City of TUSCALOOSA URBAN DEVELOPMENT

TUSCALOOSA
PLANNING COMMISSION

SUBDIVISION CHECKLIST

Please complete all of the following required fields:

Subdivision

Name: Oaklana Parcel ID: See Attached Total Acres: 14.55

Engineer

Name: Al Cabaniss, PE, PLS Email: acabaniss@cabanisseng.com Phone: 205.758.9032

Address: PO Box 020440 City/State: Tuscaloosa / AL ZIP Code: 35401

Property Owner

Name: Estate of Management 2 Searcy Email: joe.duckworth@kw.com Phone: 205.394.3345

Address: 3210 Mountain Ridge Circle City/State: Birmingham / AL ZIP Code: 35242

Applicants MUST include ALL of the following documentation with the submission of this checklist:

6 Plats MAP FOLDED 8 ½" x 11" (no smaller / larger)	⊙ YES	○ NO	○ N/A
Pre-design conference (if so, list date)	⊙ YES _____	○ NO	○ N/A
Master Plan provided	○ YES	○ NO	⊙ N/A
Drainage study	⊙ YES	○ NO	○ N/A
Variance request properly submitted	⊙ YES	○ NO	○ N/A
Designation of Agent form	⊙ YES	○ NO	○ N/A
ALL MAPS at 8 ½" X 11" scale without contour lines	⊙ YES	○ NO	○ N/A
3 Labels (name & address) for the applicant, the property owner, and each adjacent property owner	⊙ YES	○ NO	○ N/A

Certification of Applicant

NOTE: AFTER THE MAILING OF ANY NOTIFICATION TO SURROUNDING PROPERTY OWNERS, A PETITIONER OR DEVELOPER MAY ONLY REQUEST TO HAVE THE SCHEDULED HEARING ON THE PETITION POSTPONED BY APPEARING AT THE HEARING IN PERSON TO REQUEST A CONTINUANCE.

☐ **I HAVE REVIEWED, COMPLETED, & AGREE TO ALL SUBMITTIAL REQUIREMENTS AS PART OF THIS APPLICATION. ADDITIONALLY, I WARRANT IN GOOD FAITH THAT ALL OF THE ABOVE FACTS ARE TRUE AND CORRECT.**

Signature: _____ Date: 9/18/2020

PLEASE SUBMIT AN ELECTRONIC COPY OF THIS DOCUMENT AND ANY NECESSARY SUPPORTING MATERIALS TO:

Will Smith
Email: wdsmith@tuscaloosa.com

2201 University Boulevard, Annex III, 3rd Fl
Tuscaloosa, AL 35401

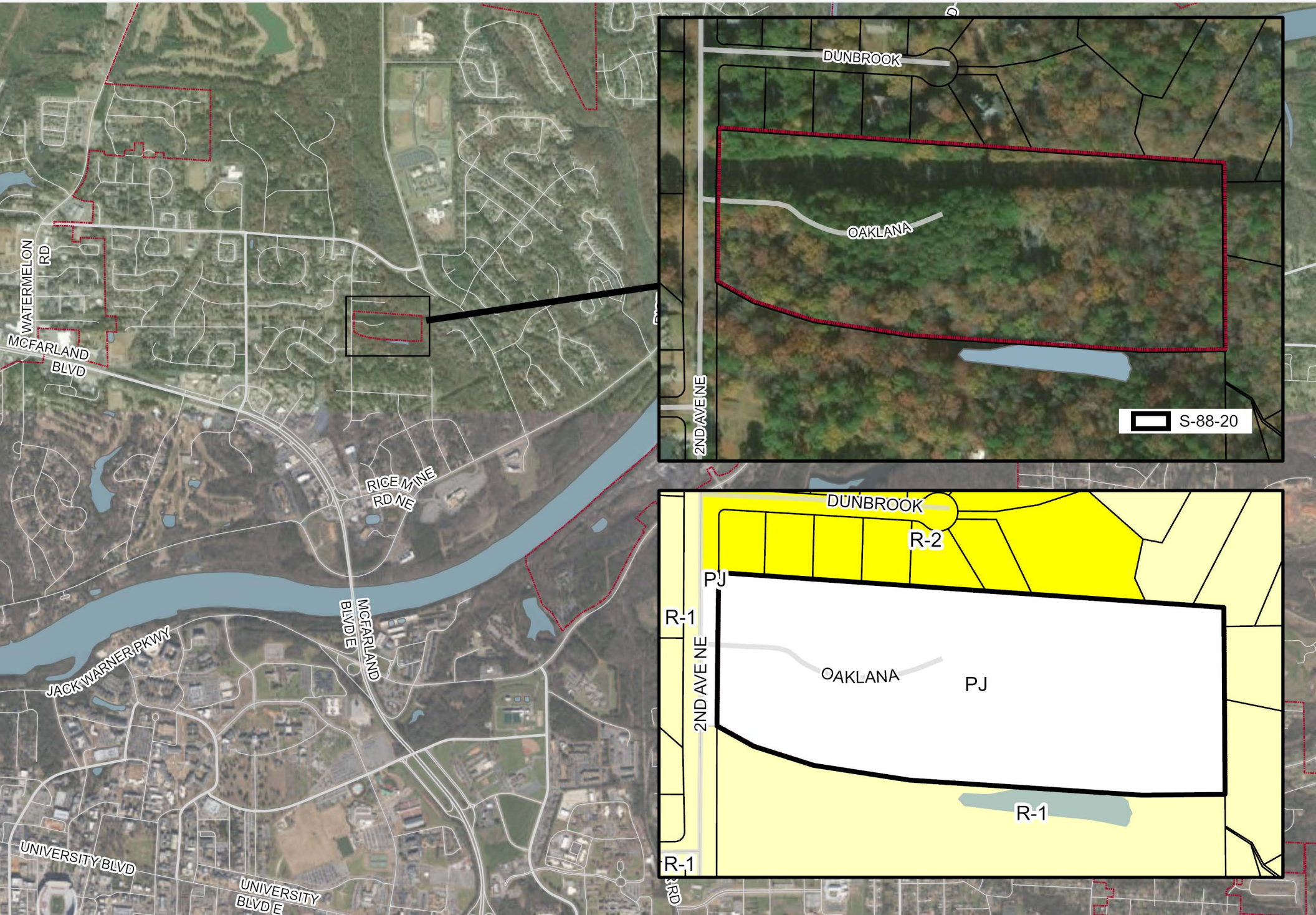
Lady Kassama
Email: lkassama@tuscaloosa.com

S-88-20: Oaklana Subdivision

1 inch = 300 feet

0 150 300 450 600

N



S-88-20: Oaklana Subdivision

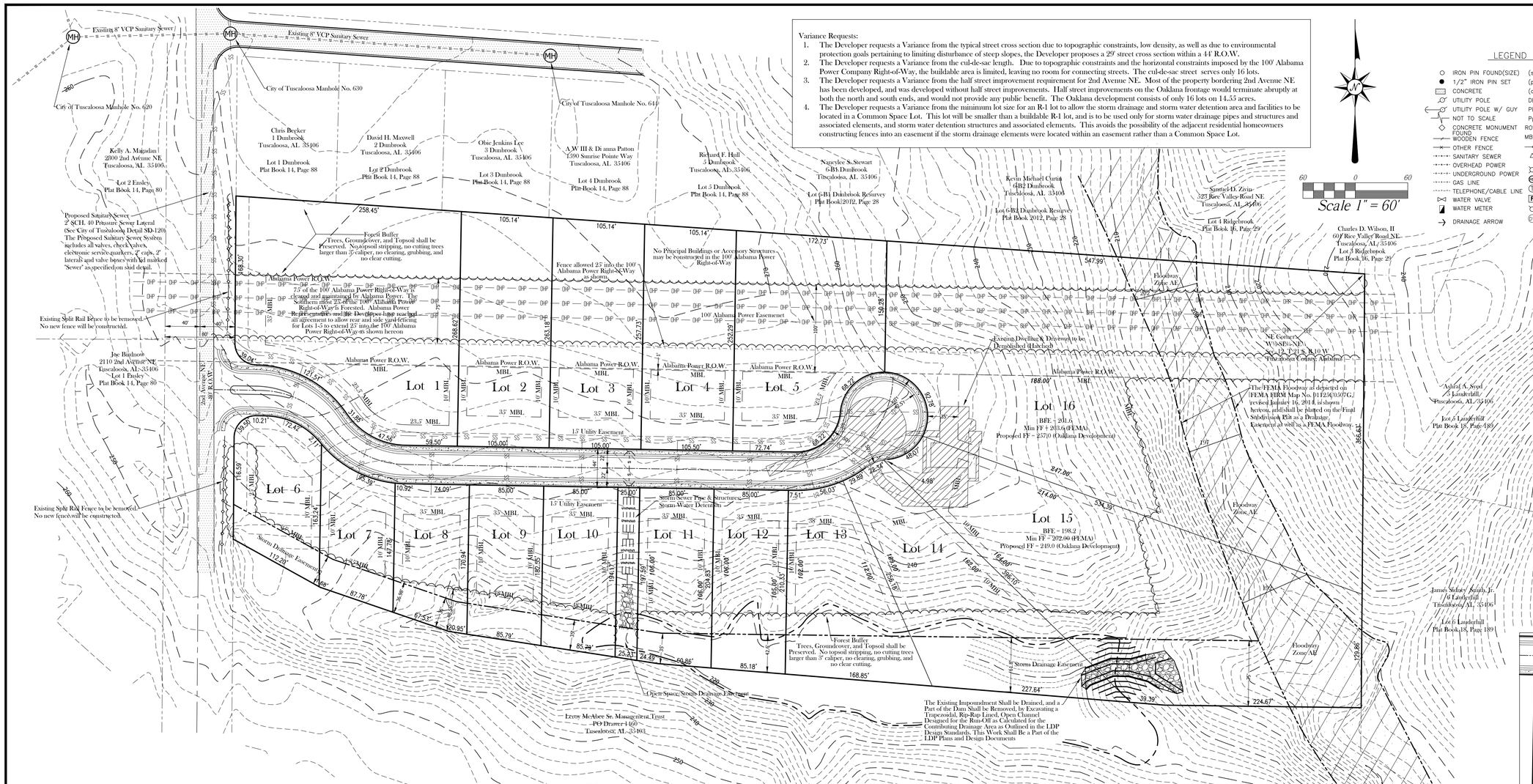
1 inch = 200 feet

0 100 200 300 400

N

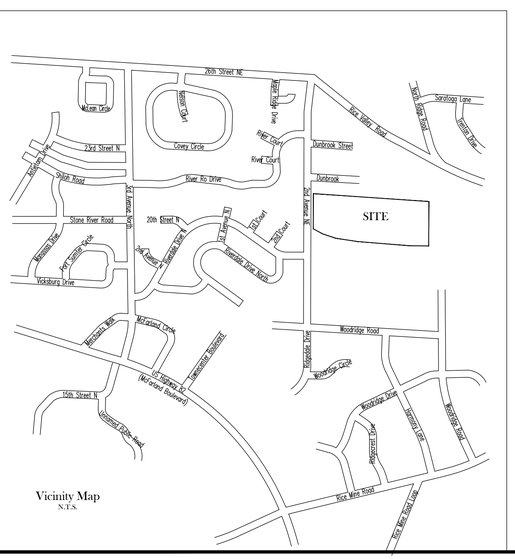
Variance Requests:

1. The Developer requests a Variance from the typical street cross section due to topographic constraints, low density, as well as due to environmental protection goals pertaining to limiting disturbance of steep slopes, the Developer proposes a 29' street cross section within a 44' R.O.W.
2. The Developer requests a Variance from the cul-de-sac length. Due to topographic constraints and the horizontal constraints imposed by the 100' Alabama Power Company Right-of-Way, the buildable area is limited, leaving no room for connecting streets. The cul-de-sac street serves only 16 lots.
3. The Developer requests a Variance from the half street improvement requirement for 2nd Avenue NE. Most of the property bordering 2nd Avenue NE has been developed, and was developed without half street improvements. Half street improvements on the Oaklana frontage would terminate abruptly at both the north and south ends, and would not provide any public benefit. The Oaklana development consists of only 16 lots on 14.55 acres.
4. The Developer requests a Variance from the minimum lot size for an R-1 lot to allow the storm drainage and storm water detention area and facilities to be located in a Common Space Lot. This lot will be smaller than a buildable R-1 lot, and is to be used only for storm water drainage pipes and structures and associated elements, and storm water detention structures and associated elements. This avoids the possibility of the adjacent residential homeowners constructing fences into an easement if the storm drainage elements were located within an easement rather than a Common Space Lot.



LEGEND

IRON PIN FOUND(SIZE)	(s) SURVEY DIMENSION
1/2" IRON PIN SET	(p) PLAT DIMENSION
CONCRETE	(d) DEED DIMENSION
UTILITY POLE	DB DEED BOOK
UTILITY POLE W/ GUY	PB PLAT BOOK
NOT TO SCALE	Pp PAGE
CONCRETE MONUMENT FOUND	ROW RIGHT-OF-WAY
WOODEN FENCE	MBL MINIMUM BLDG LINE
OTHER FENCE	CHAIN LINK FENCE
SANITARY SEWER	POINT NOT MONUMENTED
OVERHEAD POWER	LIGHT POLE
UNDERGROUND POWER	SANITARY SEWER MANHOLE
GAS LINE	TELEPHONE PEDESTAL
TELEPHONE/CABLE LINE	POWER TRANSFORMER/TRANSCLOSER
WATER VALVE	FIRE HYDRANT
WATER METER	DRAINAGE STRUCTURE
DRAINAGE ARROW	



Owner/Developer:
Harris Stewart
P.O. Box 20415
Tuscaloosa, AL 35402

Engineer/Land Surveyor:
Al Cabaniss, PE, PLS
Cabaniss Engineering, Inc.
P.O. Box 020440
Tuscaloosa, AL 35402

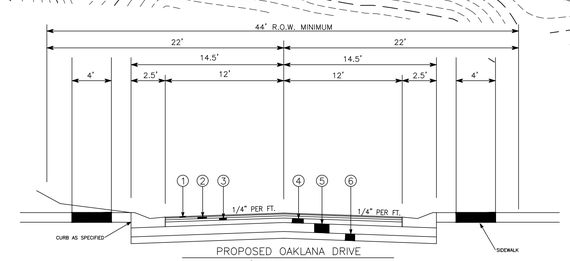
Property Address: 1 Oaklana

Property Zoning: Property is located outside the City limits but within the Planning Jurisdiction
Proposed R-1 Zoning

Notes:
1) Buildings: 16 Residential Subdivision Lots
2) Setbacks are as shown.
3) Total acreage under control of the Developer: 14.55 Acres +/-
Total acreage to be Subdivided: 14.55 Acres +/-

Lot 1:	1.83	Lot 9:	0.34
Lot 2:	0.64	Lot 10:	0.37
Lot 3:	0.63	Lot 11:	0.39
Lot 4:	0.61	Lot 12:	0.40
Lot 5:	0.81	Lot 13:	0.58
Lot 6:	0.37	Lot 14:	0.82
Lot 7:	0.29	Lot 15:	1.89
Lot 8:	0.31	Lot 16:	3.55

Open Space/Drainage Easement: 0.11
3) Property is located in the West Half of the SE¼ - NE¼ & the East Half of the SW¼ - NE¼ all in Section 12, Township 21 South, Range 10 West, Tuscaloosa County, Alabama.
4) The subject property does lie in a Special Flood Hazard Area, FEMA FIRM Map Number 01125C0507G, revised January 16, 2014.
5) The existing Pond is located on both the "Searcy Property" and the "McAbee Property". There appears to be no formal maintenance agreement between the two (2) families, although the Searcy family reports that they have not participated in pond maintenance for at least 40 years. The Pond shall be permanently drained as part of the LDP for the Construction of Streets, Utilities, and associated work.
6) Lots 1 & 6 shall not have direct access to 2nd Avenue NE.
7) On-Street Parking shall not be allowed on one side of the street due to the narrower roadway cross section width to ensure access for emergency vehicles. No parking signage shall be provided as part of the LDP.
8) There has been discussion with Staff, and there have been alternate layouts associated with the portion of Oaklana that lies North of the Alabama Power Right-of-Way and South of and adjacent to Dunbrook. In an effort to ameliorate the concerns of the adjacnet Dunbrook residents, the Developer believes that the safest course is to include this property in Lots 1-5 and Lot 16, with a plat and covenant restriction that no principal or accessory structures may be constructed in this area. If this area were platted as Open Space it would be accessible by all residents of Oaklana, whereas making it parts of individual lots with no allowance for construction of any sort virtually eliminates the impact to adjacent Dunbrook lots.



PROPOSED OAKLANA DRIVE
44' RIGHT-OF-WAY

	Design Component	Existing Design
7	Comb. Curb & Gutter	2' wide
6	Roadbed Processing ALDOT No. 230.03 (c)	6-inch
5	Soil Aggregate Base ALDOT No. 823 A *	2-4" LAYERS
5 ALT	Crushed Aggregate Base ALDOT No. 825 "B"	6" LAYER
2	#Plant Mix Bituminous Binder ALDOT No. 429-B	1½" 165 LBS./SY
1	#Plant Mix Bituminous Seal ALDOT No. 429-A	1" 110 LBS./SY

SEE NOTES

* CITY MODIFIED FOR P.I.

NOTES: 1. (1) DENOTES DESIGN COMPONENTS FOUND ON STREET ROADWAY SPECS.
2. CROWN FORMED BY ROLLING.
3. SEE PLAN FOR SIDEWALK LOCATION.

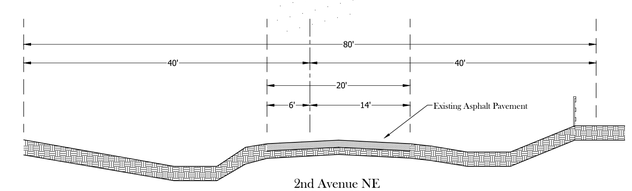
NOTES: Roadway excavation and embankment ALDOT No. 210.03 compaction requirements to minimum 95% T-99 with moisture range of (+-) 3% of optimum.

Roadbed processing layer compaction requirements to minimum 98% T-99 with moisture range of (+-) 3% of optimum.

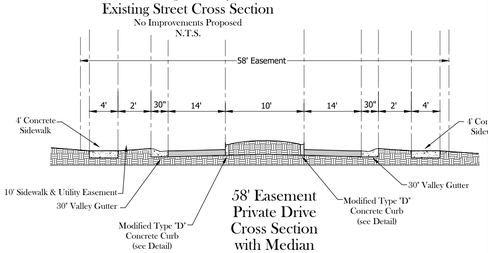
Soil or stone base layers compaction requirements to minimum 100% T-99 with moisture range of (+-) 2% of optimum.

ALDOT #429-A surface layer w/ 1/2" max. aggregate size mix, ESAL range A
ALDOT #429-B binder layer w/ 3/4" max. aggregate size mix, ESAL range A

** Prime Coat ALDOT No. 401 "A" at an application rate of 0.22 – 0.25 gallon/square yard.



2nd Avenue NE
80' Right-of-Way
Existing Street Cross Section
No Improvements Proposed
N.T.S.



58' Easement
Private Drive
Cross Section
with Median

Typical Site Plan

Preliminary Subdivision Plat
Oaklana
Part of the NE¼ Sec. 12, T 21 S, R 10 W
Tuscaloosa County, Alabama

ALABAMA LICENSED No. 14459 PROFESSIONAL ENGINEER JACK CABANISS
ALABAMA LICENSED No. 14459 PROFESSIONAL LAND SURVEYOR ALVIN CABANISS

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Cabaniss Engineering Inc.
Professional Engineers and Land Surveyors
Court House Plaza 600 Lurleen Wallace Boulevard South Suite 140
P. O. Box 020440 Tuscaloosa Alabama

JOB NO:	20-02-001
DATE OF SURVEY:	N/A
FB/PG:	N/A
FILE NAME:	2002001.dwg
DATE:	05/26/2020
SOURCE OF TITLE:	D.B. 838, PG. 239
SCALE:	1" = 60'
DWN/CHK BY:	THS/AJC
REVISION:	10/01/2020 08/21/2020 09/26/2020

SHEET: 1 OF 1

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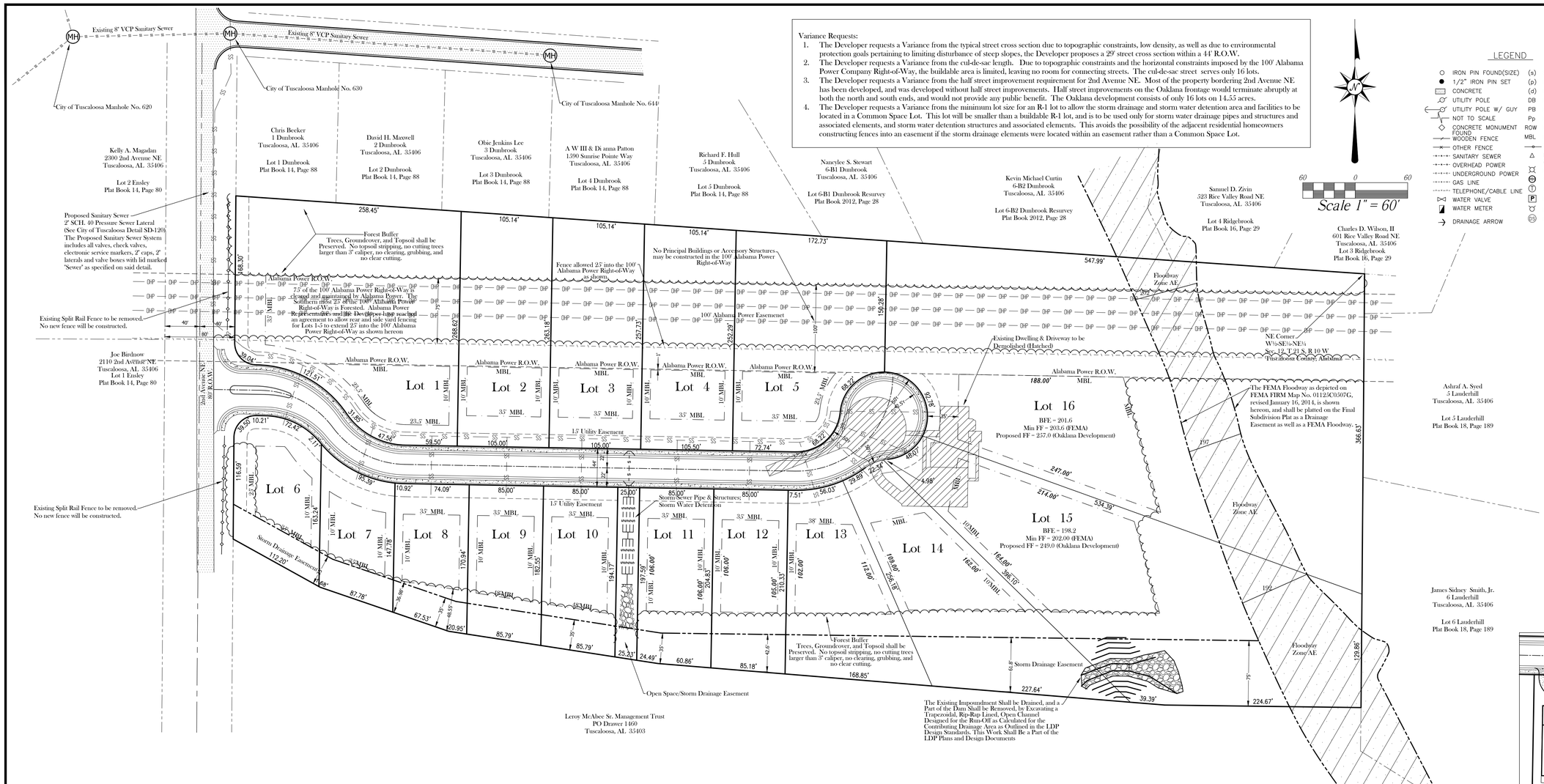

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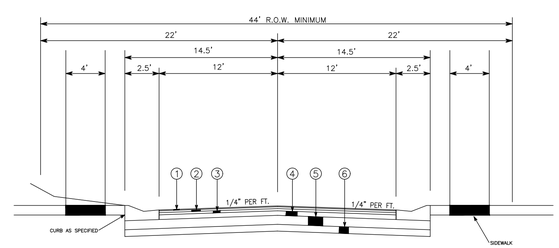

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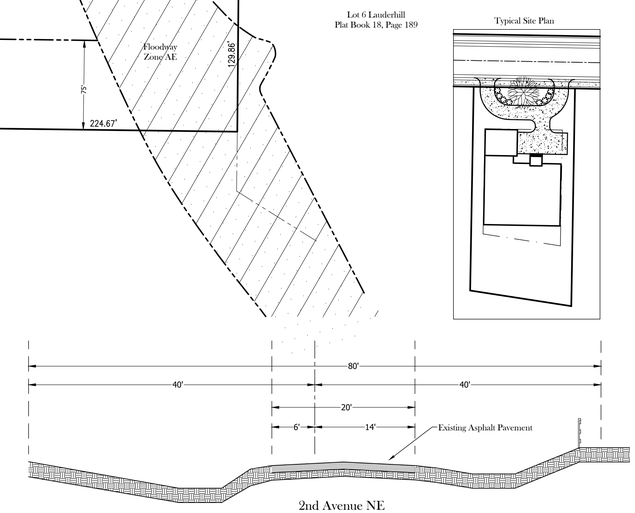

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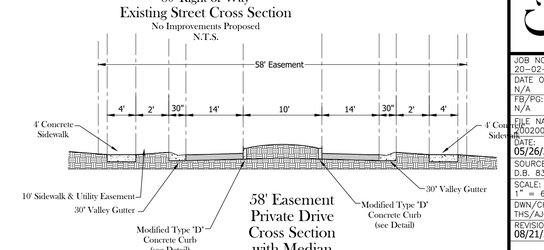

58' Easement
Private Drive
Cross Section
with Median

Preliminary Subdivision Plat
Oaklana
Part of the NE¼ Sec. 12, T 21 S, R 10 W
Tuscaloosa County, Alabama

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Cabaniss Engineering Inc.
Professional Engineers and Land Surveyors
Court House Plaza 600 Lurleen Wallace Boulevard South Suite 140
P. O. Box 020440 Tuscaloosa Alabama

JOB NO:	20-02-001
DATE OF SURVEY:	N/A
FB/PG:	N/A
FILE NAME:	2002001.dwg
DATE:	05/26/2020
SOURCE OF TITLE:	D.B. 838, PG. 239
SCALE:	1" = 60'
DWN/CHK BY:	THS/AJC
REVISION:	08/21/2020 10/01/2020 09/26/2020
SHEET:	1 OF 1

2020/05/14 15:04

Cabaniss Engineering Inc.

PROFESSIONAL ENGINEERS and LAND SURVEYORS

Al Cabaniss, PE, PLS

Oaklana

Sanitary Sewer Calculations

Dunbrook:	23 Single Family Homes
Oaklana:	16 Single Family Homes
Total:	39 Single Family Homes

3.5 Person/Home
3.5 x 39 = 136.5
100 gal/capita-day
Peak Factor= 4.0
136.5 x 100 = 13,650 gpd
13,650 gpd x 4 = 54,600 gpd = 0.084 cfs

The existing sanitary sewer is an 8" diameter City sewer. An 8" gravity sewer @ 0.40% flowing at a depth of 50% has a capacity of 0.382 cfs.

Oaklana will be tied into City of Tuscaloosa Manhole No. 630

Court House Plaza • 600 Lurleen Wallace Boulevard South, Suite 140 • P.O. Box 020440 • Tuscaloosa, Alabama 35402 • (205) 758-9032

Sanitary Sewer Calculations

For

Oaklana

16 R-1 Lots

Section 12, Township 21 South, Range 10 West
Tuscaloosa County, Alabama

Owner/Developer:
Morgantown Development, Co., Inc.
P.O. Box 20415
Tuscaloosa, AL 35402

Report Prepared By:
Cabaniss Engineering, Inc.
600 Lurleen Wallace Boulevard South
Suite 140, Court House Plaza
Tuscaloosa, Alabama 35401

October 1, 2020

Table of Contents

Cover	i
Contributing Residential Dwellings	1
Contributing Residential Dwellings	2
Contributing Residential Dwellings & Commercial Buildings	3
Contributing Residential Dwellings & Commercial Buildings	4
Contributing Commercial Buildings	5
Calculations at Manhole No. 630	6

Oaklana

Sanitary Sewer Calculations

Summary of Sanitary Sewer Flow at Manhole No. 652a

Residential Dwellings:

MH548-MH548a-MH547-MH536-MH559-MH568-MH588-MH595:
40 Single Family Dwellings

MH547-MH546-MH535-MH544-MH561-MH570-MH583:
28 Single Family Dwellings

MH595-MH594-MH590-MH599:
5 Single Family Dwellings

MH590-MH591-MH8717:
4 Single Family Dwellings

MH616-MH620-MH621-MH614-MH607-MH623-MH623a:
17 Single Family Dwellings

MH620-MH630-MH644:
14 Single Family Dwellings

MH630-MH629-MH641:
10 Single Family Dwellings

MH623a-MH631:
7 Single Family Dwellings

MH631-MH632a-MH632-MH632c-MH632d-MH632b-MH623e-MH623g
22 Single Family Dwellings

MH632-MH632h:
Fire Station

MH633-MH9015-MH9014-MH9016
9 Single Family Dwellings
MH539b-MH539A-MH539-MH554-MH558-MH553-MH545-MH551-MH563-MH574-MH574-MH584-MH10537-MH596-MH596a-MH596b-MH15188-MH15189-MH15190-MH15192-MH15280:
All Commercial

MH675-MH683-MH688-MH14169-MH711-MH711a-MH12849-MH710:
17 Single Family Dwellings

MH667-MH665b-MH665-MH666-MH668-MH670-MH710:
28 Single Family Dwellings

MH640-MH658a-MH665a-MH665:
22 Single Family Dwellings

MH658-MH658b:
3 Single Family Dwellings

MH659-MH660-MH662-MH663a-MH663:
14 Single Family Dwellings

MH666-MH666a-MH661:
2 Single Family Dwellings

MH710-MH663:
1 Single Family Dwelling

MH653-MH651-MH654-MH655-MH656:
18 Single Family Dwellings

MH663-MH656:
2 Single Family Dwellings

MH645-MH642-MH645-MH650:
11 Single Family Dwellings

MH656-MH650:
0 Dwellings

MH650-MH647-MH652a:
All Commercial

MH649-MH643-MH638-MH14915-MH636c-MH636b-MH636a-MH15277:
9 Single Family Dwellings & Commercial

MH15277-MH637-MH639b-MH639a-MH639-MH652:
All Commercial

MH639b-MH639c-MH639d-MH15668-MH15669:
All Commercial

MH625b-MH625a-MH15279-MH15278-MH15279:
All Commercial

MH6274-MH626-MH624-MH615a-MH15192:
12 Single Family Dwellings

MH634-MH617-MH15186-MH15187:
6 Single Family Dwellings

MH622b-MH622a-MH622z:
3 Single Family Dwellings

MH618-MH15038-MH622-MH622z-MH15185:
9 Single Family Dwellings

MH15185-MH603-MH586-MH577-MH571-MH580-MH597-MH569-MH562-MH567:
47 Single Family Dwellings

MH586—MH579-MH572-MH557:
8 Single Family Dwellings

MH542-MH552:
5 Single Family Dwellings

MH552MH538:
3 Single Family Dwellings

MH538-MH550-MH549-MH556-MH569:
5 Single Family Dwellings & Church

MH549-MH548-MH560-MH575-MH592-MH592a-MH613-MH604:
15 Single Family Dwellings

Commercial:

- Cadence Bank
- Ruby Tuesday
- Burger King
- Chevron
- Regions Bank
- Sylvan Learning Center
- Shutterbug
- Equity Title
- Realty South
- Henderson & Walton Women's Center
- Smile Design Center
- 2 Commercial Offices
- Medical Building
- River Oaks

- Menard Plastic Surgery
- Merrill Lynch
- Alabama Credit Union
- Winter McFarland
- Indian Hills Animal Clinic
- Smith Dentist
- Radiology Clinic
- Fikes Dentist
- Commercial Office
- Bryant Dentist
- Smart Bank
- Cleaners
- First Weslyn Church
- Campus Life
- New Creations
- The Core
- Gillis Jewelers
- AT&T
- Hooligans
- Retail Store
- ABZ Rent All
- Labamba
- First Care
- Lai Lai
- Nancy Taylor
- Wells Fargo
- Afflink Place
- Smile Doctors
- Express Oil Change
- Barton's Nursery
- Kidsville
- Burgess Dentist
- Buddy's Gas Station
- North River Surgical
- Church of Jesus Christ of Latter Day Saints

Total Number of Single Family Dwellings: 396
396 Single Family Dwellings @ 100 gpd x 3.5 people = 138,600 gpd = 0.21 cfs

Commercial: 12,170 gpd = 0.02 cfs

Peak Factors:
Residential:
0.21 x 3.7 = 0.777

Commercial:
0.02 x 2 = 0.04

Total Peak Flow = 0.817

An 8" gravity line at 1% slope will flow 0.822 cfs @ 60% depth.

Adding 16 Lots from Oaklana
Total Number of Single Family Dwellings: 412
412 Single Family Dwellings @ 100 gpd x 3.5 people = 144,200 gpd = 0.22 cfs

Commercial: 12,170 gpd = 0.02 cfs

Peak Factors:
Residential:
0.22 x 3.7 = 0.814

Commercial:
0.02 x 2 = 0.04

Total Peak Flow = 0.854

An 8" gravity line at 1% slope will flow 0.864 cfs @ 62% depth.

Drainage Study

For

Oaklana

16 R-1 Lots

Section 12, Township 21 South, Range 10 West
Tuscaloosa County, Alabama

Owner/Developer:
Morgantown Development, Co., Inc.
P.O. Box 20415
Tuscaloosa, AL 35402

Report Prepared By:
Cabaniss Engineering, Inc.
600 Lurleen Wallace Boulevard South
Suite 140, Court House Plaza
Tuscaloosa, Alabama 35401

March 19, 2020
Revised June 30, 2020
Revised July 9, 2020
Revised September 30, 2020

I. Total Contributing Drainage Area for Run-off Surface Draining into Pond:

41.6 Acres +/- Pre-Development
41.6 Acres +/- Post-Development

II. Runoff Coefficient Calculations:

Pre-Development Impervious Area	10.4 acre
Total Area	41.6 acres
10.4/41.6 x 0.95	0.24
31.2/41.6 x 0.35	0.26
"C"	0.50

Post-Development Impervious Area	13.1 acres
Total Area	41.6 acres
13.1/41.6 x 0.95	0.30
28.5/41.6 x 0.35	0.24
"C"	0.54

Q

	2	10	25	50	100
Pre-	95.87	125.66	144.46	159.20	173.88
Post-	103.54	135.72	156.02	171.94	187.79

III. Storm Water Characteristics:

Storm Water Run-Off currently surface flows across Oaklana, draining initially into an existing Pond, then into a steep-sided natural, open drainageway, less than one mile from the Black Warrior River.

Oaklana is a low-density development with a density of only 1.1 dwellings per acre.

Oaklana is situated within a 41.6 acre Drainage Area. Of the 416 acres draining to the existing lake, about half of the drainage area is from a part of Riverdale Subdivision, with the remaining half including part of Dunbrook Subdivision, part of the McAbee Estate, and part of Oaklana.

IV. Storm Water Management

The Revised Preliminary Plat shows that the existing impoundment shall be drained, and a part of the dam shall be removed, by excavating a trapezoidal, rip-rap lined, open channel designed for the run-off as calculated for the contributing drainage area as outlined in the LDP Design Standards. This work shall be part of the LDP Plans and Design Documents. The natural topography shall basically restore to the Pre-Improvement condition, and the channel shall be designed to allow approximately 1'-0"-1'-5" head and temporary impoundment at less than Pre-Development flow.

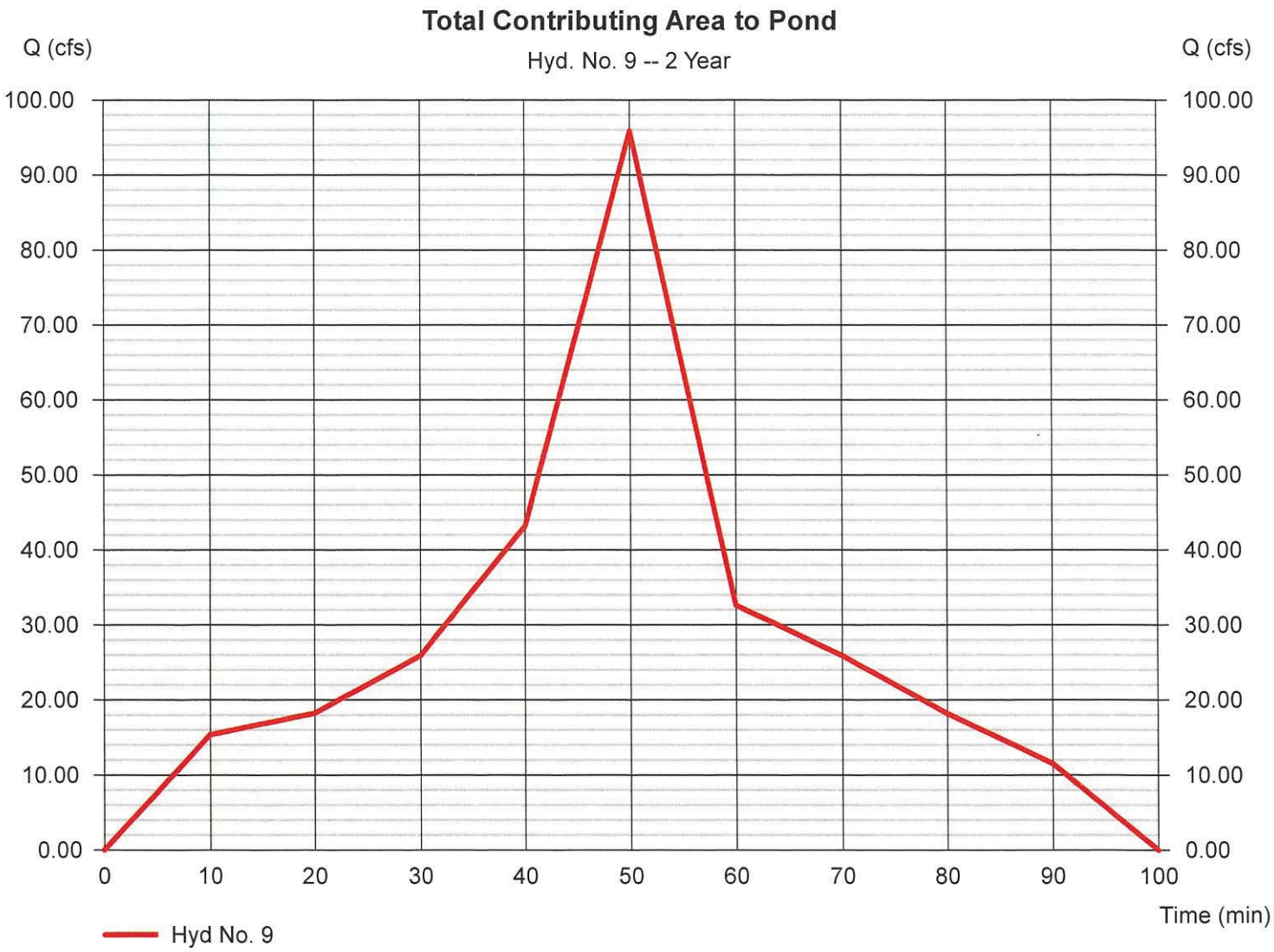
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22 Thursday, Oct 1, 2020

Hyd. No. 9

Total Contributing Area to Pond

Hydrograph type	= Dekalb	Peak discharge	= 95.87 cfs
Storm frequency	= 2 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 171,995 cuft
Drainage area	= 41.600 ac	Runoff coeff.	= 0.5
Intensity	= 4.609 in/hr	Tc by User	= 10.00 min
IDF Curve	= SampleFHA.idf	Asc/Rec limb fact	= n/a



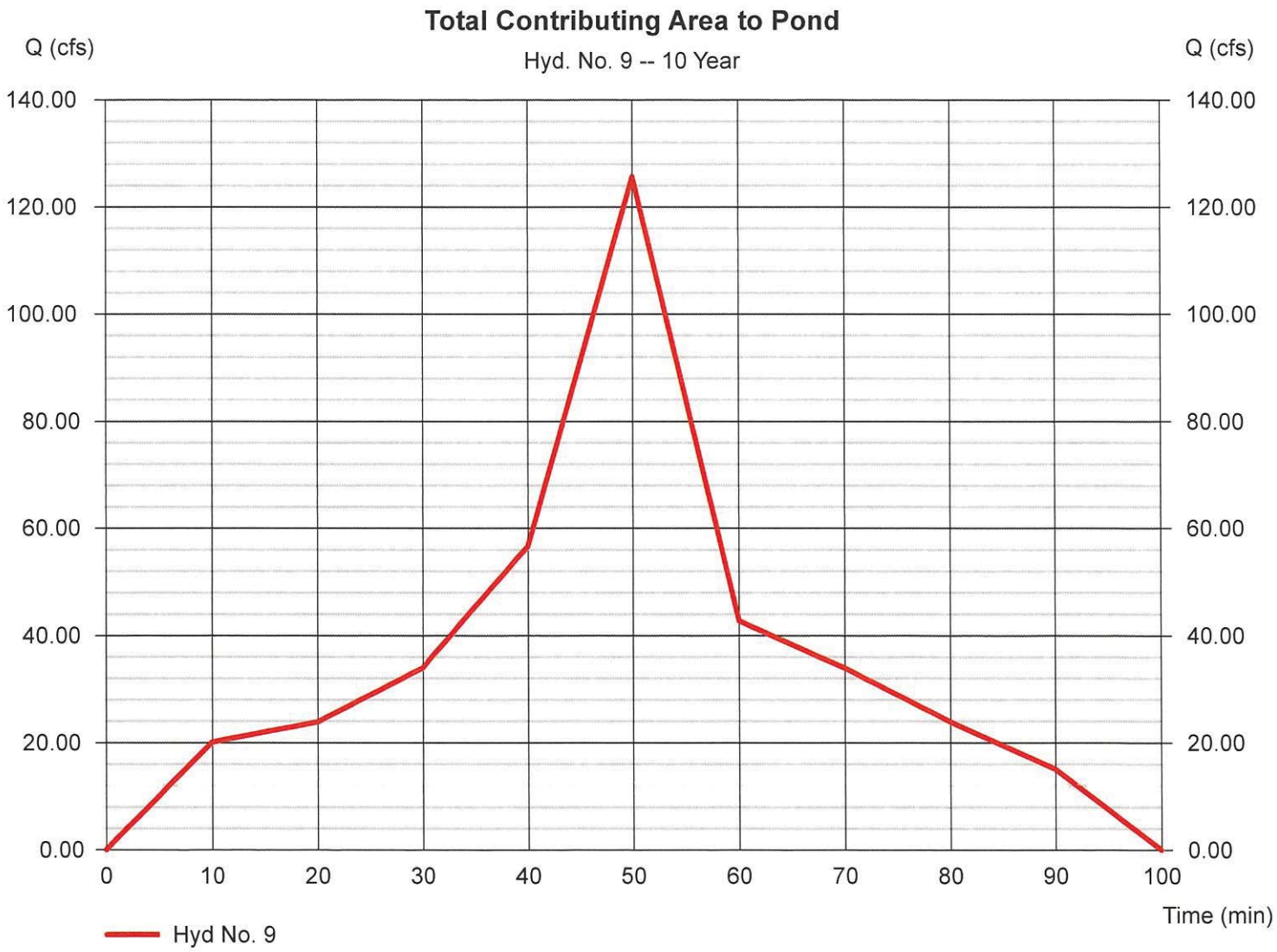
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22 | Thursday, Oct 1, 2020

Hyd. No. 9

Total Contributing Area to Pond

Hydrograph type	= Dekalb	Peak discharge	= 125.66 cfs
Storm frequency	= 10 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 225,442 cuft
Drainage area	= 41.600 ac	Runoff coeff.	= 0.5
Intensity	= 6.042 in/hr	Tc by User	= 10.00 min
IDF Curve	= SampleFHA.idf	Asc/Rec limb fact	= n/a



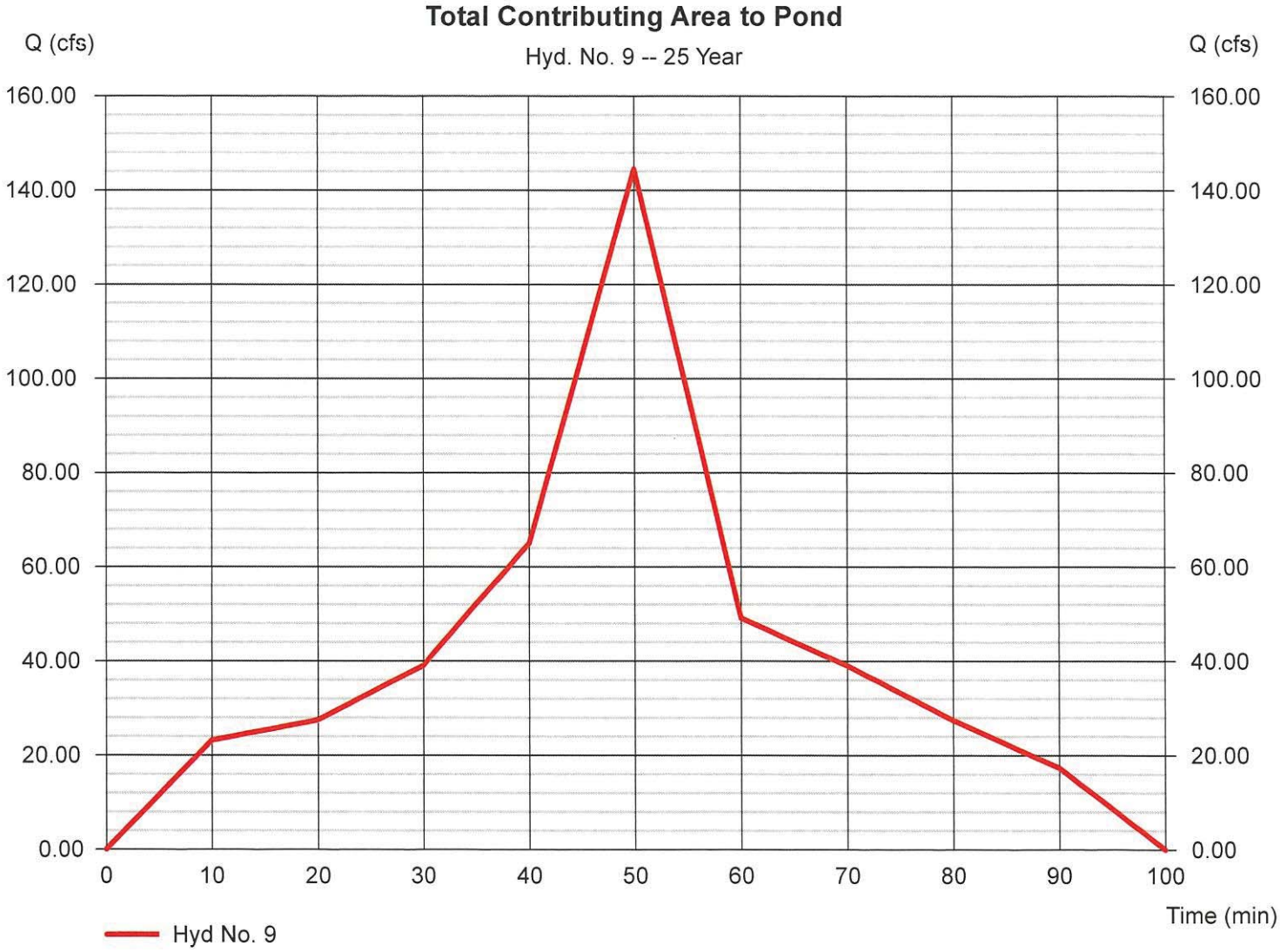
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22 | Thursday, Oct 1, 2020

Hyd. No. 9

Total Contributing Area to Pond

Hydrograph type	= Dekalb	Peak discharge	= 144.46 cfs
Storm frequency	= 25 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 259,167 cuft
Drainage area	= 41.600 ac	Runoff coeff.	= 0.5
Intensity	= 6.945 in/hr	Tc by User	= 10.00 min
IDF Curve	= SampleFHA.idf	Asc/Rec limb fact	= n/a



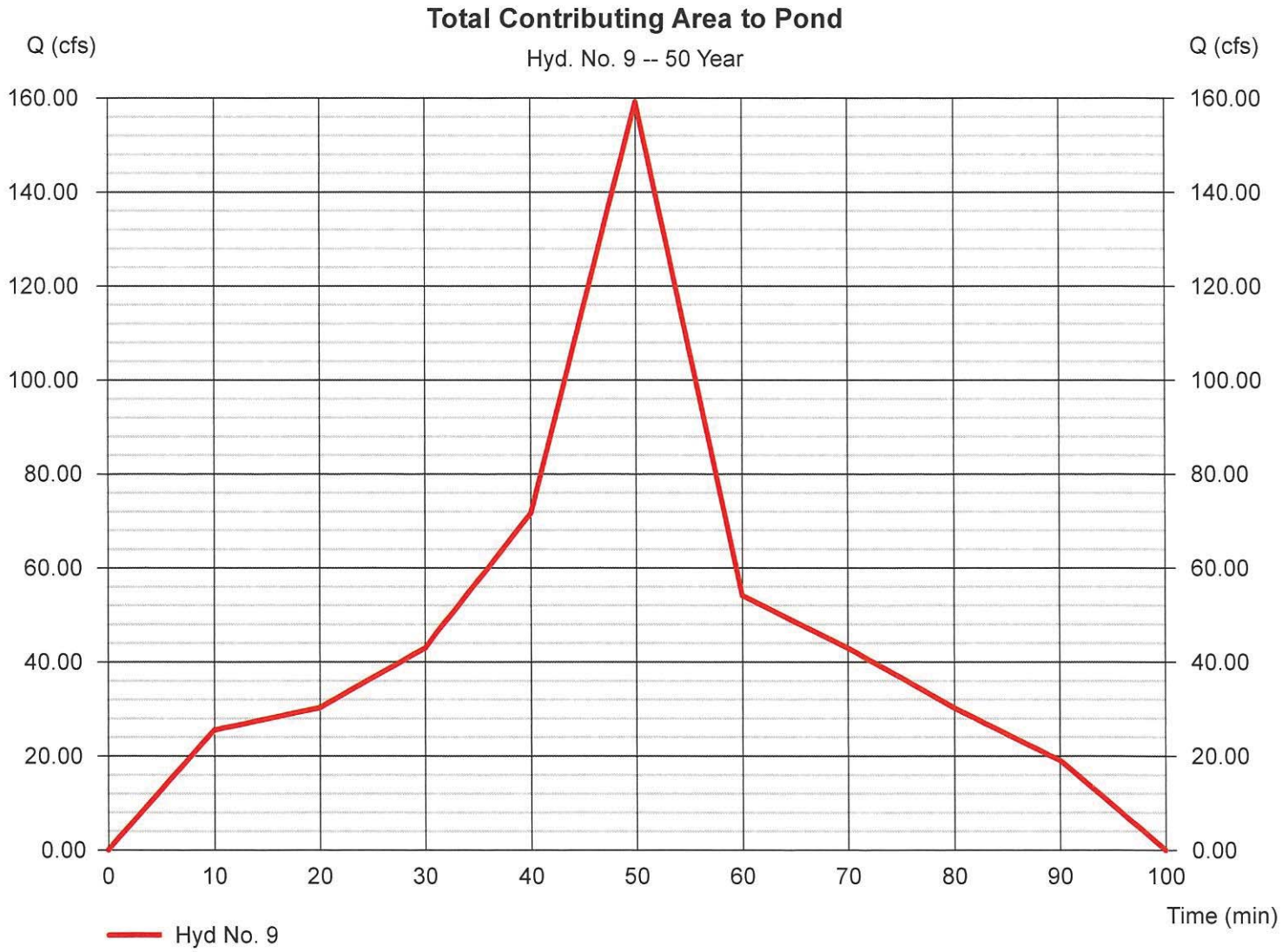
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22 | Thursday, Oct 1, 2020

Hyd. No. 9

Total Contributing Area to Pond

Hydrograph type	= Dekalb	Peak discharge	= 159.20 cfs
Storm frequency	= 50 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 285,603 cuft
Drainage area	= 41.600 ac	Runoff coeff.	= 0.5
Intensity	= 7.654 in/hr	Tc by User	= 10.00 min
IDF Curve	= SampleFHA.idf	Asc/Rec limb fact	= n/a



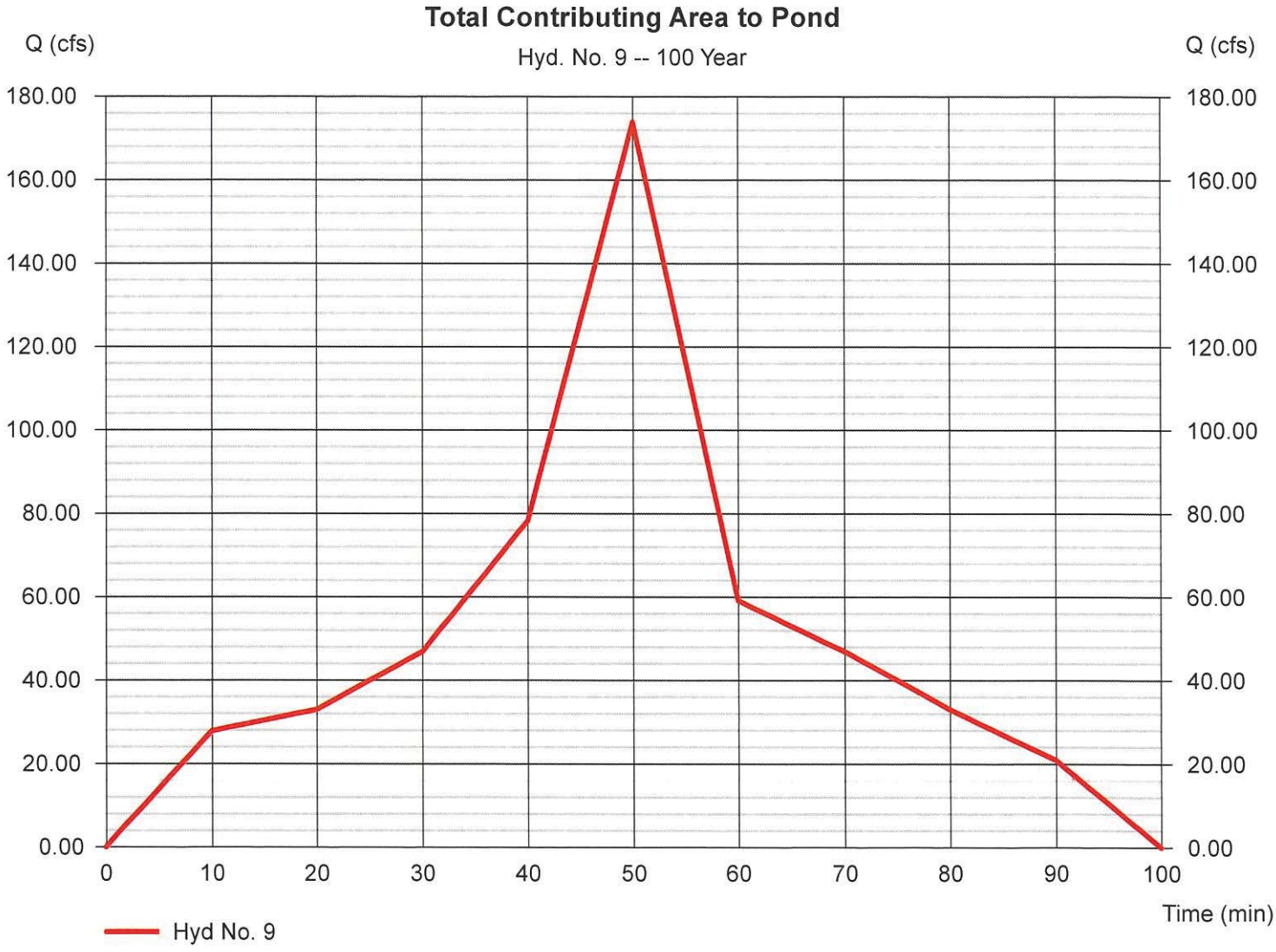
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22 | Thursday, Oct 1, 2020

Hyd. No. 9

Total Contributing Area to Pond

Hydrograph type	= Dekalb	Peak discharge	= 173.88 cfs
Storm frequency	= 100 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 311,939 cuft
Drainage area	= 41.600 ac	Runoff coeff.	= 0.5
Intensity	= 8.360 in/hr	Tc by User	= 10.00 min
IDF Curve	= SampleFHA.idf	Asc/Rec limb fact	= n/a



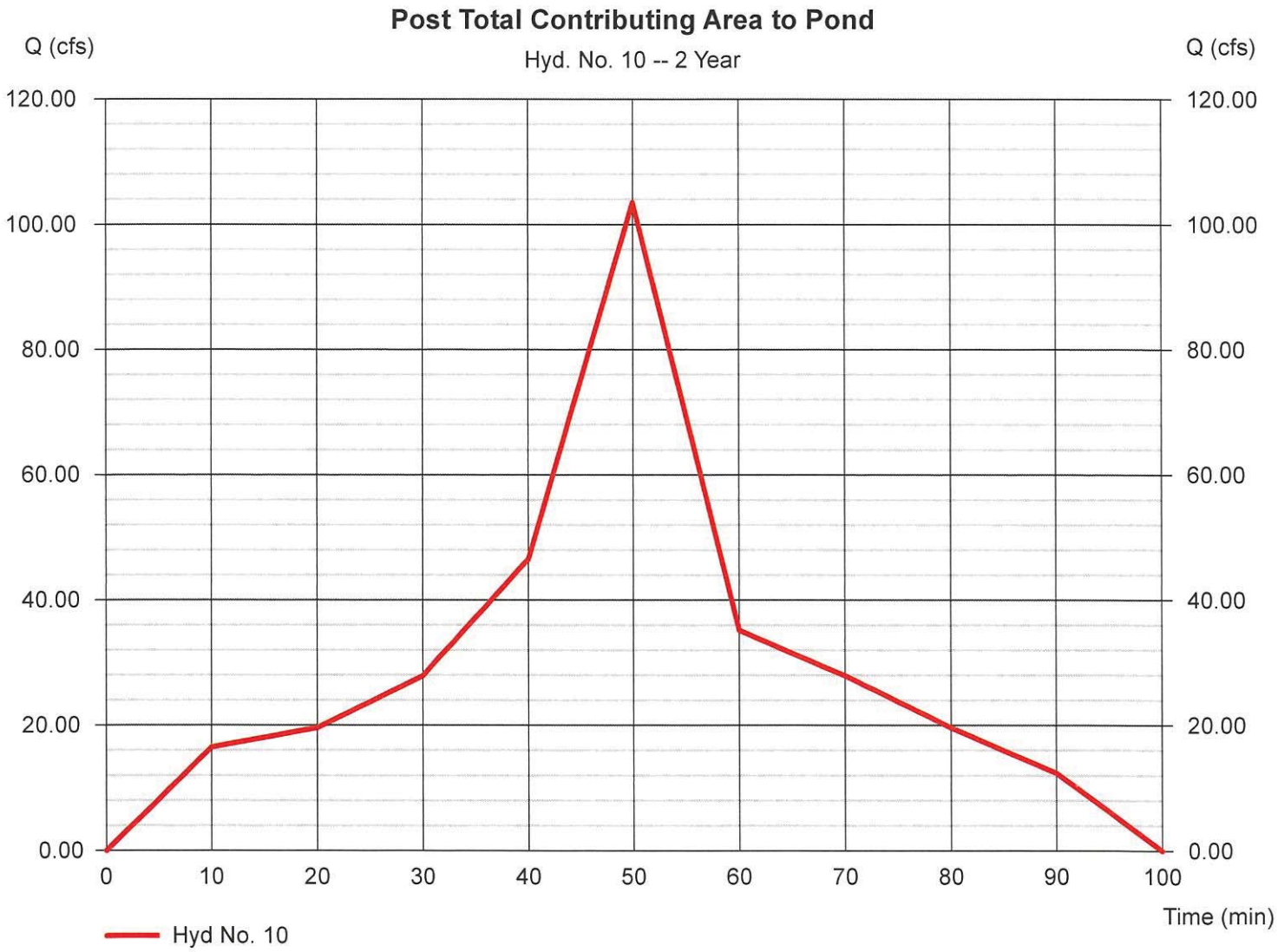
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22 Thursday, Oct 1, 2020

Hyd. No. 10

Post Total Contributing Area to Pond

Hydrograph type	= Dekalb	Peak discharge	= 103.54 cfs
Storm frequency	= 2 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 185,755 cuft
Drainage area	= 41.600 ac	Runoff coeff.	= 0.54
Intensity	= 4.609 in/hr	Tc by User	= 10.00 min
IDF Curve	= SampleFHA.idf	Asc/Rec limb fact	= n/a



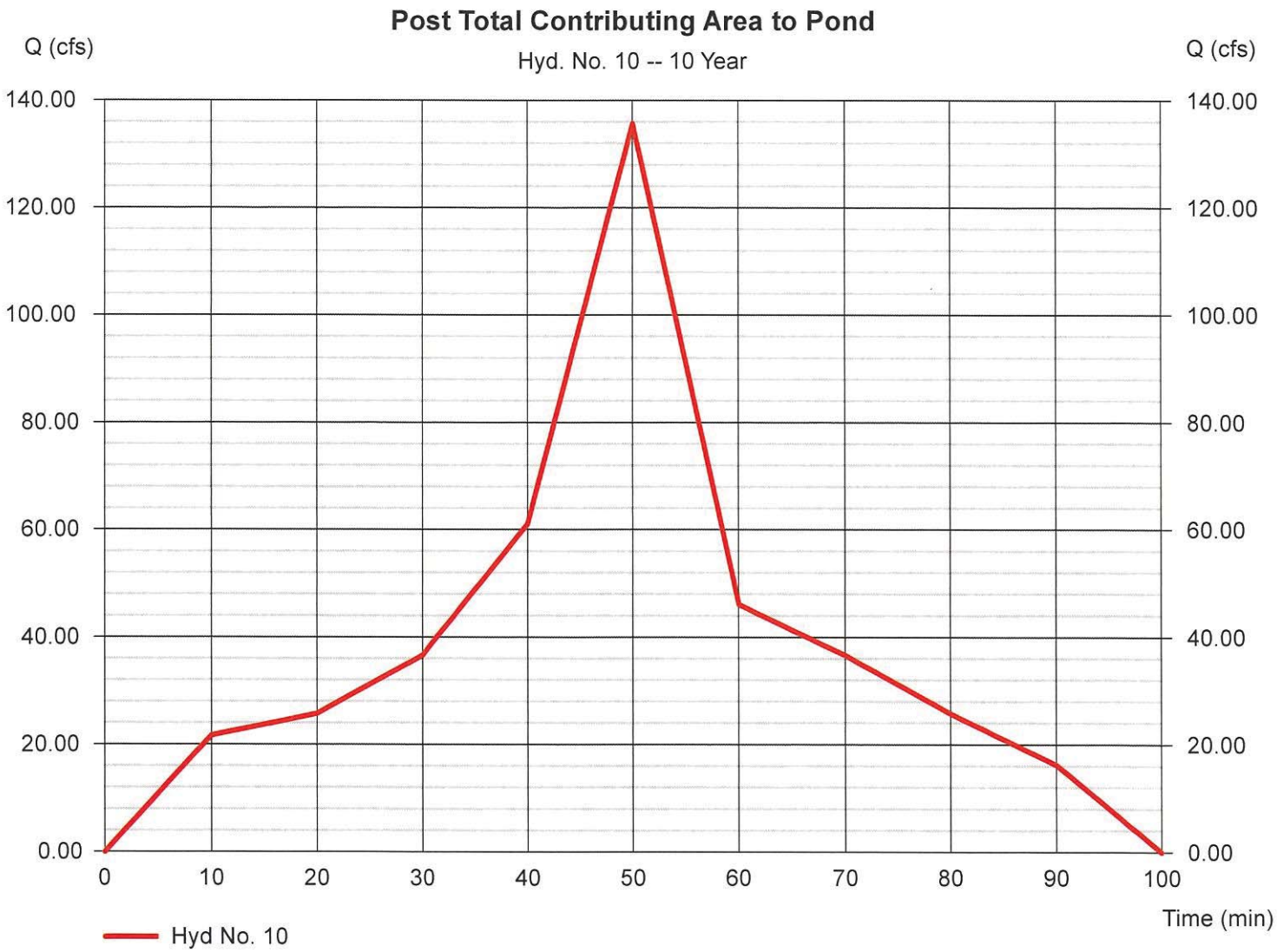
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22 | Thursday, Oct 1, 2020

Hyd. No. 10

Post Total Contributing Area to Pond

Hydrograph type	= Dekalb	Peak discharge	= 135.72 cfs
Storm frequency	= 10 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 243,477 cuft
Drainage area	= 41.600 ac	Runoff coeff.	= 0.54
Intensity	= 6.042 in/hr	Tc by User	= 10.00 min
IDF Curve	= SampleFHA.idf	Asc/Rec limb fact	= n/a



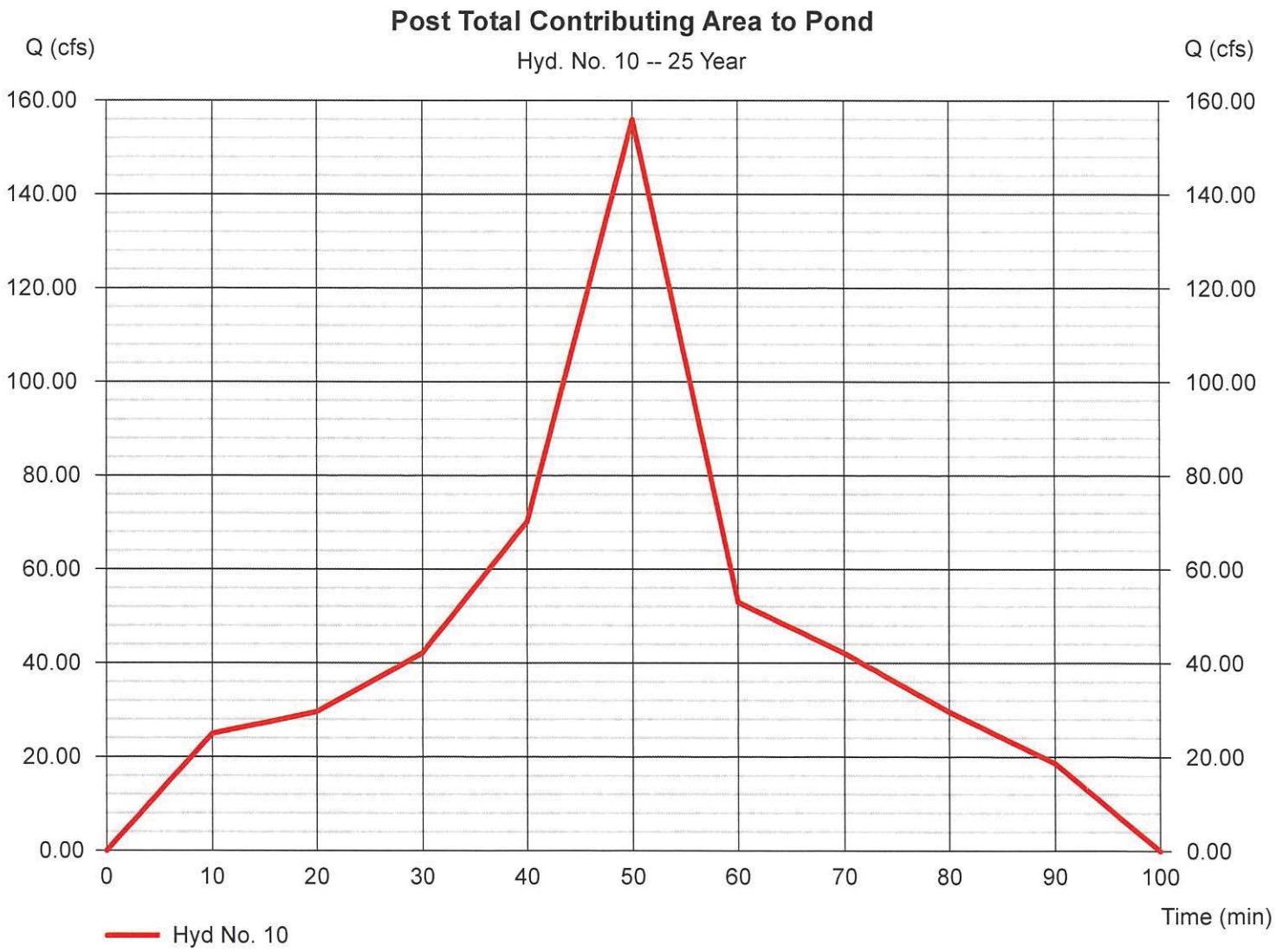
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22 | Thursday, Oct 1, 2020

Hyd. No. 10

Post Total Contributing Area to Pond

Hydrograph type	= Dekalb	Peak discharge	= 156.02 cfs
Storm frequency	= 25 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 279,901 cuft
Drainage area	= 41.600 ac	Runoff coeff.	= 0.54
Intensity	= 6.945 in/hr	Tc by User	= 10.00 min
IDF Curve	= SampleFHA.idf	Asc/Rec limb fact	= n/a



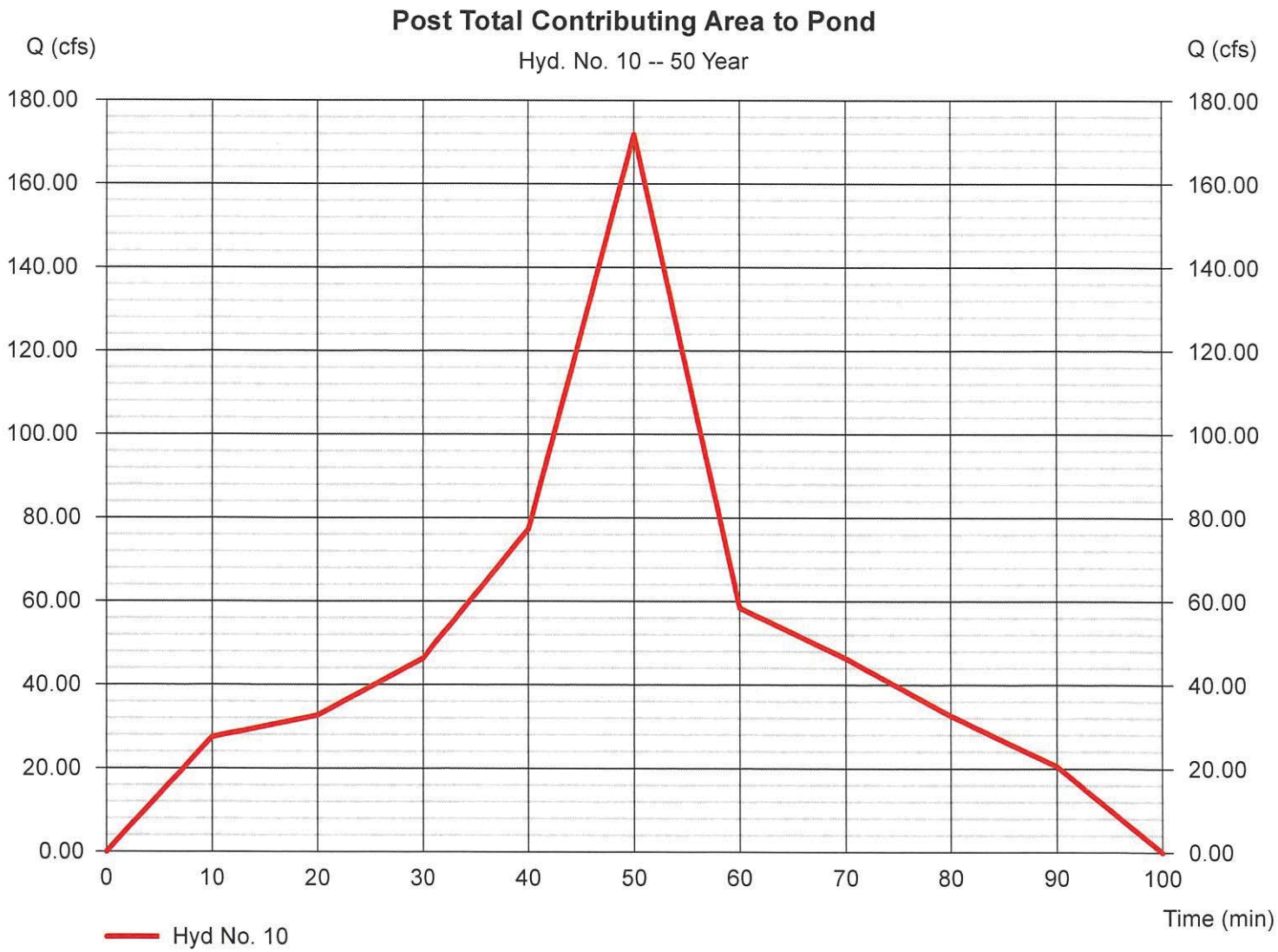
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22 — Thursday, Oct 1, 2020

Hyd. No. 10

Post Total Contributing Area to Pond

Hydrograph type	= Dekalb	Peak discharge	= 171.94 cfs
Storm frequency	= 50 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 308,452 cuft
Drainage area	= 41.600 ac	Runoff coeff.	= 0.54
Intensity	= 7.654 in/hr	Tc by User	= 10.00 min
IDF Curve	= SampleFHA.idf	Asc/Rec limb fact	= n/a



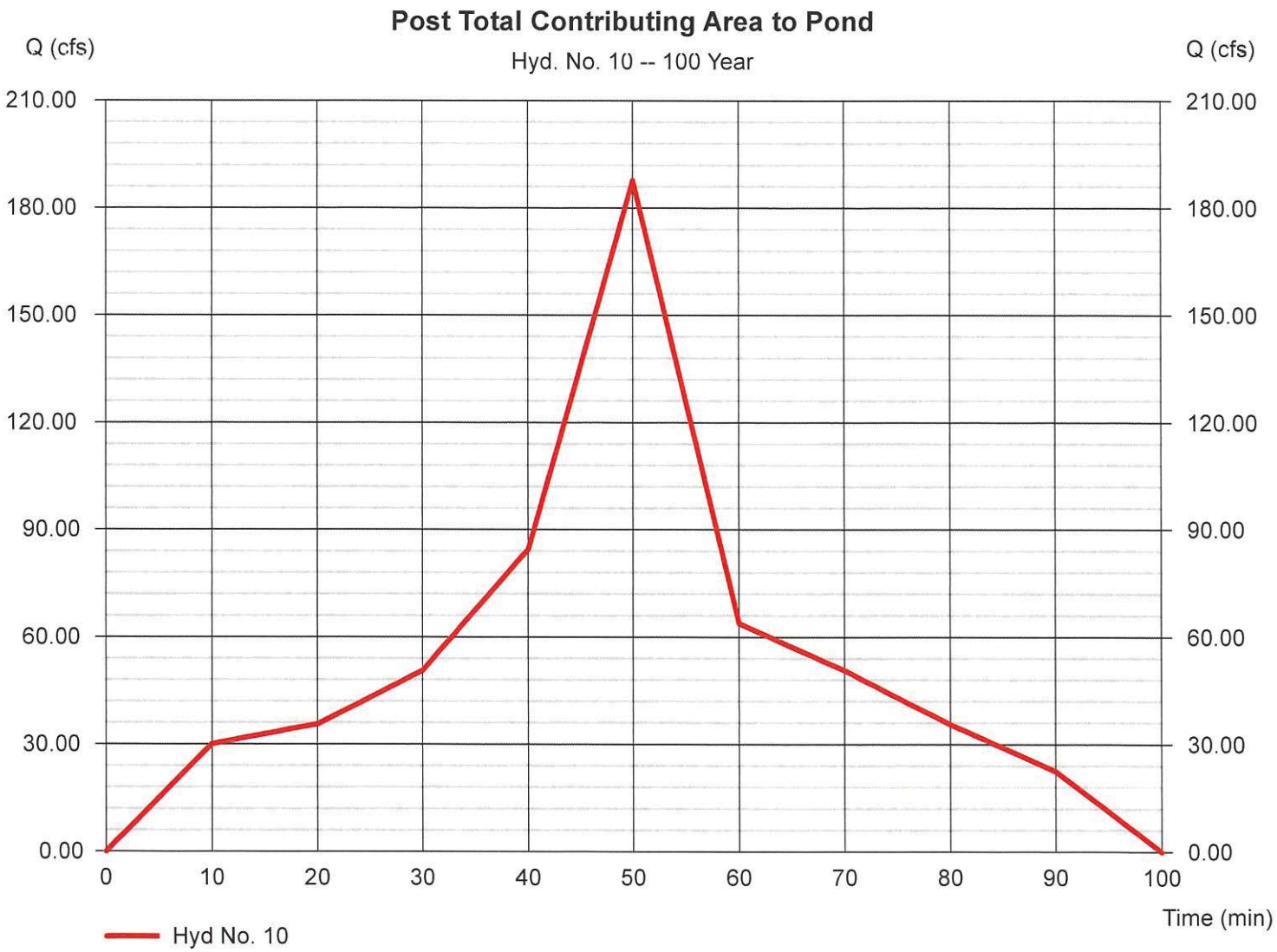
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22 — Thursday, Oct 1, 2020

Hyd. No. 10

Post Total Contributing Area to Pond

Hydrograph type	= Dekalb	Peak discharge	= 187.79 cfs
Storm frequency	= 100 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 336,895 cuft
Drainage area	= 41.600 ac	Runoff coeff.	= 0.54
Intensity	= 8.360 in/hr	Tc by User	= 10.00 min
IDF Curve	= SampleFHA.idf	Asc/Rec limb fact	= n/a



Hydrograph Report

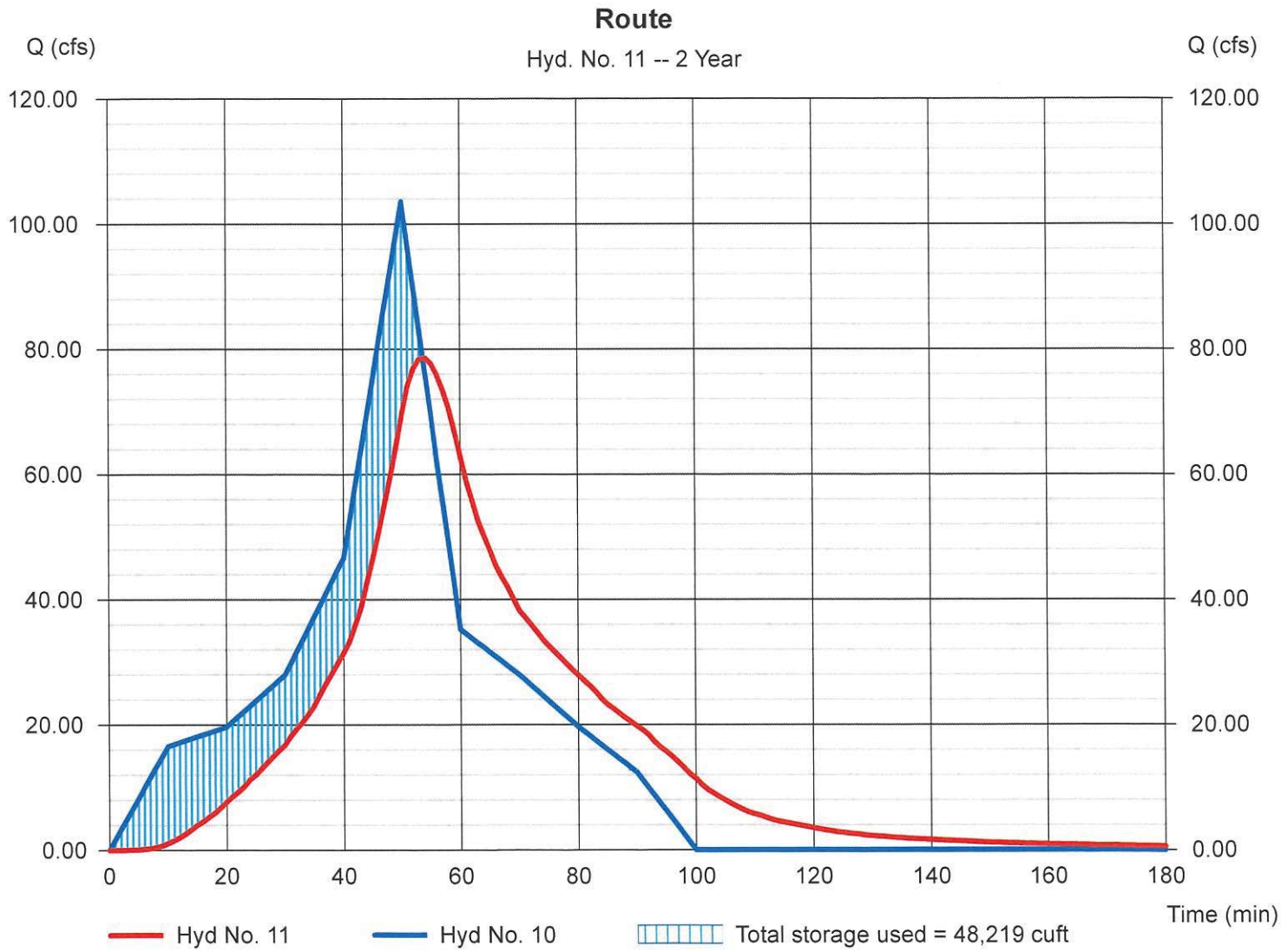
Hydraflow Hydrographs by Intelisolve v9.22 Friday, Oct 2, 2020

Hyd. No. 11

Route

Hydrograph type	= Reservoir	Peak discharge	= 78.59 cfs
Storm frequency	= 2 yrs	Time to peak	= 54 min
Time interval	= 1 min	Hyd. volume	= 185,730 cuft
Inflow hyd. No.	= 10 - Post Total Contributing Area to Pon	Max. Elevation	= 210.44 ft
Reservoir name	= Oaklana Detention at open channel	Max. Storage	= 48,219 cuft

Storage Indication method used.



Hydrograph Report

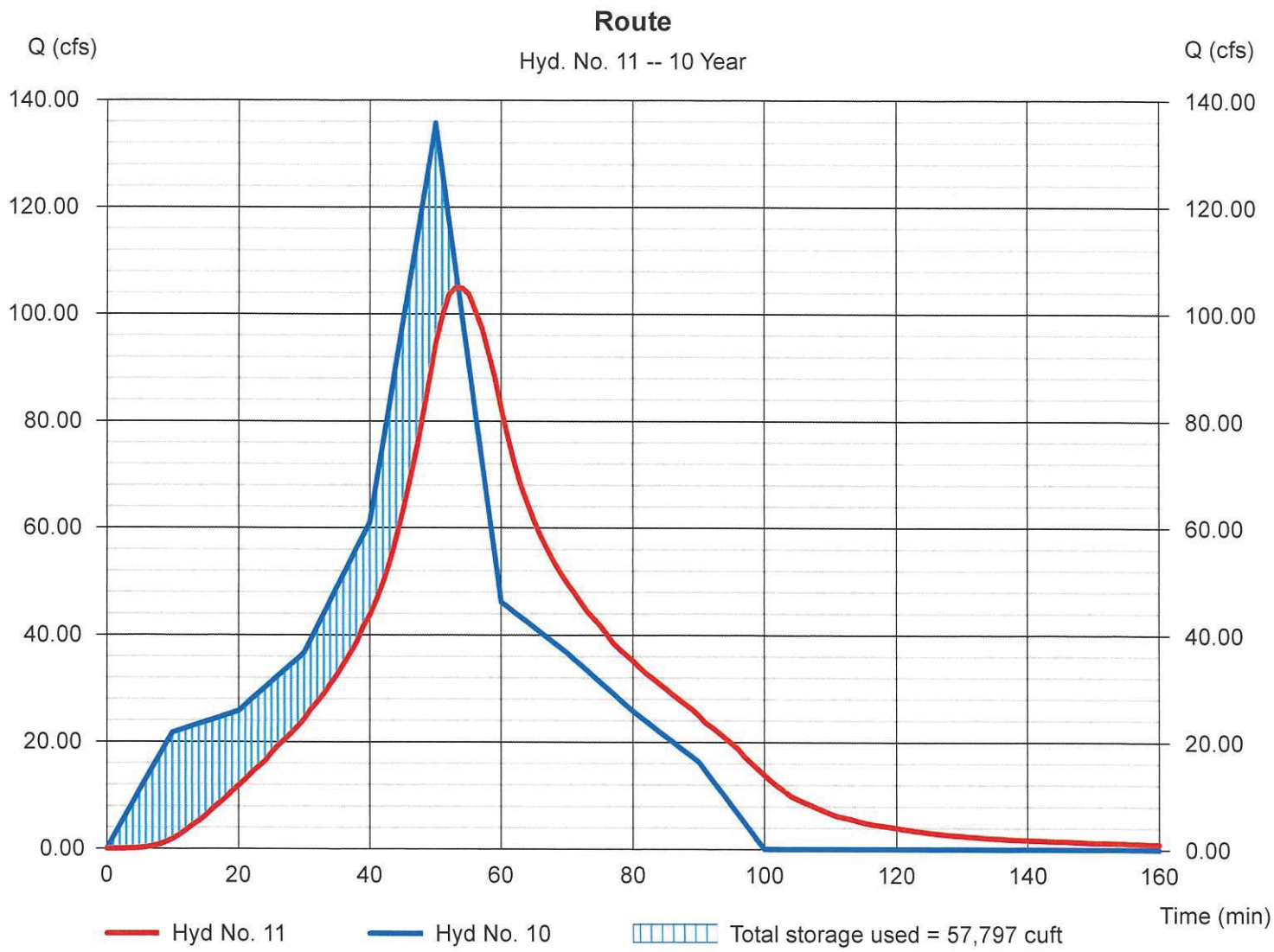
Hydraflow Hydrographs by Intelisolve v9.22 Friday, Oct 2, 2020

Hyd. No. 11

Route

Hydrograph type	= Reservoir	Peak discharge	= 104.92 cfs
Storm frequency	= 10 yrs	Time to peak	= 53 min
Time interval	= 1 min	Hyd. volume	= 243,452 cuft
Inflow hyd. No.	= 10 - Post Total Contributing Area to Pon	Max. Elevation	= 210.70 ft
Reservoir name	= Oaklana Detention at open channel	Max. Storage	= 57,797 cuft

Storage Indication method used.



Hydrograph Report

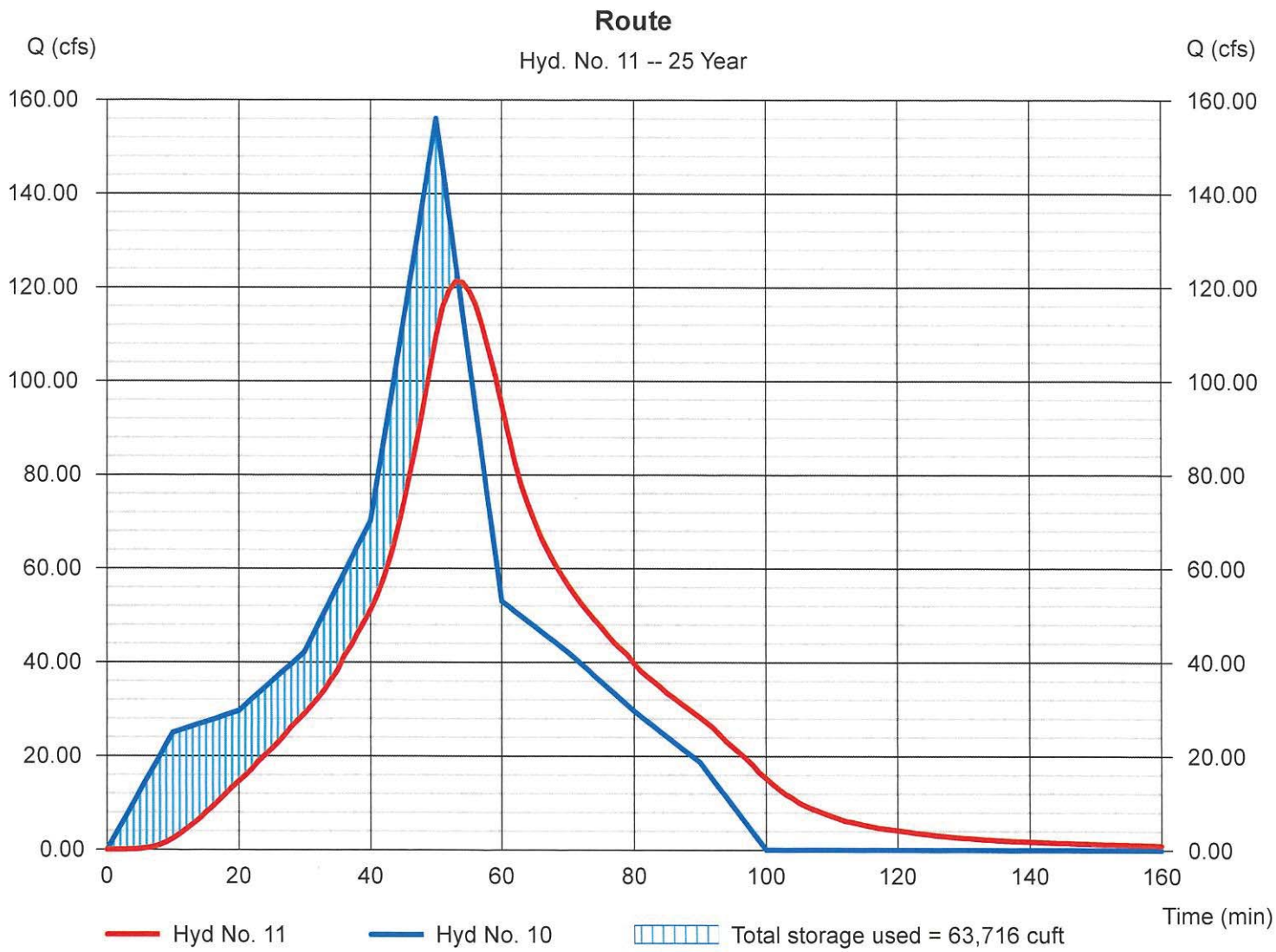
Hydraflow Hydrographs by Intelisolve v9.22 Friday, Oct 2, 2020

Hyd. No. 11

Route

Hydrograph type	= Reservoir	Peak discharge	= 121.28 cfs
Storm frequency	= 25 yrs	Time to peak	= 53 min
Time interval	= 1 min	Hyd. volume	= 279,876 cuft
Inflow hyd. No.	= 10 - Post Total Contributing Area to Pon	Max. Elevation	= 210.86 ft
Reservoir name	= Oaklana Detention at open channel	Max. Storage	= 63,716 cuft

Storage Indication method used.



Hydrograph Report

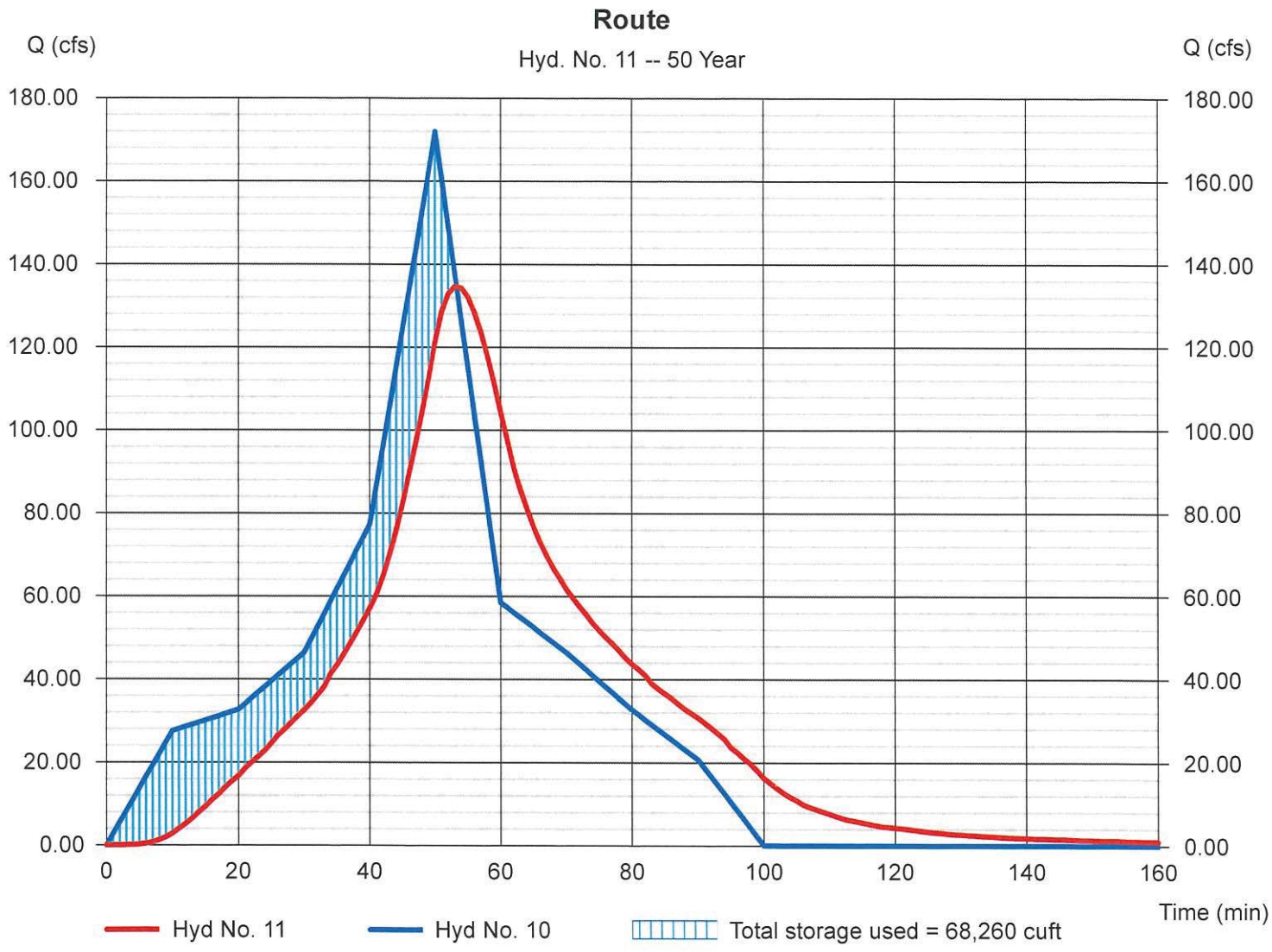
Hydraflow Hydrographs by Intelisolve v9.22 Friday, Oct 2, 2020

Hyd. No. 11

Route

Hydrograph type	= Reservoir	Peak discharge	= 134.64 cfs
Storm frequency	= 50 yrs	Time to peak	= 53 min
Time interval	= 1 min	Hyd. volume	= 308,427 cuft
Inflow hyd. No.	= 10 - Post Total Contributing Area to Pond	Max. Elevation	= 210.98 ft
Reservoir name	= Oaklana Detention at open channel	Max. Storage	= 68,260 cuft

Storage Indication method used.



Hydrograph Report

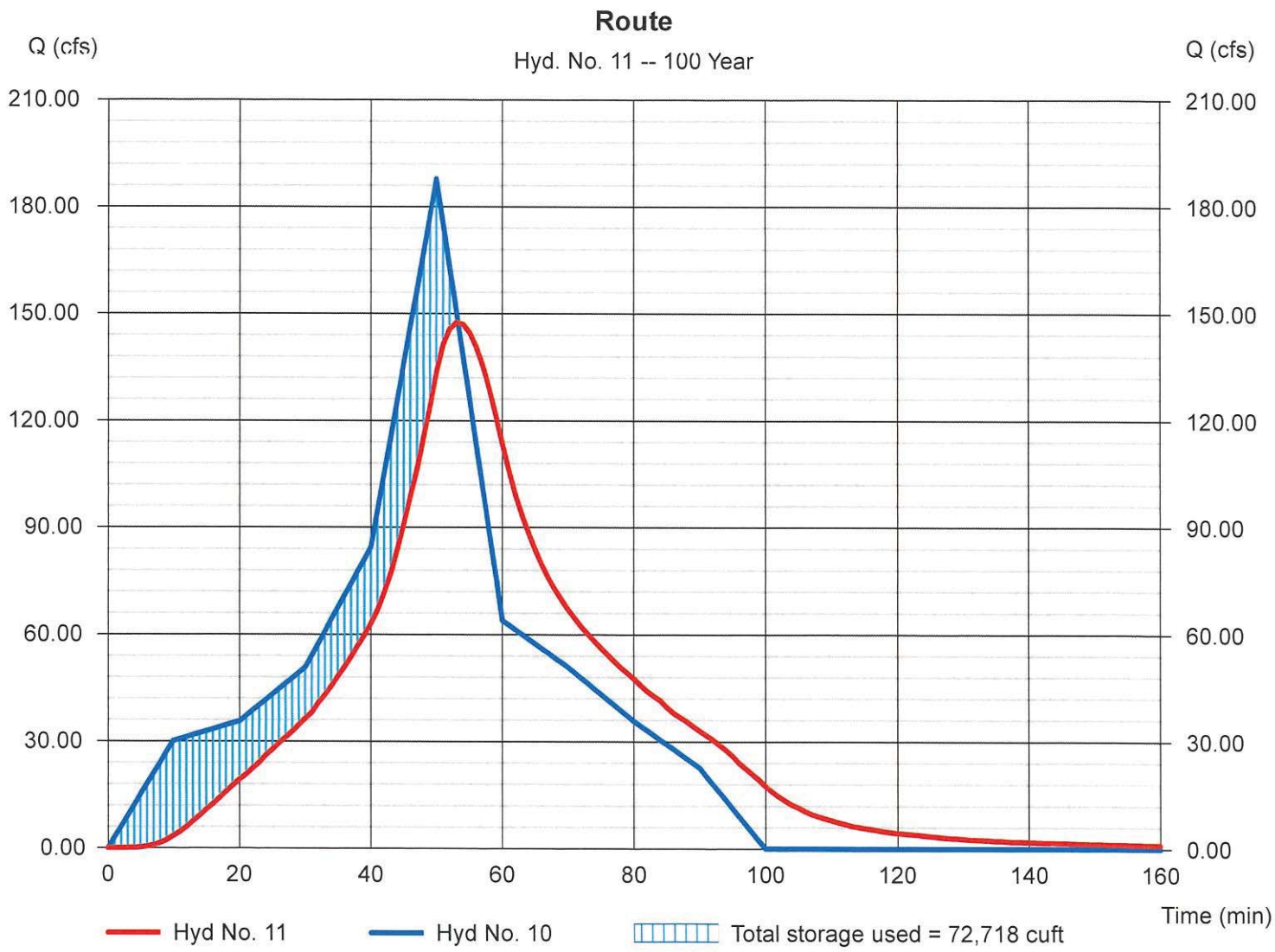
Hydraflow Hydrographs by Intelisolve v9.22 Friday, Oct 2, 2020

Hyd. No. 11

Route

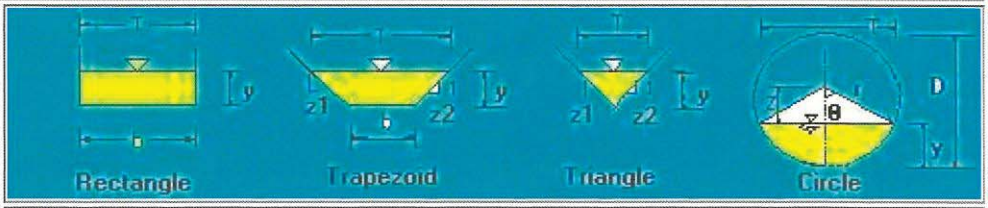
Hydrograph type	= Reservoir	Peak discharge	= 147.50 cfs
Storm frequency	= 100 yrs	Time to peak	= 53 min
Time interval	= 1 min	Hyd. volume	= 336,870 cuft
Inflow hyd. No.	= 10 - Post Total Contributing Area to Pon	Max. Elevation	= 211.10 ft
Reservoir name	= Oaklana Detention at open channel	Max. Storage	= 72,718 cuft

Storage Indication method used.



The open channel flow calculator

Select Channel Type:
Trapezoid



Velocity(V)&Discharge(Q)

Select unit system: Feet(ft)

Channel slope: 0.02 ft/ft	Water depth(y): 1.01 ft	Bottom width(b) 11 ft
Flow velocity 5.5562 ft/s	LeftSlope (Z1): 3 to 1 (H:V)	RightSlope (Z2): 3 to 1 (H:V)
Flow discharge 78.7327 ft^3/s	Input n value 0.033 or select r	
Calculate!	Status: Calculation finished	Reset
Wetted perimeter 17.39 ft	Flow area 14.17 ft^2	Top width(T) 17.06 ft
Specific energy 1.49 ft	Froude number 1.07	Flow status Supercritical flow
Critical depth 1.06 ft	Critical slope 0.0169 ft/ft	Velocity head 0.48 ft

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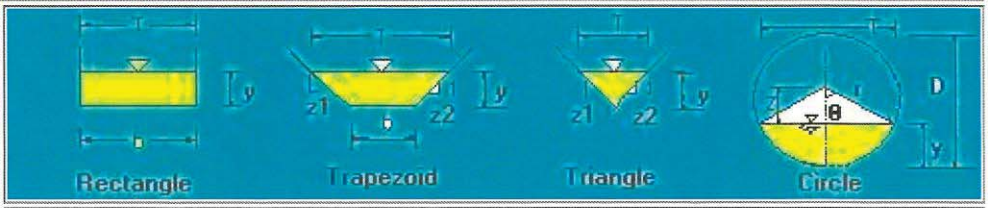
The open channel flow calculator

Select Channel Type:
Trapezoid



Velocity(V)&Discharge(Q)

Select unit system: Feet(ft)

Channel slope: 0.02 ft/ft	Water depth(y): 1.185 ft	Bottom width(b) 11 ft
Flow velocity 6.0787 ft/s	LeftSlope (Z1): 3 to 1 (H:V)	RightSlope (Z2): 3 to 1 (H:V)
Flow discharge 104.8433 ft^3/s	Input n value 0.033 or select r	
Calculate!	Status: Calculation finished	Reset
Wetted perimeter 18.49 ft	Flow area 17.25 ft^2	Top width(T) 18.11 ft
Specific energy 1.76 ft	Froude number 1.1	Flow status Supercritical flow
Critical depth 1.25 ft	Critical slope 0.0163 ft/ft	Velocity head 0.57 ft

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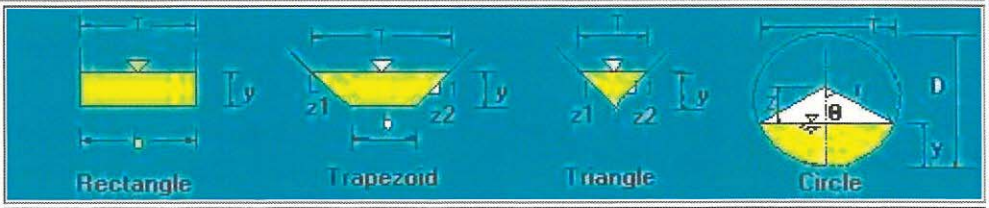
The open channel flow calculator

Select Channel Type:
Trapezoid



Velocity(V)&Discharge(Q)

Select unit system: Feet(ft)

Channel slope: 0.02 ft/ft	Water depth(y): 1.285 ft	Bottom width(b) 11 ft
Flow velocity 6.3597 ft/s	LeftSlope (Z1): 3 to 1 (H:V)	RightSlope (Z2): 3 to 1 (H:V)
Flow discharge 121.3987 ft^3/s	Input n value 0.033 or select r	
Calculate!	Status: Calculation finished	Reset
Wetted perimeter 19.13 ft	Flow area 19.09 ft^2	Top width(T) 18.71 ft
Specific energy 1.91 ft	Froude number 1.11	Flow status Supercritical flow
Critical depth 1.37 ft	Critical slope 0.016 ft/ft	Velocity head 0.63 ft

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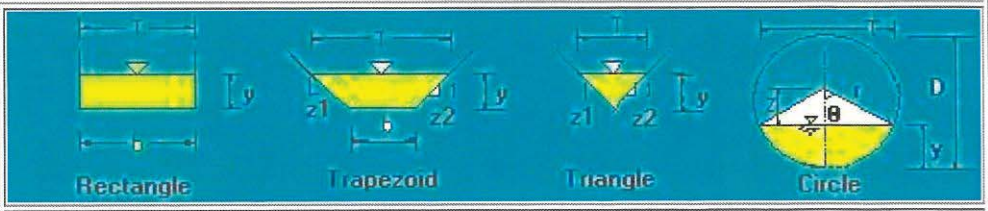
The open channel flow calculator

Select Channel Type:
Trapezoid



Velocity(V)&Discharge(Q)

Select unit system: Feet(ft)

Channel slope: 0.02 ft/ft	Water depth(y): 1.36 ft	Bottom width(b) 11 ft
Flow velocity 6.5633 ft/s	LeftSlope (Z1): 3 to 1 (H:V)	RightSlope (Z2): 3 to 1 (H:V)
Flow discharge 134.6053 ft^3/s	Input n value 0.033 or select n	
Calculate!	Status: Calculation finished	Reset
Wetted perimeter 19.6 ft	Flow area 20.51 ft^2	Top width(T) 19.16 ft
Specific energy 2.03 ft	Froude number 1.12	Flow status Supercritical flow
Critical depth 1.46 ft	Critical slope 0.0156 ft/ft	Velocity head 0.67 ft

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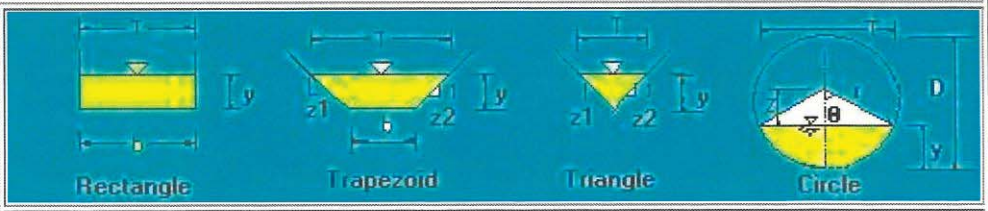
The open channel flow calculator

Select Channel Type:
Trapezoid



Velocity(V)&Discharge(Q)

Select unit system: Feet(ft)

Channel slope: 0.02 ft/ft	Water depth(y): 1.43 ft	Bottom width(b) 11 ft
Flow velocity 6.7482 ft/s	LeftSlope (Z1): 3 to 1 (H:V)	RightSlope (Z2): 3 to 1 (H:V)
Flow discharge 147.5484 ft^3/s	Input n value 0.033 or select r	
Calculate!	Status: Calculation finished	Reset
Wetted perimeter 20.04 ft	Flow area 21.86 ft^2	Top width(T) 19.58 ft
Specific energy 2.14 ft	Froude number 1.13	Flow status Supercritical flow
Critical depth 1.53 ft	Critical slope 0.0155 ft/ft	Velocity head 0.71 ft

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Cabaniss Engineering Inc.

PROFESSIONAL ENGINEERS and LAND SURVEYORS

Al Cabaniss, PE, PLS

Oaklana
Variance Requests

1. The Developer requests a Variance from the typical street cross section due to topographic constraints, low density, as well as due to environmental protection goals pertaining to limiting disturbance of steep slopes, the Developer proposes a 29' street cross section within a 44' R.O.W.
2. The Developer requests a Variance from the cul-de-sac length. Due to topographic constraints and the horizontal constraints imposed by the 100' Alabama Power Company Right-of-Way, the buildable area is limited, leaving no room for connecting streets. The cul-de-sac street serves only 16 lots.
3. The Developer requests a Variance from the half street improvement requirement for 2nd Avenue NE. Most of the property bordering 2nd Avenue NE has been developed, and was developed without half street improvements. Half street improvements on the Oaklana frontage would terminate abruptly at both the north and south ends, and would not provide any public benefit. The Oaklana development consists of only 16 lots on 14.55 acres.
4. The Developer requests a Variance from the minimum lot size for an R-1 lot to allow the storm drainage and storm water detention area and facilities to be located in a Common Space Lot. This lot will be smaller than a buildable R-1 lot, and is to be used only for storm water drainage pipes and structures and associated elements, and storm water detention structures and associated elements. This avoids the possibility of the adjacent residential homeowners constructing fences into an easement if the storm drainage elements were located within an easement rather than a Common Space Lot.

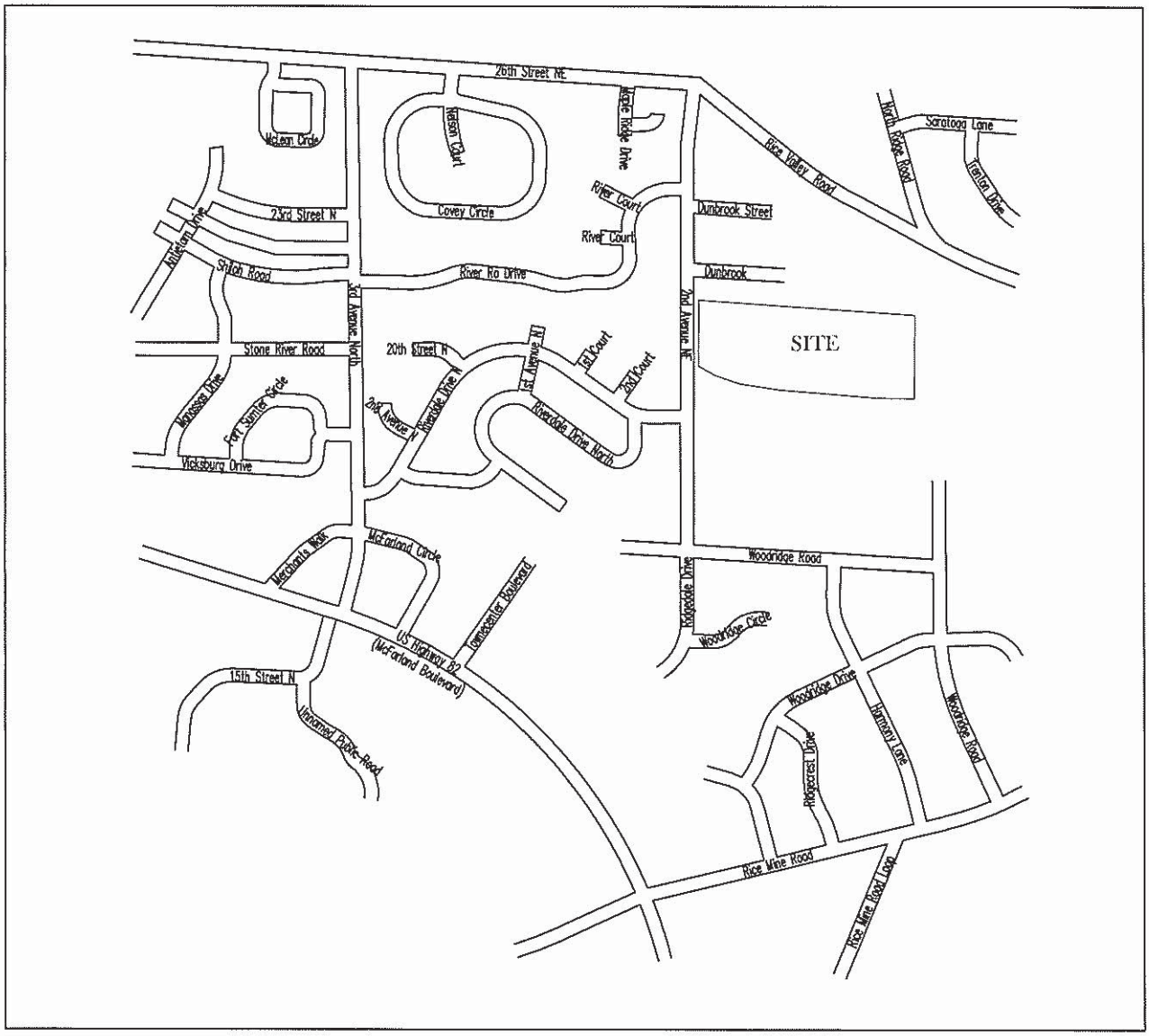
Court House Plaza • 600 Lurleen Wallace Boulevard South, Suite 140 • P.O. Box 020440 • Tuscaloosa, Alabama 35402 • (205) 758-9032

Tax Map
Okalana

JOB NO: 20-02-001	DATE: 03/19/2020
DATE OF SURVEY: N/A	SOURCE OF TITLE: N/A
FB/PG: N/A	SCALE: N.T.S.
FILE NAME: 2002001.DWG	DWN/CHK BY: THS/AJC

Cabaniss Engineering, Inc.

PROFESSIONAL ENGINEERS AND LAND SURVEYORS
COURT HOUSE PLAZA 600 LURLEEN WALLACE BLVD. SOUTH, SUITE 140
P.O. BOX 020440 TUSCALOOSA, ALABAMA 35402 (205) 758-9032



Vicinity Map
Oaklana

100 0 100
Scale 1" = 200'

JOB NO: 20-02-001	DATE: 03/19/2020
DATE OF SURVEY: N/A	SOURCE OF TITLE: N/A
FB/PG: N/A	SCALE: 1" = 200'
FILE NAME: 2002001.DWG	DWN/CHK BY: THS/AJC

Cabaniss Engineering, Inc.
PROFESSIONAL ENGINEERS AND LAND SURVEYORS
COURT HOUSE PLAZA 600 LURLEEN WALLACE BLVD. SOUTH, SUITE 140
P.O. BOX 020440 TUSCALOOSA, ALABAMA 35402 (205) 758-9032