site at www.ngs.noaa.gov.

It is important to note that temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook associated with this FIS and FIRM. Interested individuals may contact FEMA to access this data.

3.3 VERTICAL DATUM

All FIS reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD). With the completion of the North American Vertical Datum of 1988 (NAVD), many FIS reports and FIRMs are now prepared using NAVD as the referenced vertical datum.

Flood elevations shown in this FIS report and on the FIRM are referenced to the NAVD. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. Some of the data used in this revision were taken from the prior effective FIS reports and FIRMs and adjusted to NAVD88. The datum conversion factor from NGVD29 to NAVD88 in Cleveland County is +0.369 feet.

For additional information regarding conversion between the NGVD and NAVD, visit the National Geodetic Survey website at www.ngs.noaa.gov, or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook associated with the FIS report and FIRM for this community. Interested individuals may contact FEMA to access these data. To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

****
HEC2 VERSION UPDATED JAN 1976
ERROR CORRECTIONS 01,02,03,04,05,06,07,08,09
MODIFICATIONS 52,53,54,55,56,57,58
****

Bishop Creek – Trib C

T1 NORMAN OK FIS FLOOD PROFILES HIGHT 6-8-76
T2 500 YR FLOOD PROFILE
T3 WEST BRANCH BISHOP CREEK

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	-1.	2.	-0.	-0.	-0.000000	-0.00	.5	-0.	1127.020	-0.000

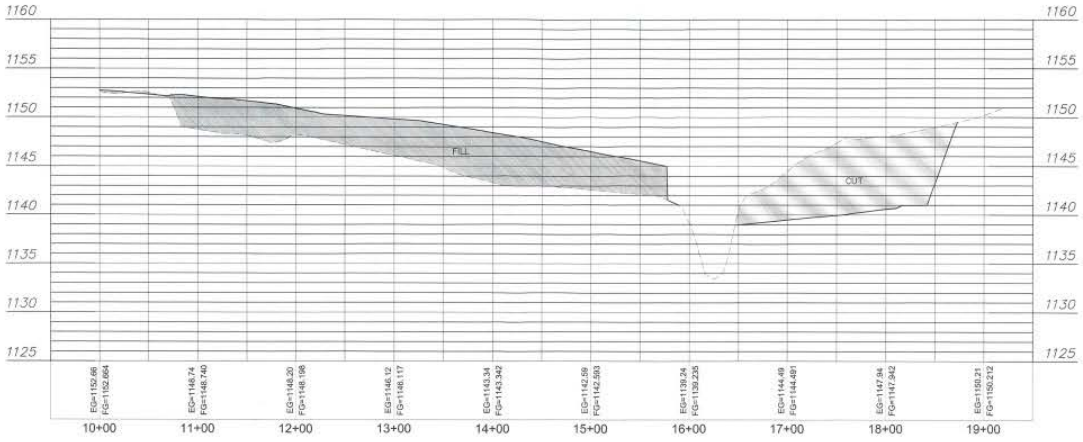
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1.000	-0.000	-1.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000

C	.040	.040	.070	.100	.300	-0.000	-0.000	-0.000	-0.000	-0.000
T	5.000	2500.000	2010.000	1780.000	1580.000	1340.000	-0.000	-0.000	-0.000	-0.000
1	25000.000	10.000	400.000	490.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
2	1140.000	0.000	1135.000	110.000	1130.000	190.000	1125.000	300.000	1120.000	400.000
2	1110.000	450.000	1120.000	490.000	1125.000	590.000	1130.000	815.000	1140.000	940.000
1	25700.000	11.000	1350.000	1386.000	700.000	700.000	700.000	-0.000	-0.000	-0.000
2	1140.000	1000.000	1135.000	1090.000	1130.000	1190.000	1128.500	1270.000	1126.000	1350.000
2	1117.100	1355.000	1113.000	1385.000	1126.000	1386.000	1130.000	1470.000	1135.000	1800.000
2	1140.000	2150.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
1	25720.000	0.000	0.000	0.000	29.000	29.000	29.000	-0.000	-0.000	-0.000
3	10.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	1125.500	1125.500	-0.000
C	.040	.040	.015	.300	.500	-0.000	-0.000	-0.000	-0.000	-0.000
1	25730.000	33.000	1350.000	1392.000	1.000	1.000	1.000	-0.000	-0.000	-0.000
2	-0.000	-0.000	-0.000	1123.100	1125.500	-0.000	-0.000	-0.000	-0.000	-0.000
2	1140.000	1000.000	1135.000	1090.000	1130.000	1190.000	1129.000	1270.000	1126.000	1350.000
2	1117.100	1351.000	1117.100	1356.700	1123.100	1356.700	1123.100	1357.700	1117.100	1357.700
2	1117.100	1363.400	1123.100	1363.400	1123.100	1364.400	1117.100	1364.400	1117.100	1370.100
2	1123.100	1370.100	1123.100	1371.100	1117.100	1371.100	1117.100	1376.800	1123.100	1376.800
2	1123.100	1377.800	1117.100	1377.800	1117.100	1383.500	1123.100	1383.500	1123.100	1384.500
2	1117.100	1384.500	1117.100	1390.200	1123.100	1390.200	1123.100	1391.000	1125.500	1392.000
2	1130.000	1470.000	1135.000	1800.000	1140.000	2150.000	-0.000	-0.000	-0.000	-0.000
1	25750.000	0.000	0.000	0.000	20.000	20.000	20.000	-0.000	-0.000	-0.000
2	-0.000	-0.000	-0.000	1123.100	1125.500	-0.000	-0.000	-0.000	-0.000	-0.000
C	.050	.050	.070	.100	.300	-0.000	-0.000	-0.000	-0.000	-0.000
1	25751.000	11.000	1350.000	1386.000	1.000	1.000	1.000	-0.000	-0.000	-0.000
3	10.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	1125.500	1125.500	-0.000
2	1140.000	1000.000	1135.000	1090.000	1130.000	1190.000	1128.500	1270.000	1126.000	1350.000
2	1117.100	1355.000	1117.100	1385.000	1126.000	1386.000	1130.000	1470.000	1135.000	1800.000
2	1140.000	2150.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
1	[illegible]	16.000	1280.000	1395.000	29.000	29.000	29.000	-0.000	-0.000	-0.000
2	[illegible]	1000.000	1135.000	1190.000	1130.000	1200.000	1129.500	1260.000	1126.500	[illegible]
2	[illegible]	1345.000	1116.000	1365.000	1115.000	1380.000	1116.500	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	1126.000	1930.000	1127.500	[illegible]	[illegible]	1715.000	[illegible]	

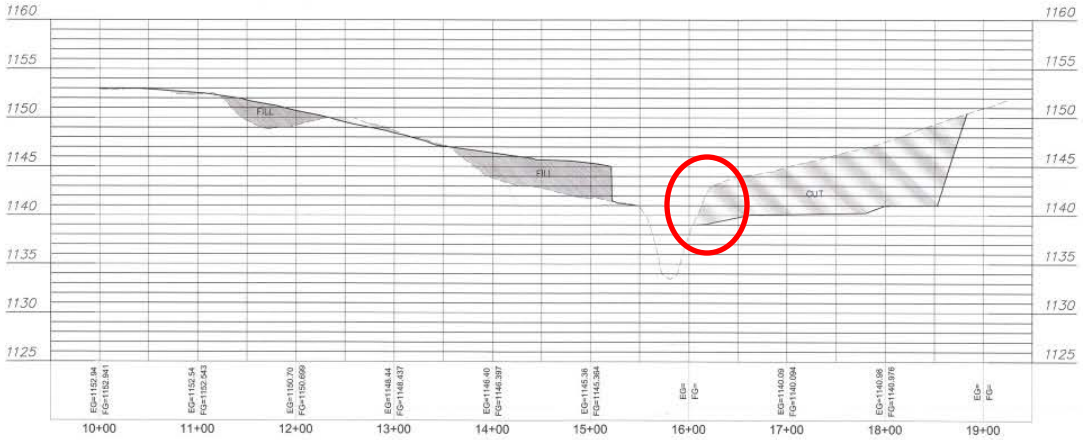
Best Available Data. Sample

Attachment 7

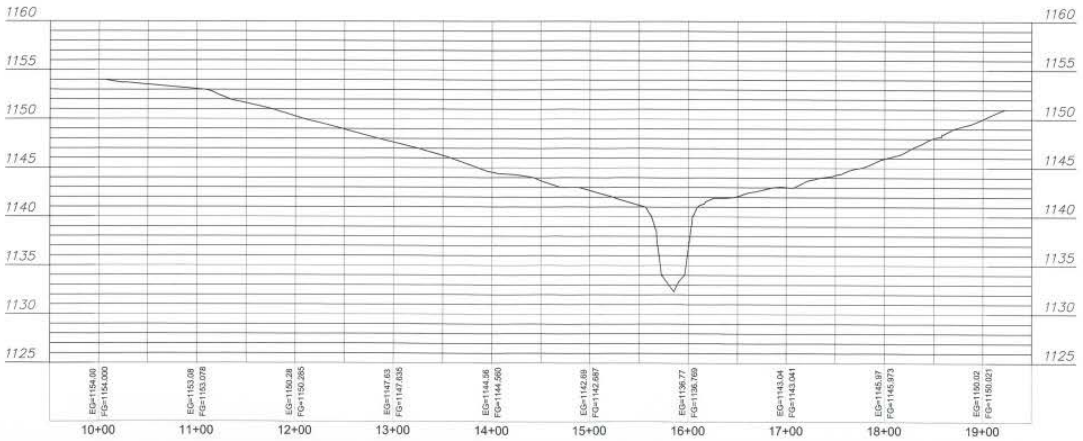
36+14.58 CROSS SECTION PROFILE



35+14.32 CROSS SECTION PROFILE



34+48.84 CROSS SECTION PROFILE

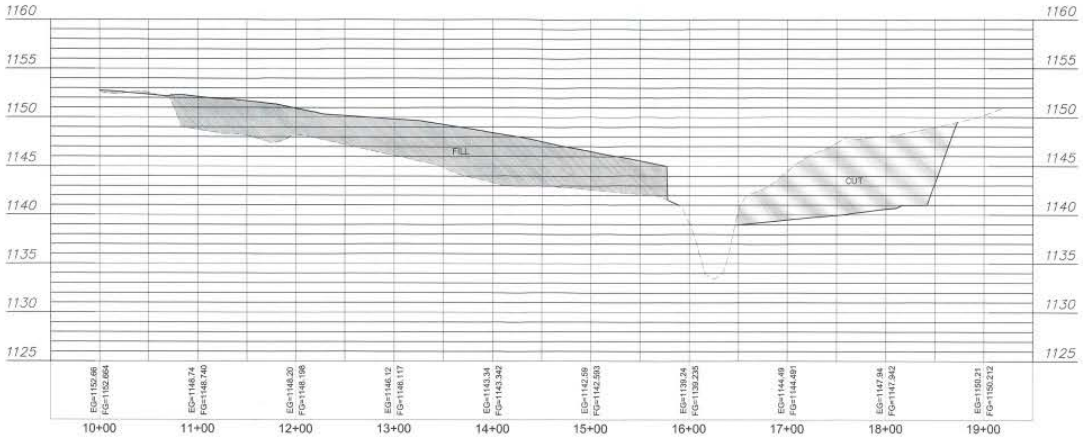


SHEET FS105	DATE 11/07/14	SCALE 1" = 10'-0"	JOB NUMBER 303812.01	APPROVED BY: DAK DRAWN BY: GWS CHECKED BY: DAK	SECTIONS 1 OF 2 NORMAN STUDENT HOUSING FLOOD STUDY NORMAN, OKLAHOMA	DATE / REVISION / LEVEL	DATE / CHANGE ORDER / NUMBER

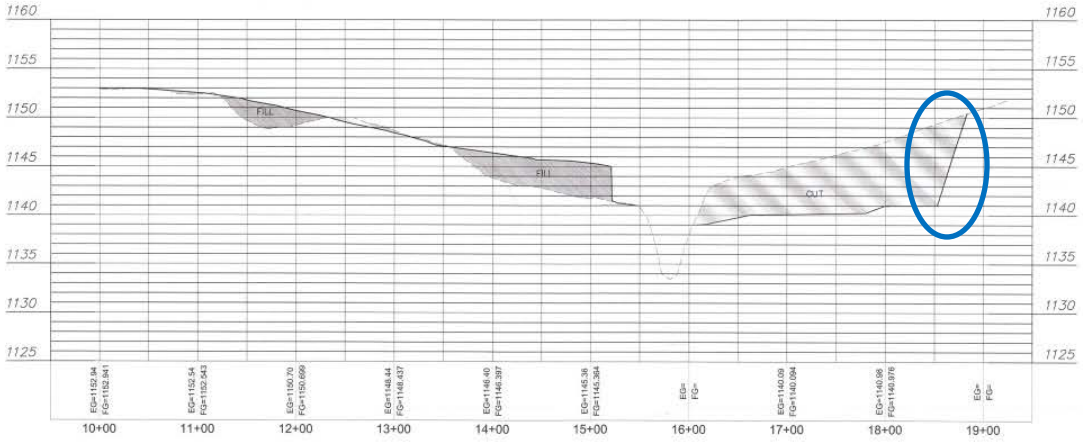
HUITT-ZOLLARS
Huitt-Zollars, Inc. Oklahoma City
CA 1489 EXP. 6-30-15
2832 W. Wilshire Blvd.
Oklahoma City, Oklahoma 73116
Phone (405) 842-0363
www.huitt-zollars.com

Attachment 8

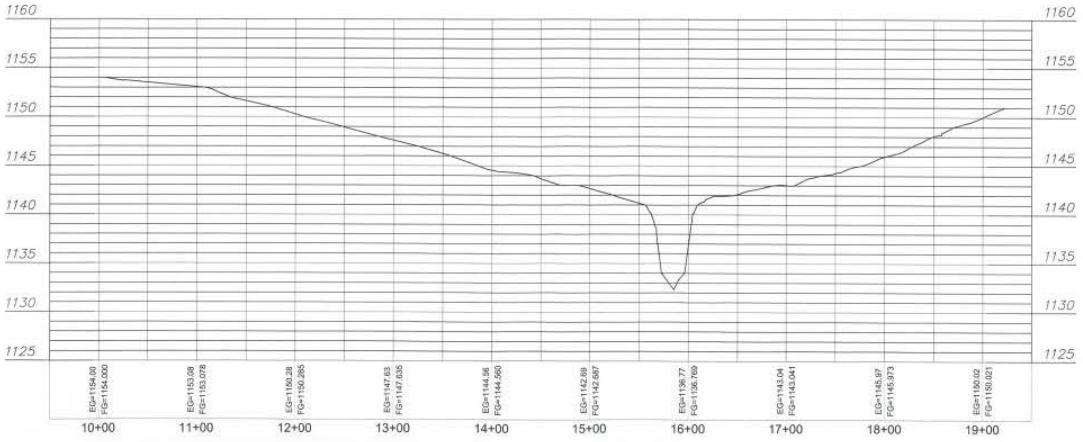
36+14.58 CROSS SECTION PROFILE



35+14.32 CROSS SECTION PROFILE



34+48.84 CROSS SECTION PROFILE



SHEET FS105	11/07/14 DATE	1" = 10'-0" SCALE	303812.01 JOB NUMBER	APPROVED BY: DAK DRAWN BY: GWS CHECKED BY: DAK	**SECTIONS 1 OF 2** **NORMAN STUDENT HOUSING FLOOD STUDY** NORMAN, OKLAHOMA	DATE / REVISION / LEVEL		DATE / CHANGE ORDER / NUMBER		HUITT-ZOLLARS Huitt-Zollars, Inc. Oklahoma City CA 1489 EXP. 6-30-15	2832 W. Wilshire Blvd. Oklahoma City, Oklahoma 73116 Phone (405) 842-0363 www.huitt-zollars.com

Attachment 9

From: Koleada, Dean [mailto:dkoleada@Huitt-Zollars.com]
Sent: Wednesday, December 10, 2014 3:09 PM
To: Todd McLellan
Subject: RE: University House Norman CLOMR

Todd,

I spoke with Ed Parasoto at the USACE Tulsa District. If we stay out of the ordinary high water mark, a USACE permit is not required. To ensure that we are not encroaching on this elevation, we will have our environmental consultant conduct a field investigation to determine the ordinary high water mark. He'll stake this line/elevation along the creek, and we'll have our survey crew shoot in the elevations. If it is determined that we are encroaching on the ordinary high water mark, we'll submit for a Nationwide Permit 43 (NWP 43) for Stormwater Management Facilities. The permit may end up being a NWP 29 for Residential, but the Pre-Construction Notification (PCN) is the same information for each application. Regardless, we'll obtain a Nationwide Permit from the USACE if required. Ed didn't see any hold ups, just processing the permit if applicable. Let me know if you have any questions or concerns.

Thanks,

Dean Koleada, P.E., Associate |**Huitt-Zollars, Inc.**
Office 405.842.0363, Ext. 11618; Fax 405.842.0364

Attachment 10

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 EAST 21ST STREET
TULSA, OK 74129
PHONE: (918)581-7458 FAX: (918)581-7467
URL: www.fws.gov/southwest/es/Oklahoma/

Consultation Code: 02EKOK00-2015-SLI-0461 December 30, 2014
Event Code: 02EKOK00-2015-E-00536
Project Name: University House Norman

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Non-federal entities conducting activities that may result in take of listed species should consider seeking coverage under section 10 of the ESA, either through development of a Habitat Conservation Plan (HCP) or, by becoming a signatory to the General Conservation Plan (GCP) currently under development for the American burying beetle. Each of these mechanisms provides the means for obtaining a permit and coverage for incidental take of listed species during otherwise lawful activities.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit through our Project Review step-wise process http://www.fws.gov/southwest/es/oklahoma/OKESFO%20Permit%20Home.htm.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: University House Norman

Official Species List

Provided by:

Oklahoma Ecological Services Field Office
9014 EAST 21ST STREET
TULSA, OK 74129
(918) 581-7458
http://www.fws.gov/southwest/es/Oklahoma/

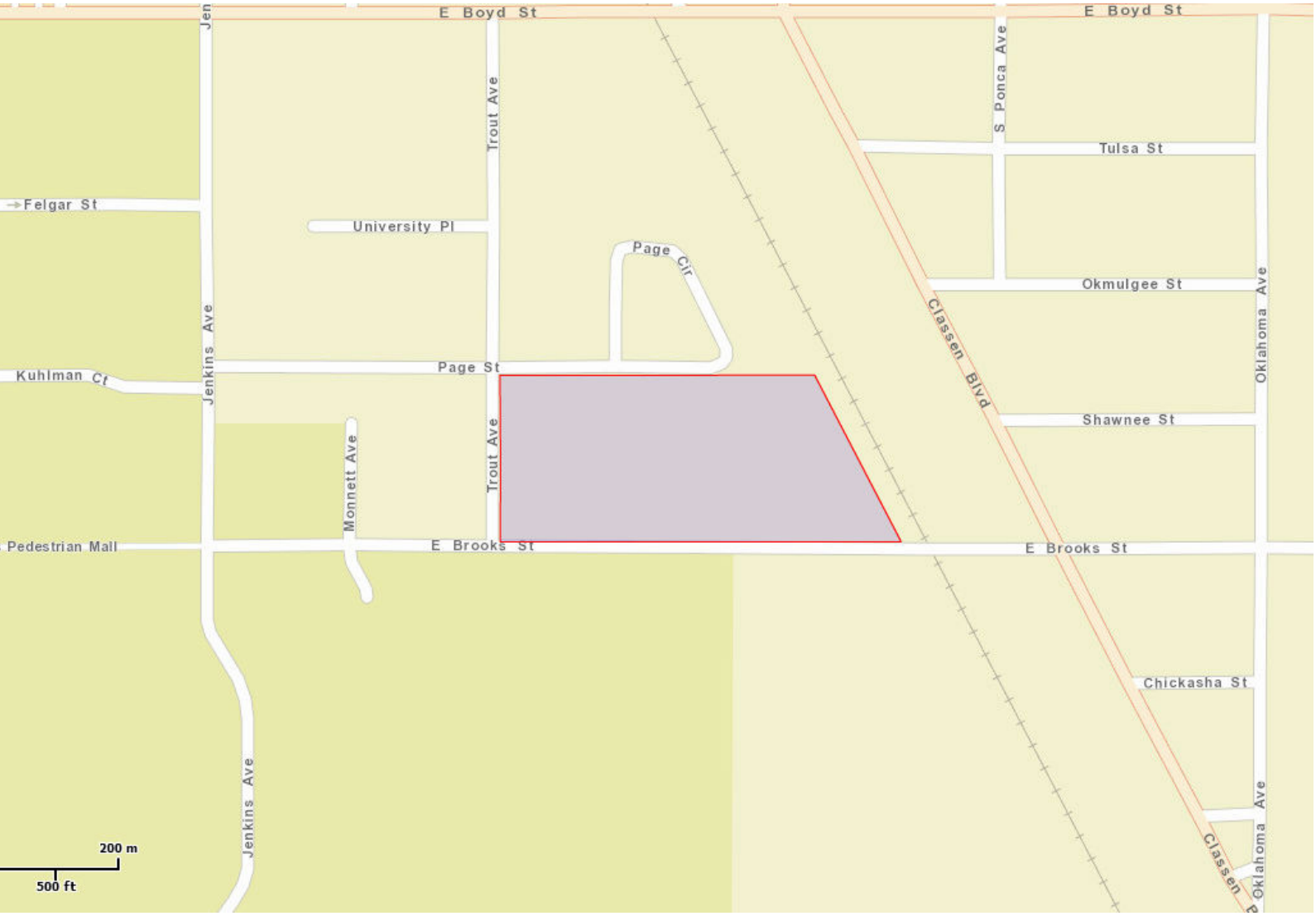
Consultation Code: 02EKOK00-2015-SLI-0461
Event Code: 02EKOK00-2015-E-00536

Project Type: Development

Project Name: University House Norman
Project Description: The project consists of Multi-family residential development, as well as floodplain management improvements for Bishop Creek Tributary C. The project is located in Norman, OK near the University of Oklahoma Campus; north of Brook St, south of Page St, east of Trout St. The tract of land is 7.36 acres in size.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-97.4387925 35.208651, -97.4361554 35.2086488, -97.4354323 35.2075079, -97.4387893 35.2075066, -97.4387925 35.208651)))

Project Counties: Cleveland, OK

Endangered Species Act Species List

There are a total of 6 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
Least tern *(Sterna antillarum)* Population: interior pop.	Endangered		
Piping Plover *(Charadrius melodus)* Population: except Great Lakes watershed	Threatened	Final designated	
Red Knot *(Calidris canutus rufa)*	Threatened		
Sprague's Pipit *(Anthus spragueii)*	Candidate		
Whooping crane *(Grus americana)* Population: except where EXPN	Endangered	Final designated	
Fishes			
Arkansas River shiner *(Notropis girardi)* Population: Arkansas R. Basin	Threatened	Final designated	

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Species Conclusions Table

Project Name: University House Norman (Consultation Code: 02EKOK00-2015-SLI-0461

Date: 12-30-2014

Species / Resource Name	Conclusion	ESA Section 7	Notes / Documentation
Least Tern (Sterna Antillarum)	-Species and critical habitat not present -No potential habitat present	No effect	Habitat described in the Candidate Species Fact Sheet is not present on site.
Piping Plover (Charadrius Melodus)	-Species and critical habitat not present -No potential habitat present	No effect	Habitat described in the Candidate Species Fact Sheet is not present on site.
Red Knot (Calidris canutus rufa)	-Species and critical habitat not present -No potential habitat present	No effect	Habitat described in the Candidate Species Fact Sheet is not present on site.
Whooping Crane (Grus Americana)	-Species and critical habitat not present -No potential habitat present	No effect	Habitat described in the Candidate Species Fact Sheet is not present on site.
Sprague's Pipit (Anthus spragueii)	-Species and critical habitat not present -No potential habitat present	No effect	Habitat described in the Candidate Species Fact Sheet is not present on site.
Arkansas River Shiner (Notropis Girardi)	-Species and critical habitat not present -No potential habitat present	No effect	Habitat described in the Candidate Species Fact Sheet is not present on site.

Remember to save a copy of this form once you have filled it out. This table is part of your project review package.