

Oklahoma State Highway Dept.

Date August 31, 1970

To Memo to File

From Oscar C. Curnutt, Ground Survey Engineer

Subject SWO 2154(1) - I-35 - From 2.5 miles north of US 60 west of Blackwell northerly to the Oklahoma-Kansas State Line, Kay County.

On May 22, 1970, the Survey Division received from Floyd Ball, Engineering Coordinator, copies of correspondence from residents of the Braman, Kay County vicinity, to U. S. Representative John N. Happy Camp, from Mr. R. R. Bartelsmeyer, Director of the Bureau of Public Roads, and Mr. E. A. Sparks, Division Engineer, Bureau of Public Roads, all pertaining to a reported adverse drainage condition on the Chikaskia River, Shoo-fly and Dry Creeks in the Braman area.

Mrs. Byron Welsh and Mrs. Lawrence Scott, residents of the area, claimed that since the construction of I-35 flooding in the area has intensified due to a "Damming effect" that turns the runoff from Shoo-fly and Dry Creeks from their natural course and across their property.

The Survey Division agreed to obtain as much information as possible in order to determine how much, if any effect the construction of I-35 across the Chikaskia River flood plain had upon flooding of the Braman area.

Information pertaining to the construction of I-35 is as follows:

- (1) Benham Engineering Company located at 215 Northeast 23rd Street, Oklahoma City, Oklahoma, was awarded a contract for approximately 18.7 miles of field surveys and construction plans on September 27, 1955, described as Project No. I-456(1)-E, E.C. 134, SWO 2154(1), from approximately 2.5 miles north of US 60 west of Blackwell northerly to the Oklahoma-Kansas State Line.
- (2) The field survey was completed with the exception of interchange surveys on March 8, 1957.
- (3) Final construction plans was accepted by the Department of Highways on December 2, 1957.
- (4) I-35 from 1.5 miles north of SH 11 north 7.5 miles, across the Chikaskia River to US 177 approximately 1.5 miles north of Braman was let to grade and drainage contract on March 11, 1958 as I-456(4), I-35-4(4)225 and completed May 1, 1959.

The surfacing contract for this section of I-35 was let to contract on July 7, 1958 as (I-456(5), I-35-4(5)225 and completed October 31, 1959.

- (5) I-35 from US 177, approximately 1.5 miles north of Braman north to the Oklahoma-Kansas State line, was let to grade and drainage, bridge, sodding and surfacing contract on March 18, 1957 as (I-456(3), I-35-4(3)232 and completed May 15, 1958.

Highwater information obtained as follows:

- (1) All highwater elevations are based on mean sea level datum, (U.S.C. & G.S.). Refer to SWO 2154(1) Additional Information and Highwater Information Book No. 1 of 1 for level information and additional information pertaining to exact description of highwater evidence and marks.
- (2) All information obtained by C. I. Hillis, Location Engineer, B. E. Garland, Chief of Party, G. L. Payne, Instrumentman, R. G. Dudley, M. D. King and J. W. Gordon, all Engineering Aides I, from June 1, 1970 to June 9, 1970.
- (3) Refer to area map, Scale 1"=2000', a reproduction of U.S.G.S. topographic mapping for locations where highwater information described as follows:

Location No. 1. County road crossing on the Chikaskia River, located just south of the west 1/4 corner of Section 27, T-29-N, R-1-W, approximately 4.0 miles west and 2.5 miles north of Braman. Highwater information for this location was obtained from Mr. E. R. Wittums who now resides approximately 1.0 miles north of the river crossing, but has lived in this general vicinity since prior to the 1923 flood. Mr. Wittums stated that the 1923 flood was a foot below the floor of the brick house where he was working at the time of flood, located approximately 400' south of the northwest corner of Section 27, T-29-N, R-1-W. 1923 Highwater Elevation 1044.0.

Mr. Wittums stated that he could not remember the dates and location of other highwater since that date.

From visible drift at the northwest corner of Section 27, T-29-N, R-1-W a highwater elevation of 1036.2 which occurred on April 17, 1970.

Location No. 2. Lake Blackwell on the Chikaskia River approximately 3.2 miles west and 1.5 miles north of Braman. The dam was constructed by the city of Blackwell during 1935 and consists of a low water dam across the river without any release gates, and is used as a municipal water supply. Water is released over the dam into Chikaskia channel by a siphon.

Highwater elevation was obtained from Mr. Dexter Lowe, Caretaker. Mr. Lowe stated that Mr. Jim Tappen, deceased Caretaker, had showed him center punch marks on a steel post at north end of dam which he placed there after the flood of 1955. All other highwater marks at this location were obtained from Mr. Lowe as follows:

Top of Dam Elevation	1028.99
Spillway Elevation	1027.95
Flowline Elevation in Lake	1023.7
Flowline Elevation in Chikaskia River below the Dam (Center of Dam)	1008.0
1955 Highwater Elevation	1038.4
1957 Highwater Elevation	1040.1
April 17, 1970 Highwater Elevation	1035.1

Location No. 3. FAS Route No. 3601 crossing of Chikaskia River approximately 2.1 miles west of Braman. Bridge is 281' X 16' roadway wooden bridge. All highwater information at this location was obtained from Mr. E. L. Broce, resident since 1955, approximately 1.6 miles west of Braman on south side of road. Mr. Broce has set iron pipes at highwater mark after each flood and has kept a complete diary on flooding at this location since 1955. In this diary Mr. Broce states that the 1964 highwater at his residence came from the east, out of the slough approximately 1.0 mile west of Braman and just west of I-35. Mr. Broce stated that this highwater was slightly lower than the 1957 Chikaskia River highwater elevation 1030.7.

Bridge Floor Elevation	1026.3
Flowline Elevation	1001.0
Water Level in Channel	1012.4
1957 Highwater Elevation	1030.7
1970 Highwater Elevation	1027.3

Location No. 4. Blackwell Municipal Lake on Chikaskia River approximately 1.7 miles west and 1.0 mile south of Braman. This low-water dam was constructed by the City of Blackwell during 1957 and does not have any release gates. Water is released over the dam into Chikaskia channel by use of siphon.

It is reported that Mr. E. L. Broce who lives approximately 1.0 mile north of this dam, who also owns the land on the east side of the Chikaskia River, has a lawsuit pending in the courts against the City of Blackwell. Mr. Broce contends that the construction of this dam which backs water north into the Chikaskia River and Shoo-fly Creek channels so as to prohibit

normal highwater from the Shoo-fly Creek from entering the Chikaskia River, therefore overflowing and causing damage to his property.

Top of Dam Elevation	1012.07
Flowline Elevation in Lake (Upper)	1000.1
Flowline Elevation in Chikaskia River (Lower)	996.5
1970 Highwater Elevation	1023.5

Location No. 5. County road crossing of Chikaskia River approximately 1.1 miles west and 1.3 mile south of Braman, approximately 500' upstream from I-35 Chikaskia River Bridge. Low-water bridge in place. Highwater information at this location was obtained from Mrs. Lawrence Scott, who since 1952 lives on the east side of the road approximately 1000' north of the Chikaskia River. Mrs. Scott was one of the ladies who stated that the flooding had increased since the construction of I-35, and requested an investigation of the condition.

Mrs. Scott stated that the highwater from the Chikaskia River was no problem to her but the water from the north along the N. & S. section line road was the problem at her location. This highwater is from overflow from Shoo-fly Creek. Mrs. Scott stated that the flood in 1964 was the highest the water had ever been at this location and it came from the north and was caused by overflow from Shoo-fly Creek.

The drainage area on the Chikaskia River at this location is approximately 1620 square miles. Note that the Plan D.A. on I-35 which is approximately 600' downstream is 1774 square miles.

Mrs. Scott furnished several photographs of flooding conditions in the vicinity of her residence which are attached.

1955 Highwater Elevation	1026.4
1964 Highwater Elevation	1028.0
1970 Highwater Elevation	1022.6

LOCATION NO. 5

SECTION 1
GENERAL

SECTION 2
GENERAL



STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

9D Form No. 40
12-18-69

THIS FORM IS FOR IDENTIFYING; EXPLAINING
AND RECORDING INFORMATIVE PHOTOGRAPHS.

1. Location At Mrs. Lawrence Scott residence located in the
NW/4 Sec. 18, T-28-N, R-1-W, approximately 1.0 mile west and
1.2 miles south of Braman, Kay County.
2. Subject Highwater on the Chickaskia River in the Braman,
Kay County area.
3. Purpose To record and preserve highwater information.
4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the
Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of
Braman.

5. History and Explanations This photograph was obtained from
Mrs. Lawrence Scott, the location is just west of her residence
looking north up the N&S section line road, showing damage to
the road after highwater had receded. The date of the highwater
was 1964 and was caused by overflow of Shoo-fly and Dry Creeks
and not by the Chickaskia River.

Mrs. Scott stated that the highwater also overflowed the fields north of her residence, came behind her residence and into the Chickaskia River which is approximately 1000' south of this location.

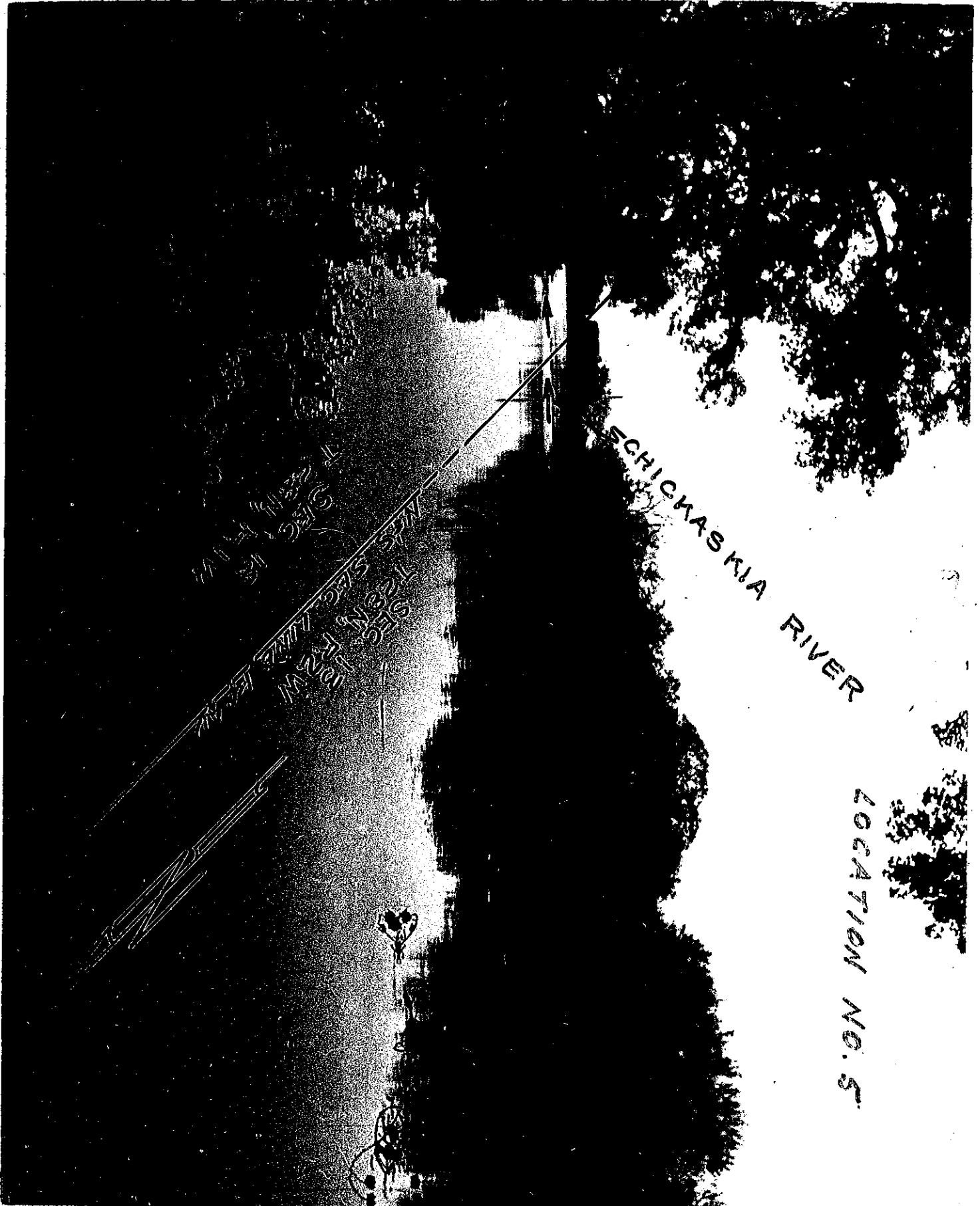
The mailbox in the photograph is just west of her residence.

This photograph was obtained by C. I. Hillis, Location Engineer.

DISTRIBUTION:

Original - Kay County Flood Information File

Copy - SWO 2154(1) MC: B.P.R. MC: F. Ball, Engr. Coord.



CHICKASKIA RIVER

LOCATION No. 5.

STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

SD Form No. 40
12-18-69
8-28-70

THIS FORM IS FOR IDENTIFYING, EXPLAINING
AND RECORDING INFORMATIVE PHOTOGRAPHS.

1. Location At the Mrs. Lawrence Scott residence located in the
NW/4 Sec. 18, T-28-N, R-1-W approximately 1.0 Mi. West and 1.0
Mi. South of Braman, Kay County, Okla.

2. Subject Highwater on the Chickaskia River in the Braman, Kay
County area.

3. Purpose To record and preserve highwater information.

4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the
Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of
Braman.

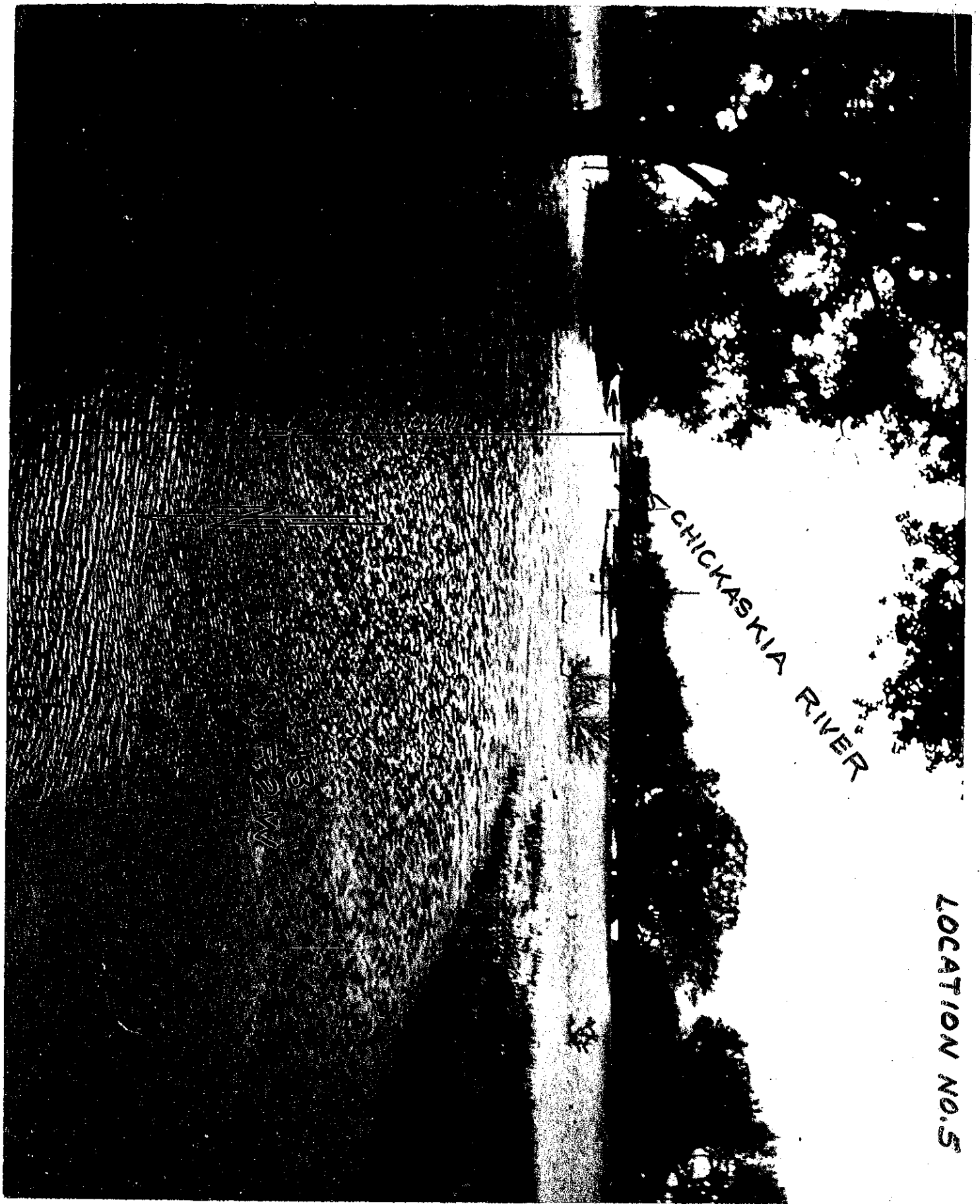
5. History and Explanations Photograph was obtained from Mrs.
Lawrence Scott. The location is on the east side of the N&S
section line road just south of residence looking south.

The Chickaskia River is in background. The highwater occurred
in 1957 and caused by Chickaskia River overflow and does not
depict the maximum elevation water reached.

The photograph was obtained by C. I. Hillis, Location Engineer.

DISTRIBUTION:

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Copy - SWO 2154(1), MC: B.P.R. MC: F. Ball, Engr. Coord.



CHICKASKIA RIVER

LOCATION NO. 5

STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

SD Form No. 40
12-18-69
8-28-70

THIS FORM IS FOR IDENTIFYING; EXPLAINING
AND RECORDING INFORMATIVE PHOTOGRAPHS.

1. Location At Mrs. Lawrence Scott residence located in the
NW/4 Sec. 18, T-28-N, R-1-W, approximately 1.0 Mi. W. and 1.2
Mi. S. of Braman, Kay County.
2. Subject Highwater on the Chickaskia River in the Braman, Kay
County area.
3. Purpose To record and preserve highwater information.
4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the
Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of
Braman.
5. History and Explanations Photograph was obtained from Mrs.
Lawrence Scott. The location is on the N&S section line road,
just west of residence looking south.

The Chickaskia River is in the background.

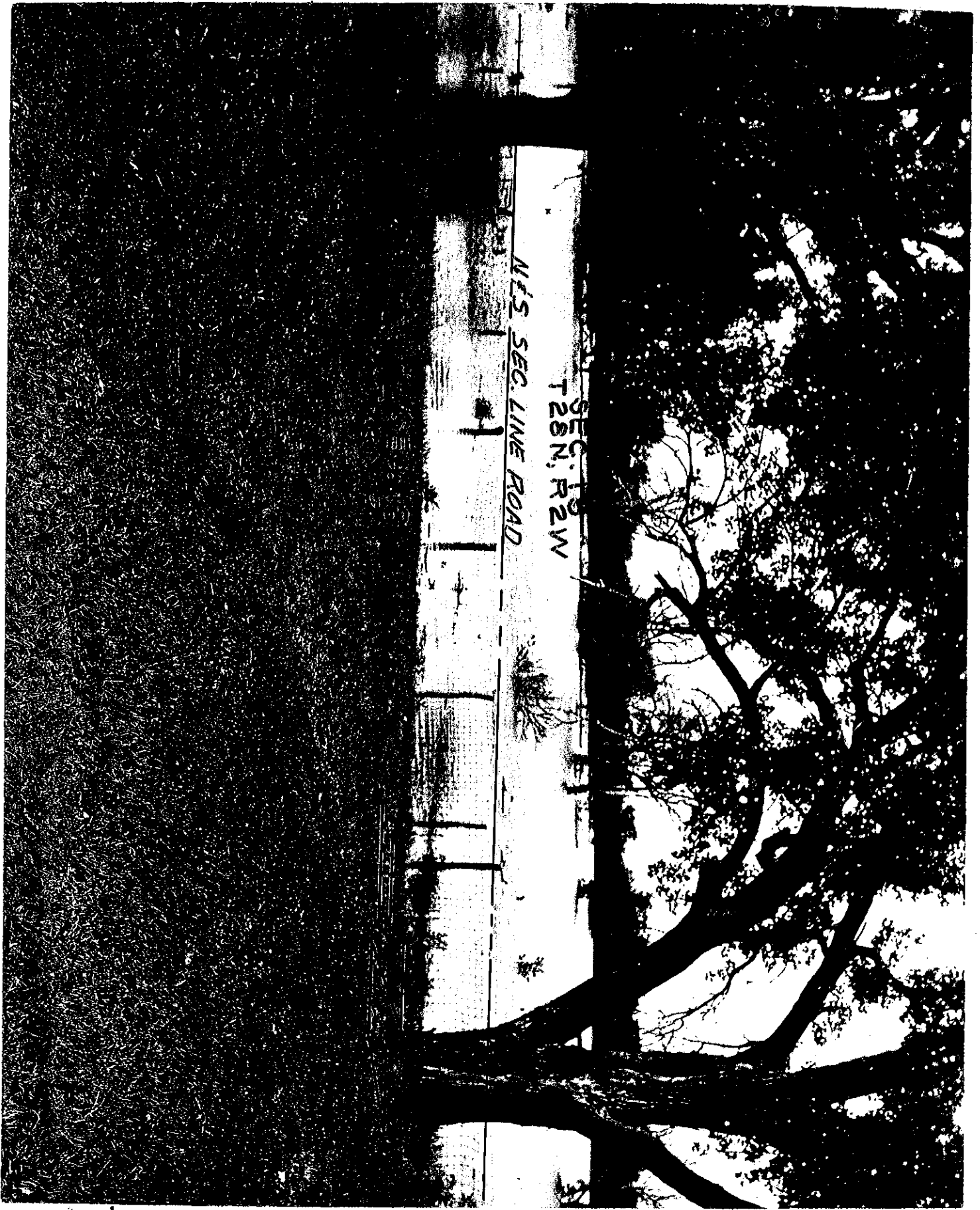
The highwater occurred in 1957 and was caused by Chickaskia
River overflow.

Photograph does not depict the maximum elevation water reached.

This photograph was obtained by C. I. Hillis, Location Engineer.

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Original - Kay County Flood Info. File
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SEC. 19
T28N; R2W

STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

SD Form No. 40
12-18-69
8-28-70

THIS FORM IS FOR IDENTIFYING; EXPLAINING
AND RECORDING INFORMATIVE PHOTOGRAPHS.

1. Location At Mrs. Lawrence Scott residence located in the NW/4
Section 18, T-28-N, R-1-W, approximately 1.0 Mi. W. and 1.2
Mi. S. of Braman, Kay County.
2. Subject Highwater on the Chickaskia River in the Braman, Kay
County area.
3. Purpose To record and preserve highwater information.
4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the
Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of
Braman.
5. History and Explanations Photograph was obtained from Mrs.
Lawrence Scott. The location is just south of her residence
looking southwest.

The highwater occurred in 1957 and was caused by Chickaskia River overflow, it does not depict the maximum elevation the water reached.

The large tree at left is the southeast corner of yard.

The photograph was obtained by C. I. Hillis, Location Engineer.

DISTRIBUTION:

Original - Kay County Flood Info. File
Copy - SWO 2154(1), MC: B.P.R. MC: F. Ball, Engr. Coord.

LOCATION NO. 5

SEC. 13
T28N, R2W

SEC. 18
T28N, R1W



STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

SD Form No. 40
12-18-69
8-28-70

THIS FORM IS FOR IDENTIFYING, EXPLAINING
AND RECORDING INFORMATIVE PHOTOGRAPHS.

1. Location At the Mrs. Lawrence Scott residence located in the NW/4 Sec. 18, T-28-N, R-1-W approximately 1.0 Mi. West and 1.0 Mi. South of Braman, Kay County, Oklahoma
2. Subject Highwater on the Chickaskia River in the Braman, Kay County area.
3. Purpose To record and preserve highwater information.
4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of Braman.
5. History and Explanations Photograph was obtained from Mrs. Lawrence Scott. The location is just south of residence looking southwest. The large tree at right is southeast corner of yard. The windmill has been removed but concrete foundation still in place.

The highwater occurred in 1957 and caused by the Chickaskia River overflow.

The photograph does not depict the maximum elevation water reached.

The photograph was obtained by C. I. Hillis, Location Engineer.

DISTRIBUTION:

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LOCATION NO. 5

SEC. 13
T28N, R2W



STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

SD Form No. 40
12-18-69
8-28-70

THIS FORM IS FOR IDENTIFYING; EXPLAINING
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1. Location At Mrs. Lawrence Scott Residence located in the NW/4 Sec 18, T-28-N, R-1-W, approximately 1.0 Mi. W. and 1.2 Mi. S. of Braman, Kay County.

2. Subject Highwater on the Chickaskia River in the Braman, Kay County area.

3. Purpose To record and preserve highwater information.

4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of Braman.

5. History and Explanations Photograph was obtained from Mrs. Lawrence Scott. The location of the photograph is in the S.E. corner of Mrs. Scott's yard. The large tree at the right is the southeast corner of the yard. The windmill has been removed but concrete foundation is still in place.

The photograph was taken from highground just southwest of Scott Residence looking southwest.

This highwater occurred in 1957 and is caused by Chickaskia River overflow, while on water was on the rise and does not depict the maximum elevation the water reached. The Chickaskia River County road crossing is approximately 1000' south of this location.

Photograph obtained by C. I. Hillis, Location Engineer.

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Original - Kay County Flood Information File, MC: Floyd Ball,
Copy - SWO 2154(1), MC: Bureau of Public Roads Engr.Coord.

LOCATION NO. 5



NFS SEC. LINE ROAD
SEC. 18
T 28N, R 1W

STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

SD Form No. 40
12-18-69
8-28-70

THIS FORM IS FOR IDENTIFYING, EXPLAINING
AND RECORDING INFORMATIVE PHOTOGRAPHS.

1. Location At Mrs. Lawrence Scott Residence located in the NW/4
Sec. 18, T-28-N, R-1-W, approximately 1.0 mile W. and 1.2 miles
S. of Braman, Kay County.
2. Subject Highwater on the Chickaskia River in the Braman, Kay
County area.
3. Purpose To record and preserve highwater information.
4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the
Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of
Braman.
5. History and Explanations Photograph was obtained from Mrs.
Lawrence Scott, the location is at the entrance to driveway to
her residence, on east side of N.&S. section line road looking
southwest.

The highwater occurred in 1957 and is caused by Chickaskia River overflow as it was on the rise and does not depict the maximum elevation water reached. The Gentlemen in the photograph is Mr. Lawrence Scott, deceased.

Photograph obtained by C. I. Hillis, Location Engineer.

The Chickaskia River section line road crossing is approximately 1000' south from this location.

DISTRIBUTION:

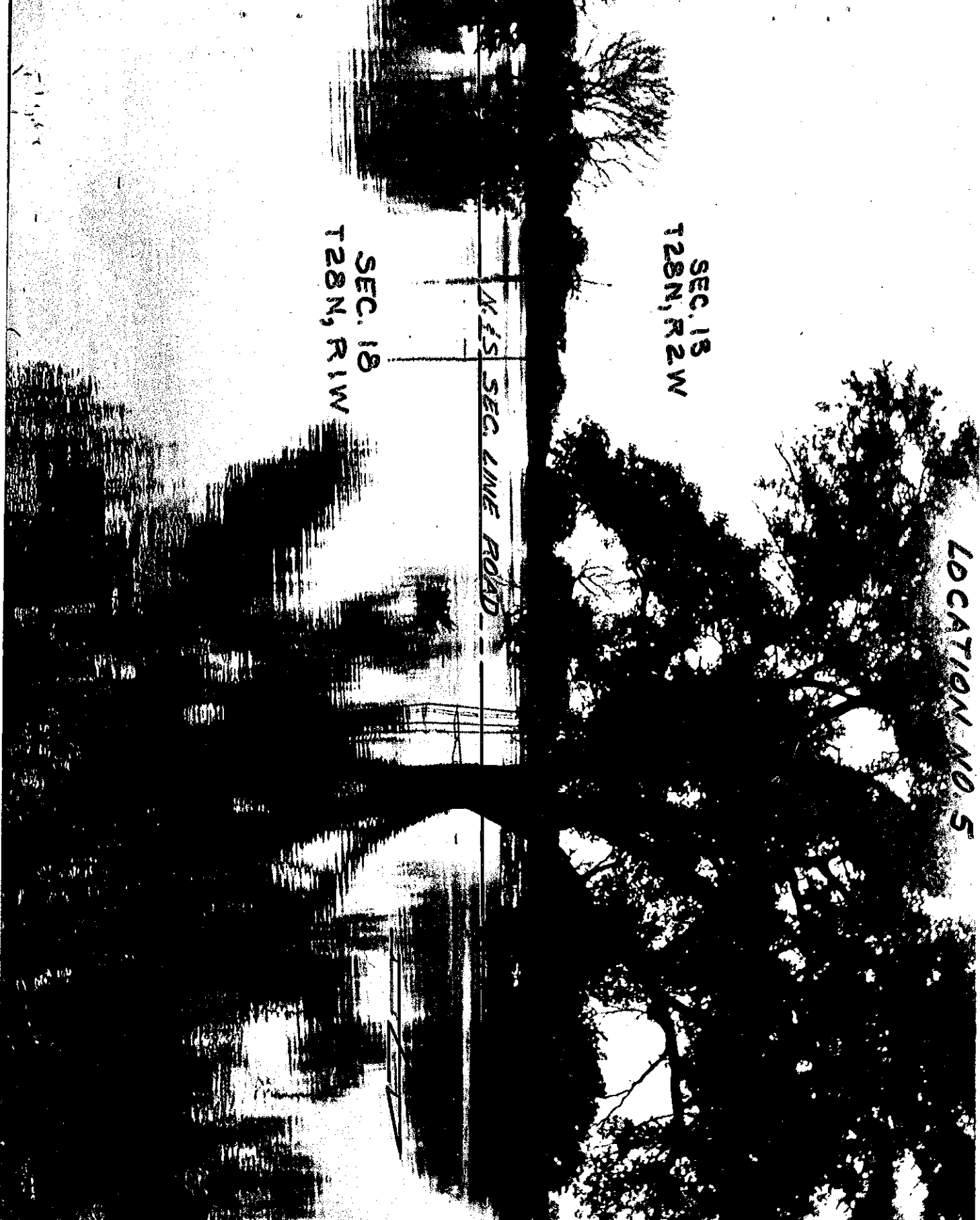
Original - Kay County Flood Info. File
Copy - SWO 2154(1), MC: B.P.R. MC: F. Ball, Engr. Coord.

LOCATION NO. 5

SEC. 18
T28N, R2W

N. 45 SEC. LINE ROAD

SEC. 18
T28N, R1W



STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

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12-18-69
8-28-70

THIS FORM IS FOR IDENTIFYING; EXPLAINING
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1. Location At Mrs. Lawrence Scott Residence located in the NW/4 Sec. 18, T-28-N, R-1-W, approximately 1.0 Mi. W. and 1.2 Mi. S. of Braman, Kay County.
2. Subject Highwater on the Chickaskia River in the Braman, Kay County area.
3. Purpose To record and preserve highwater information.
4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the Chickaska River, Shoo-fly and Dry Creeks in the vicinity of Braman.
5. History and Explanations Photograph was obtained from Mrs. Lawrence Scott. The location of the photograph is south side of yard looking west.

The large tree on right is the southeast corner of yard. The windmill has been removed but concrete foundation is still in place. This photograph was taken late in evening and highwater was near maximum flood stage. Highwater occurred in 1957 and was caused by Chickaskia River overflow.

The photograph was obtained by C. I. Hillis, Location Engineer

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Original - Kay County Flood Info. File
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Location No. 6. At the Chikaskia River, county road crossing approximately 3.2 miles south of Braman, approximately 2 river miles downstream from the I-35 Chikaskia River Bridge.

Highwater information at this location was obtained from Mr. W. J. Stuever who has for many years lived just north of the Chikaskia River and approximately 600' west of N. & S. county road and from Mr. J. C. Comerford who lives on the south side of the Chikaskia River on the east side of the N. & S. county road.

Mr. Stuever stated that the 1943 flood was the highest he had seen and did not recall the 1955, 1964 or later floods.

Mr. Comerford also furnished information on the 1943 flood but no others.

South End Bridge Floor Elevation	1019.3
North End Bridge Floor Elevation	1018.7
Flowline of River Elevation	986.2
1943 Highwater Elevation	1022.3 (Mr. Stuever)
1943 Highwater Elevation	1020.7 (Mr. Comerford)
1968 Highwater Elevation	1014.7
1970 Highwater Elevation, N. End Br.	1017.2
1970 Highwater Elevation, S. End Br.	1016.1

Location No. 7. This location is a preliminary survey along FAS Route No. 3601 and begins approximately 600' west of the Chikaskia River and extends easterly 1.6 miles across the Chikaskia River (described in Location No. 3) to the west limits of the I-35 interchange west of Braman.

The purpose of this preliminary survey was to obtain a ravine section across the Chikaskia River flood plain, to determine the feasibility and approximate cost of draining the sloughs and Shoo-fly Creek overflow to the Chikaskia River from just west of I-35; and to determine where the water was ponding during flood stages.

This survey consists of locating all topography along the roadway and obtaining profile and cross-sections.

Location No. 8. The area at Southwest Corner Section 6, T-28-N, R-1-W, from west limits of I-35 and FAS Route 3601 west 0.5 mile, approximately 1.0 mile west of Braman.

There are several sloughs and a gravel pit just west of I-35 which collects overflow water from Shoo-fly Creek to the north. These sloughs at one time drained to the northwest into Shoo-fly Creek just above its confluence into the Chikaskia River, but due to cultivation and apparently an increase in the overflow

water at this point, the past several years it has overflowed the fields and section line road to the south into the Chikaskia River.

Highwater information for this area was obtained from Miss Una McKee, Miss Alma McKee, Mr. Byron Welsh, Mr. Royce Coleman and Mr. R. L. Bumgarner, all residents of this area.

Miss McKee has been a resident at this location since 1934 and states that the only time highwater has ever been to her house was in 1964, 1968 and 1970 all after I-35 was constructed. (Not stated but also since the construction of the low water dam across the Chikaskia River approximately 1.0 mile south and 1.0 mile west of her residence by the City of Blackwell.) Miss McKee could not recall any highwater during the 1950's.

Mr. Byron Welsh who has resided since 1940, on the north side of FAS Route 3601 just north of Miss McKee's residence furnished almost identical information. Mrs. Welsh was also one of the ladies that requested that the flooding condition be investigated.

Both Miss Una McKee and Mr. Welsh stated that the highwater in their residences was not caused by flooding from the Chikaskia River but from Shoo-fly Creek overflow.

All residents in this area stated that they have always been stranded but that they had no water in their yards and residences until after I-35 was constructed. They contend that I-35 has restricted the overflow of Shoo-fly and Dry Creeks to the south-east and it is now forced down the west side of I-35 to this area.

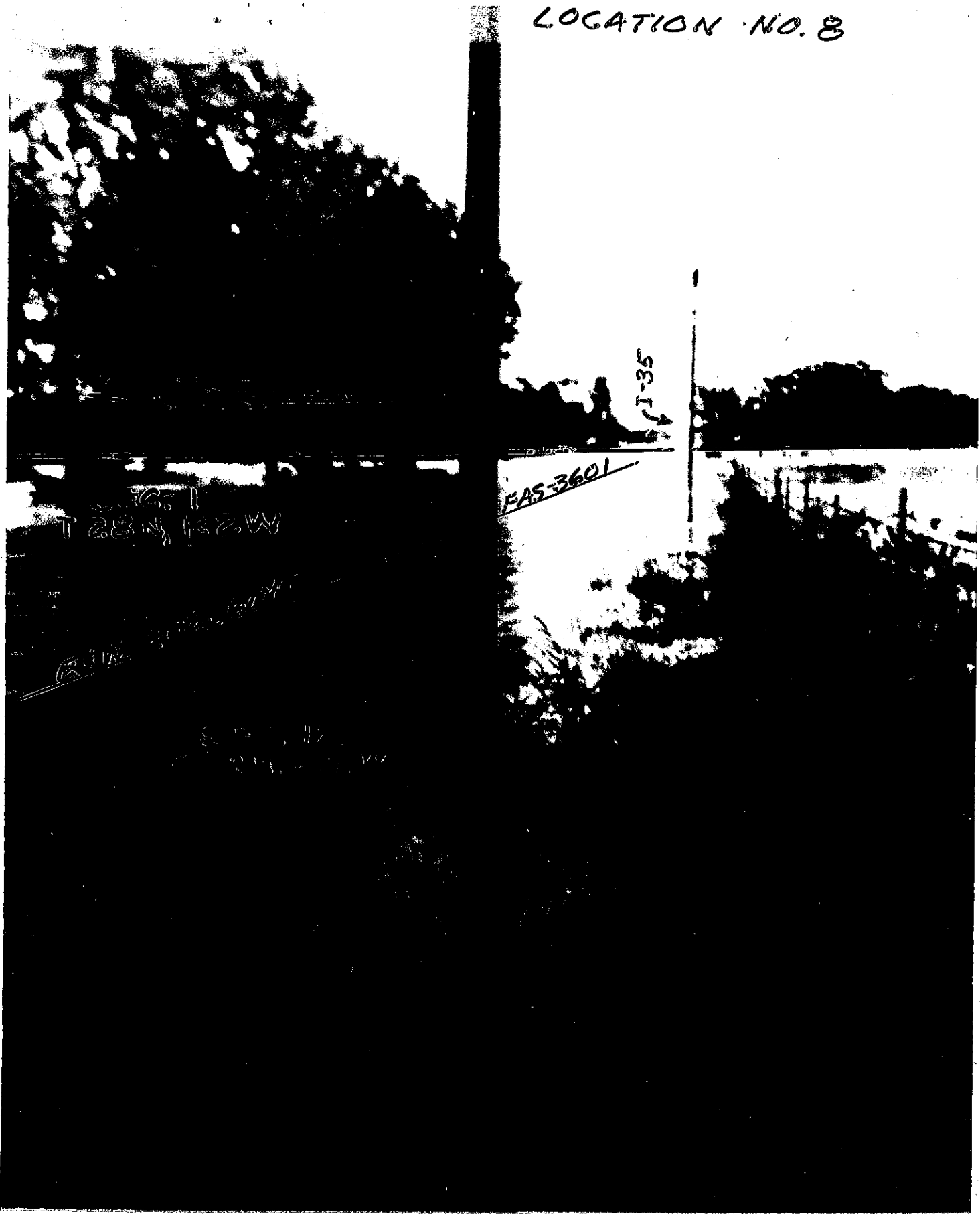
Miss McKee furnished photographs of flood conditions during 1942 and 1970 which are attached.

Highwater elevations were established from information furnished by the residents as follows:

1955 Highwater Elev.	1034.9	(Mr. Bumgarner)
1964 Highwater Elev.	1037.9	(Miss Una McKee)
1964 Highwater Elev.	1037.6	(Mr. Welsh)
1964 Highwater Elev.	1037.8	(Mr. Bumgarner)
1964 Highwater Elev.	1037.9	(Mr. Coleman)
1968 Highwater Elev.	1036.9	(Miss Una McKee)
1968 Highwater Elev.	1036.7	(Mr. Welsh)
1970 Highwater Elev.	1037.1	(Miss Una McKee)
1970 Highwater Elev.	1036.9	(Mr. Welsh)
1970 Highwater Elev.	1037.0	(Mr. Bumgarner)
1970 Highwater Elev.	1036.7	(Mr. Coleman)

Refer to attached profile map.

LOCATION NO. 8



6.1
T 28N R 2W

FAS-3601

I-35

60W

21N R 2W

STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

SD Form No. 40
12-18-69

THIS FORM IS FOR IDENTIFYING; EXPLAINING
AND RECORDING INFORMATIVE PHOTOGRAPHS.

1. Location At Miss McKee and Mr. Byron Welsh residences near the Northeast corner Section 12, T-28-N, R-2-W, approximately 1500' west of I-35, FAS Route 3601; approximately 1.0 mile west of Braman.
2. Subject Highwater on the Chickaskia River in the Braman, Kay County area.
3. Purpose To record and preserve highwater information.
4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of Braman.
5. History and Explanations Photograph was obtained from Miss Una McKee. The location of the photograph is just east of her residence, west of the N&S section line road, looking east toward I-35.

Miss McKee's residence is on the south side of FAS Route 3601, west of the N&S Section Line Road in picture.

Mr. Bryon Welsh's residence is on the north side of FAS Route 3601 and west of the N&S Section Line Road in picture.

This highwater occurred in 1968 and was caused by overflow from Shoo-fly and Dry Creeks, from the north and east.

The water elevation in this photograph is elevation 1036.6. The extreme highwater elevation for 1968 is 1036.7.

The I-35 overpass is shown in the background. This photograph was obtained by C. I. Hillis, Location Engineer.

DISTRIBUTION:

Original - Kay County Flood Information File
Copy - SWO 2154(1) MC: B.P.R. MC: F. Ball, Engr. Coord.

LOCATION NO. 8

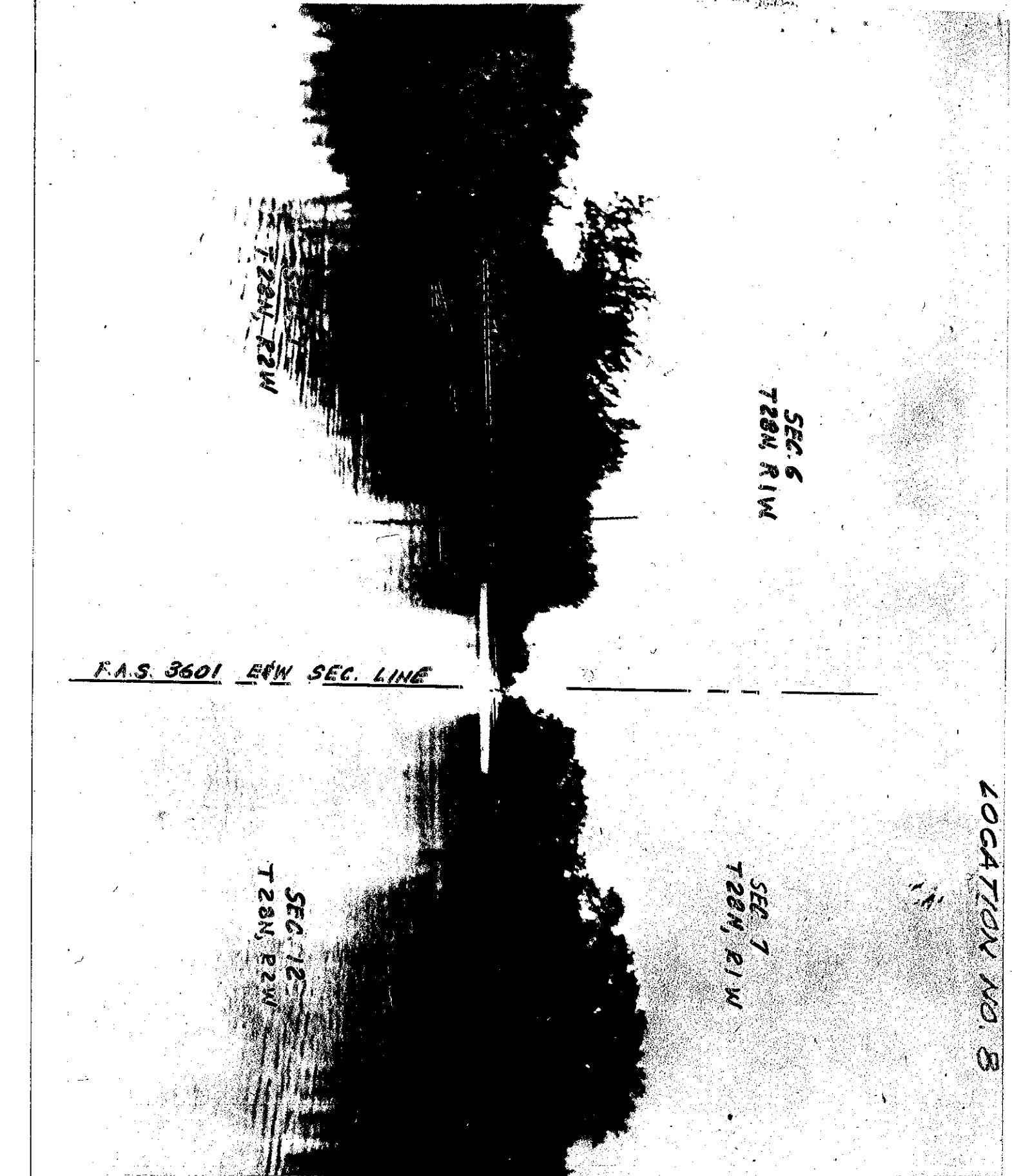
SEC. 6
T28N, R1W

SEC. 7
T28N, R1W

SEC. 11
T28N, R2W

SEC. 12
T28N, R2W

F.A.S. 3601 E/W SEC. LINE



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1. Location At Miss McKee and Mr. Byron Welsh residences near the Northeast corner Section 12, T-28-N, R-2-W, approximately 1500' west of I-35, FAS Route 3601; approximately 1.0 mile west of Braman.
2. Subject Highwater on the Chickaskia River in the Braman, Kay County area.
3. Purpose To record and preserve highwater information.
4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of Braman.
5. History and Explanations Photograph was obtained from Miss Una McKee: The location of the photograph is just east of her residence, west of the N.&S. section line road, looking east toward I-35 as it is now constructed.

Miss McKee's residence is on the south side of FAS Route 3601 and just west of the N.&S. Section Line Road in picture.

Mr. Byron Welsh's residence is on the north side of FAS Route 3601 and just west of the N.&S. Section Line Road in picture.

This highwater occurred in 1942 and was caused by overflow from Shoo-fly and Dry Creeks. The exact elevation of highwater is not known, however it is believed to be near maximum elevation reached.

The man is standing on Dry Road between the Ross Coleman and R. L. Bumgarner residence approximately 700' east of the intersection of section line roads.

Photograph was obtained by C. I. Hillis, Location Engineer.

DISTRIBUTION:

Original - Kay County Flood Information File
Copy - SWO 2154(1) MC: B.P.R. MC: F. Ball, Engr. Coord

Location No. 9. FAS Route 3601 crossing of Dry Creek approximately 0.7 mile west of Braman, approximately 1500' east of the centerline of I-35.

Highwater information at this location obtained from Mr. Forrest A. Taylor who since 1947 resides approximately 400' east and 200' north of this location. Information obtained from Mr. Taylor was verified by Mr. J. K. Curl who since 1947, resides on the south side of FAS Route 3601, just south of Mr. Taylor and in the Braman area all of his life. Mr. Curl stated that the water did not come through his place as fast after the construction of I-35.

Additional highwater information was also obtained from the Survey Division files.

I have attached a photograph of highwater which occurred on November 17, 1964 and witnessed by Mr. Gaines H. Stout, Survey Engineer and Mr. R. C. Poage, Construction Engineer. This highwater was over the I-35 interchange ramps on FAS Route 3601. The Chikaskia River was in flood stage at this time but the highwater at this location was believed to be caused by overflow from Shoo-fly and Dry Creeks.

1955 Highwater Elevation	1037.8
1964 Highwater Elevation	1036.2
1970 Highwater Elevation	1035.5

SEC. 6
T 28N - R 1W

W & E FAS ROUTE 3601

SEC. 7
T 28N - R 1W

↑
WICHITA

DRY CREEK

LOCATION NO. 9

STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

SD Form No. 40
12-18-69

THIS FORM IS FOR IDENTIFYING; EXPLAINING
AND RECORDING INFORMATIVE PHOTOGRAPHS.

1. Location I-35 and FAS Route 3601 Interchange 0.75 mile west of Braman, Kay County.
2. Subject Highwater on the Chickaskia River, Shoo-fly and Dry Creeks in the Braman, Kay County Area.
3. Purpose To record and preserve highwater information.
4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of Braman.
5. History and Explanations This photograph was taken by Mr. R. C. Poage, Construction Engineer, in company of Mr. Gaines H. Stout, Survey Engineer and O. C. Curnutt, Ground Survey Engineer, at approximately 2:50 P.M. on November 17, 1964.

This view looking east on FAS Route 3109 toward Braman from top of grade separation structure on I-35 overlooking Dry Creek. Note silt on pavement, as water had resided 2.5' from maximum.

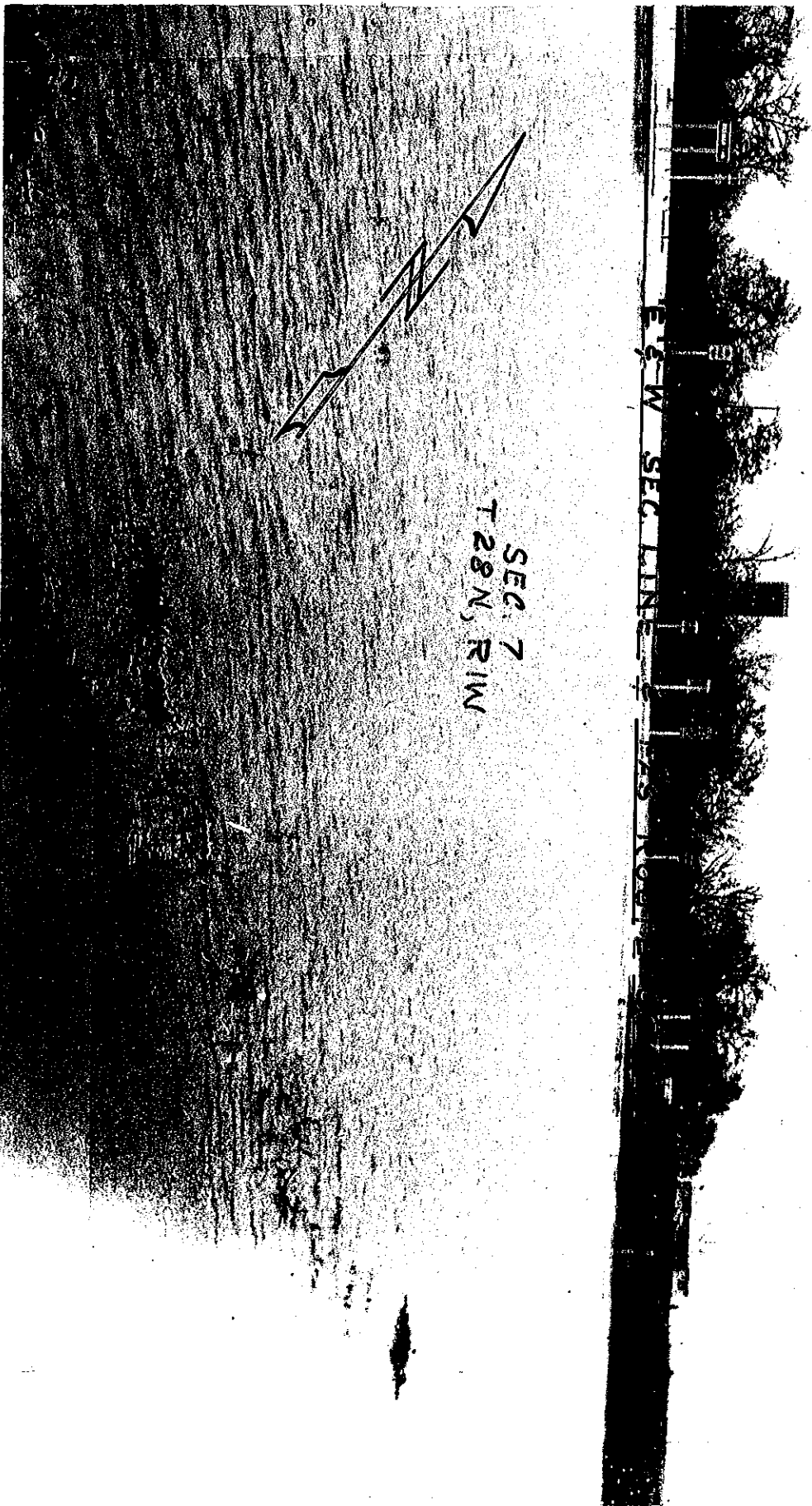
At this time all four quadrants of the interchange was partially inundated.

Intersection Station on I-35-4(4)225 is Station 715+30.72. Flooding was caused by overflow of Shoo-fly and Dry Creeks.

DISTRIBUTION:

Original - Kay County Flood Information File
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LOCATION NO. 9



SEC. 7
T. 28 N., R. 1 W.

STATE OF OKLAHOMA
DEPARTMENT OF HIGHWAYS
SURVEY DIVISION

SD Form No. 40
12-18-69

THIS FORM IS FOR IDENTIFYING; EXPLAINING
AND RECORDING INFORMATIVE PHOTOGRAPHS.

1. Location I-35 and FAS Route 3601 Interchange 0.75 mile west of
Braman, Kay County.
2. Subject Highwater on the Chickaskia River, Shoo-fly and Dry
Creeks in the Braman, Kay County area.
3. Purpose To record and preserve highwater information.
4. For Use SWO 2154(1), I-35-4(4)225, Flood information on the
Chickaskia River, Shoo-fly and Dry Creeks in the vicinity of
Braman.
5. History and Explanations This photograph was taken by Mr.
R. C. Poage, Construction Engineer, in company of
Mr. Gaines H. Stout, Survey Engineer, and O. C. Curnutt, Ground
Survey Engineer, at approximately 2:50 P.M. on November 17, 1964.

This view from ramp in the southeast quadrant of interchange
looking north 45° E ±.

This highwater had receded 2.5' from maximum elevation.

Flooding was caused by overflow from Shoo-fly and Dry Creeks.

DISTRIBUTION:

Original - Kay County Flood Information File
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Location No. 10. The Mr. Baker residence near the southwest corner of Section 25, T-29-N, R-2-W, just north of existing US 177; approximately 2.0 miles west and 2.0 miles north of Braman.

Highwater elevation at this location is caused by Shoo-fly Creek.

Mrs. Baker did not recall any dates or know of highwater marks in this area, therefore we were able only to obtain a 1970 highwater elevation from existing evidence.

1970 Highwater Elevation	1047.0
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Location No. 11. At Dry Creek A.T. & S.F. railroad structure approximately 0.5 mile west and 0.4 mile north of Braman; approximately 500' southeast of I-35 grade separation structure on A.T. & S.F. railroad. Approximate drainage area at this location is 10 square miles plus large overflow from Shoo-fly Creek.

There is approximately 510 square feet of opening under this railroad bridge.

The A.T. & S.F. railroad officials was unable to furnish any highwater information at this location.

1970 Highwater Elevation	1039.2
Flowline Elevation	1026.7
Top of Rail Elevation	1037.21

Location No. 12. At Dry Creek overflow A.T. & S.F. railroad structure approximately 0.5 mile west and 0.4 mile north of Braman, approximately 1500' southeast of the I-35 grade separation structure on the A.T. & S.F. railroad.

The approximate drainage area for this structure is 0.7 square mile plus overflow.

There is approximately 608 square feet of opening under this structure.

1970 Highwater Elevation	1039.2
Flowline Elevation	1027.6
Top of Rail Elevation	1037.21

Location No. 13. I-35 grade separation structure on A.T. & S.F. railroad and I-35 Dry Creek tributary crossing. Approximately 0.5 mile west and 0.4 mile north of Braman.

I-35-4(4)225 - Station 740+05.21 centerline A.T. & S.F. railroad 3-55' I-Beam Spans skewed 51° 13' 30" W with 2-18" S.C. overpass.

I-35-4(4)225 Structure No. 50, Station 742+75.0, centerline Dry Creek, in place. Plan drainage area 2180 AC, C=0.6. From U.S.G.S. Topographic Mapping Sheets, the Survey Division can compute only 1475 AC for this location.

Conc. Flowline west side	1026.84
Dirt Flowline west side	1030.8
Top of Opening west side	1034.87
1970 Highwater Elevation west side	1038.7
Conc. Flowline east side	1026.30
Dirt Flowline east side	1026.6
Top of Opening east side	1034.32
1970 Highwater Elevation east side	1036.7

Location No. 14. Existing U.S. 177, Dry Creek tributary crossing approximately 0.6 mile west and 1.0 mile north of Braman; approximately 600' west of west limits of US 177 and I-35 interchange.

US 177 was constructed during 1925 as FAP 165.

At Station 539+96.58 there is a 4-30' X 20' Rdy. I-Beam Span Bridge in place.

The approximate drainage area for this location is 1400 AC.

At the present time there is approximately 1360 square feet of opening at this bridge.

Finished Grade Bridge	1043.30
Flowline Dry Creek Tributary (1970)	1030.6
Flowline Dry Creek Tributary (1955, SWO 2154)	1029.6
1925, FAP 165 Plans Highwater Elev.	1038.5
1970 Highwater Elevation	1040.7

Location No. 15. This location consists of a profile beginning at the northwest corner Section 7, T-28-N, R-1-W, north along the section line road a distance of 2565' crossing 2 sloughs then down the flowline of the third slough northwesterly to the confluence with Shoo-fly Creek.

This profile was run in order to determine the feasibility and approximate cost of draining the overflow back into the Shoo-fly channel. The drainage area of Shoo-fly Creek at this location is 143.5 square mile.

See profile map attached for ravine section.

Flowline of Shoo-fly Creek at confluence of slough Elevation	1002.4
June 1970 Water Level in Shoo-fly Channel Elevation	1012.6
1970 Highwater Elevation	1031.1

Location No. 16. US 177 crossing on Shoo-fly approximately 1.5 mile west and 1.5 mile north of Braman; approximately 1.1 mile northwest of I-35 and US 177 interchange.

U.S. 177 was constructed during 1927 as FAP 165-C, Station 536+29.45. There is a 80' Truss and 2-40' I-Beams X 18' Rdy. Bridge in place.

From Bridge Division Maintenance files there is approximately 1038 square feet of opening at this structure.

Finished Grade Elevation	1045.2
Low Steel Elevation	1042.52
Flowline Elevation	1012.2
1927 Plan Highwater Elevation	1038.5
1970 Highwater Elevation	1037.9

Location No. 17. This location consists of a typical ravine section on the Chikaskia River approximately 200' downstream from the confluence of Shoo-Fly Creek approximately 2.0 miles west and 0.75 mile north of Braman. The approximate drainage area of the Chikaskia River at this location is 1619 square miles. See attached profile map for ravine section.

Flowline Chikaskia River Elevation	1002.3
June 1970 Water Level	1012.4
1970 Highwater Elevation	1028.7

Location No. 18. This location consists of a ravine section on Shoo-fly Creek approximately 650' upstream from the confluence with the Chikaskia River, approximately 2.0 miles west and 0.85 mile north of Braman.

The approximate drainage area of Shoo-fly Creek at this location is 144 square miles.

See attached profile map for ravine section.

Flowline Elevation Shoo-fly Creek	1002.4
June 1970 Water Elevation in Channel	1012.4
1970 Highwater Elevation	1028.7

Location No. 19. This location consists of a typical ravine section on Dry Creek tributary in the SE/4 Section 36, T-29-N, R-1-W, approximately 1.0 mile west and 1.5 mile north of Braman. This area was selected since it is believed to be one of the locations where Shoo-fly Creek first overflows its channel into the Dry Creek drainage area.

Approximate drainage area of the Dry Creek tributary at this location is 597 AC or 0.97 square mile.

Approximate drainage area of Shoo-fly Creek on E. & W. 1/4 Section line Section 6, T-28-N, R-1-W, is 143 square miles.

See attached profile map for ravine section.

Flowline Elevation Dry Creek	1031.3
1970 Highwater Elevation	1042.3

Location No. 20. This location consists of a typical ravine section across Shoo-fly Creek on the E. & W. 1/4 Section line of Section 25, T-29-N, R-1-W; approximately 1.0 mile west and 2.5 miles north of Braman.

This location was selected because Mr. J. K. Curl, a long time resident and present owner of this land stated that this was the location where Shoo-fly first broke from its channel and overflowed into Dry Creek. He also stated that it had always done so.

The approximate drainage area of Shoo-fly Creek at this location is 878 AC or 1.37 square miles.

See attached profile map for ravine section.

Flowline Elevation Shoo-fly Creek	1022.0
1970 Highwater Elevation	1045.0

CONCLUSIONS

- (1) The flooding problem in this immediate area is caused by flooding of Shoo-fly and Dry Creeks, and not by the Chikaskia River.
- (2) The construction of the low water dam on the Chikaskia River, approximately 1.0 mile south and 2.0 miles west of Braman, by the City of Blackwell has also effected the overflow of Shoo-fly and Dry Creeks.

This dam impounds approximately 12' of water in the Chikaskia River channel all the way to the Lake Blackwell (another low water dam on the Chikaskia River) and into the Shoo-fly Creek channel.

Residents have stated that when a heavy rain occurs in the Shoo-fly and Dry Creeks drainage area and the Chikaskia River is not in flood stage the water cannot enter the Chikaskia River due to this impoundment. When the Chikaskia River is in flood stage the low-water dam does not effect Shoo-fly Creek as it cannot completely enter the Chikaskia River channel anyway.

- (4) The residents on FAS Route 3601 just west of I-35 state that they were always stranded during flood stage but that the highwater has increased and now enters their homes since the construction of I-35.

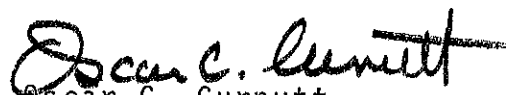
The residents on the east side of I-35 state that they are better off after the construction of I-35 since the water does not run as fast through their property.

Sufficient highwater information could not be obtained on Dry Creek east of I-35 both before and after the construction of I-35 to substantiate this statement although it is accepted to be true.

- (5) During the years immediately following the construction of I-35 in 1959, years 1959, 1961, 1964, 1968 and 1970 extreme floods occurred on the Chikaskia River. During some of these years heavy local rains also occurred in the Shoo-fly and Dry Creeks drainage area therefore flooding would have occurred if I-35 had not been constructed, just how much can never be determined.

RECOMMENDATIONS

- (1) That a detailed hydraulic examination be completed and if the adverse condition cannot be alleviated by minor modification of drainage structures on I-35 that the Soil Conservation Service and/or the U. S. Army Corps of Engineers be requested to participate in a basin drainage study and channel improvement program.


Oscar C. Curnutt
Ground Survey Engineer

OCC:dp

Original - Kay County Flood Information File ←
MC: Floyd Ball, Engineering Coordinator
MC: Bureau of Public Roads
MC: SWO 2154(1)