

LEGEND
 AREA DRAINING TO GARAGE DETENTION VAULT (12.08 AC.)

100 YEAR SWM NARRATIVE

THE 100 YEAR SWM HYDROGRAPHS SHOWN ON SHEET PII 506 ARE BASED ON A 6 YEAR SCS STORM, GIVEN THAT THE ORIGINAL PROJECT NAMED WILLOWOOD PLAZA, LAST REVISED ON 8/6/1987, USED A 6 HOUR SCS STORM EVENT TO DETERMINE Q PEAK. ORIGINAL Q PEAK = 9.73 CFS. THERE ARE TWO PHASES DEVELOPED FOR 100 YEAR 6 HOUR STORM EVENT.

WE HAVE ROUTED THE 100 YEAR 6 HOUR STORM EVENT THROUGH THREE VAULTS GIVEN AS GARAGE DETENTION VAULT, DETENTION VAULT 1, AND DETENTION VAULT 2.

PHASE 1
 GARAGE DETENTION VAULT HAS A DRAINAGE AREA OF 12.08 ACRES. POST DEVELOPED Q PEAK = 3.664 CFS. SEE SHEET PII-506.

PHASE 2
 VAULT 1 HAS A DRAINAGE AREA OF 0.76 ACRES. POST DEVELOPED Q PEAK = 1.770 CFS. SEE SHEET PII-506

VAULT 2 HAS A DRAINAGE AREA OF 0.98 ACRES. POST DEVELOPED Q PEAK = 2.211 CFS. SEE SHEET PII-506.

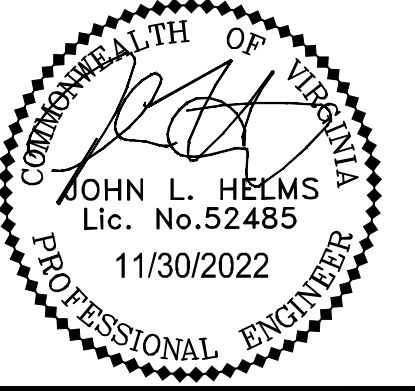
THERE IS AN UNCONTROLLED AREA OF 0.44 ACRES. POST DEVELOPED Q PEAK = 1.898CFS. SEE SHEET PII-506.

PHASE 2 COMBINED DRAINAGE AREA IS 2.18 ACRES. POST DEVELOPED Q PEAK = 5.484 CFS. SEE SHEET PII-506.

CONCLUSION

PHASE 1 POST DEVELOPED Q PEAK = 3.664 CFS. PHASE 2 Q PEAK POST DEVELOPED = 5.484 CFS. TOTAL SITE Q PEAK POST DEVELOPED = 9.148 CFS WHICH IS LESS THAN THE ORIGINAL Q PEAK = 9.73 CFS. GIVEN THAT Q PEAK POST DEVELOPED IS LESS THAN THE ORIGINAL Q PEAK WE CONCLUDE THAT WE HAVE MET THE SWM QUANTITY REQUIREMENTS FOR THE 100 YEAR STORM EVENT.

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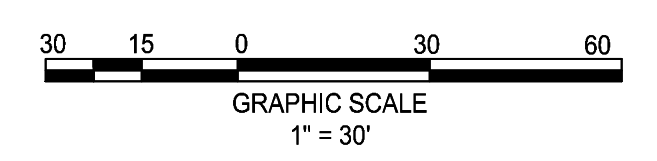
**N29 RESIDENCES
 GENERAL DEVELOPMENT PLAN**
 CITY OF FAIRFAX, VA

MARK	DATE	DESCRIPTION
1	11-30-2022	ADDRESSED PER CITY COMMENTS

PROJECT No.: 21082.002.00
 DRAWING No.: 111937
 DATE: 2022-07-15
 SCALE: 1"=30'
 DESIGN: JH
 DRAWN: YH
 CHECKED: JH

**OVERALL
 WILLOWOOD
 100-YR
 DETENTION**

SHEET No.
PII_505

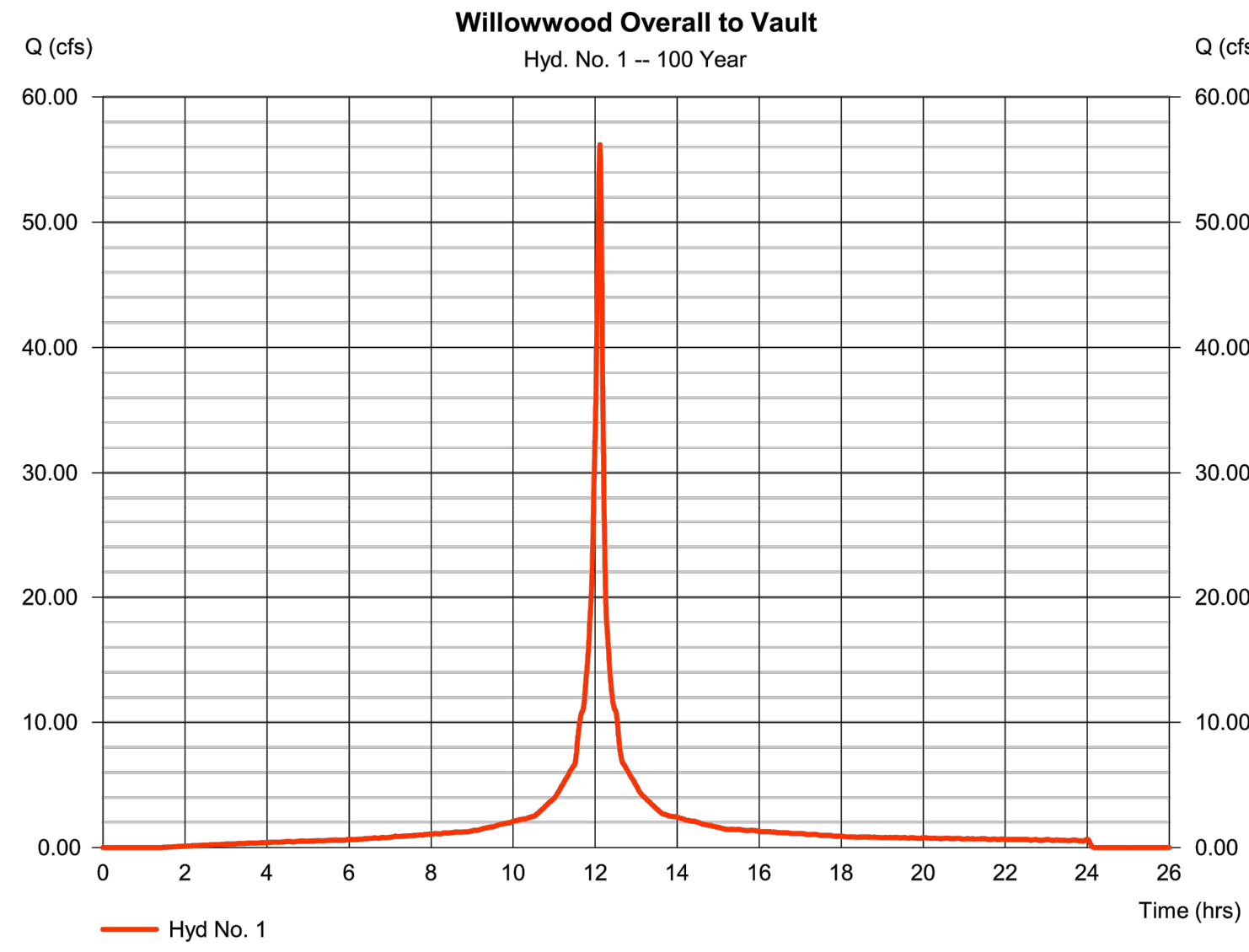


PHASE 1 OVERALL TO GARAGE DETENTION VAULT Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Tuesday, 11 / 29 / 2022

Hyd. No. 1
Willowood Overall to Vault

Hydrograph type	= SCS Runoff	Peak discharge	= 56.20 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 178,168 cuft
Drainage area	= 12,080 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.29 in	Distribution	= Custom
Storm duration	= P:\FX\Projects\18043\00200\18043-01-AN\DESIGN\4-GR\pond\24Hr_Dist-		



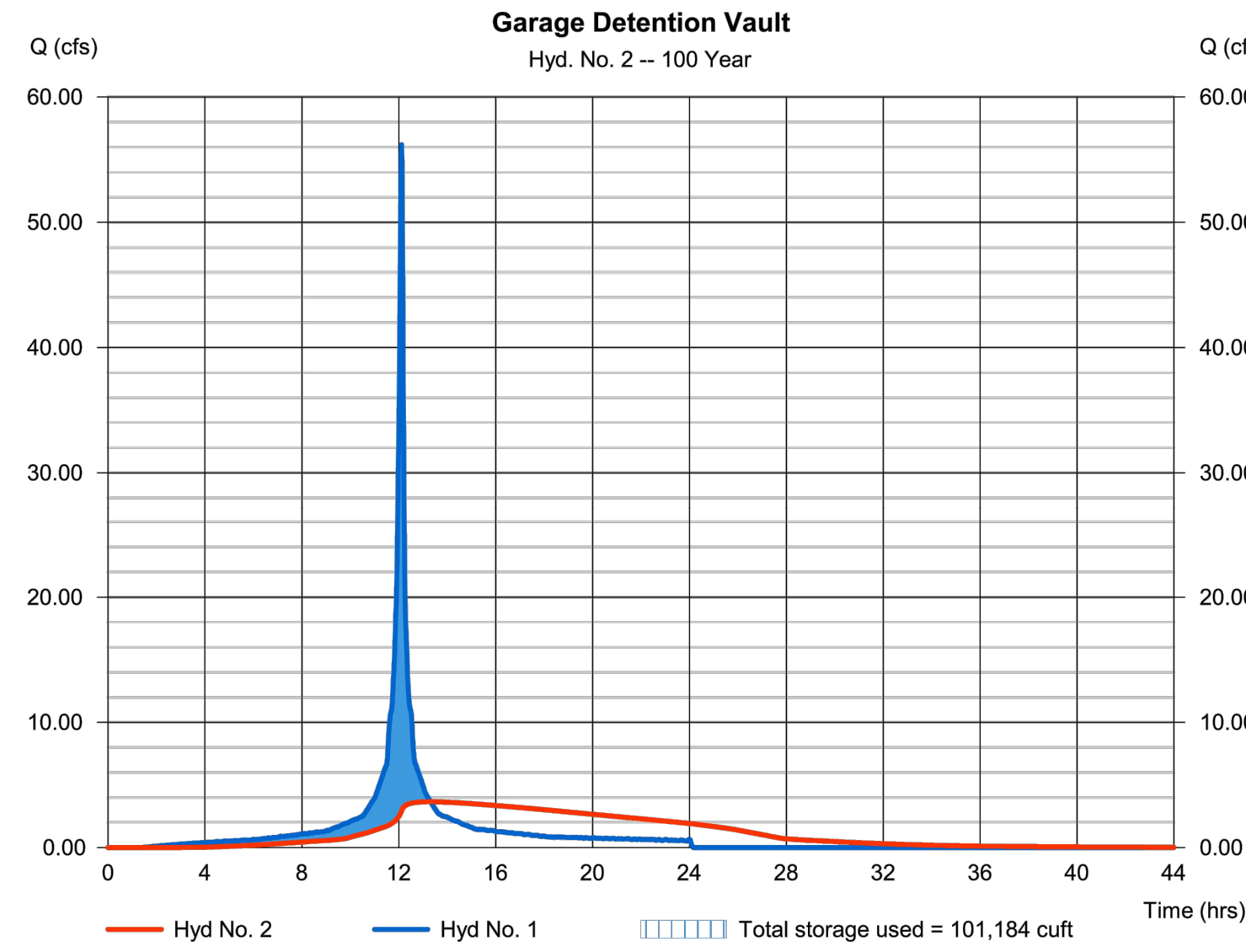
PHASE 1 GARAGE DETENTION VAULT Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Tuesday, 11 / 29 / 2022

Hyd. No. 2
Garage Detention Vault

Hydrograph type	= Reservoir	Peak discharge	= 3.664 cfs
Storm frequency	= 100 yrs	Time to peak	= 13.32 hrs
Time interval	= 1 min	Hyd. volume	= 176,736 cuft
Inflow hyd. No.	= 1 - Willowood Overall to Vault	Max. Elevation	= 328.09 ft
Reservoir name	= Willowood Detention	Max. Storage	= 101,184 cuft

Storage Indication method used.

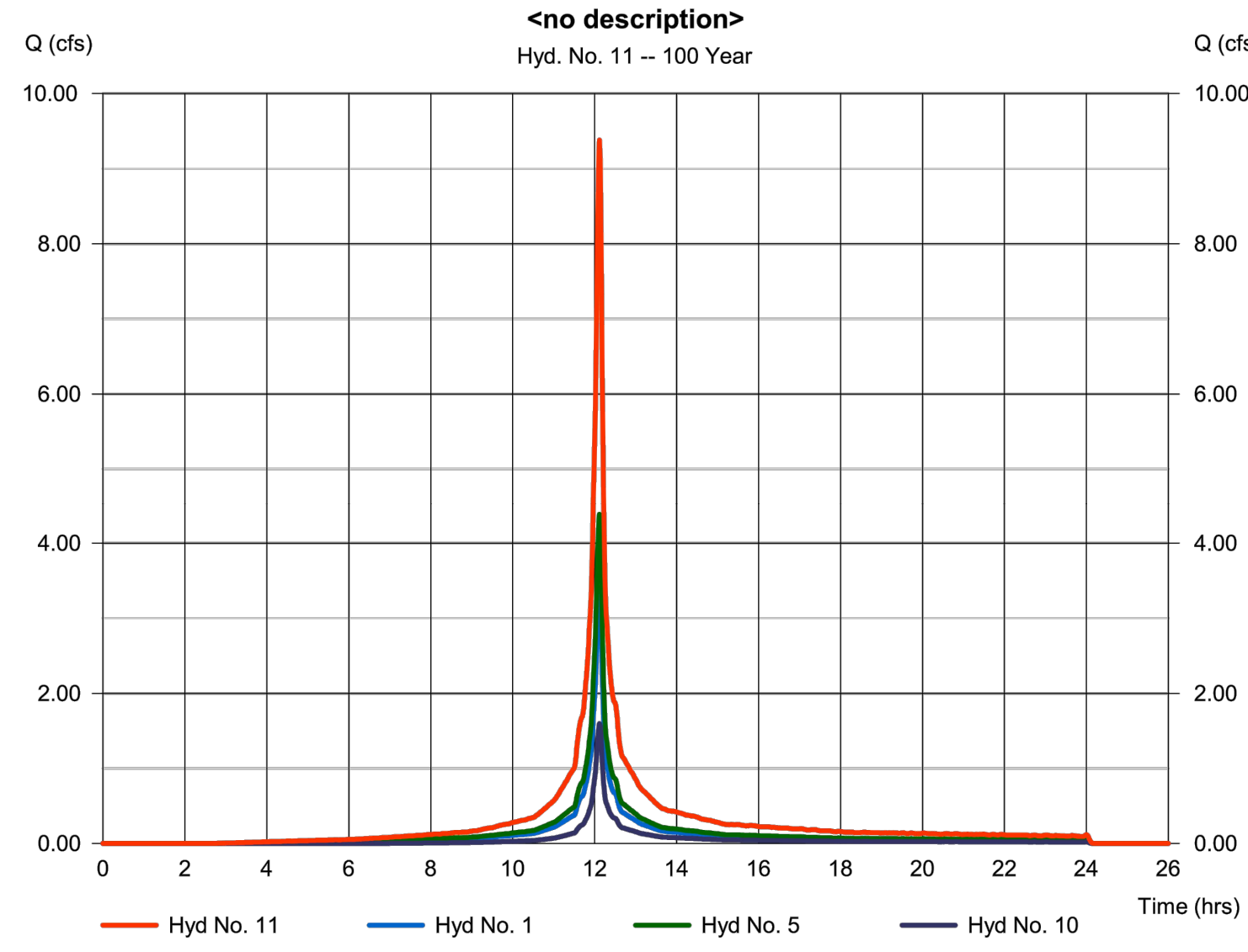


PHASE 2 PRE-DEVELOPED Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Wednesday, 11 / 30 / 2022

Hyd. No. 11
<no description>

Hydrograph type	= Combine	Peak discharge	= 9.380 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 27,985 cuft
Inflow hyds.	= 1, 5, 10	Contrib. drain. area	= 2.180 ac

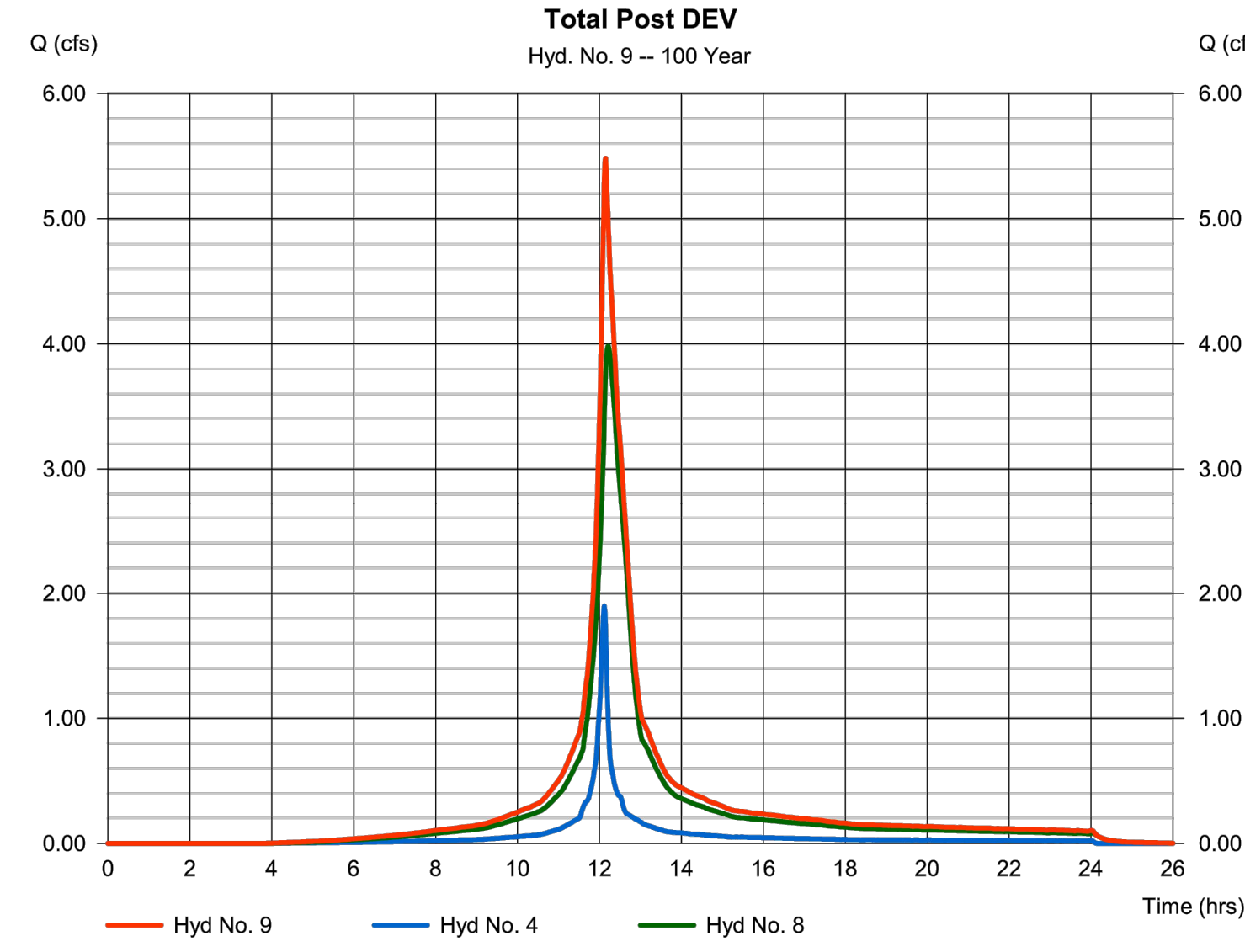


PHASE 2 POST DEVELOPED Hydrograph Report

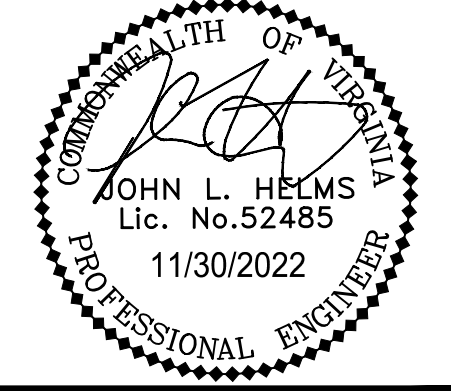
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Wednesday, 11 / 30 / 2022

Hyd. No. 9
Total Post DEV

Hydrograph type	= Combine	Peak discharge	= 5.484 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.15 hrs
Time interval	= 1 min	Hyd. volume	= 27,724 cuft
Inflow hyds.	= 4, 8	Contrib. drain. area	= 0.440 ac



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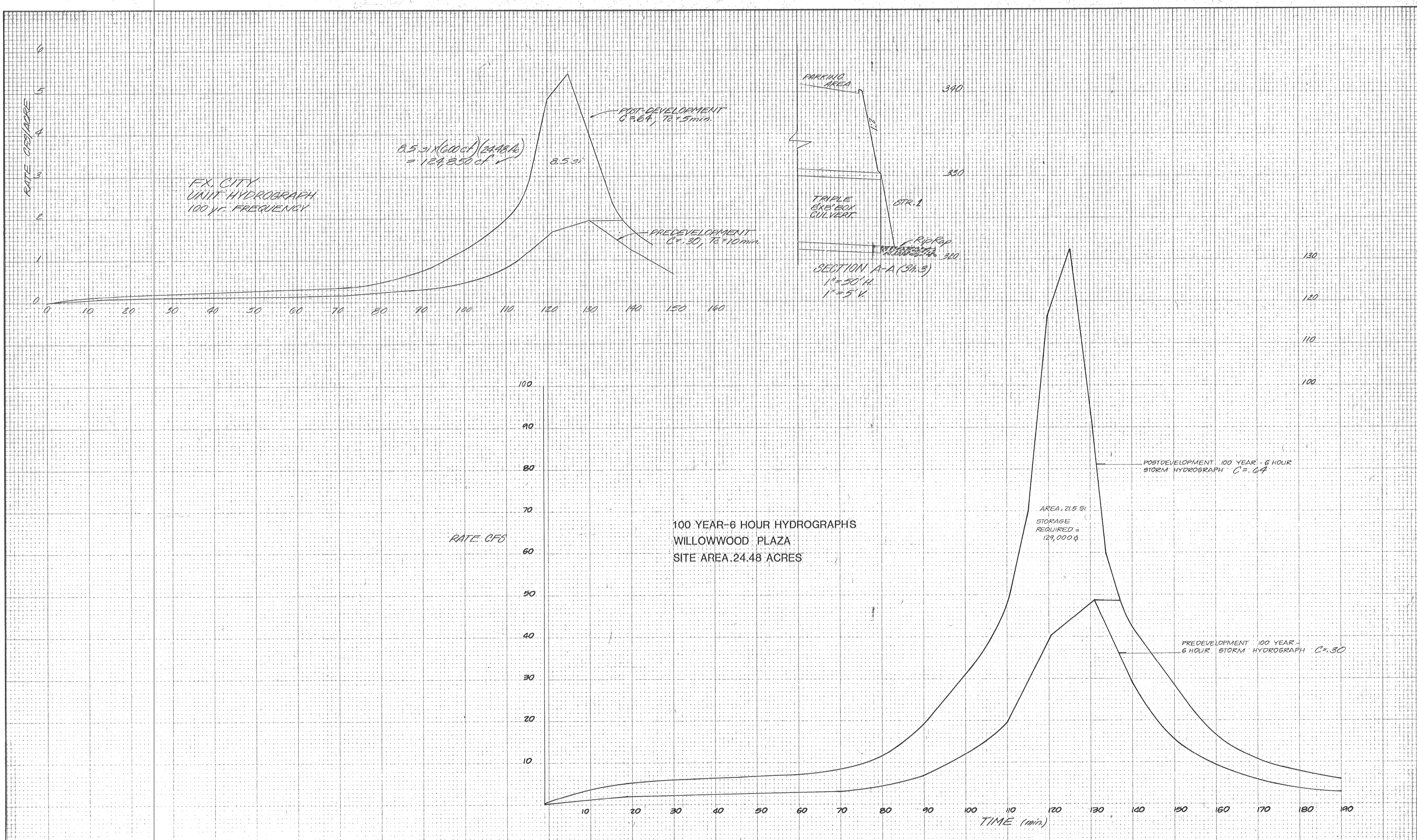
PROJECT No.: 21082.002.00
DRAWING No.: 111937
DATE: 2022-07-15
SCALE: N/A
DESIGN: JH
DRAWN: YH
CHECKED: JH

SHEET TITLE:
**HYDROGRAPH -
100-YR
DETENTION**

SHEET No.
PII_506

D
C
B
A

D
C
B
A



	SCALE: AS SHOWN BY: DATE: 6/30/86 REVISIONS: 01-21-80 Construction	WILLOWOOD PLAZA CITY OF FAIRFAX VIRGINIA DETENTION COMPS HAROLD A. LOGAN - ASSOCIATES P.C. LAND SURVEYING - SITE PLANNING - SUBDIVISION DESIGN 4200 DANIELS AVENUE ANNANDALE, VIRGINIA 22003 941 3531	SHEET 13 of 17 SP 384
	COMMONWEALTH OF VIRGINIA HAROLD A. LOGAN CERTIFICATE 1111 191 CERTIFIED LAND SURVEYOR		

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JOHN L. HELMS
 Lic. No. 52485
 11/30/2022
 PROFESSIONAL ENGINEER

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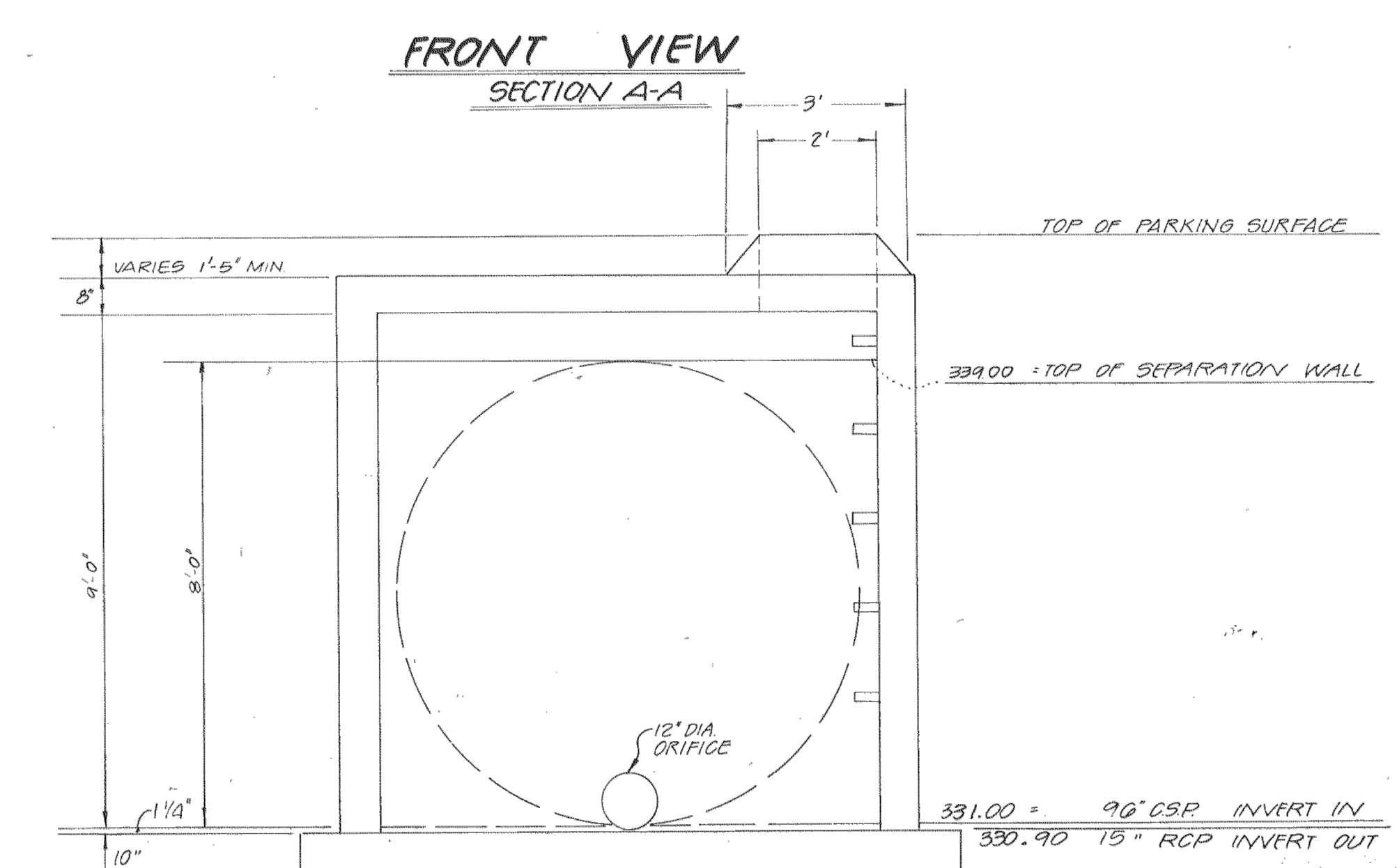
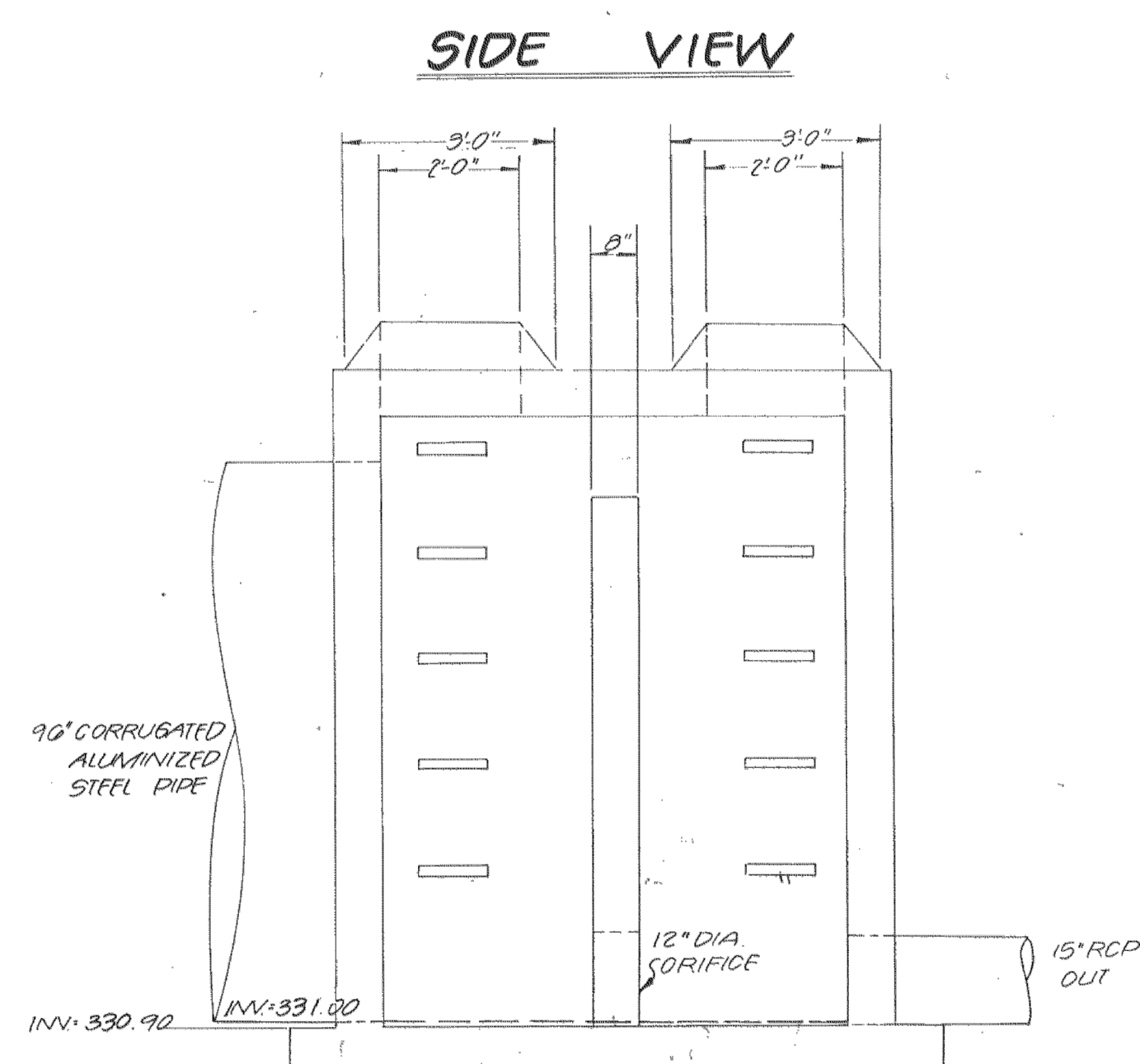
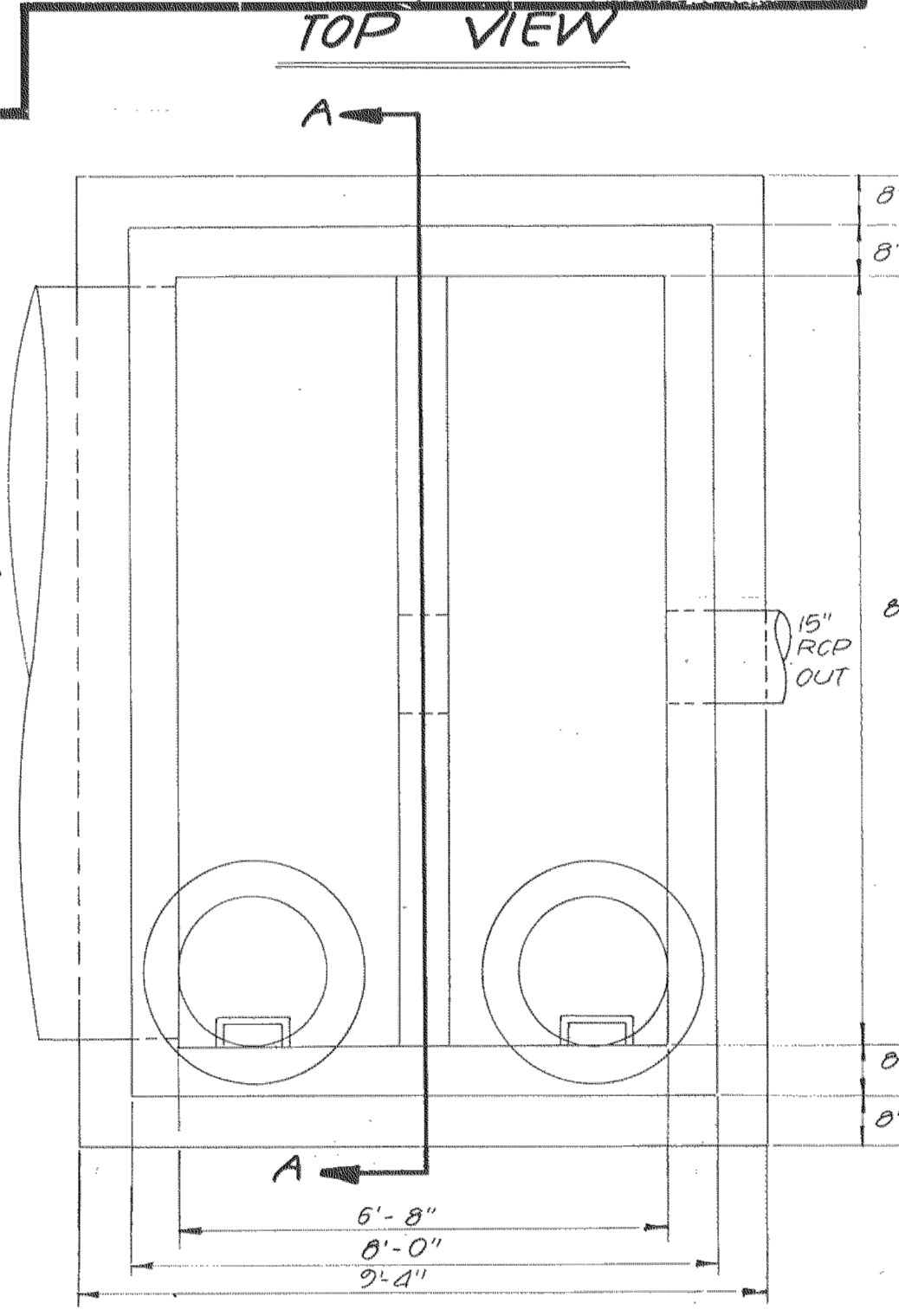
SHEET TITLE:
WILLOWOOD AS-BUILT - DETENTION COMPS

SHEET No.
PII_507

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TIME	D	INFLW	AUG	TR	PL	OUT	AUG	AUG	STORAGE	SAL	IN	CORRESP
TIME	TIME	QFS	INFLW	IF	EL	FLCH	OUTFLOW	QFS	QFS	COVER	CF	ELEV.
0.	00	0	0	0	0	0	0	0	0	0	0	0
5	300	1.	180.	331.00	0.01	0.00	1.	179.	179.	331.02		
10	300	2.	320.	331.01	0.03	0.02	5.	520.	639.	331.03		
15	300	3.	480.	331.10	0.27	0.15	45.	750.	1449.	331.10		
20	300	4.	600.	331.21	0.58	0.42	125.	865.	2315.	331.20		
25	300	4.	720.	331.32	0.86	0.71	213.	912.	3225.	331.40		
30	300	4.	840.	331.43	1.14	1.00	303.	885.	4111.	331.50		
35	300	4.	960.	331.47	1.30	1.22	385.	865.	5075.	331.56		
40	300	4.	1080.	331.55	1.55	1.48	467.	848.	6111.	331.62		
45	300	4.	1200.	331.60	1.82	1.75	549.	799.	7221.	331.67		
50	300	5.	1320.	331.65	2.07	1.95	631.	751.	8331.	331.73		
55	300	5.	1440.	331.70	2.31	2.19	713.	707.	9441.	331.77		
60	300	5.	1560.	331.74	2.53	2.42	795.	668.	10551.	331.82		
65	300	5.	1680.	331.77	2.75	2.64	877.	622.	11661.	331.86		
70	300	5.	1800.	331.81	3.00	2.89	959.	574.	12771.	331.91		
75	300	6.	1920.	331.90	3.28	3.19	1041.	514.	13881.	331.97		
80	300	6.	2040.	331.98	3.53	3.43	1123.	450.	14991.	332.03		
85	300	6.	2160.	332.05	3.75	3.73	1205.	380.	16101.	332.13		
90	300	6.	2280.	332.10	4.10	4.28	1287.	305.	17211.	332.27		
95	300	7.	2400.	332.40	4.46	4.64	1369.	225.	18321.	332.47		
100	300	7.	2520.	332.63	4.82	4.84	1451.	140.	19431.	332.71		
105	300	7.	2640.	332.93	5.25	5.04	1533.	50.	20541.	333.00		
110	300	8.	2760.	333.20	5.75	5.48	1615.	-44.	21651.	333.36		
115	300	8.	2880.	333.70	6.29	6.03	1697.	-139.	22761.	333.84		
120	300	8.	3000.	333.53	7.10	6.83	1779.	-283.	23871.	334.01		
125	300	9.	3120.	333.58	8.07	7.79	1861.	-477.	24981.	334.63		
130	300	9.	3240.	333.55	8.90	8.49	1943.	-721.	26091.	335.02		
135	300	10.	3360.	333.17	9.79	9.14	2025.	-1015.	27201.	333.75		
140	300	10.	3480.	333.50	9.66	9.52	2107.	-1359.	28311.	333.62		
145	300	11.	3600.	333.95	9.96	9.81	2189.	-1753.	29421.	333.02		
150	300	11.	3720.	333.21	10.15	10.06	2271.	-2197.	30531.	333.20		
155	300	12.	3840.	333.30	11.27	10.82	2353.	-2691.	31641.	333.45	MAXIMUM STORAGE VOLUME 144,467 CF >	
160	300	12.	3960.	333.47	10.33	10.33	2435.	-3235.	32751.	333.54		
165	300	13.	4080.	333.47	10.33	10.33	2517.	-3829.	33861.	333.54		

MAXIMUM RELEASE RATE
10.33 CFS REQUIRED
MAXIMUM RELEASE RATE
(2.73 ± 10%)



SITE REQUIREMENTS COMMONWEALTH CORPORATE CENTER

- AREA OF SITE = 24.48 AC.
PREDEVELOPMENT 'C' = 0.30
POSTDEVELOPMENT 'C' =
AREA OPEN, GRASS, FLOOD PLAIN, ETC. = 10.70 AC @ 0.30 = 3.21
AREA IMPERVIOUS PARKING, BLDGS. = 13.78 AC @ 0.30 = 4.13
24.48 AC @ 0.30 = 7.34

- PREDEVELOPMENT TIME OF CONCENTRATION = 10 MIN ∴ I₁₀₀ = 6.48

- PREDEVELOPMENT PEAK DISCHARGE
IMPERVIOUS ACREAGE = CA * (0.30) (24.48) = 7.34
I₁₀₀ = 6.48

Q₁₀₀ = CAI = (7.34) (6.48) = 47.59 CFS

- POSTDEVELOPMENT PEAK DISCHARGE
T_c = 5 MIN
IMPERVIOUS ACREAGE = CA = (0.64) (24.48) = 15.61
I₁₀₀ = 8.48

Q₁₀₀ = CAI = (15.61) (8.48) = 132.86 CFS

- STORAGE REQUIRED = 129,000 CF
- STORAGE PROVIDED = 129,080 CF (20.27' x 2568 LF = 129,080 CF)

- TO MEET CITY REQUIREMENTS, MUST DETAIN,
Q₁₀₀ POSTDEVELOPMENT - Q₁₀₀ PREDEVELOPMENT =
132.86 - 47.59 = 85.27 CFS

- PROPOSED RUNOFF TO UNDERGROUND DETENTION FACILITY
ONSITE AREA = 13.78 AC.
OFFSITE AREA = 0.40 AC (ROAD DRAINAGE FROM RTE. 123)
TOTAL AREA TO UNDERGROUND DETENTION FACILITY = 14.18 AC.
AREA OPEN = 2.68 AC @ 0.30 = 0.80
AREA IMPERVIOUS = 11.50 AC @ 0.30 = 3.45
14.18 AC @ 0.30 = 4.25

- TIME OF CONCENTRATION = 5 MIN
I₁₀₀ = 8.48

- PEAK RUNOFF TO UNDERGROUND DETENTION FACILITY
Q₁₀₀ = CAI
CA = (0.79) (14.18) = 11.15
Q₁₀₀ = (11.15) (8.48) = 95.00 CFS

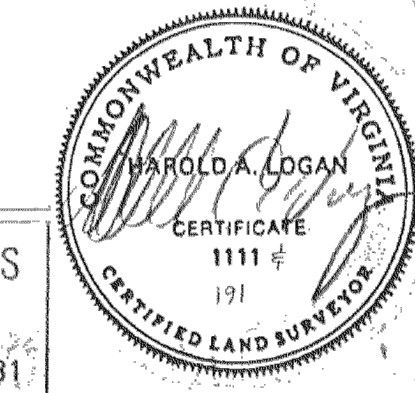
MAXIMUM RELEASE RATE
Q₁₀₀ INFLOW - Q₁₀₀ TO BE DETAINED =
95.00 - 85.27 = 9.73 CFS ± 10%
CAVEAT = Q₁₀₀ h = 7.5 C = 0.6
9.73 = (11.15) (7.5) (0.6)
7.4 ft = h = 11.7 ft min.
use 12" orifice

- NOTES ON SPECIAL STRUCTURE 2A:
- ALL CONSTRUCTION MATERIALS, DIMENSIONS SHALL CONFORM TO VDOT STANDARD CAST IN PLACE JB-1
 - REINFORCING SCHEDULE FOR 8" SEPARATION WALL TO FOLLOW THAT OF JB-1 UPRIGHT WALLS PROVIDE 6" REBAR EXTENSION INTO ABUTTING WALLS AND 8" EXTENSION INTO BASE.
 - 12" DIAMETER ORIFICE TO BE BLOCKED OUT, NOT CUT.
 - SEE VDOT STANDARD 15-1 FOR INVERT SHAPING.
 - STRUCTURE EQUIPPED W/ VDOT STANDARD M-1 FRAMES AND COVERS.
 - CONTRACTOR SHALL PROVIDE STANDARD VDOT S-1 AS NEEDED.

DETENTION
COMPS

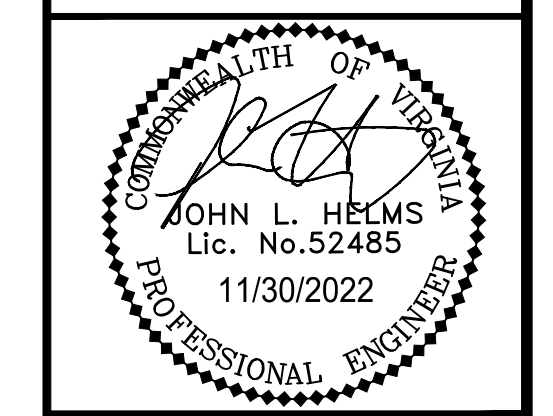
WILLOWWOOD PLAZA
CITY OF FAIRFAX, VIRGINIA

HAROLD A. LOGAN - ASSOCIATES
LAND SURVEYING - SITE PLANNING - SUBDIVISION DESIGN
4200 DANIELS AVENUE
ANNANDALE, VIRGINIA 22003 941-3531



Scale
NO SCALE
Sheet 14
Date
6/30/86
File Number
SP 384

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N29 RESIDENCES
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CITY OF FAIRFAX, VA

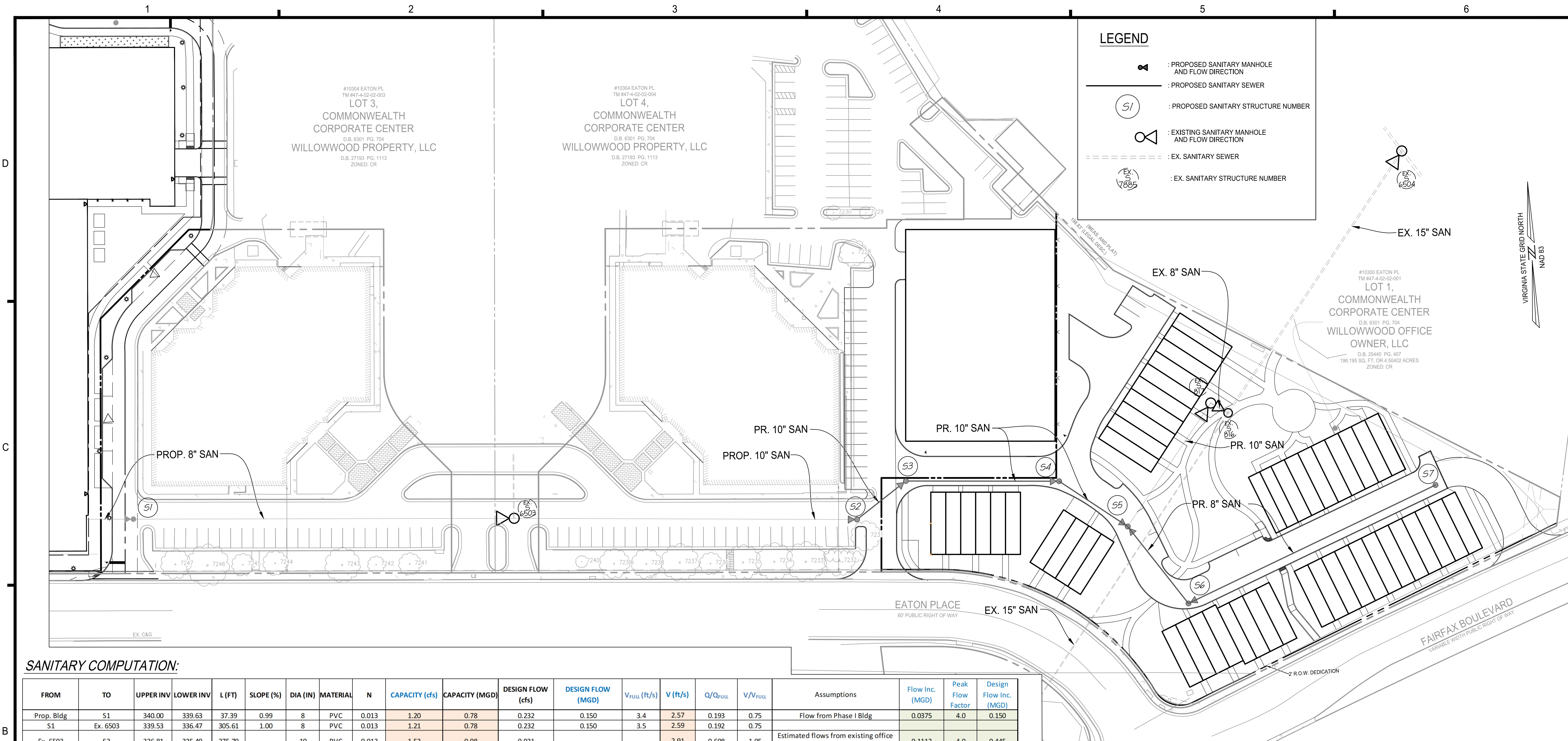
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WILLOWWOOD AS-BUILT - DETENTION COMPS

SHEET No.
PII_508

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COMMONWEALTH OF VIRGINIA
 JOHN L. HELMS
 Lic. No. 52485
 11/30/2022
 PROFESSIONAL ENGINEER

**N29 RESIDENCES
 GENERAL DEVELOPMENT PLAN**
 CITY OF FAIRFAX, VA

SANITARY COMPUTATION:

FROM	TO	UPPER INV	LOWER INV	L (FT)	SLOPE (%)	DIA (IN)	MATERIAL	N	CAPACITY (cfs)	CAPACITY (MGD)	DESIGN FLOW (cfs)	DESIGN FLOW (MGD)	V _{FULL} (ft/s)	V (ft/s)	Q/Q _{FULL}	V/V _{FULL}	Assumptions	Flow Inc. (MGD)	Peak Flow Factor	Design Flow Inc. (MGD)
Prop. Bldg	S1	340.00	339.63	37.39	0.99	8	PVC	0.013	1.20	0.78	0.232	0.150	3.4	2.57	0.193	0.75	Flow from Phase I Bldg	0.0375	4.0	0.150
S1	Ex. 6503	339.53	336.47	305.61	1.00	8	PVC	0.013	1.21	0.78	0.232	0.150	3.5	2.59	0.192	0.75				
Ex. 6503	S2	326.81	325.49	275.79	0.48	10	PVC	0.013	1.52	0.98	0.921	0.595	2.8	2.91	0.608	1.05	Estimated flows from existing office buildings. Ex. 8" upgraded to new 10"	0.1113	4.0	0.445
S2	S3	325.48	325.24	49.97	0.48	10	PVC	0.013	1.52	0.98	0.921	0.595	2.8	2.91	0.607	1.05				
S3	S4	325.23	324.64	123.12	0.48	10	PVC	0.013	1.52	0.98	0.932	0.602	2.8	2.91	0.615	1.05	Flows from Phase II Res. Units	0.0018	4.0	0.007
S4	S5	324.63	324.32	65.74	0.47	10	PVC	0.013	1.50	0.97	0.939	0.607	2.8	2.89	0.624	1.05	Flows from Phase II Res. Units	0.0012	4.0	0.005
S5	S6	330.00	327.80	220.08	1.00	8	PVC	0.013	1.21	0.78	0.052	0.034	3.5	1.71	0.043	0.50	Flows from Phase II Res. Units	0.0084	4.0	0.034
S6	S5	327.70	326.91	78.69	1.00	8	PVC	0.013	1.21	0.78	0.056	0.036	3.5	1.72	0.046	0.50	Flows from Phase II Res. Units	0.0006	4.000	0.002
S5	Ex. 817	324.22	323.64	119.56	0.49	10	PVC	0.013	1.53	0.99	1.088	0.703	2.8	3.03	0.713	1.08	Flows from Phase II Res. Units	0.0150	4.0	0.060
Ex. 817	Ex. 816	323.60	323.38	16.04	1.37	8	PVC	0.013	1.41	0.91	1.088	0.703	4.1	4.44	0.769	1.09				
Ex. 816	Ex. 6504	316.55	314.97	252.63	0.63	15	RCP	0.013	5.11	3.30	3.376	2.182	4.2	4.41	0.661	1.06	Estimated offsite sanitary flows	0.3698	4.0	1.479

- Notes:
 1. See contributing sewage flow estimates below.
 2. Peaking factor of 4.0 used.
 3. Existing office building areas obtained from City of Fairfax Real Estate Assessment Databases
 4. See Sanitary Sewer Off-Site Map sheet for offsite flow estimates.

Contributing Sewage Flow Estimate (Existing)

Discharge Facility (Ex. Office Buildings)	SF	Estimated Flow (gpd/1000 SF)	Total Incremental Flow (gpd)	Sanitary From	Sanitary To
10300 Eaton Pl	138,860	200	27,772	Ex. 6503	Ex. 3168
10302 Eaton Pl	142,648	200	28,530	Ex. 6503	Ex. 3168
10304 Eaton Pl	135,942	200	27,188	Ex. 6503	Ex. 3168
10306 Eaton Pl	138,860	200	27,772	Ex. 6503	Ex. 3168
Total SF	556,310	Estimated Cumulative Existing Flow	111,262	Ex. 6503	Ex. 3168

PHASE I
 Contributing Sewage Flow Estimate (Proposed)

Discharge Facility	No. of People	Design Flow (gpd/person)	Total Incremental Flow (gpd)	Total Cumulative Flow (gpd)	Sanitary From	Sanitary To
Multifamily	375	100	37,500	37,500	S1	Ex. 6503

PHASE II
 Contributing Sewage Flow Estimate (Proposed)

Discharge Facility	# of Units	No. of People	Design Flow (gpd/person)	Total Incremental Flow (gpd)	Total Cumulative Flow (gpd)	Sanitary From	Sanitary To
Phase II Res.	6	18	100	1,800	1,800	S3	S4
Phase II Res.	4	12	100	1,200	3,000	S4	S5
Phase II Res.	28	84	100	8,400	8,400	S7	S6
Phase II Res.	2	6	100	600	9,000	S6	S5
Phase II Res.	10	30	100	3,000	15,000	S5	S817

SANITARY SEWER ANALYSIS

THE PURPOSE OF THIS ANALYSIS IS TO DEMONSTRATE THE CAPACITY AND HYDRAULIC ADEQUACY OF THE DOWN STREAM SANITARY SEWER MAIN.

EXISTING CONDITIONS:
 CURRENTLY, THE EXISTING SITE CONSISTS OF AN EXISTING ASPHALT PARKING LOT WITH NO EXISTING SANITARY SEWER MAIN ON SITE.

THE UPSTREAM FOR THIS SEWER-SHED IS SHOWN ON THIS SHEET, EAST OF THE SITE, DESIGNATED AS ESTIMATED FLOW.

PHASE I
 PROPOSED CONDITIONS:
 NEW LATERALS AND SANITARY MAIN WILL BE CONSTRUCTED ON-SITE AND CONNECT TO THE EXISTING MANHOLE S8503.

CAPACITY AND HYDRAULIC ANALYSIS:
 THE SANITARY SEWER WAS ANALYZED FROM THE ON-SITE 8-INCH SEWER TO EXISTING MANHOLE S816.

THE VOLUME OF FLOW USED IN THIS ANALYSIS HAS BEEN COMPUTED IN ACCORDANCE WITH STATE CODE 9VAC25-790-460 AND 9VAC25-790-310. SEE COMPUTATIONS ON THIS SHEET.

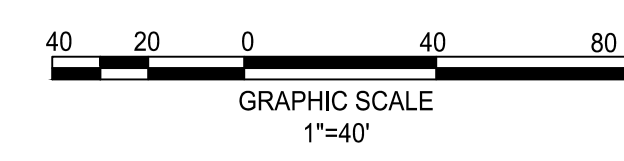
CONCLUSION:
 IT IS OUR CONCLUSION THAT THE EXISTING DOWNSTREAM 8-INCH SEWERS NOTED IN THE SANITARY COMPUTATION CHART NEEDS TO BE UPGRADED TO 10-INCH PIPES TO MEET CAPACITY AND HYDRAULIC ADEQUACY OF THE ADDED REDEVELOPMENT FLOWS.

PHASE II
 PROPOSED CONDITIONS:
 EXISTING 10" SANITARY SEWER WILL BE REMOVED AND RELOCATED FOR THE CONSTRUCTION OF PROPOSED TOWNHOMES. PROPOSED 10" SANITARY SEWER NETWORK WILL CONNECT TO THE EXISTING 10" SANITARY WHICH CONNECTS TO EXISTING MANHOLE S817.

CAPACITY AND HYDRAULIC ANALYSIS:
 THE SANITARY SEWER WAS ANALYZED FROM THE EX. 8-INCH SEWER TO FROM THE PHASE I DEVELOPMENT TO EXISTING MANHOLE S816.

THE VOLUME OF FLOW USED IN THIS ANALYSIS HAS BEEN COMPUTED IN ACCORDANCE WITH STATE CODE 9VAC25-790-460 AND 9VAC25-790-310. SEE COMPUTATIONS ON THIS SHEET.

CONCLUSION:
 IT IS OUR CONCLUSION THAT THE EXISTING DOWNSTREAM 8-INCH SEWERS NOTED IN THE SANITARY COMPUTATION CHART NEEDS TO BE UPGRADED TO 10-INCH PIPES TO MEET CAPACITY AND HYDRAULIC ADEQUACY OF THE ADDED REDEVELOPMENT FLOWS.



ADDRESS PER CITY COMMENTS	MARK	DATE	DESCRIPTION
1	11-30-2022		

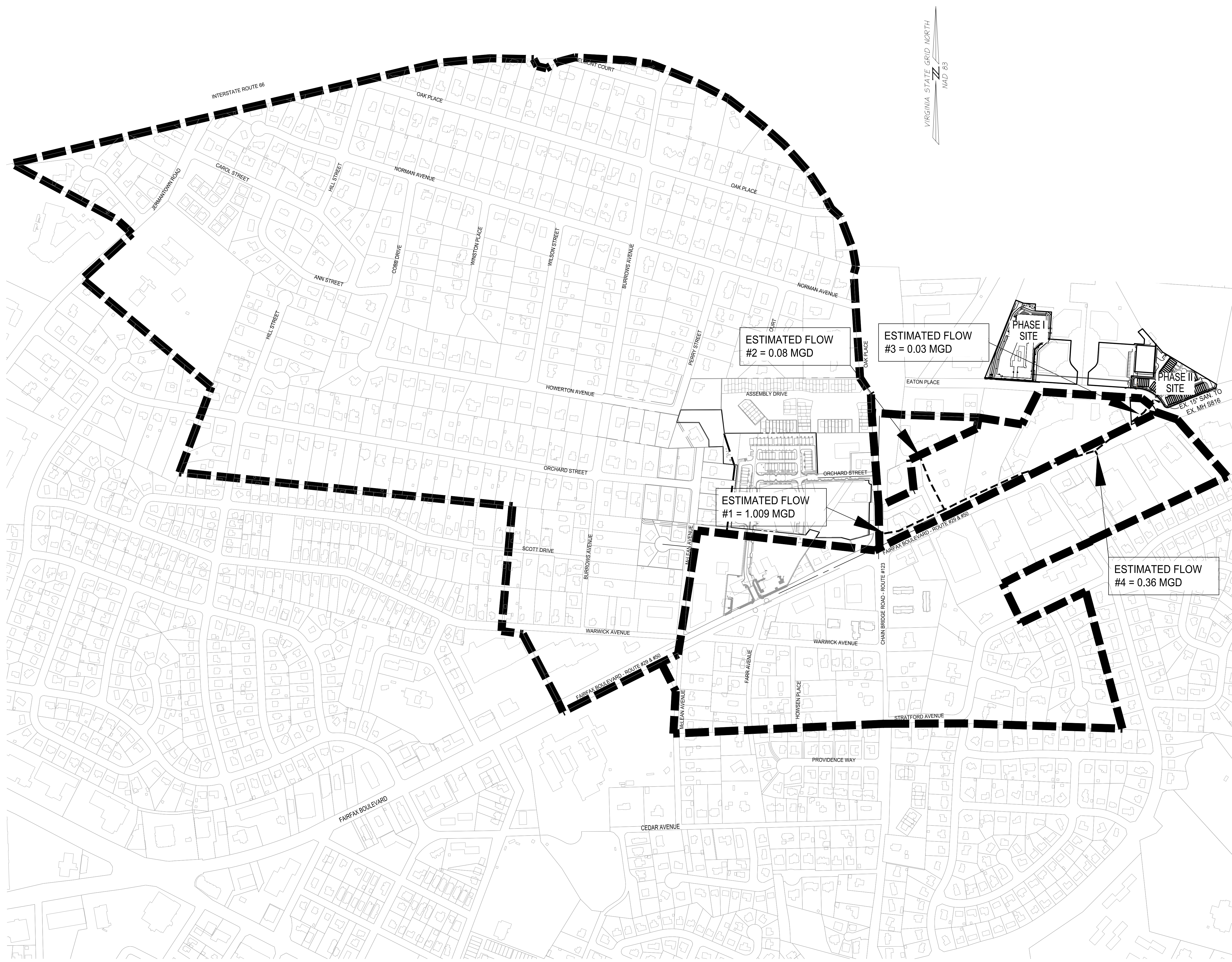
PROJECT No.: 21082.002.00
 DRAWING No.: 111937
 DATE: 2022-07-15
 SCALE: 1" = 30'
 DESIGN: LBD,ZY
 DRAWN: ZY
 CHECKED: LBD

SANITARY SEWER ANALYSIS

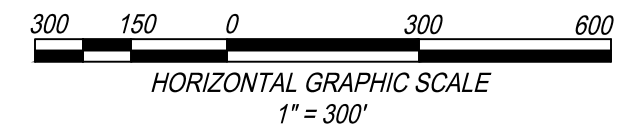
SHEET No.
PII_600

OFFSITE SANITARY FLOW ESTIMATES:

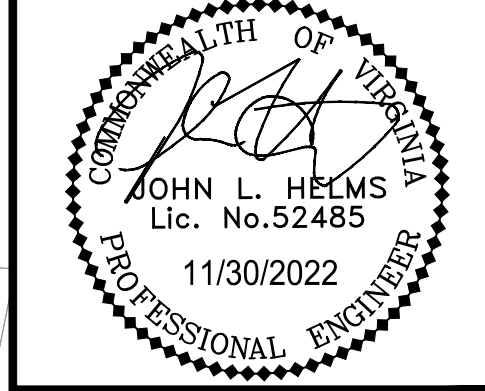
AREA #1
FLOW ESTIMATES: FROM NORTHFAX WEST PUBLIC IMPROVEMENT PLAN (SP-20-00300)
TOTAL PEAK FLOW = 1.009 MGD
AREA #2
EXISTING DEVELOPMENT ESTIMATES: HOTEL= 152 ROOMS
FLOW ESTIMATES: 152 UNITS x 130 GPD/UNIT = 19,760 GPD
TOTAL FLOW = 19,760 GPD
TOTAL PEAK FLOW = 79,040 GPD = 0.08 MGD
AREA #3
EXISTING DEVELOPMENT ESTIMATES: OFFICE/RETAIL = 41,161 SF
FLOW ESTIMATES: 41,161 SF OFFICE/RETAIL x 200 GPD/1000 SF = 8,232 GPD
TOTAL FLOW = 8,232 GPD
TOTAL PEAK FLOW = 32,929 GPD = 0.03 MGD
AREA #4
EXISTING DEVELOPMENT ESTIMATES: RESIDENTIAL= 63 DWELLING UNITS OFFICE/RETAIL = 344,446 SF
FLOW ESTIMATES: 63 UNITS x 350 GPD/UNIT = 22,050 GPD 344,446 SF OFFICE/RETAIL x 200 GPD/1000 SF = 68,889 GPD
TOTAL FLOW = 90,939 GPD
TOTAL PEAK FLOW = 363,757 GPD = 0.36 MGD



- NOTES:
- SEE SHEET PII_600 FOR SANITARY SEWER ANALYSIS.
 - SEE THIS SHEET FOR EXISTING FLOW ESTIMATES.
 - A PEAK FACTOR OF 4.0 WAS USED FOR ALL OFFSITE SANITARY FLOWS.



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engineering • surveying • land planning



**N29 RESIDENCES
GENERAL DEVELOPMENT PLAN**
CITY OF FAIRFAX, VA

MARK	DATE	DESCRIPTION
1	11-30-2022	ADDRESSED PER CITY COMMENTS

PROJECT No.: 21082.002.00
DRAWING No.: 111937
DATE: 2022-07-15
SCALE: 1"=300'
DESIGN: JH
DRAWN: YH
CHECKED: JH

SHEET TITLE:
**SANITARY SEWER
OFF-SITE MAP**

SHEET No.
PII_601