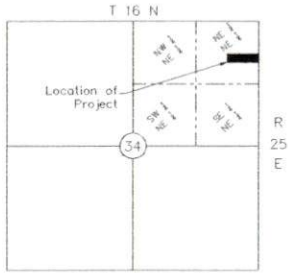


CHEROKEE NATION
HOUSING AUTHORITY

PLANS FOR
DOGWOOD ADDITION NO. 2

LOTS 1-6
STREET, WATER, SANITARY SEWER AND DRAINAGE IMPROVEMENTS
STILWELL, OKLAHOMA
REVISED APRIL 2023

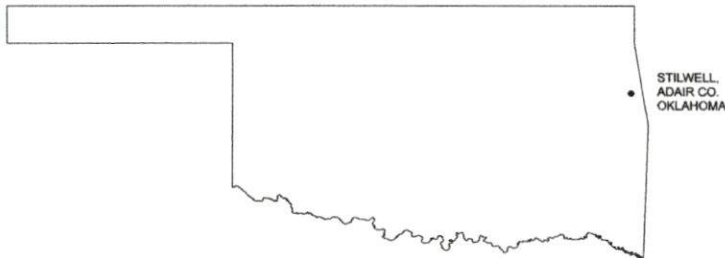


Section Location Map
SCALE N.T.S.

Adair County, OK

LATITUDE: 35°49'28.82"N
LONGITUDE: 94°37'54.21"W

LEGEND		
—OH— Electric Line	—X—X— Section Line	⊕ Utility Pole
—SS—SS— Sewer Line	—X—X— Fence/Silt Fence	⊕ Sewer Manhole
—T—T— Telephone Line	—RW— Right-of-Way Line	⊕ Sewer Cleanout
—G—G— Gas Line	—CL— Center Line	⊕ Water Meter
—W—W— Water Line	—PL— Property Lines	⊕ Water Valve
—XOX— Existing Contours	—PP— Proposed Contours	⊕ Water Tee
		⊕ Telephone Pedestal
		⊕ Firehydrant
		⊕ Guy Anchor
		⊕ Building Set Back Line
		⊕ U/E Utility Easement



VICINITY MAP
SCALE N.T.S.



BEFORE YOU DIG...
CALL 811
1-800-522-6343

PRIOR TO PERFORMING ANY GRADING OR EXCAVATING WORK,
THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS AND
"CALL 811 (OKLAHOMA ONE-CALL)" NOT LESS THAN 48
HOURS IN ADVANCE AND SHALL VERIFY OR ESTABLISH THE
EXACT LOCATION AND DEPTH OF ALL UNDERGROUND LINES.

INDEX	
SHEET No.	DESCRIPTION
A-1.	COVER SHEET
A-2.	PLAT
A-3.	COVENANTS AND RESTRICTIONS
A-4.	GENERAL LAYOUT
A-4A.	GENERAL LAYOUT WITH AERIAL IMAGERY
A-5.	GRADING PLAN
A-5A.	GRADING PLAN WITH AERIAL IMAGERY
A-6.	ROAD PLAN AND PROFILE
A-7.	ROAD PLAN AND PROFILE AND BOM
A-8.	DETAILS
A-9.	NOTES
SD-1.	BASIN PLAN AND SECTION VIEW
SD-2.	DRAINAGE PLAN
SD-2A.	DRAINAGE PLAN WITH AERIAL IMAGERY
SD-3.	SWMP SHEET 1
SD-4.	SWMP SHEET 2
SD-5.	TYPICAL EROSION CONTROL DEVICES
W-1.	WATER LINE PLAN AND PROFILE SHEET 1
W-2.	WATER LINE PLAN AND PROFILE SHEET 2
W-3.	WATER LINE STANDARDS SHEET 1
W-4.	WATER LINE STANDARDS SHEET 2
S-1.	SANITARY SEWER PLAN AND PROFILE AND BOM
S-2.	SANITARY SEWER STANDARDS



AERIAL LOCATION MAP
SCALE N.T.S.



LAND SURVEYORS & ENGINEERS

SCOTT & ASSOCIATES, INC.
Land Surveyors & Engineers
Ct. 4041 (P.O. Box 4) / 9407
919 - 3 Oakdale Street
Chattanooga, TN 37404
Tel: (423) 628-7877



ENGINEER
KAS Gales Company
Consulting Engineer
18772 Harmon Road
Fayetteville, AR 72704
Wk. 479.361.9977
Cell 479.422.0763
Email:
carl.d.gales@gmail.com

PROJECT:

Dogwood II Addition

CLIENT:

Housing Authority
of the Cherokee Nation

Address:

North 5th Street,
Stilwell, OK.

SHEET:

Cover Sheet

APPROVED BY:

CDG

DATE PREPARED:

Oct. 2015

DESIGNED BY:

IPM

DRAWN BY:

IPM

CHECKED BY:

IPM

DATE:

10/15/15

NO. REVISION

DATE

BY

DATE

BY

DATE

BY

DATE

BY

DATE

BY

DATE

BY

DATE

BY

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BY

DATE

BY

DATE

BY

DATE

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DATE

BY

DATE

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DATE

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DATE

BY

DATE

BY

FOR CLIENT REVIEW 2-24-16



A-1

SHEET NO.

22"x34" PRINT ONLY

DOGWOOD ADDITION II

A SUBDIVISION A PART OF THE N/2 S/4 NW/4 NE/4 OF SECTION 34, TOWNSHIP 16 NORTH, RANGE 25 EAST, 1M., ADAIR COUNTY, OKLAHOMA

L-2016-000818 Book 0523 Page 322
03/30/2016 4:14 pm Pg 0321-0322
Fee: \$ 15.00 Doc: \$ 0.00
Danya Curtis - Adair County Clerk
State of Oklahoma

THIS IS A COPY
This is a copy of the original plat of the Dogwood Addition II, as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

PROVIDED HOWEVER
That the plat of the Dogwood Addition II, as shown on the plat, is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

THESE TERMS AND CONDITIONS
The undersigned hereby certifies that the plat of the Dogwood Addition II, as shown on the plat, is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

PROVIDED HOWEVER
That the plat of the Dogwood Addition II, as shown on the plat, is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

THIS IS A COPY
This is a copy of the original plat of the Dogwood Addition II, as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

PROVIDED HOWEVER
That the plat of the Dogwood Addition II, as shown on the plat, is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

THIS IS A COPY

PROVIDED HOWEVER
That the plat of the Dogwood Addition II, as shown on the plat, is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

PROVIDED HOWEVER
That the plat of the Dogwood Addition II, as shown on the plat, is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

RECORDING INFORMATION

1. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

2. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

3. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

4. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

5. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

6. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

7. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

8. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

9. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

10. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

11. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

12. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

13. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

14. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

15. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

16. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

17. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

18. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

19. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

20. This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

OWNERS' APPROVAL

This plat is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

Tony Little
City Clerk

APPROVED BY

City Clerk

TESTIMONY OF WITNESSES

I, the undersigned, being duly sworn, depose and say that the foregoing is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

Subscribed and sworn to before me this 23rd day of Feb., 2016.



Danya Curtis
Adair County Clerk
State of Oklahoma

State of Oklahoma
County of Muskogee

I, the undersigned, being duly sworn, depose and say that the foregoing is a true and correct copy of the original plat as shown on the plat, and is not a true and correct copy of the original plat as shown on the plat.

Subscribed and sworn to before me this 23rd day of Feb., 2016.

Sherry Neal

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk

City Clerk



2 of 2

ENGINEER
KAS Gales Company
Consulting Engineer
18772 Harmon Road
Fayetteville, AR 72704
Wk. 479.361.9977
Cell 479.422.0763
Email: carl.d.gales@gmail.com

PROJECT:
Dogwood II Addition

CLIENT:
Housing Authority
of the Cherokee Nation

Address:
North 5th Street,
Stilwell, OK.

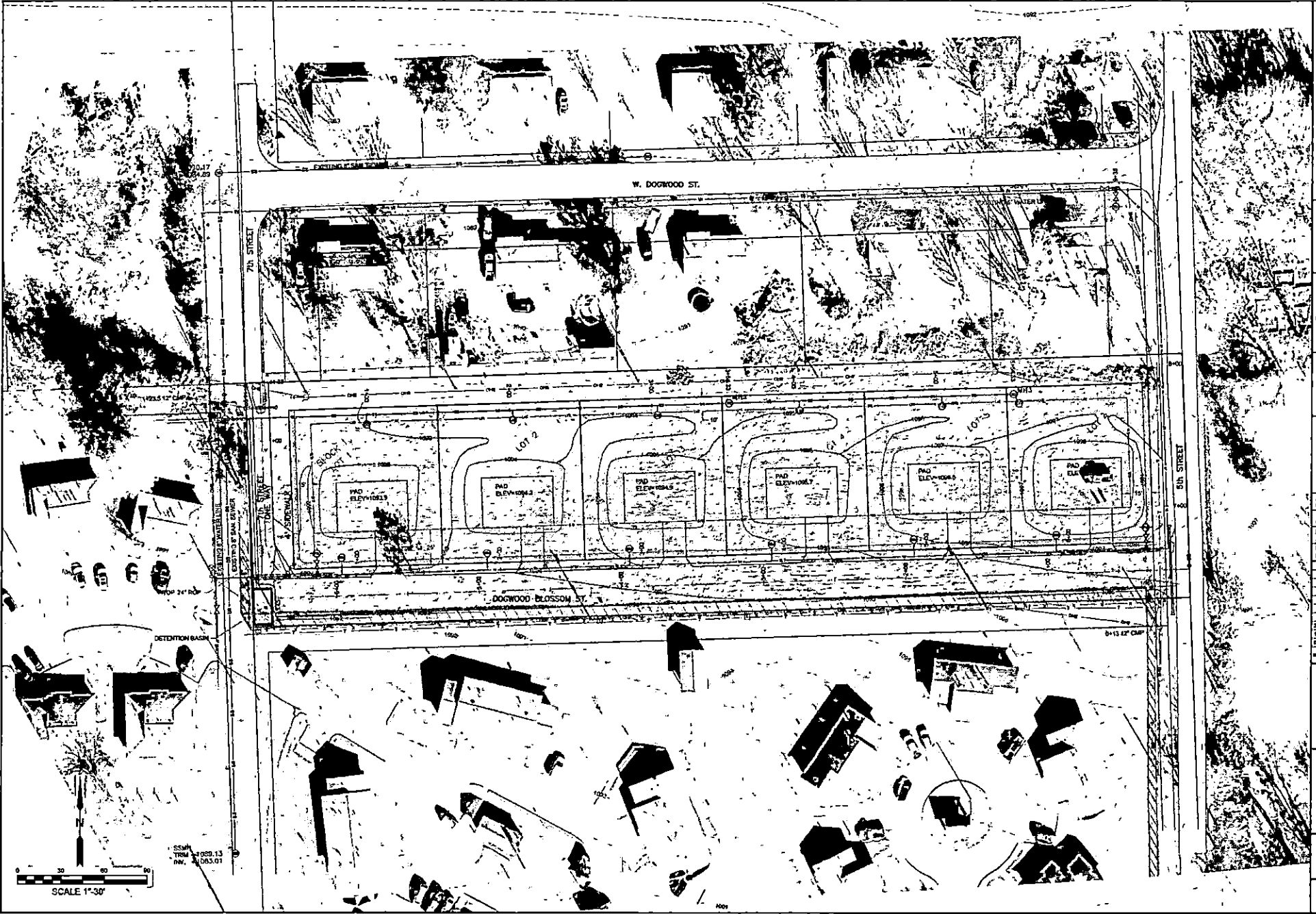
SHEET:
Filed Plat
Covenants and
Restrictions
2016-000818, Book
0523, Page 322

APPROVED BY:
CDS
DATE PREPARED:
Oct 2015
DRAWN BY:
BMS

REVISIONS:

NO.	REVISION	DATE
1	REVISION PER CITY OF STILWELL	08/16/15
2	REVISION PER CITY OF STILWELL	08/16/15
3	REVISION PER CITY OF STILWELL	08/16/15
4	REVISION PER CITY OF STILWELL	08/16/15
5	REVISION PER CITY OF STILWELL	08/16/15
6	REVISION PER CITY OF STILWELL	08/16/15
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48	REVISION PER CITY OF STILWELL	08/16/15
49	REVISION PER CITY OF STILWELL	08/16/15
50	REVISION PER CITY OF STILWELL	08/16/15

A-3
SHEET NO.
22"x34" PRINT ONLY



ENGINEER
 KAS Gales Company
 Consulting Engineer
 18772 Harmon Road
 Fayetteville, AR 72704
 Wk. 479.361.9977
 Cell 479.422.0763
 Email:
 carl.d.gales@gmail.com

PROJECT:
 Dogwood II Addition

CLIENT:
 Housing Authority
 of the Cherokee Nation

Address:
 North 5th Street,
 Stilwell, OK.

SHEET:
 Grading Plan
 with Aerial Imagery

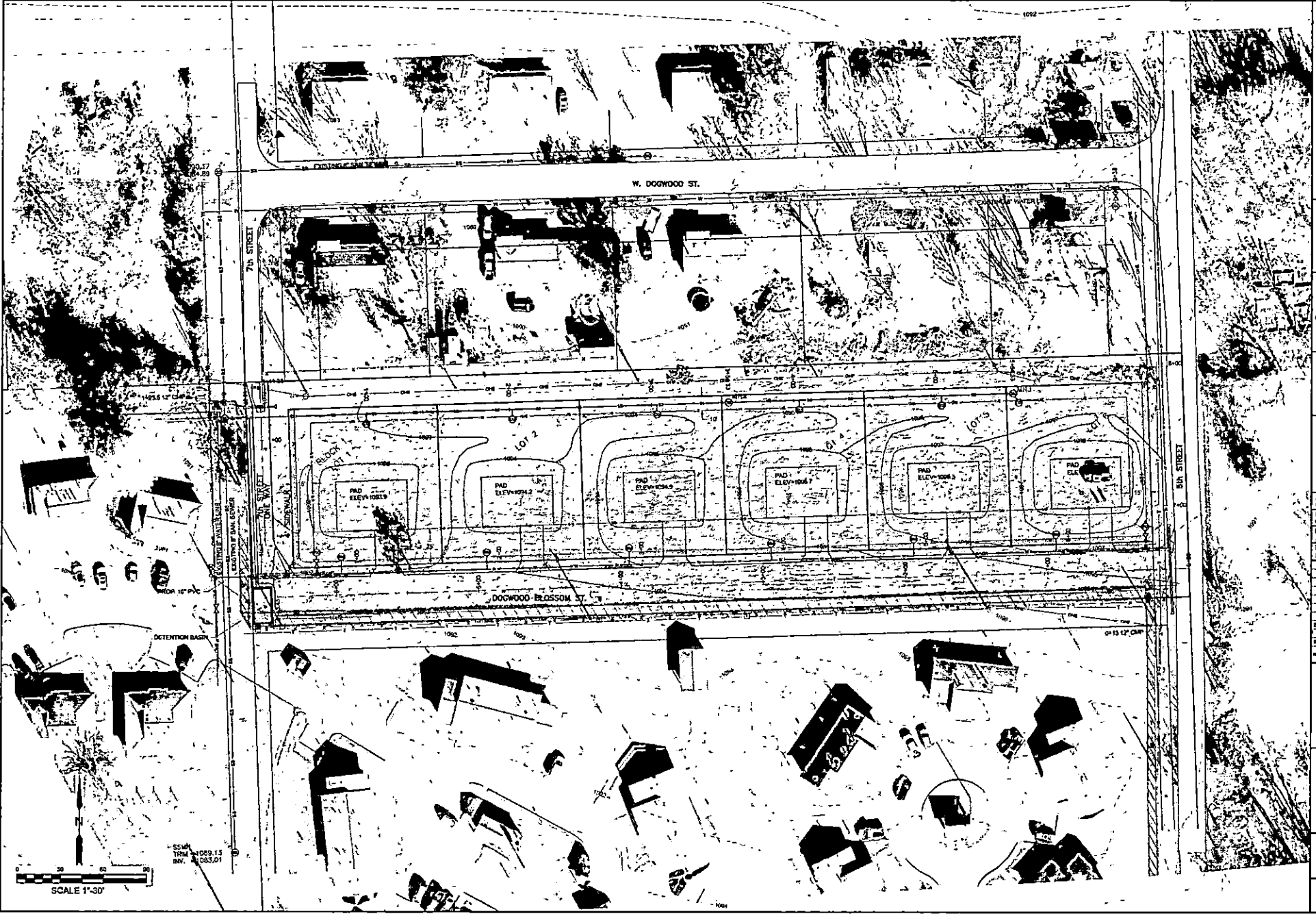
APPROVED BY: _____
DATE PREPARED: Oct. 2015
DESIGNED BY: _____
DRAWN BY: PFM

NO.	REVISION	DATE
1.	ISSUED FOR CITY OF STILWELL	08/03/15
2.	ISSUED FOR CITY OF STILWELL	08/03/15
3.	ISSUED FOR CITY OF STILWELL	08/03/15
NO.	REVISION	DATE



A-5A
 SHEET NO.

22"x34" PRINT ONLY



ENGINEER
 KAS Gales Company
 Consulting Engineer
 18772 Harmon Road
 Fayetteville, AR 72704
 Wk. 479.361.9977
 Cell 479.422.0763
 Email:
 carl.d.gales@gmail.com

PROJECT:
 Dogwood II Addition

CLIENT:
 Housing Authority
 of the Cherokee Nation

Address:
 North 5th Street,
 Stilwell, OK.

SHEET:
 Grading Plan
 with Aerial Imagery

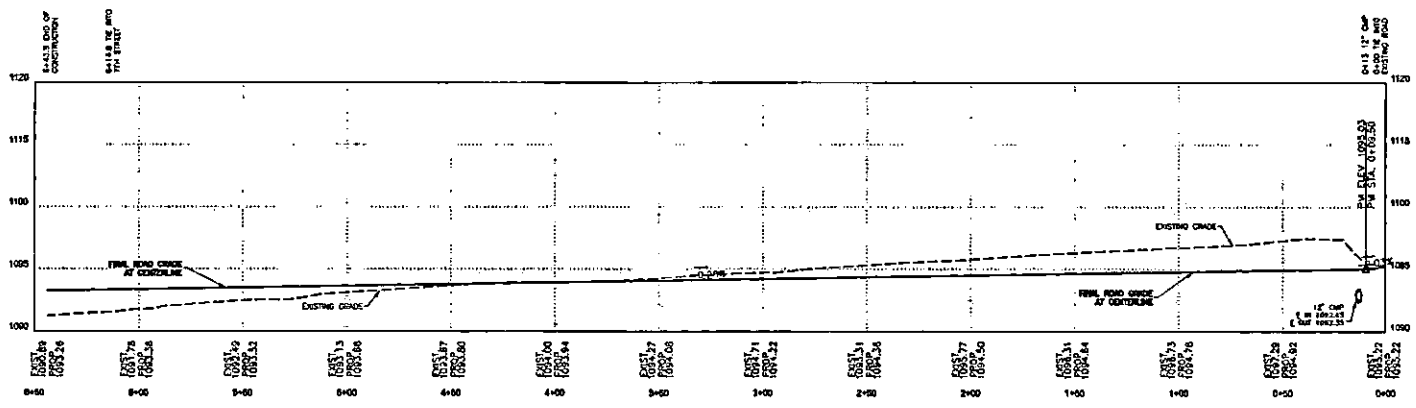
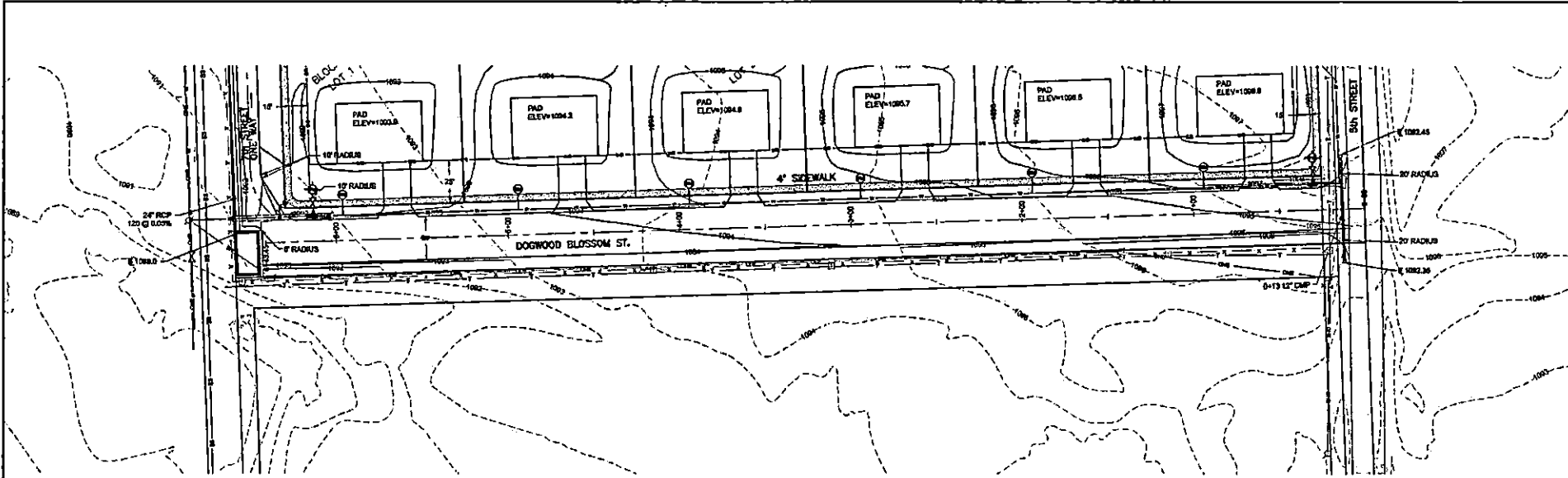
APPROVED BY:
 CAG
DATE PREPARED:
 Oct. 2015
DESIGNED BY:
 JPM
DRAWN BY:
 JPM

NO REVISION DWG



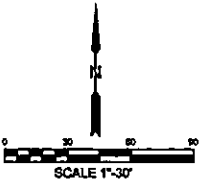
A-5A
 SHEET NO.

22"x34" PRINT ONLY



ROAD DESIGN PROFILE DOGWOOD BLOSSOM ST.

HORZ: 1" = 30' VERT: 1" = 5'



ENGINEER
KAS Gales Company
 Consulting Engineer
 18772 Harmon Road
 Fayetteville, AR 72704
 Wk. 479.361.9977
 Cell 479.422.0763
 Email:
 carl.d.gales@gmail.com

PROJECT:
 Dogwood II Addition

CLIENT:
 Housing Authority
 of the Cherokee Nation

Address:
 North 5th Street,
 Stilwell, OK.

SHEET:
 Dogwood Blossom
 Street Plan and
 Profile

APPROVED BY:
 CSZ

DATE PREPARED:
 Oct. 2015

DESIGNED BY:

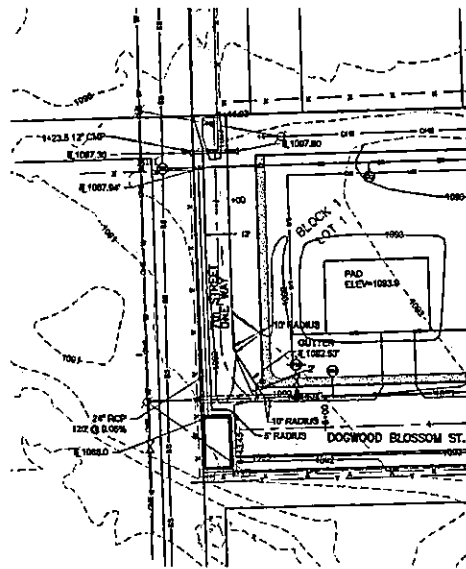
DRAWN BY:
 JPM

NO.	REVISION	DATE



A-6
 SHEET NO.

22"x34" PRINT ONLY



BILL OF MATERIALS			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	UNCLASSIFIED STREET EXCAVATION	850	CY
2	SELECT BORROW FURNISH AND INSTALL	50	CY
3	SB-2 BASE ROCK FURNISH AND INSTALL	190	CY
4	6" CONCRETE PAVING	1900	SY
5	CONCRETE CURB AND GUTTER	1600	LF
6	SILT FENCE, EROSION CONTROL FURNISH AND INSTALL	1628	LF
7	18" CORRUGATED METAL PIPE OR 18" HOPE PIPE W/ ENDWALLS	40	LF
8	CLEARING AND GRUBBING REMOVING OF EXISTING STRUCTURES	1	LS
9	MOBILIZATION	1	LS
10	CONSTRUCTION STAKING	1	LS
11	MATERIAL AND CONSTRUCTION TESTING	1	LS

ENGINEER
 KAS Gales Company
 Consulting Engineer
 18772 Harmon Road
 Fayetteville, AR 72704
 Wk. 479.361.9977
 Cell 479.422.0763
 Email:
 carl.d.gales@gmail.com

PROJECT:
 Dogwood II Additor

CLIENT:
 Housing Authority
 of the Cherokee Nation

Address:
 North 6th Street,
 Stilwell, OK.

SHEET:
 7th Street (One-way
 Plan and Profile

APPROVED BY:
 CSK
DATE PREPARED:
 Oct. 2015

DESIGNED BY:
 CSK

DRAWN BY:
 LPM

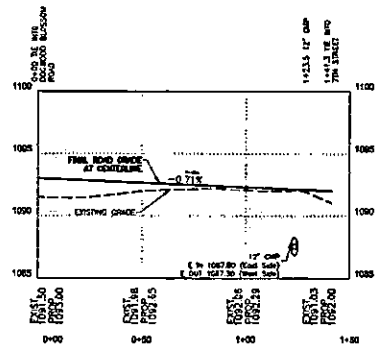
NO. REVISION
 DATE

STATE OF OKLAHOMA
 KAS
 GALES
 COMPANY
 No. CAS127
 OKLAHOMA

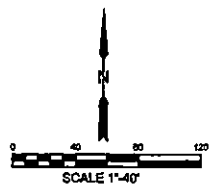
STATE OF OKLAHOMA
 CARL D. GALES
 1007
 OKLAHOMA

A-7
 SHEET NO.

22"x34" PRINT ONLY

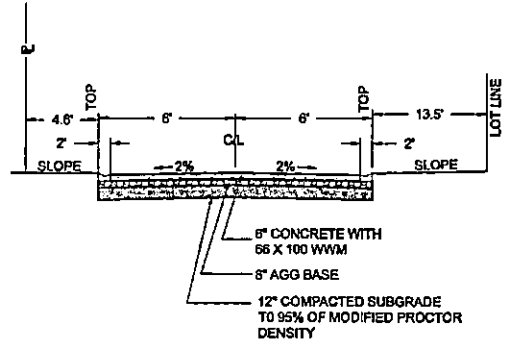
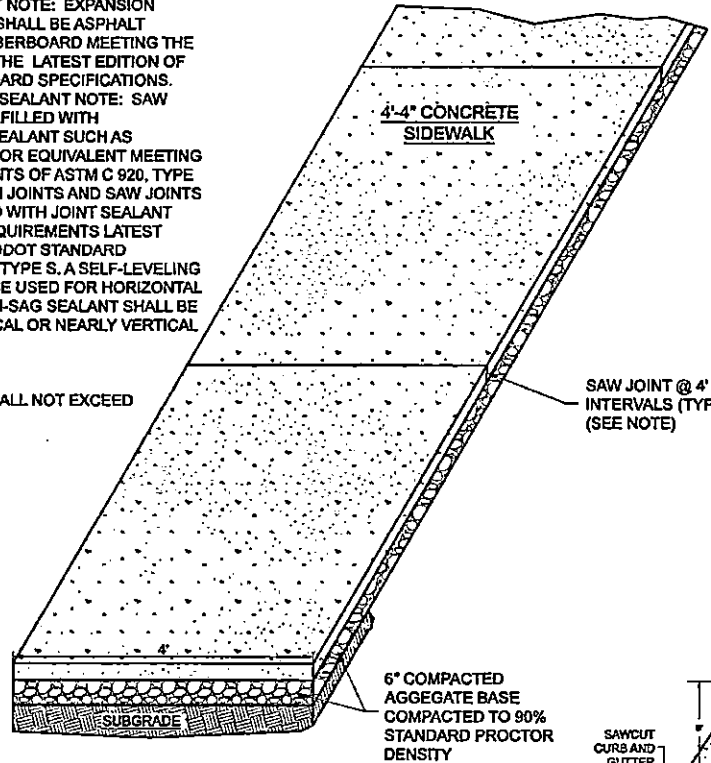


ROAD DESIGN PROFILE 7TH STREET
 HORZ: 1" = 30' VERT: 1" = 5'

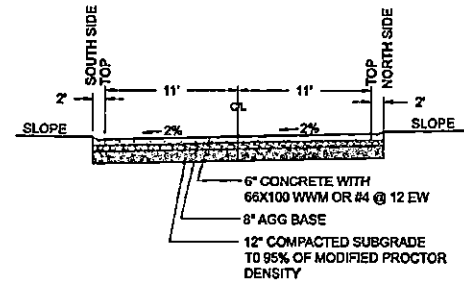


EXPANSION JOINT NOTE: EXPANSION JOINT MATERIAL SHALL BE ASPHALT IMPREGNATED FIBERBOARD MEETING THE REQUIREMENTS THE LATEST EDITION OF THE ODOT STANDARD SPECIFICATIONS. **SAW JOINTS AND SEALANT NOTE:** SAW JOINTS SHALL BE FILLED WITH SELF-LEVELING SEALANT SUCH AS SONNEBORN SL1 OR EQUIVALENT MEETING THE REQUIREMENTS OF ASTM C 920, TYPE S. ALL EXPANSION JOINTS AND SAW JOINTS SHALL BE SEALED WITH JOINT SEALANT MEETING THE REQUIREMENTS LATEST EDITION OF THE ODOT STANDARD SPECIFICATIONS, TYPE S. A SELF-LEVELING SEALANT SHALL BE USED FOR HORIZONTAL SURFACES. A NON-SAG SEALANT SHALL BE USED FOR VERTICAL OR NEARLY VERTICAL SURFACES.

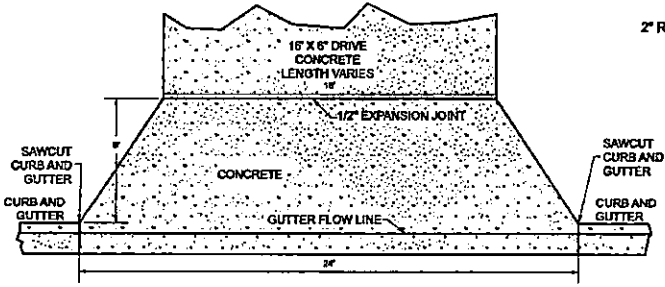
CROSS SLOPE SHALL NOT EXCEED 2%



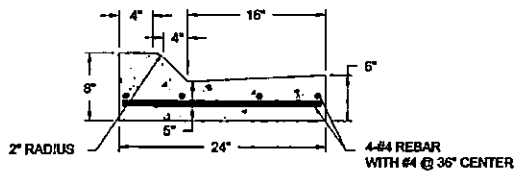
CROSS SECTION FOR 7TH STREET NOT TO SCALE



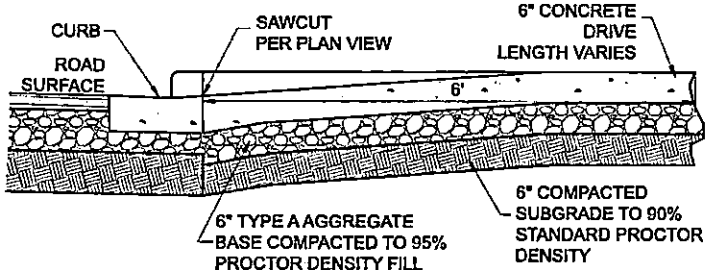
CROSS SECTION FOR DOGWOOD BLOSSOM STREET NOT TO SCALE



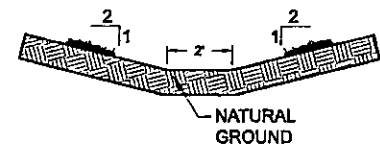
TYPICAL DRIVEWAY DETAIL PLAN VIEW NOT TO SCALE



CURB AND CUTTER DETAIL NOT TO SCALE

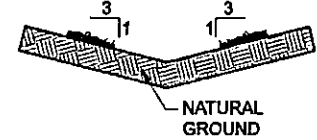


TYPICAL DRIVEWAY DETAIL PROFILE VIEW NOT TO SCALE



GRASS-LINED OPEN CHANNEL DETAILS 2' FLAT BOTTOM SECTION VIEW N.T.S.

NOTE: CHANNEL AND DITCHES TO BE LINED WITH SAME SOD AS USED ON THE REST OF THE SUBDIVISION



GRASS-LINED OPEN CHANNEL DETAILS V-BOTTOM SECTION VIEW N.T.S.

CONCRETE NOTE: PORTLAND CEMENT CONCRETE MIX IN ACCORDANCE ODOT STANDARD SPECIFICATIONS.

NOTE: SIDEWALKS SHALL HAVE A CONTINUOUS LONGITUDINAL GRADE THROUGH DRIVEWAYS AND WILL NOT RAMP DOWN AT DRIVEWAY. DRIVEWAY GRADE ACROSS SIDEWALK SHALL NOT EXCEED 2%.



ENGINEER
KAS Gales Company
Consulting Engineer
18772 Harmon Road
Fayetteville, AR 7270
Wk. 479.361.9977
Cell 479.422.0763
Email:
carl.d.gales@gmail.com

PROJECT:
Dogwood II Addition

CLIENT:
Housing Authority of the Cherokee Nation

Address:
North 5th Street,
Stilwell, OK

SHEET:
Details

APPROVED BY:	ETOS
DATE PREPARED:	Oct. 2015
DESIGNED BY:	
DRAWN BY:	EPM
NO. REVISIONS	00



A-8
SHEET NO.

22"x34" PRINT ONLY



ENGINEER
KAS Gales Company
 Consulting Engineer
 18772 Harmon Road
 Fayetteville, AR 72704
 Wk. 479.361.9977
 Cell 479.422.0763
 Email:
 cart.d.gales@gmail.com

PROJECT:

Dogwood II Addition

CLIENT:

Housing Authority
 of the Cherokee Nation

Address:

North 5th Street,
 Stilwell, OK.

SHEET:

Notes

APPROVED BY:

CSG

DATE PREPARED:

Oct. 2015

DESIGNED BY:

CSG

DRAWN BY:

CSG

NO. REVISION

DATE

1. REVISION FOR CITY OF STILWELL 10/20/15

2. REVISION FOR CITY OF STILWELL 10/20/15

3. REVISION FOR CITY OF STILWELL 10/20/15

NO. REVISION DATE



A-9

SHEET NO.

22"x34" PRINT ONLY

SITE NOTES:

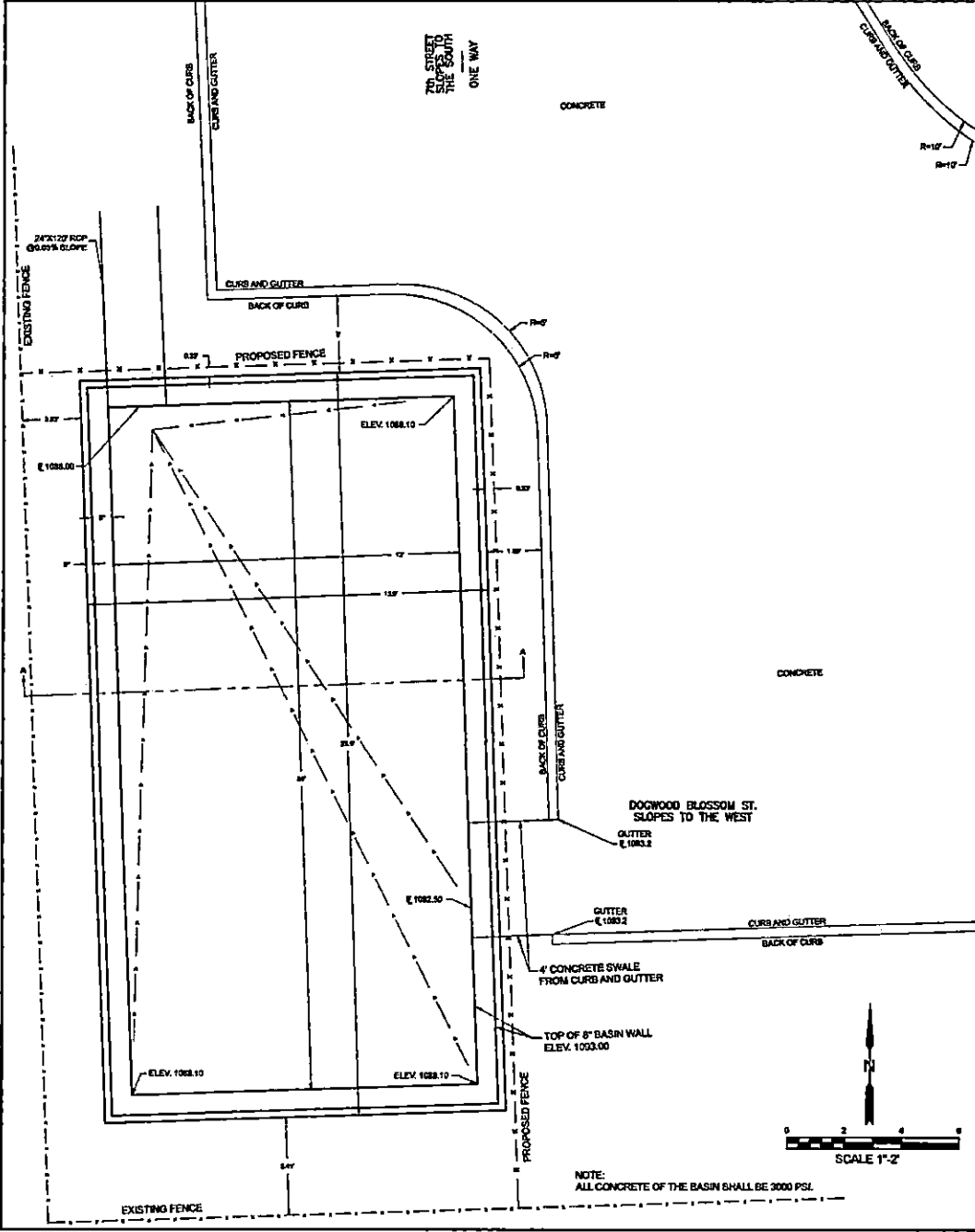
1. THE WORK AND MATERIAL SHALL COMPLY WITH ALL CITY/COUNTY/STATE FEDERAL REGULATIONS CODES AND OSHA STANDARDS.
2. CONTRACTOR SHALL COORDINATE PLANS AND REFER TO STRUCTURAL & BUILDING PLANS AS NEEDED.
3. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
4. ALL CURB/SIDEWALK/VAN HANDICAP CONSTRUCTION SHALL CONFORM TO FEDERAL ADA STANDARDS OR LOCAL CODES, WHICHEVER IS MORE RESTRICTIVE.
5. CONTRACTOR SHALL ENSURE ALL NECESSARY PERMITS ARE OBTAINED PRIOR TO CONSTRUCTION START.
6. CONTRACTOR SHALL MATCH THE PROPOSED DRIVEWAYS TO THE EXISTING ASPHALT ROADWAY PAVEMENT.

GENERAL NOTES:

1. ALL GRADING, PAVING AND STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION 2009 STANDARD SPECIFICATIONS & STANDARDS. ALL CONSTRUCTION TESTING SHALL BE IN ACCORDANCE WITH OKLAHOMA DEPARTMENT OF TRANSPORTATION (O.D.O.T.) 1999 SPECIAL PROVISION 843-EDA(c-c)99 AND RELATED 1999 SPECIAL PROVISIONS AND MATERIALS TESTING e-Guide. GRADING & COMPACTION & ANY SELECT MATERIAL FOR THE BUILDING SHALL BE PER THE GEO-TECHNICAL REPORT.
2. CONSTRUCTION, MATERIAL & PHYSICAL TESTING AS REQUIRED WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF THE OKLAHOMA "ONE-CALL SYSTEM INC." NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS OR LATER THAN 72 HOURS (EXCLUDING SATURDAYS, SUNDAYS OR LEGAL HOLIDAYS), PRIOR TO COMMENCEMENT OF WORK. PHONE 1-800-522-6543.
4. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE DRAWINGS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE DRAWINGS AND WE ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OF THEIR DEPICTED LOCATION ON THESE DRAWINGS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN, AND ALL OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE DRAWINGS BY VERIFICATION OF THEIR LOCATION IN THE FIELD PRIOR TO THE INITIATION OF THE ACTUAL PORTION OF THEIR WORK.
5. ALL CONSTRUCTION STAKING SHALL BE PERFORMED BY LICENSED SURVEYOR. ELECTRONIC DATA WILL BE MADE AVAILABLE TO THE SURVEYOR FOR HIS USE.
6. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH, AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTIONS ON HIS OWN RESPONSIBILITY OR AS THE ENGINEER MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF THE WORK COVERED BY THE CONTRACT. THE CONTRACTOR SHALL COMPLY WITH THE LATEST OSHA REGULATIONS.
7. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS REQUIRED.
8. ALL DIMENSIONS SHALL BE COORDINATED WITH ENGINEER. AN ELECTRONIC FORMAT WILL BE AVAILABLE TO SURVEYOR.
9. THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR CLARIFICATION IF A DISCREPANCY OR INCONSISTENCY IS IDENTIFIED ON THE PLANS AND/OR SPECIFICATIONS IMMEDIATELY.
10. DRAWINGS AT ALL TIMES, THE CONTRACTOR SHALL MARK (IN RED) ALL APPROVED CHANGES INCURRED FOLLOWING APPROVAL OF THE DETAIL DRAWINGS. THESE CHANGES MAY BE INITIATED FROM FIELD CONDITIONS OR CHANGES MADE BY THE DESIGN ENGINEER. EXCEPT FOR MINOR FIELD ADJUSTMENTS, ALL CHANGES SHALL BE REVIEWED AND AGREED TO BY THE DESIGN ENGINEER PRIOR TO FINAL APPROVAL OF THE PROJECT. THE CONTRACTOR SHALL SUBMIT THE WORKING DRAWINGS TO THE DESIGN ENGINEER AFTER FINAL INSPECTION OF THE PROJECT TO SERVE AS A BASIS FOR DEVELOPMENT OF THE FINAL AS-BUILT RECORD DRAWINGS.

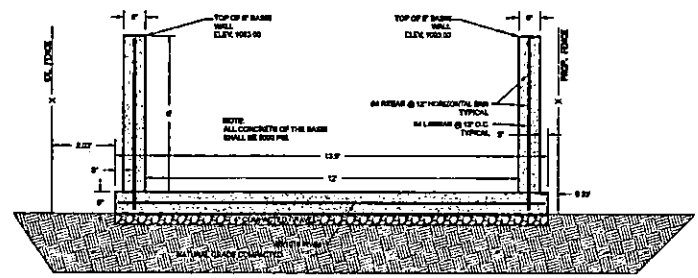
GRADING NOTES:

1. ALL GRADING AND EROSION CONTROL SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE EROSION CONTROL PLANS AND O.D.O.T. SPECIFICATIONS AND STANDARDS.
2. THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS BEFORE EXCAVATING.
3. ALL EXISTING USABLE TOPSOIL (AS APPROVED BY THE CONTRACTOR'S TESTING LAB) SHALL BE STRIPPED AND STOCKPILED IN AN AREA APPROVED BY THE OWNER AND RESPREAD AS DIRECTED BY OWNER AFTER GRADING IS COMPLETED.
4. STRIPPING, PROOF ROLLING, SUBGRADE SCARIFICATION AND COMPACTION, AND FILL CONSTRUCTION FOR THE SITE, PAVING AREAS AND BUILDING SHALL BE PERFORMED ACCORDING TO THE ODOT'S 2009 SPECIFICATIONS.
5. CONTRACTOR SHALL PROVIDE WATER AS REQUIRED TO OBTAIN SPECIFIED COMPACTION REQUIREMENTS AND SHALL CONTACT THE CITY OF STILWELL FOR ANY METER PERMITS.
6. SUBGRADE STABILIZATION SHALL BE PER PLANS OR AS DIRECTED BY THE CONTRACTOR'S TESTING FIRM.
7. ENGINEER WILL NOT INTERPRET SOILS REPORTS OR ACCEPT RESPONSIBILITY FOR ALTERNATIVE METHODS PROPOSED BY THE CONTRACTOR.
8. GEO-TECHNICAL CONSTRUCTION & MATERIAL TESTING WILL BE PROVIDED BY THE CONTRACTOR. ANY FAILING TEST SHALL BE RE-TESTED AT THE CONTRACTOR'S EXPENSE UNTIL PASSING TESTS ARE OBTAINED.
9. UNDERCUTTING OF SOFT SPOTS AND PLACEMENT OF EARTHWORK IS GOVERNED BY THE GEO-TECHNICAL REPORT FOR THE SITE.
10. CORRECTIVE MEASURES DIRECTED BY THE ENGINEER MAY INCLUDE COMPLETE REMOVAL AND REPLACEMENT AT NO COST TO THE OWNER IN CASES OF POOR WORKMANSHIP OR UNSATISFACTORY IN-PLACE CONDITIONS.
11. SITE GRADING SHALL NOT PROCEED UNTIL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED.
12. ALL UNSURFACED AREAS DISTURBED BY GRADING OR FILLING OPERATIONS SHALL RECEIVE 4" OF TOPSOIL TO FINAL GRADE. THE TOPSOIL SHALL BE WATER FLOODED, DRIED AND PROOF-ROLLED PRIOR TO PLACEMENT OF SOLID SLAB SOIL.
13. THE CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM PROPOSED HOMES.



BILL OF MATERIALS

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	UNCLASSIFIED EXCAVATION	35	CY
2	FURNISH AND INSTALL CONCRETE BASIN	22	CY
3	FURNISH AND INSTALL GRAVEL	12	CY
4	FURNISH AND INSTALL FENCE (SIZE TO BE DETERMINED BY EXISTING FENCE)	37	LF
5	24" RCP PIPE	120	LF
6	CLEARING AND GRUBBING REMOVING OF EXISTING STRUCTURES	1	LS
7	MOBILIZATION	1	LS
8	CONSTRUCTION STAKING	1	LS
9	MATERIAL AND CONSTRUCTION TESTING	1	LS



DETENTION BASIN SECTION VIEW
SCALE 1"=2'



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 Cell 479.422.0763
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 cart.d.gales@gmail.com

PROJECT:

Dogwood II Additor

CLIENT:

Housing Authority
 of the Cherokee Nation

Address:

North 6th Street,
 Stilwell, OK.

SHEET:

**Drainage Base Pter
 and Section View**

APPROVED BY:

C302

DATE PREPARED:

Apr. 2023

DESIGNED BY:

MDD

DRAWN BY:

MDD

NO. REVISION

DATE

BY

BY

BY

BY

BY

BY

BY

BY

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BY



SD-1

SHEET NO.

SHEET NO.

SHEET NO.

SHEET NO.

SHEET NO.

SHEET NO.

SHEET NO.

SHEET NO.

SHEET NO.

22"x34" PRINT ONLY



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 Email: kas@ksg.com
 kas.l.d.gales@gmail.com

PROJECT:

Dogwood II Addition

CLIENT:

**Housing Authority
 of the Cherokee Nation**

Address:

**North 5th Street,
 Stilwell, OK**

SHEET:

**Drainage with aerial
 imagery**

DESIGNED BY:

CDK

DATE PREPARED:

APR. 2023

DESIGNED BY:

CDK

DATE:

APR. 2023

DRAWN BY:

CDK

DATE:

APR. 2023

CHECKED BY:

CDK

DATE:

APR. 2023

SCALE:

AS SHOWN

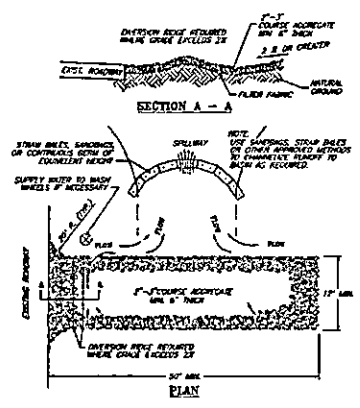
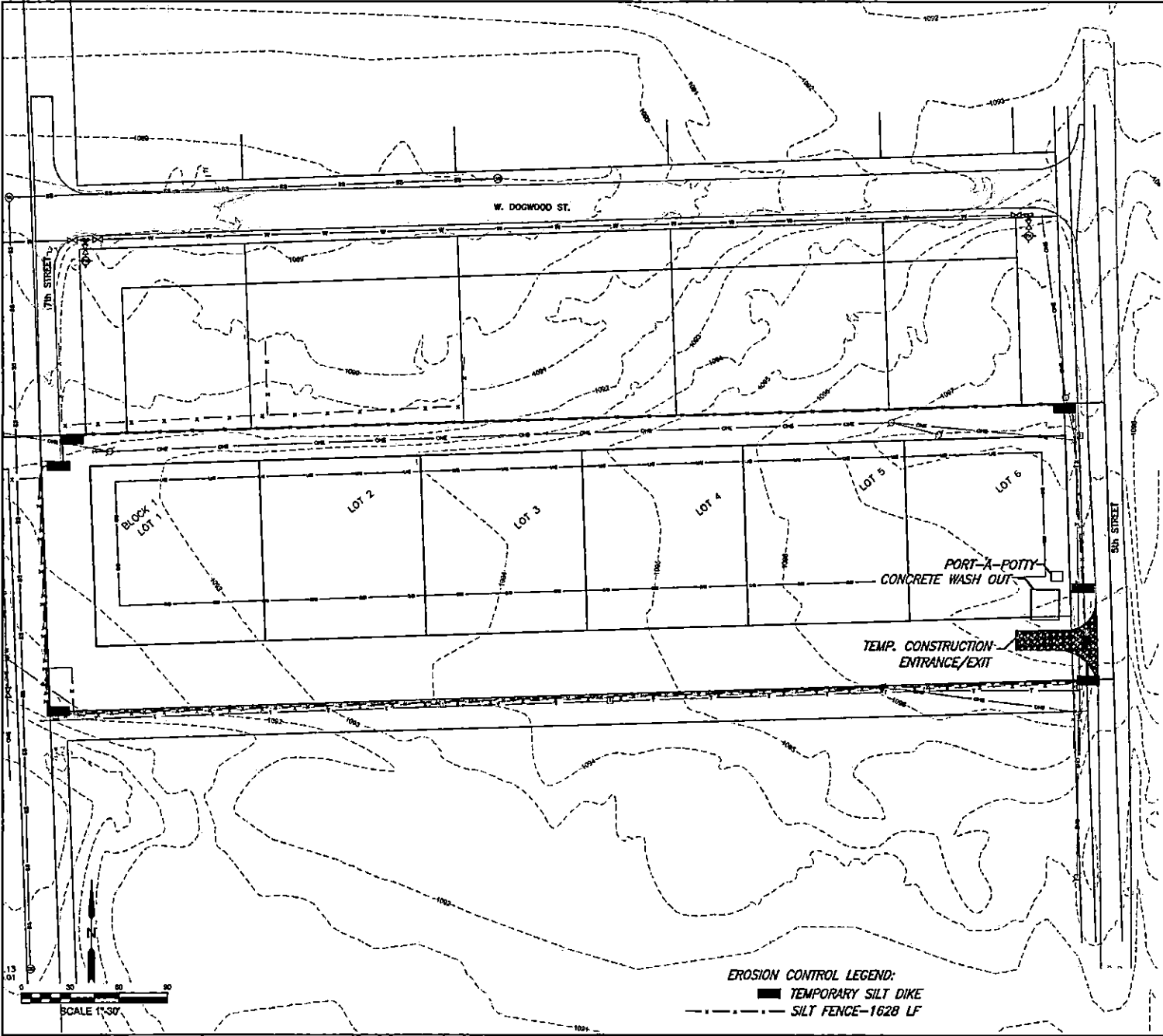


SD-2A

SHEET NO.

22x34" PRINT ONLY





NOTES:
 1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOTTING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY INCLUDE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO THAT SEDIMENT.
 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
 3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CHECKED STONE THAT GRABS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE AND EXIST N.T.S.

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PROJECT:
 Dogwood II Addition

CLIENT:
 Housing Authority
 of the Cherokee Nation

Address:
 North 5th Street,
 Siltwell, OK.

SHEET:
 Storm Water
 Management Plan
 Sheet 1

APPROVED BY:	
DATE PREPARED:	Oct. 2013
DESIGNED BY:	
DRAWN BY:	SPM
CHECKED BY:	
IN CHARGE:	



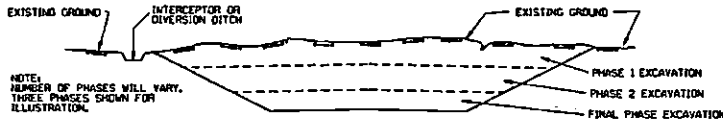
SD-3
 SHEET NO.

22"x34" PRINT ONLY

CLEARING AND GRUBBING

- CONSTRUCTION SEQUENCE**
1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES, DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
 2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



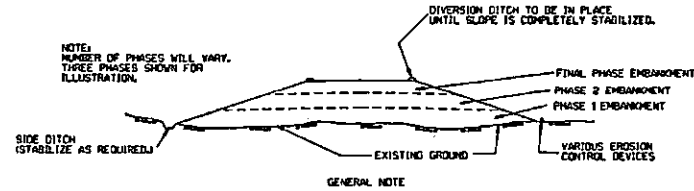
NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR ILLUSTRATION.

GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

- CONSTRUCTION SEQUENCE**
1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
 2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
 3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
 4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT

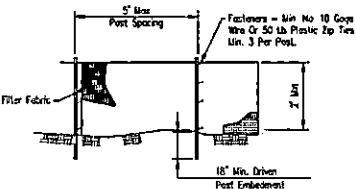


GENERAL NOTE

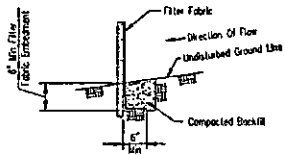
ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

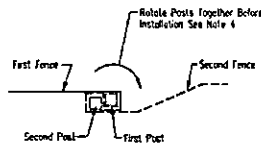
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ADJOURNED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ADJOURNED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.



ELEVATION NTS



FABRIC ANCHOR DETAIL NTS

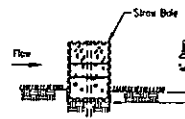


SPLICE DETAIL-PLAN VIEW NTS

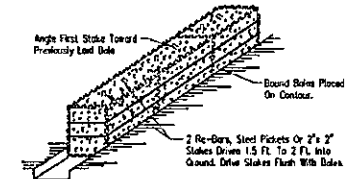
NOTES:

1. Temporary silt fence shall be installed prior to any grading work in the area to be protected. Fence shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
2. Filter fabric shall meet the requirements of material specification 592 (available Table 1 or 2, Class 1 with equivalent opening size of at least 30 for nonwoven and 50 for woven).
3. Fence posts shall be either wood post with a minimum cross-sectional area of 1.5" x 1.5" or a standard steel post.
4. When splices are necessary make splice at post according to splice detail. Place the end post of the second fence inside the end post of the first fence. Rotate both posts together at least 180 degrees to create a tight seal with the fabric material. Cut the fabric over the bottom of the posts to accommodate the 6 inch top. Then drive both posts and bury the top. Compact backfill soil.

SILT FENCE AND TEMP. SILT DIKE INSTALLATION



BEDDING DETAIL NTS



ANCHORING DETAIL NTS

NOTES:

1. Bales shall be placed at the top of slope or on the contour and in a row with ends tightly abutting the adjacent bales.
2. Each bale shall be embedded in the soil a minimum of 12", and placed so that windings are horizontal.
3. Bales shall be securely anchored in place by either two stakes or re-bars driven through the bale. The first stake in each bale shall be driven toward the previously laid bale at an angle to force the bales together. Stakes shall be driven flush with the bale.
4. Inspection shall be frequent and repair replacement shall be made promptly as needed.
5. Bales shall be removed when they have served their usefulness as no not to block or impede storm flow or drainage.



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PROJECT:

Dogwood II Additior

CLIENT:

Housing Authority
of the Cherokee Nation

Address:

North 5th Street,
Sulwell, OK.

SHEET:

Typical Erosion
Control Devices

APPROVED BY:

CDG

DATE PREPARED:

Oct. 2015

DESIGNED BY:

PMI

DRAWN BY:

PMI

NO. REVISION

DATE

BY

DATE

BY

DATE

BY

DATE

BY

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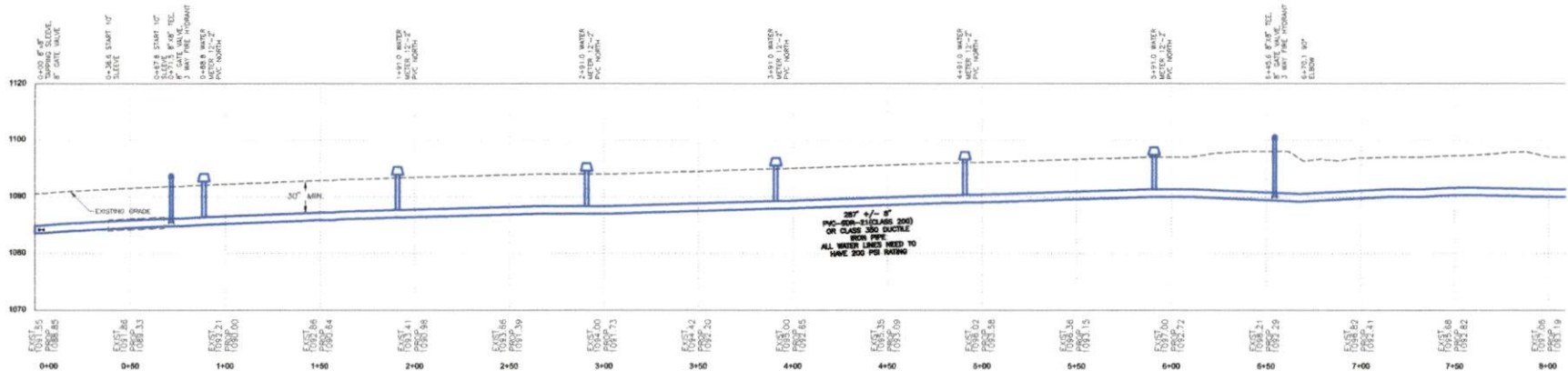
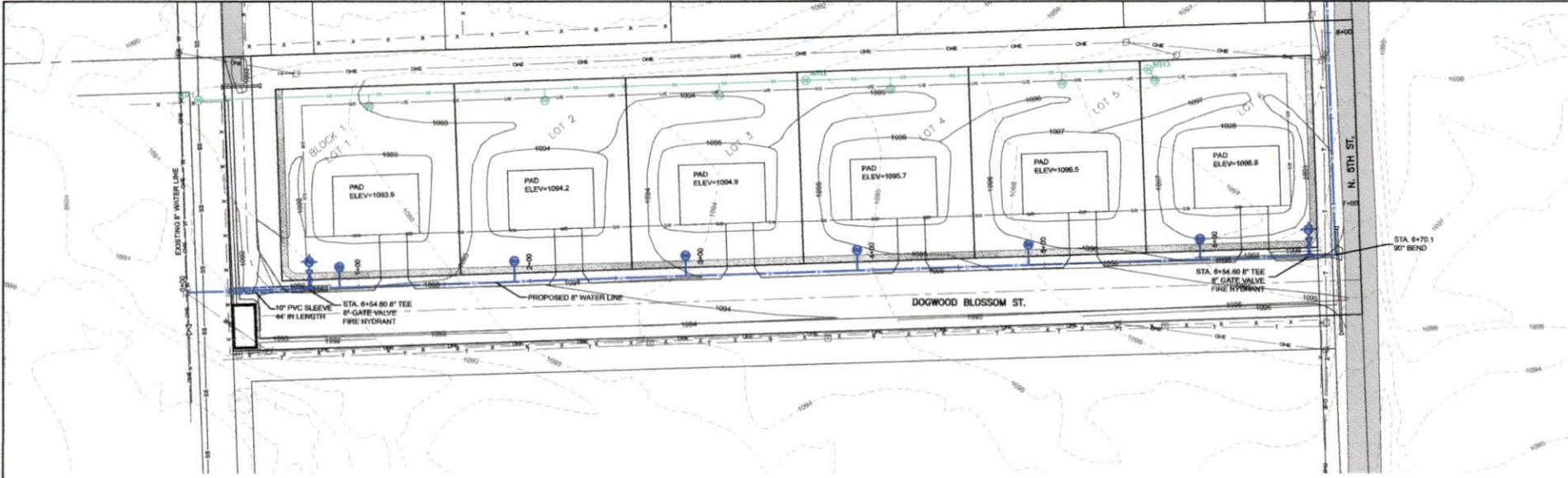
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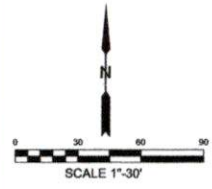
SD-5

SHEET NO.

22"x34" PRINT ONLY



WATERLINE DESIGN PROFILE HORZ: 1" = 30' VERT: 1" = 10'



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PROJECT:
 Dogwood II Addition

CLIENT:
 Housing Authority
 of the Cherokee Nation

Address:
 North 5th Street,
 Stilwell, OK.

SHEET:
 Water Line Plan and
 Profile Sheet 1

APPROVED BY:
 CKM

DATE PREPARED:
 Oct. 2015

DESIGNED BY:

DRAWN BY:
 JPM

NO.	REVISION	DATE
1.	REVISION PER CITY OF STILWELL	09/10
2.	REVISION PER CITY OF STILWELL	02/04
NO.	REVISION	DATE



W-1
 SHEET NO.

22"x34" PRINT ONLY



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PROJECT:
 Dogwood II Addition

CLIENT:
 Housing Authority
 of the Cherokee Nation

Address:
 North 5th Street,
 Stilwell, OK.

SHEET:
 Water Line Plan and
 Profile Sheet 2

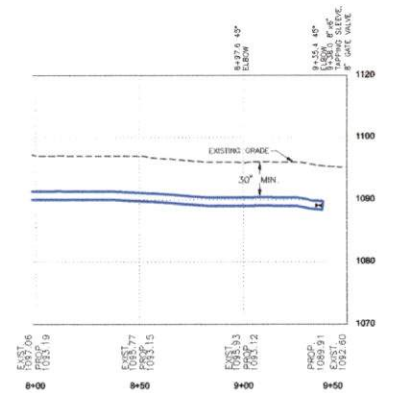
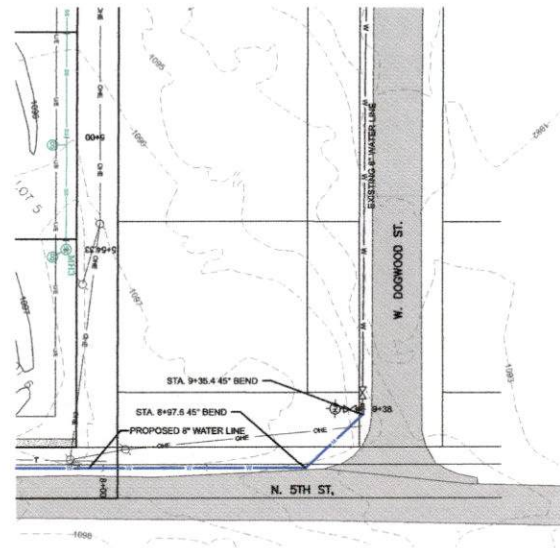
APPROVED BY:
 CDG
DATE PREPARED:
 Oct. 2015
DESIGNED BY:
 IPM
DRAWN BY:
 IPM

NO.	REVISION	DATE
2.	REVISION PER CITY OF STILWELL	08/20
1.	REVISION PER CITY OF STILWELL	08/13
0.	REVISION PER CITY OF STILWELL	02/04

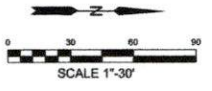


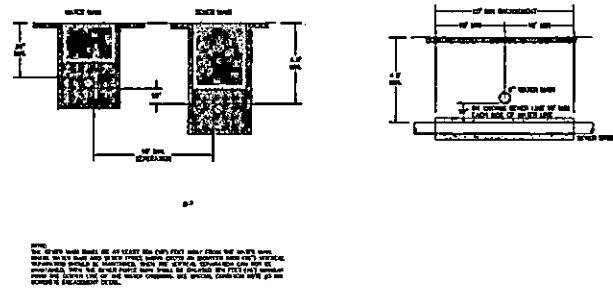
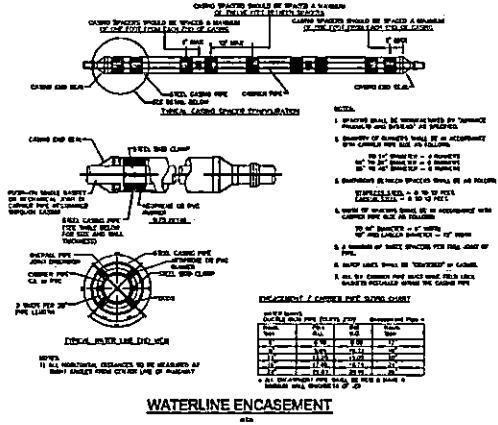
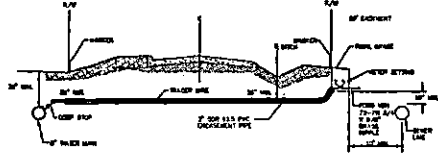
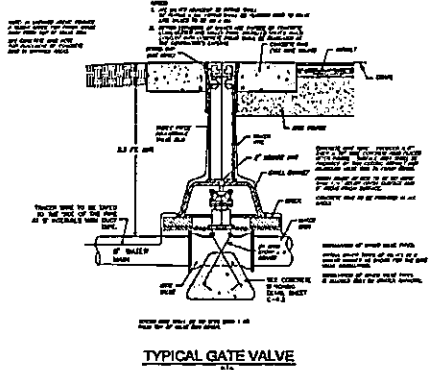
W-2
 SHEET NO.

22"x34" PRINT ONLY



WATERLINE DESIGN PROFILE
 HORZ: 1" = 30' VERT: 1" = 10'





BILL OF MATERIALS			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	EXCAVATION AND BACKFILL TRENCH	325	CY
2	8" AWWA C900 CLASS 200 PIPE FURNISH AND INSTALL	935	LF
3	10" PVC CLASS 200 PIPE FURNISH AND INSTALL	44	LF
4	3/8" PEBBLES	115	CY
5	3/4" PVC SERVICE LINES	30	LF
6	8" TEE FURNISH AND INSTALL	3	EA
7	8"x6" TEE TAPPING SLEEVE FURNISH AND INSTALL	1	EA
8	8" GATE VALVE FURNISH AND INSTALL	3	EA
9	SERVICE METER, METER CANS W/ APPURTENANCES FURNISH AND INSTALL	6	EA
10	VALVE BOXES FURNISH AND INSTALL	3	EA
11	THREE WAY FIRE HYDRANT FURNISH AND INSTALL	1	EA
12	REMOVE AND RELOCATE EXISTING FIRE HYDRANT	1	EA
13	FITTINGS	1	LS
14	MOBILIZATION	1	LS
15	CONSTRUCTION STAKING	1	LS
16	MATERIAL AND CONSTRUCTION TESTING	1	LS

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 Cell 479.422.0763
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 carl.d.gales@gmail.com

PROJECT:
 Dogwood II Additor

CLIENT:
 Housing Authority of the Cherokee Nation

Address:
 North 5th Street, Stilwell, OK.

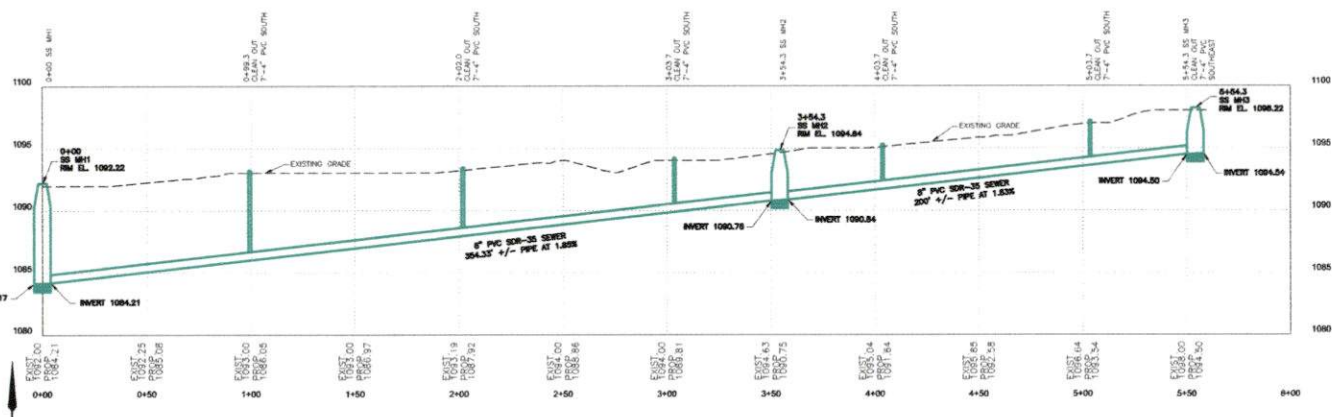
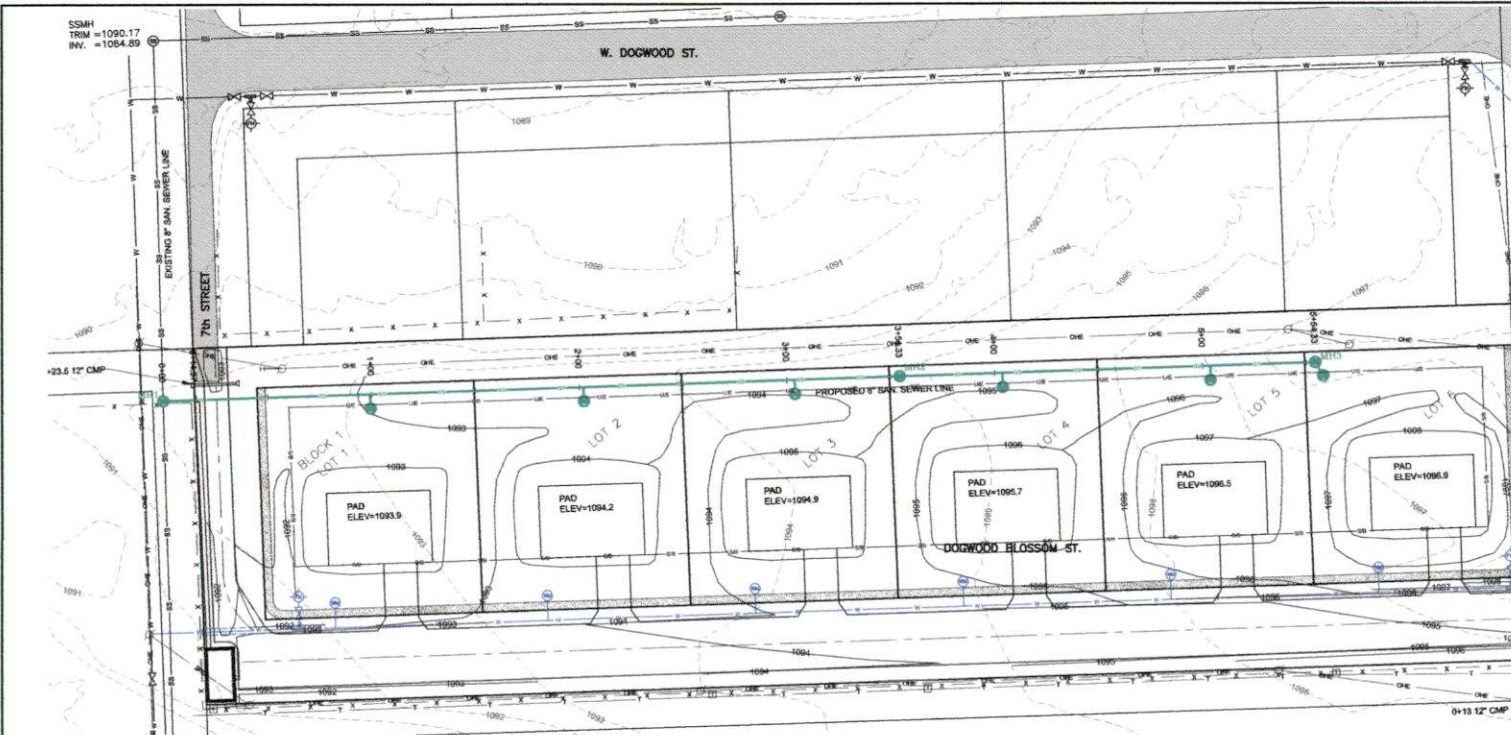
SHEET:
 Water Line Standards Sheet 2

APPROVED BY:
 CDM
DATE PREPARED:
 Oct 2015
DESIGNED BY:
 CDM
DRAWN BY:
 CDM

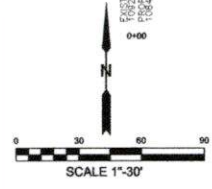


W-4
 SHEET NO.

22"x34" PRINT ONLY



SANITARY SEWER DESIGN PROFILE HORZ: 1" = 30' VERT: 1" = 5'



BILL OF MATERIALS			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	EXCAVATION AND BACKFILL TRENCH	285	CY
2	3/8" ROCK PEBBLE	65	CY
3	8" PVC SDR 35 PIPE FURNISH AND INSTALL	554	LF
4	4' I.D. STANDARD MANHOLE DEPTH VARY	3	EA
5	8"x8"x4" TEE W/ RISERS AND 4" CLEAN OUT	6	EA
6	MOBILIZATION	1	LS
7	CONSTRUCTION STAKING	1	LS
8	MATERIAL AND CONSTRUCTION TESTING	1	LS



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 carl.d.gales@gmail.com

PROJECT:
 Dogwood II Additor

CLIENT:
 Housing Authority
 of the Cherokee Nation

Address:
 North 5th Street,
 Stilwell, OK.

SHEET:
 Sanitary Sewer Line
 Plan and Profile

APPROVED BY:
 CDG

DATE PREPARED:
 Oct. 2015

DESIGNED BY:

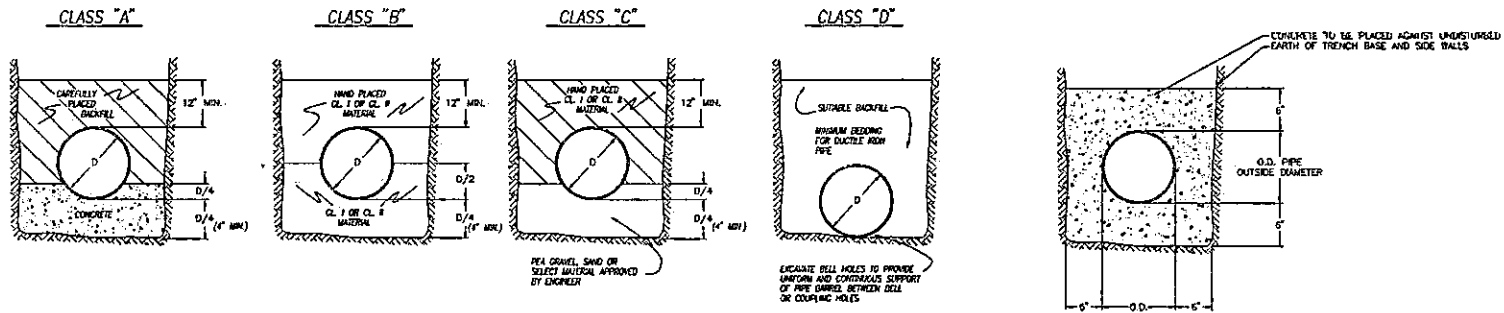
DRAWN BY:
 JPM

NO.	REVISION	BY	DATE
2	REVISION PER CITY OF STILLWELL	06/23	
1	REVISION PER CITY OF STILLWELL	06/10	
0	REVISION PER CITY OF STILLWELL	02/24	



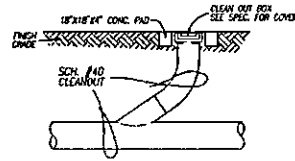
S-1
 SHEET NO.

22"x34" PRINT ONLY

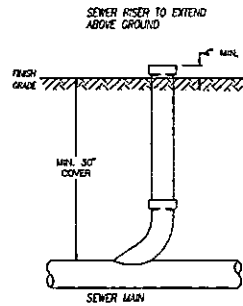


CLASSES OF BEDDING FOR PIPE IN TRENCHES - FOR ALL GRAVITY AND PRESSURE LINES
 N.T.S.

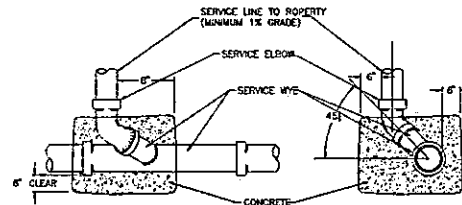
TYPICAL CONCRETE ENCASEMENT
 N.T.S.



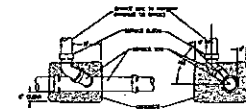
TYPICAL CLEANOUT DETAIL
 N.T.S.



TYPICAL SEWER RISER DETAIL
 N.T.S.



TYPICAL ENCASEMENT FOR VERTICAL SERVICE CONNECTIONS
 N.T.S.



TYPICAL ENCASEMENT FOR VERTICAL SERVICE CONNECTIONS



ENGINEER
KAS Gales Company
 Consulting Engineer
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 Fayetteville, AR 72704
 Wk. 479.361.9977
 Cell 479.422.0763
 Email:
 carl.d.gales@gmail.com

PROJECT:

Dogwood II Addition

CLIENT:

Housing Authority of the Cherokee Nation

Address:

**North 5th Street,
 Stillwell, OK.**

SHEET:

Sanitary Sewer Standards

APPROVED BY:

CSG

DATE PREPARED:

Oct. 2019

DESIGNED BY:

JKM

DRAWN BY:

JKM

NO. REVISION

DATE

1. APPROVED PER CITY OF FAYETTEVILLE 2020

2. APPROVED PER CITY OF FAYETTEVILLE 2020

3. APPROVED PER CITY OF FAYETTEVILLE 2020

NO. REVISION

DATE



S-2

SHEET NO.

22"x34" PRINT ONLY

**DRAINAGE REPORT
FOR
DOGWOOD ADDITION NO. 2
City of STILWELL
ADAIR COUNTY, OKLAHOMA
Part of SE ¼ NE ¼ NE ¼ OF
SECTION 34, T16N, R25E**

PREPARED BY:


**KAS GALES COMPANY
Consulting Engineers
18772 Harmon Road
Fayetteville, Arkansas 72704**



**June 10, 2023
Revised June 29, 2023**

I. REPORT CERTIFICATION

I, Carl D. Gales, Registered Professional Engineer, No. 10587 in the State of Oklahoma, hereby certifies that the drainage designs and specifications contained in this Report have been prepared by me, or under my responsible supervision in accordance the regulations of the City of Stilwell, Oklahoma,, the Professional Engineers Registration Act of the State of Oklahoma, and reflect the application of generally accepted standards of Engineering practice. I further certify that the improvements outlined in this Report will not have any adverse effects to life or downstream properties. I understand that review of these plans is limited to general compliance with City Codes and Regulations and does not warrant the Engineer's design or imply any liability to the City of Stillwell for the designs contained herein.



Carl D. Gales, P.E.



**Dogwood Addition No. 2
Drainage Study**

INTRODUCTION

This study is for the platted subdivision of Dogwood Addition No. 2 located in Stilwell, Oklahoma.

SITE DESCRIPTION

The site was original a poorly graded grassed area with a house and metal shop barn type building located on the eastern portion of the property. The property is a total of 2.25 areas that generally slopes from the north to south and then east to west. The original storm water runoff was deposited via surface sheet flow to the existing south property (Rolling Hills Addition of 1980) and to the west side drainage ditch of 5th Street.

Project Description

The proposed project will not encroach on any existing floodplain area and no regulatory floodplain exists on the property. This property will have an increased storm water runoff volume with the development of the proposed six (6) new houses, concrete driveways and Dogwood Blossom Street. In order, to not change the peak storm water runoff volume, it is proposed to construct a detention pond in the southwest corner of the property and channel all storm water thru this pond and to discharge the water via an outlet pipe to the northwest. Plans have been designed and runoff calculations and charts are included in this report.

A Cn value of 74 was used for the existing drainage site runoff calculations
The Cn values for the completed proposed subdivision area used an average of 85.

HYDROLOGY

The software programs used for this project are
Hydraflow 2004, Hydraflow Storm Sewers 2008 Using the Rational Method

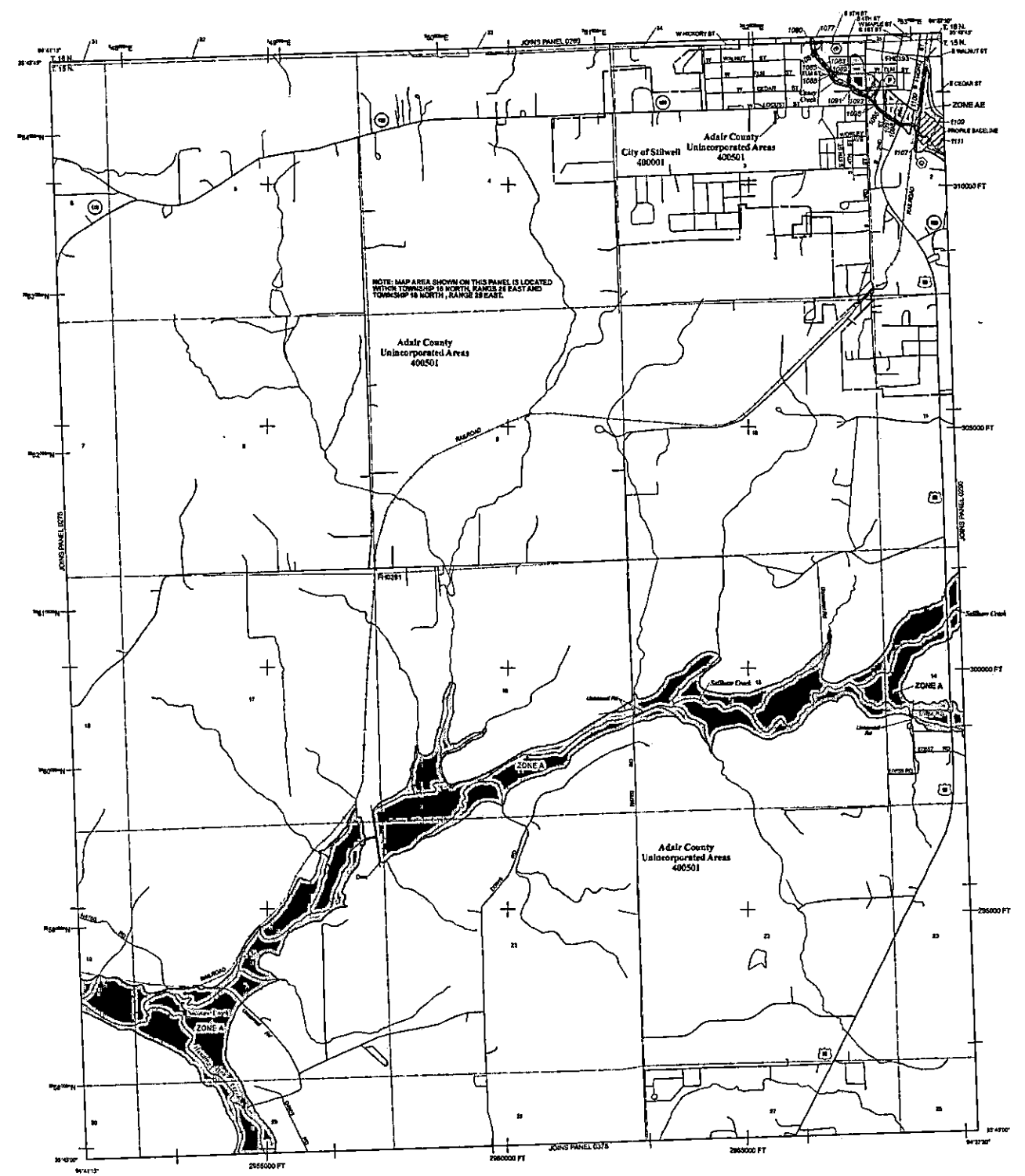
TABLE 1			
Existing Conditions	Area	CN	Time of Concentration
	2.25	0.74	5
Proposed Condition			
	2.25	0.85	5

Table 2					
Hydaflow Data Rational Design Frequency and CFS					
Existing Runoff					
2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
9.48	10.94	12.05	13.74	15.05	16.37
Proposed Runoff					
10.89	12.56	13.84	15.77	17.29	18.81
Increased Runoff					
1.41	1.62	1.79	2.03	2.24	2.44

Summary

The existing and proposed runoff calculations were completed and the detention pond was designed to limit post peak rate of surface discharge to be the same or lower that the existing discharge for the 24 hour duration storms for the two, five, ten, and twenty five, fifty, and 100 year events.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

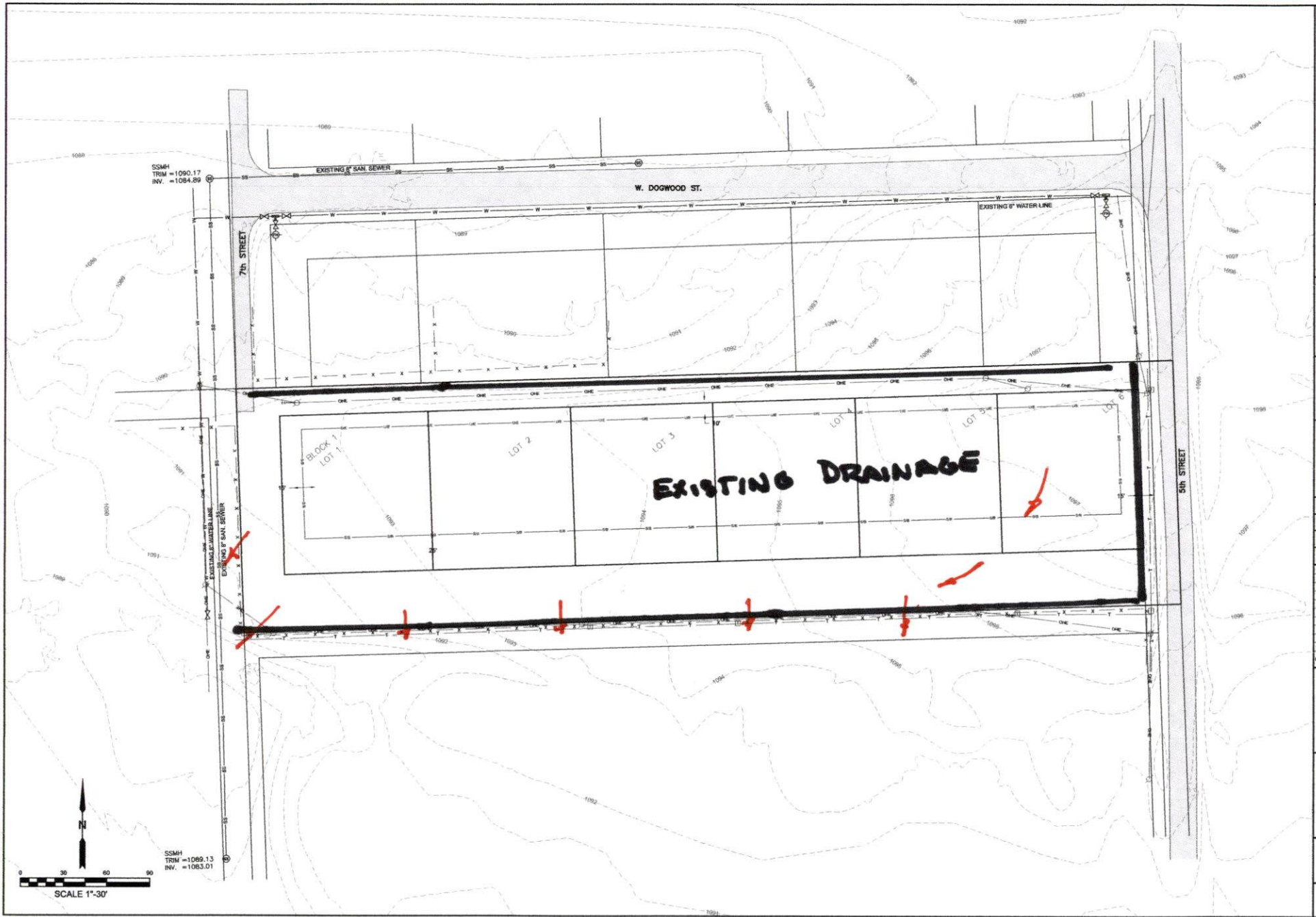


This is not a flood hazard map. It is a map of the flood hazard areas of the City of Silwell, Missouri, as determined by the Federal Emergency Management Agency (FEMA) in cooperation with the Missouri Department of Transportation (MoDOT).

ZONE A
 ZONE AE
 ZONE AH
 ZONE AO
 ZONE AN
 ZONE A99
 ZONE V
 ZONE VE
 ZONE VE1
 The boundary shown on this map is based on the best available data.

CITY OF SILWELL
 MISSOURI
 64779
 64780
 64781
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 64795
 64796
 64797
 64798
 64799
 64800

For complete flood hazard information, please refer to the Flood Hazard Map of the City of Silwell, Missouri, as determined by FEMA in cooperation with MoDOT.



SSMH
TRIM = 1090.17
INV. = 1084.89

SSMH
TRIM = 1089.13
INV. = 1083.01



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Consulting Engineer
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carl.d.gales@gmail.com

PROJECT:
Dogwood II Addition

CLIENT:
Housing Authority
of the Cherokee Nation

Address:
North 5th Street,
Stilwell, OK.

SHEET:
General Plan

APPROVED BY:
CBO
DATE PREPARED:
Oct. 2015
DESIGNED BY:

DRAWN BY:
JPM

| NO. | REVISION PER CITY OF STILWELL | DATE |
|-----|-------------------------------|------|
| | | |
| | | |
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| | | |
| | | |
| | | |
| | | |



A-4
SHEET NO.

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 Cell 479.422.0763
 Email:
 carl.d.gales@gmail.com

PROJECT:

Dogwood II Addition

CLIENT:

Housing Authority
 of the Cherokee Nation

Address:

North 5th Street,
 Stilwell, OK.

SHEET:

Grading Plan

APPROVED BY:

CKK

DATE PREPARED:

Oct. 2013

DESIGNED BY:

JPM

DRAWN BY:

JPM

NO. REVISION PER CITY OF STILLWELL DATE

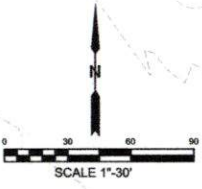
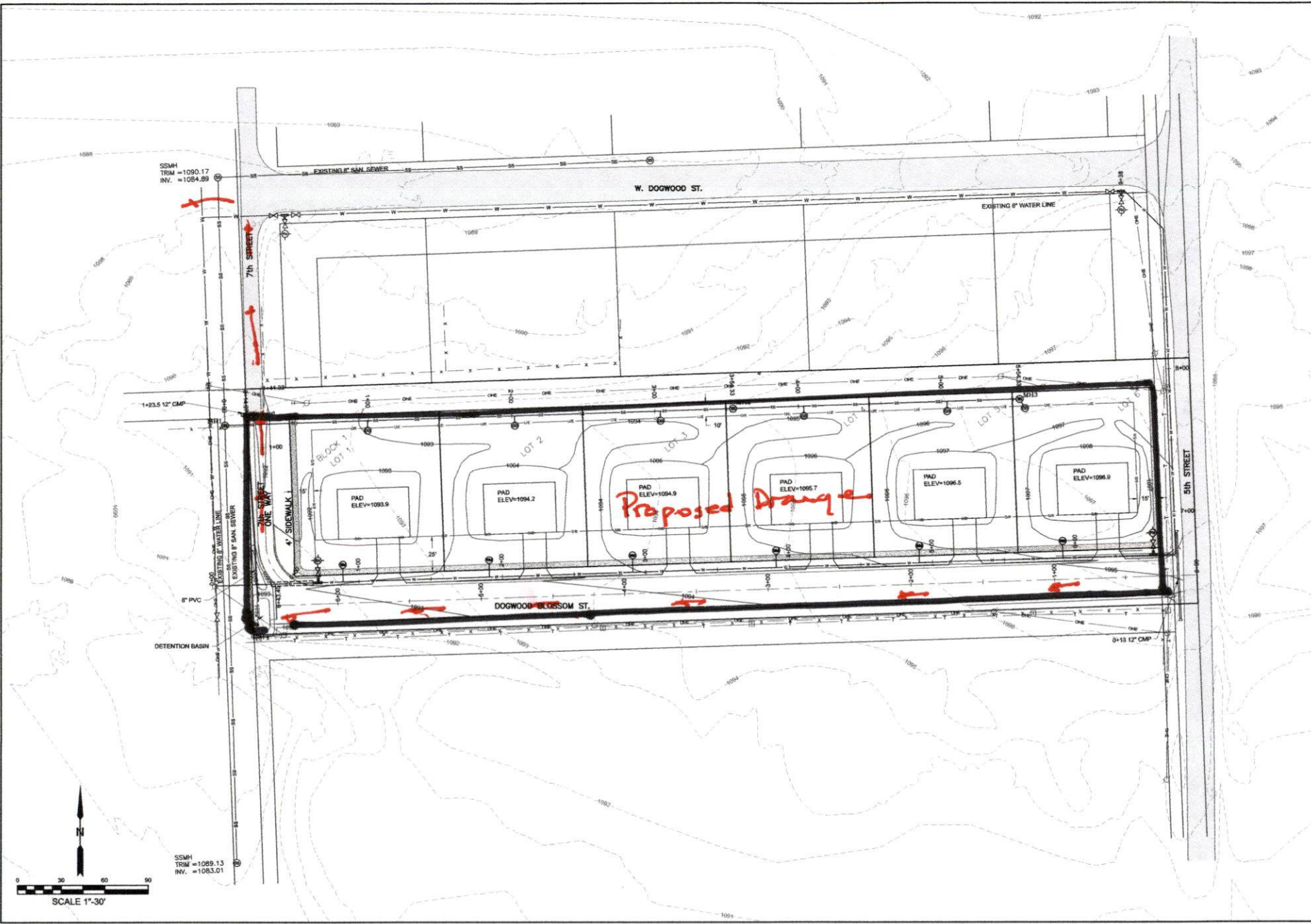
NO. REVISION DATE



A-5

SHEET NO.

22"x34" PRINT ONLY



SSMH
 TRM = 1089.13
 INV. = 1083.01

SSMH
 TRM = 1090.17
 INV. = 1084.85

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Saturday, Jun 10 2023, 2:2 PM

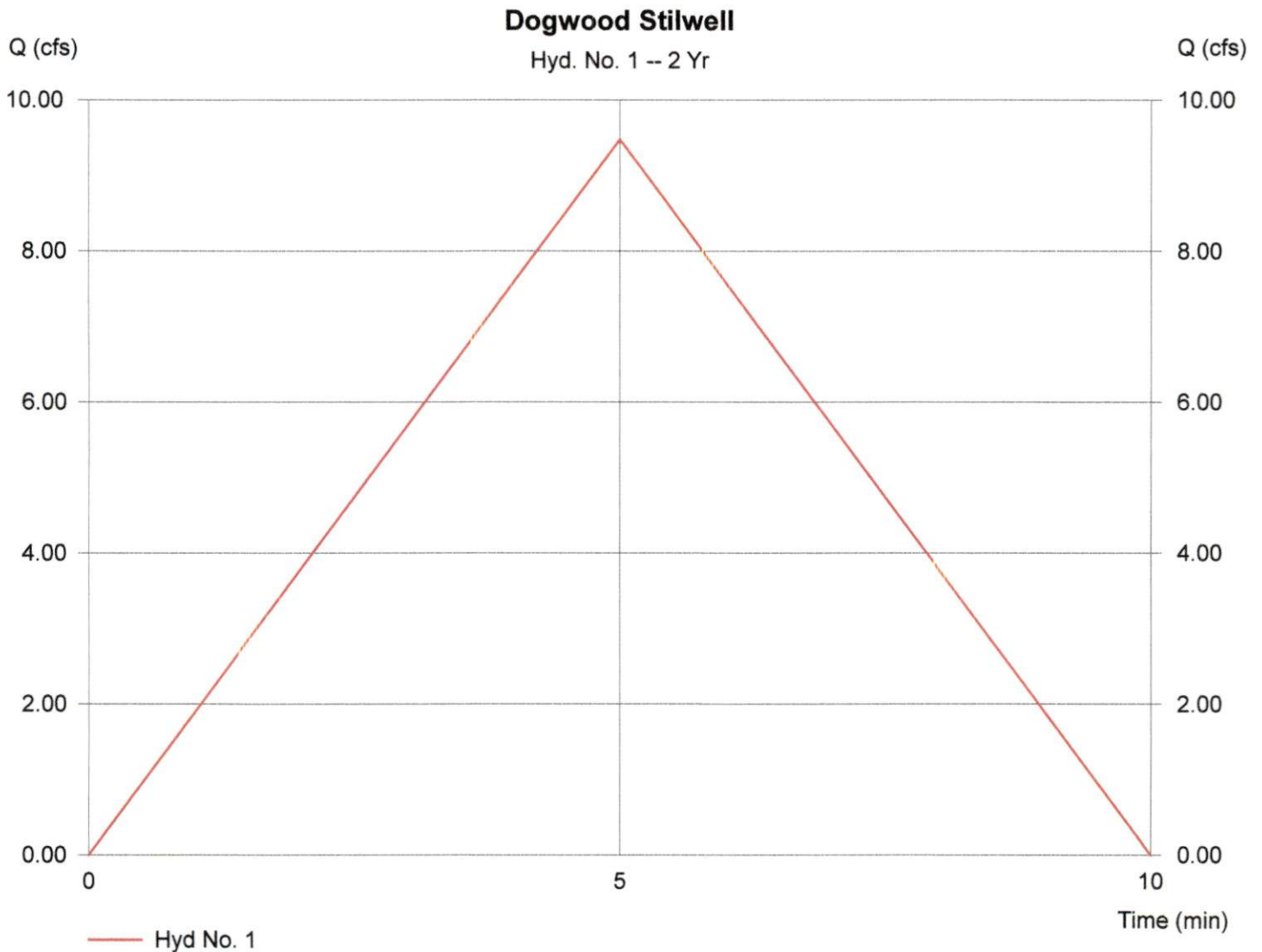
Hyd. No. 1

Dogwood Stilwell

Hydrograph type = Rational
Storm frequency = 2 yrs
Drainage area = 2.250 ac
Intensity = 5.693 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 9.48 cfs
Time interval = 1 min
Runoff coeff. = 0.74
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 2,844 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Saturday, Jun 10 2023, 2:2 PM

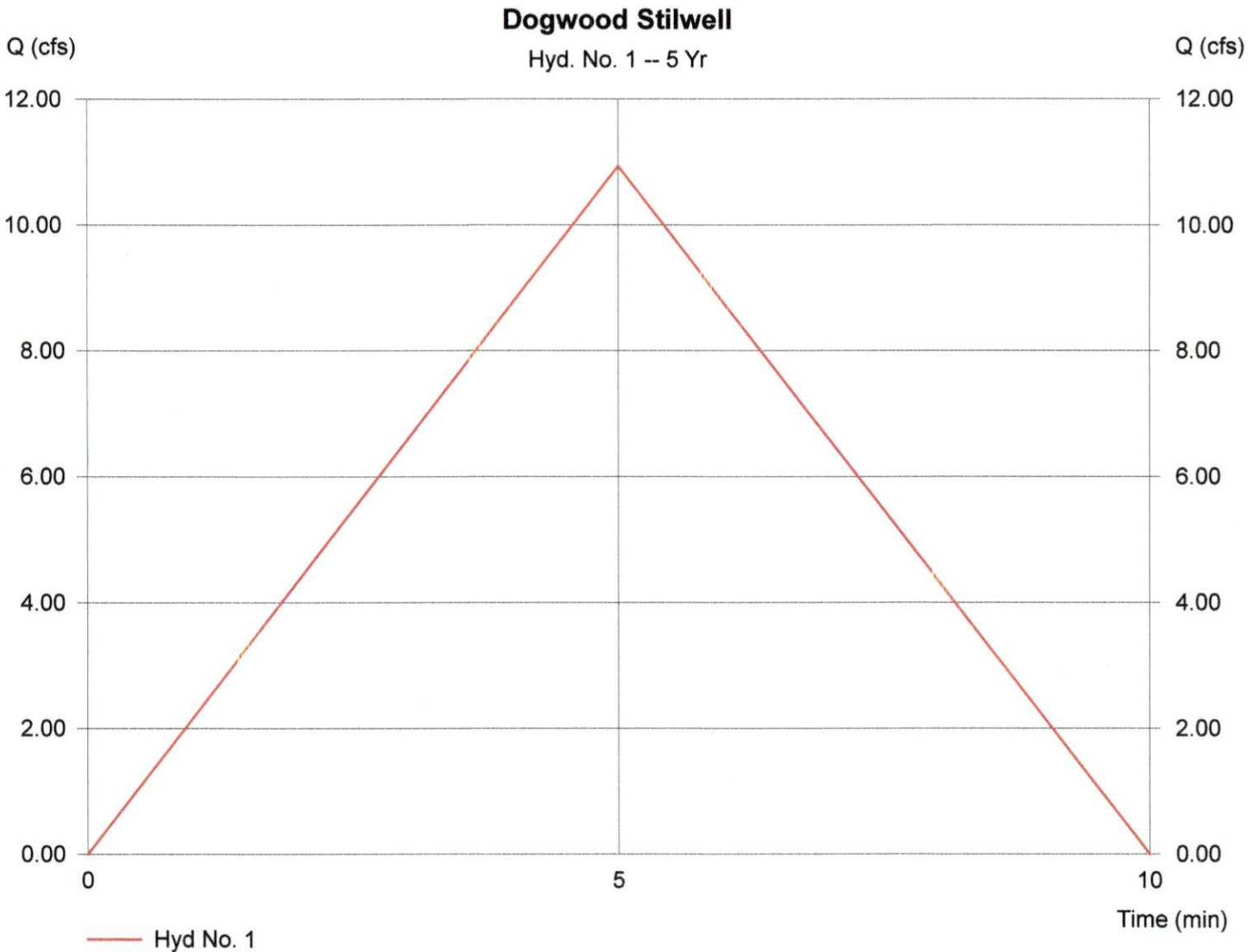
Hyd. No. 1

Dogwood Stilwell

Hydrograph type = Rational
Storm frequency = 5 yrs
Drainage area = 2.250 ac
Intensity = 6.570 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 10.94 cfs
Time interval = 1 min
Runoff coeff. = 0.74
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 3,282 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Saturday, Jun 10 2023, 2:2 PM

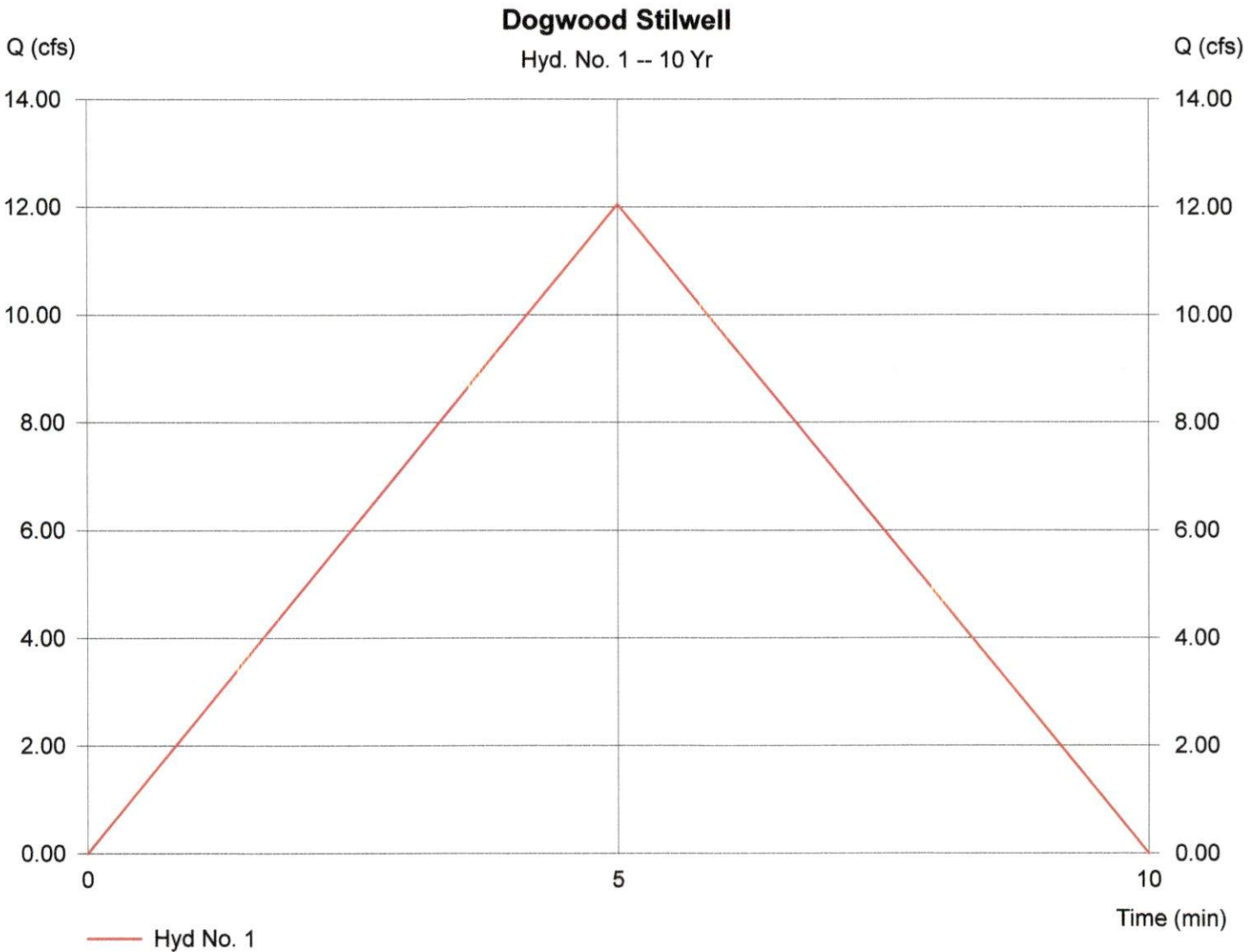
Hyd. No. 1

Dogwood Stilwell

Hydrograph type = Rational
Storm frequency = 10 yrs
Drainage area = 2.250 ac
Intensity = 7.238 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 12.05 cfs
Time interval = 1 min
Runoff coeff. = 0.74
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 3,615 cuft



Hydrograph Plot

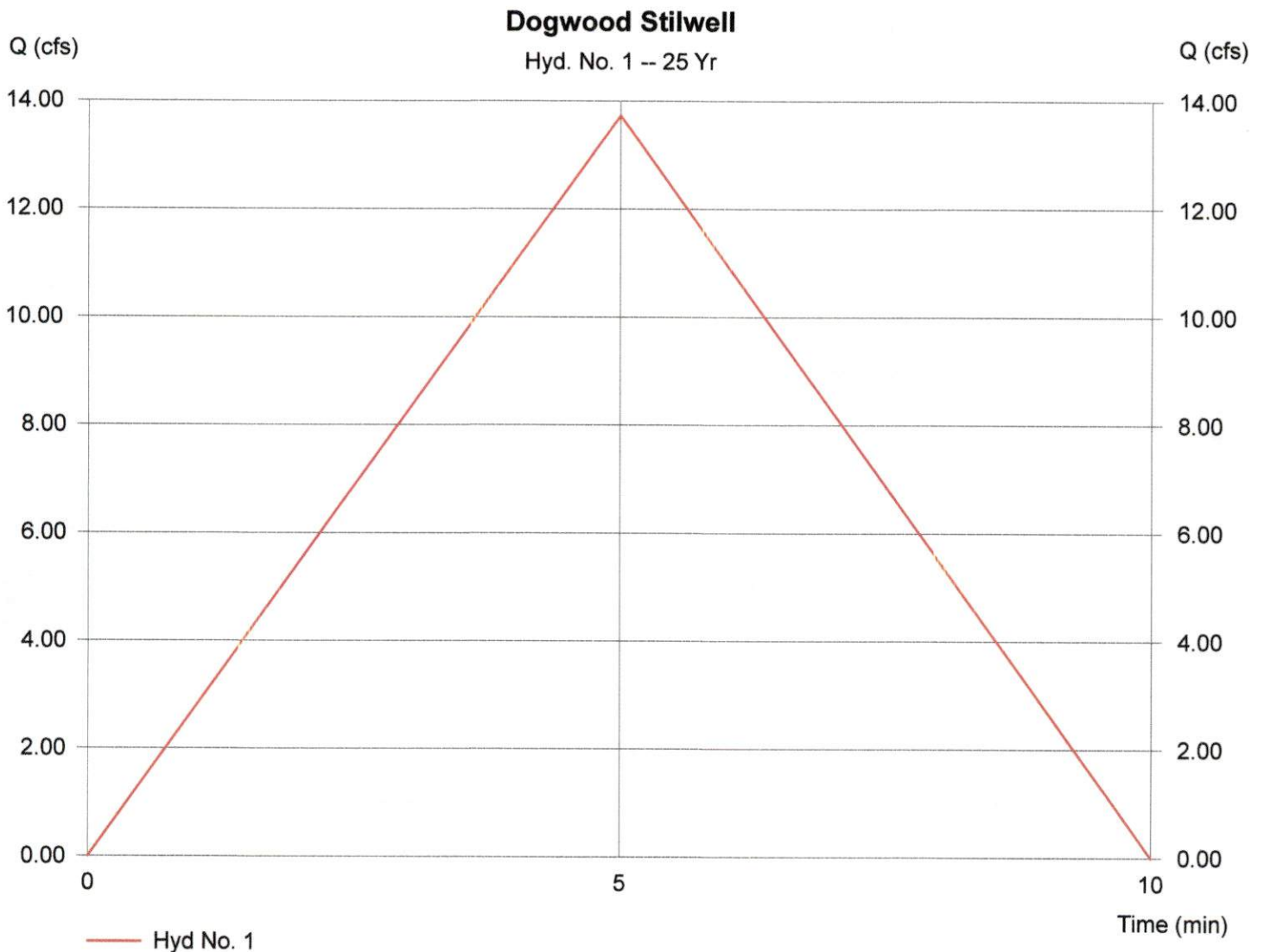
Hyd. No. 1

Dogwood Stilwell

Hydrograph type = Rational
Storm frequency = 25 yrs
Drainage area = 2.250 ac
Intensity = 8.247 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 13.73 cfs
Time interval = 1 min
Runoff coeff. = 0.74
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 4,120 cuft



Hydrograph Plot

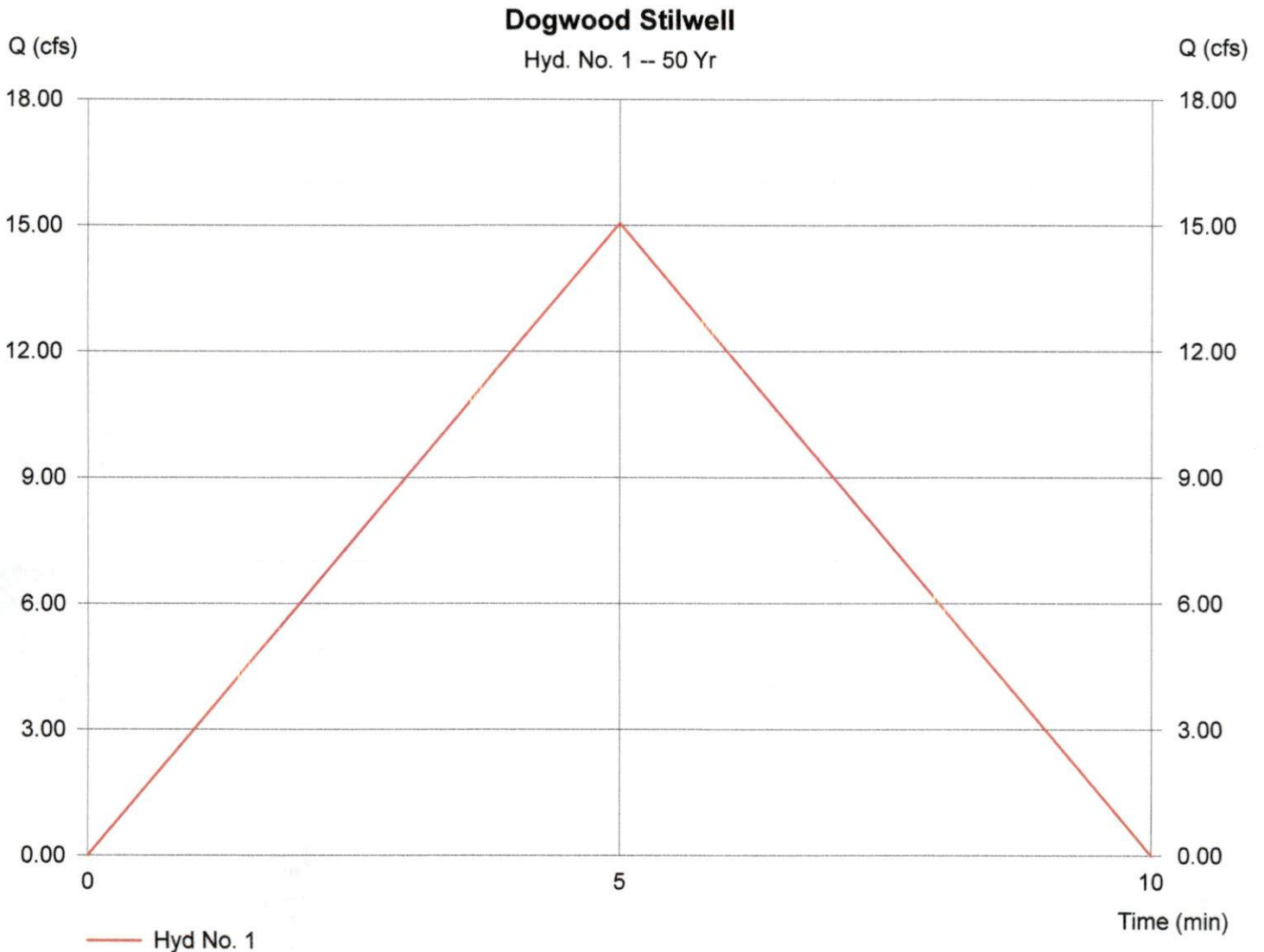
Hyd. No. 1

Dogwood Stilwell

Hydrograph type = Rational
Storm frequency = 50 yrs
Drainage area = 2.250 ac
Intensity = 9.041 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 15.05 cfs
Time interval = 1 min
Runoff coeff. = 0.74
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 4,516 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Saturday, Jun 10 2023, 2:3 PM

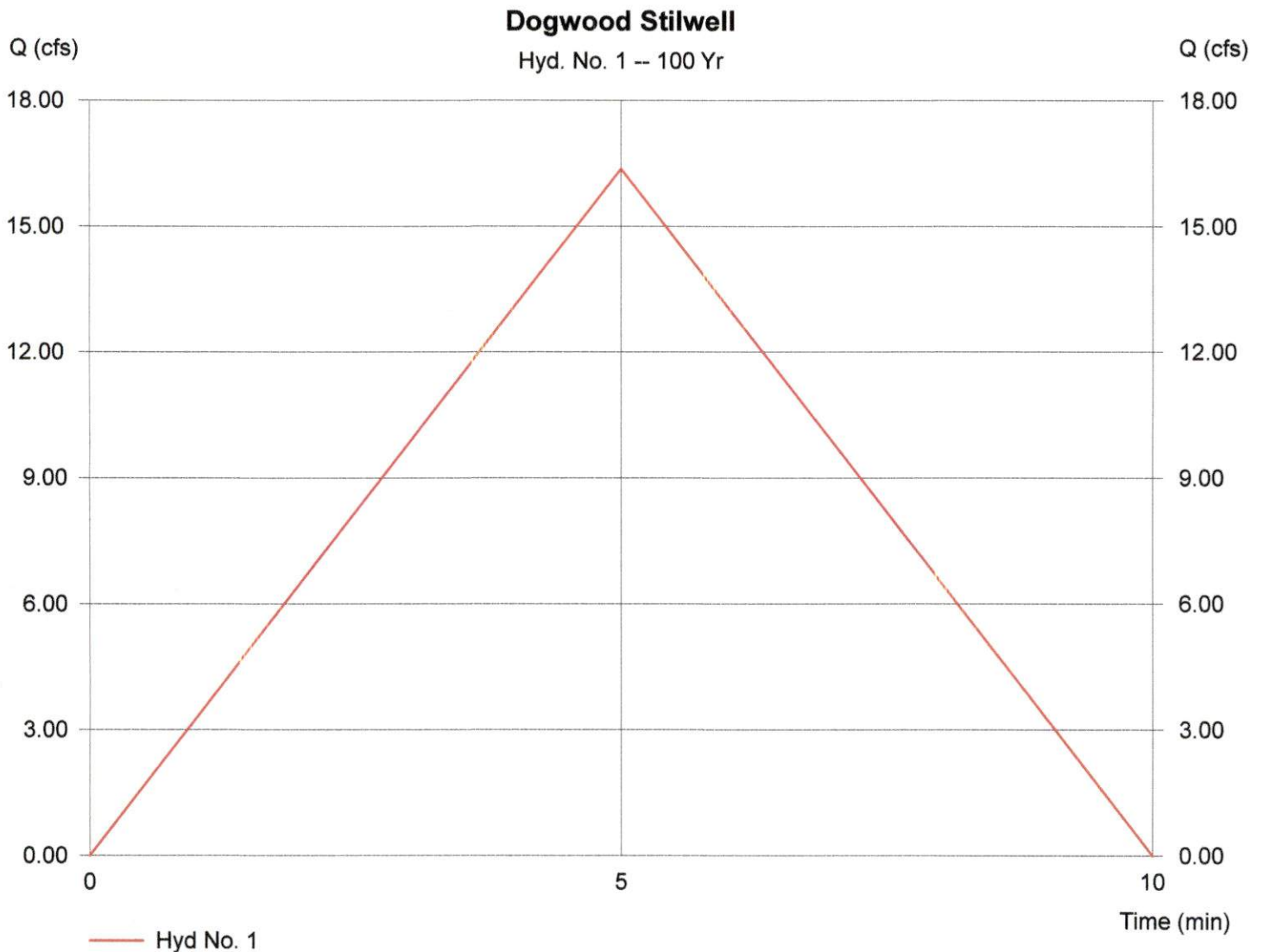
Hyd. No. 1

Dogwood Stilwell

Hydrograph type = Rational
Storm frequency = 100 yrs
Drainage area = 2.250 ac
Intensity = 9.833 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 16.37 cfs
Time interval = 1 min
Runoff coeff. = 0.74
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 4,911 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2023, 8:20 AM

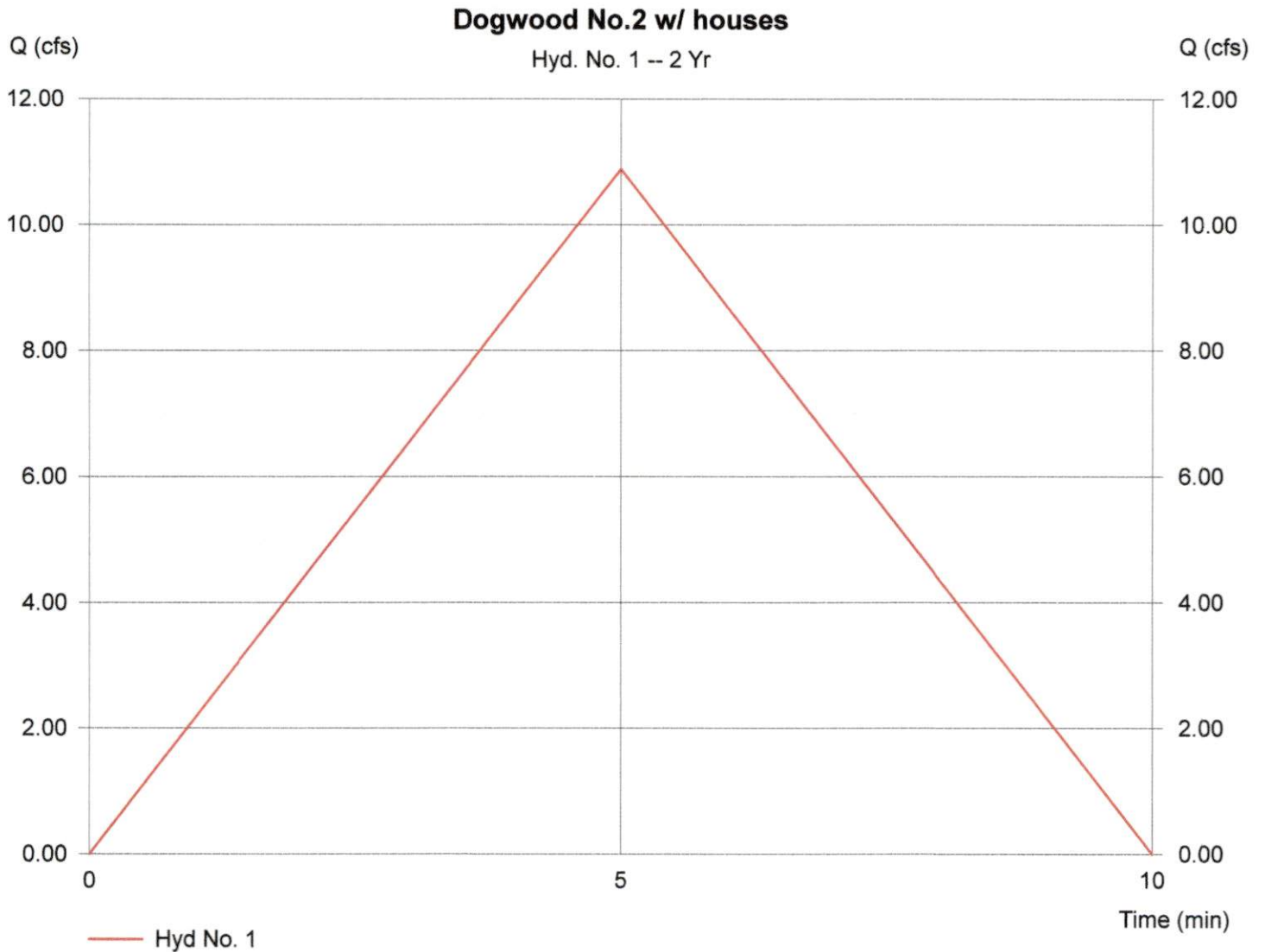
Hyd. No. 1

Dogwood No.2 w/ houses

Hydrograph type = Rational
Storm frequency = 2 yrs
Drainage area = 2.250 ac
Intensity = 5.693 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 10.89 cfs
Time interval = 1 min
Runoff coeff. = 0.85
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 3,266 cuft



Hydrograph Plot

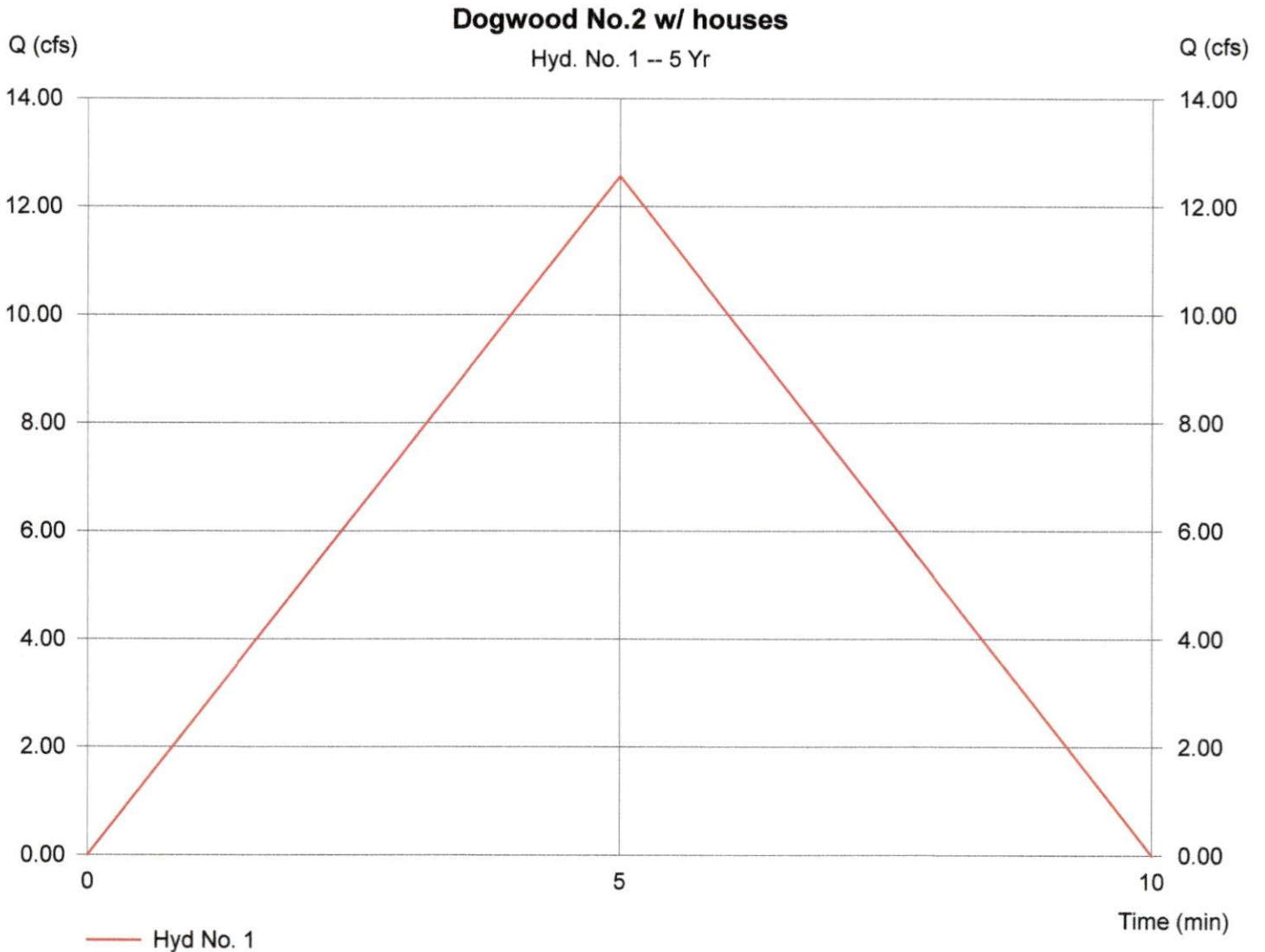
Hyd. No. 1

Dogwood No.2 w/ houses

Hydrograph type = Rational
Storm frequency = 5 yrs
Drainage area = 2.250 ac
Intensity = 6.570 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 12.56 cfs
Time interval = 1 min
Runoff coeff. = 0.85
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 3,769 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2023, 8:21 AM

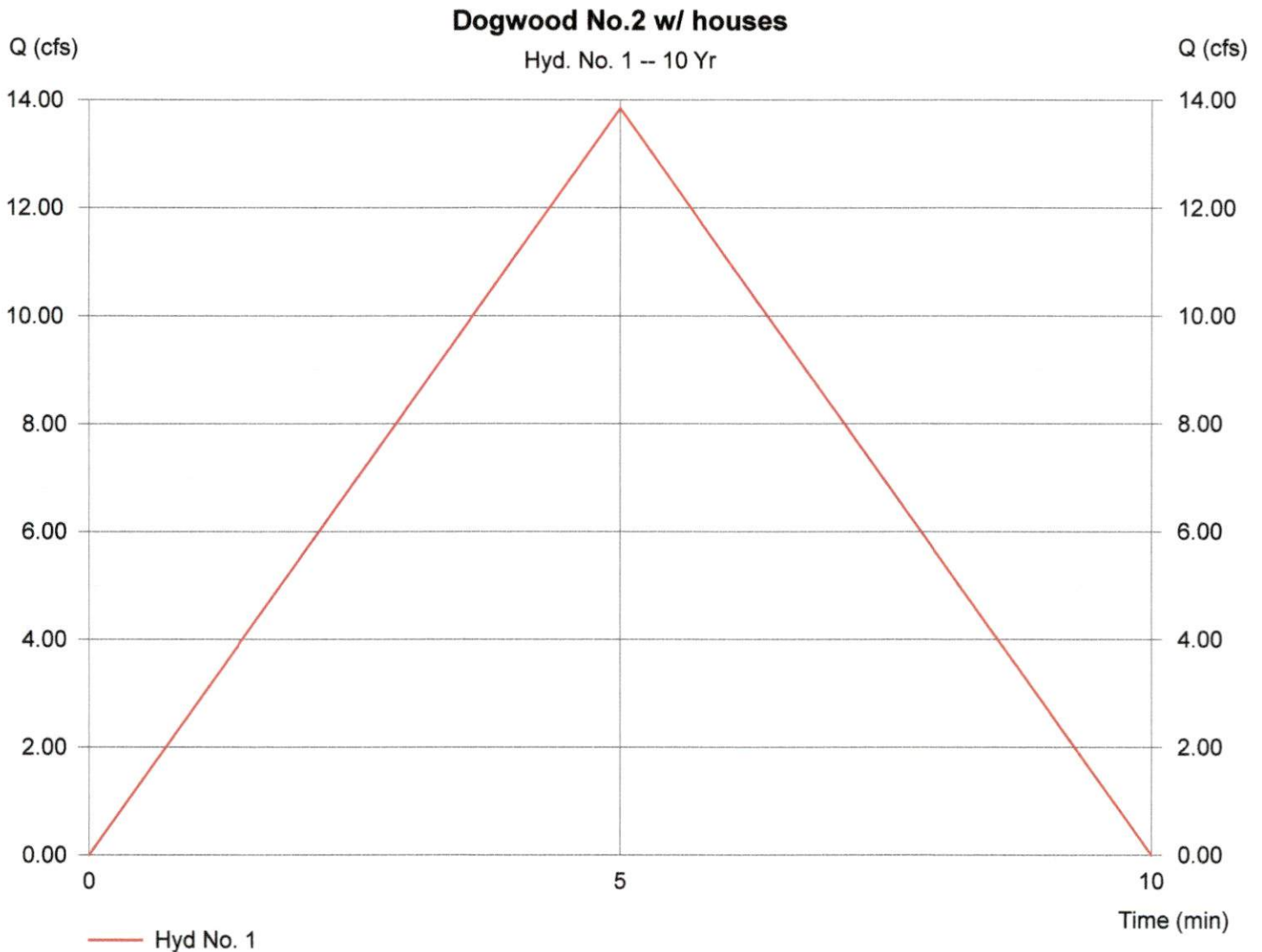
Hyd. No. 1

Dogwood No.2 w/ houses

Hydrograph type = Rational
Storm frequency = 10 yrs
Drainage area = 2.250 ac
Intensity = 7.238 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 13.84 cfs
Time interval = 1 min
Runoff coeff. = 0.85
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 4,153 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2023, 8:21 AM

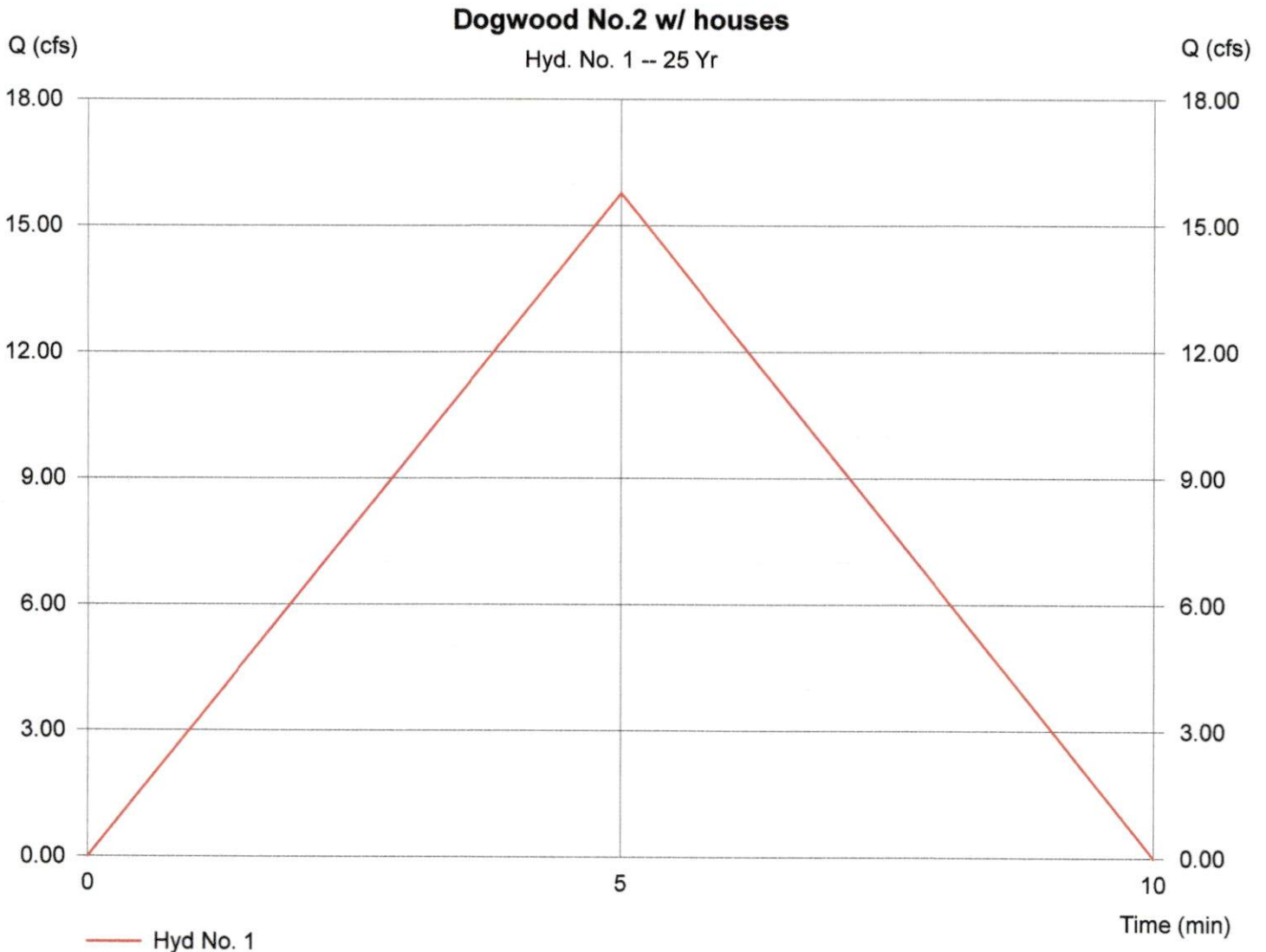
Hyd. No. 1

Dogwood No.2 w/ houses

Hydrograph type = Rational
Storm frequency = 25 yrs
Drainage area = 2.250 ac
Intensity = 8.247 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 15.77 cfs
Time interval = 1 min
Runoff coeff. = 0.85
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 4,732 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2023, 8:21 AM

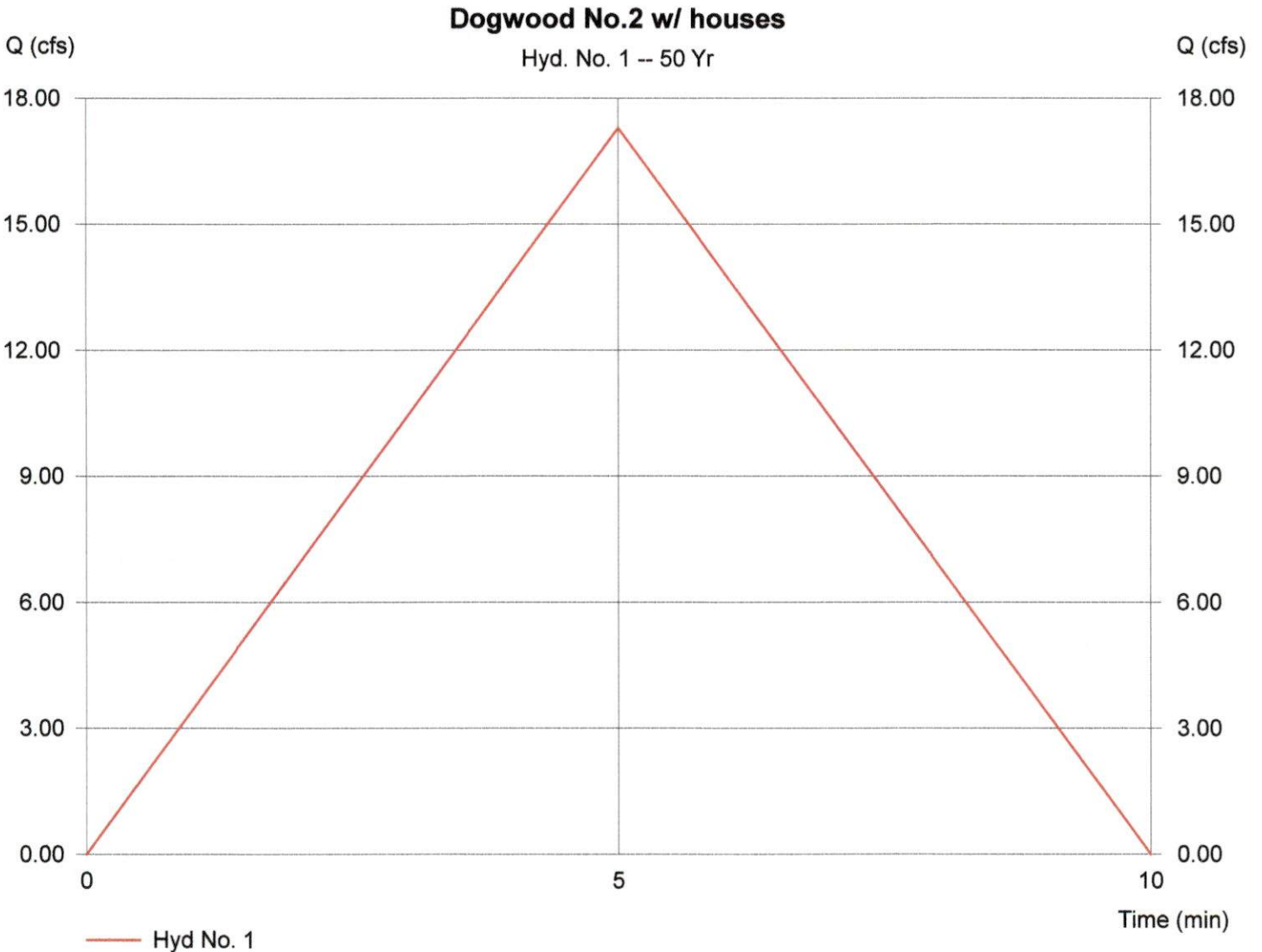
Hyd. No. 1

Dogwood No.2 w/ houses

Hydrograph type = Rational
Storm frequency = 50 yrs
Drainage area = 2.250 ac
Intensity = 9.041 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 17.29 cfs
Time interval = 1 min
Runoff coeff. = 0.85
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 5,187 cuft



Hydrograph Plot

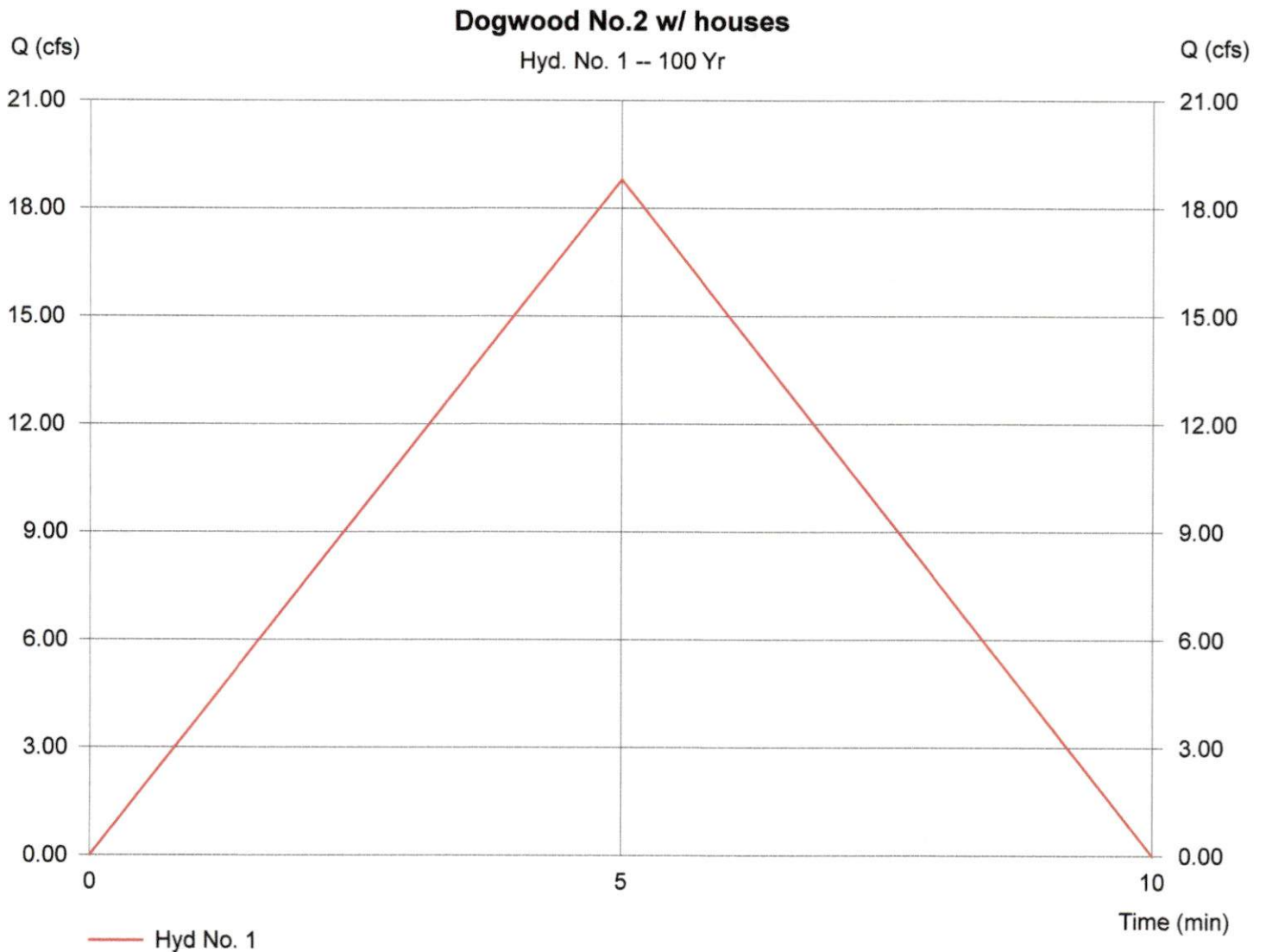
Hyd. No. 1

Dogwood No.2 w/ houses

Hydrograph type = Rational
Storm frequency = 100 yrs
Drainage area = 2.250 ac
Intensity = 9.833 in/hr
IDF Curve = SampleFHA.idf

Peak discharge = 18.81 cfs
Time interval = 1 min
Runoff coeff. = 0.85
Tc by User = 5.00 min
Asc/Rec limb fact = 1/1

Hydrograph Volume = 5,642 cuft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2023, 8:34 AM

Pond No. 1 - Dogwood no. 2 with houses

Pond Data

Bottom LxW = 25.0 x 12.0 ft Side slope = 1.0:1 Bottom elev. = 1088.10 ft Depth = 4.40 ft

Stage / Storage Table

| Stage (ft) | Elevation (ft) | Contour area (sqft) | Incr. Storage (cuft) | Total storage (cuft) |
|------------|----------------|---------------------|----------------------|----------------------|
| 0.00 | 1088.10 | 300 | 0 | 0 |
| 0.22 | 1088.32 | 316 | 68 | 68 |
| 0.44 | 1088.54 | 333 | 71 | 139 |
| 0.66 | 1088.76 | 351 | 75 | 215 |
| 0.88 | 1088.98 | 368 | 79 | 294 |
| 1.10 | 1089.20 | 386 | 83 | 377 |
| 1.32 | 1089.42 | 405 | 87 | 464 |
| 1.54 | 1089.64 | 423 | 91 | 555 |
| 1.76 | 1089.86 | 443 | 95 | 650 |
| 1.98 | 1090.08 | 462 | 100 | 749 |
| 2.20 | 1090.30 | 482 | 104 | 853 |
| 2.42 | 1090.52 | 503 | 108 | 962 |
| 2.64 | 1090.74 | 523 | 113 | 1,074 |
| 2.86 | 1090.96 | 544 | 117 | 1,192 |
| 3.08 | 1091.18 | 566 | 122 | 1,314 |
| 3.30 | 1091.40 | 588 | 127 | 1,441 |
| 3.52 | 1091.62 | 610 | 132 | 1,573 |
| 3.74 | 1091.84 | 633 | 137 | 1,709 |
| 3.96 | 1092.06 | 656 | 142 | 1,851 |
| 4.18 | 1092.28 | 679 | 147 | 1,998 |
| 4.40 | 1092.50 | 703 | 152 | 2,150 |

Culvert / Orifice Structures

| | [A] | [B] | [C] | [D] |
|-----------------|-----------|------|------|------|
| Rise (in) | = 24.00 | 0.00 | 0.00 | 0.00 |
| Span (in) | = 24.00 | 0.00 | 0.00 | 0.00 |
| No. Barrels | = 1 | 0 | 0 | 0 |
| Invert El. (ft) | = 1088.10 | 0.00 | 0.00 | 0.00 |
| Length (ft) | = 100.00 | 0.00 | 0.00 | 0.00 |
| Slope (%) | = 0.00 | 0.00 | 0.00 | 0.00 |
| N-Value | = .013 | .000 | .000 | .000 |
| Orif. Coeff. | = 0.60 | 0.00 | 0.00 | 0.00 |
| Multi-Stage | = n/a | No | No | No |

Weir Structures

| | [A] | [B] | [C] | [D] |
|----------------|--------|------|------|------|
| Crest Len (ft) | = 0.00 | 0.00 | 0.00 | 0.00 |
| Crest El. (ft) | = 0.00 | 0.00 | 0.00 | 0.00 |
| Weir Coeff. | = 0.00 | 0.00 | 0.00 | 0.00 |
| Weir Type | = --- | --- | --- | --- |
| Multi-Stage | = No | No | No | No |

Exfiltration = 0.000 in/hr (Wet area) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.

