Hydraulic Calculations

for

Project Name: MAYNARD CROSSING APARTMENTS: (1450D)

Location: , ,

Drawing Name: Maynard Crossing Apartments 1450D - FP400 Building Calculation Date: 8/6/2026

Design

Remote Area Number:	B03 R1
Occupancy Classification:	Residential
Density	0.05gpm/ft²
Area of Application:	494ft² (Actual 494ft²)
Coverage per Sprinkler:	130ft²
Type of sprinklers calculated:	Pendent, Sidewall
No. of sprinklers calculated:	4
No. of nozzles calculated:	0

In-rack Demand:	N/A gpm	at Node:	N/A		
Hose Streams:	0.0 gpm	at Node:	17	Type:	Allowance at Source

Total Water Required (including Hose Streams where applicable):

From Water Supply at Node 17: 93.09 @ 44.067 (Safety Margin = 9.893)

Type of System:

Volume of Dry/PreAction/Antifreeze/OtherAgent System: N/A

Name of Contractor: MAKSON FIRE

Address: 1306 SPEEDWAY BLVD, SALISBURY, NC 28146

Phone Number: 704-636-5505

Name of designer: D.PORTER

Authority Having Jurisdiction: : HARNETT COUNTY FIRE MARSHAL

Notes:

Summary Notes:

Supply at Node 17

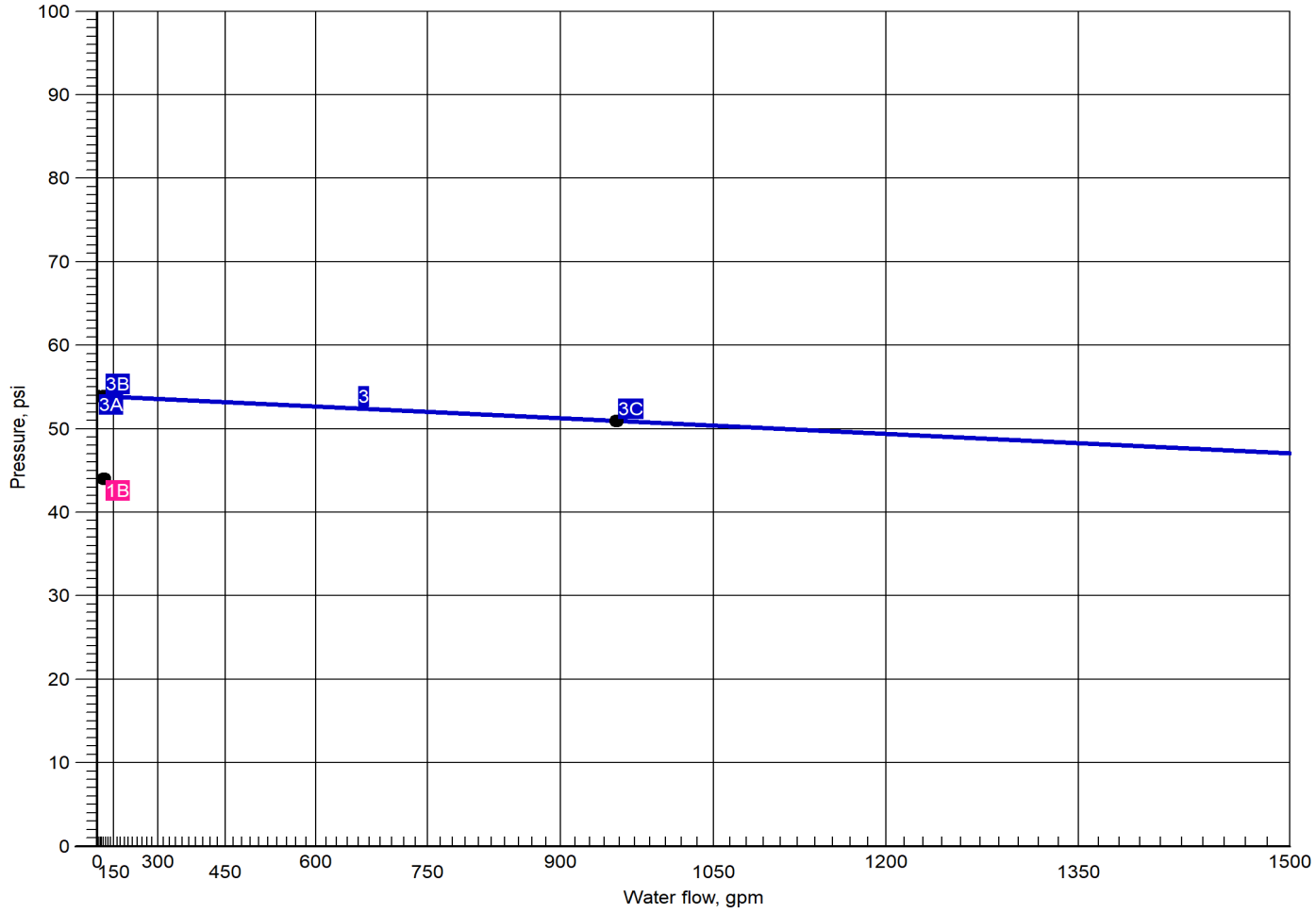
1 System Demand
3 Available Water Supply

Job Name: MAYNARD CROSSING APARTMENTS

Job Number: 1450D

Report Description: Residential (B03 R1)

Remote Area Number: B03 R1



Curve	Data Point	Hydraulic Calculation Results	Additional Data
1	1B	Required Pressure at System Demand: 44.067 @ 93.09	Available Flow @ 20 PSI: 3550.30
3	3A	Available Static Pressure at Supply at Node 17: 54.000	
	3B	Available Residual Pressure at System Demand: 53.960 @ 93.09	
	3C	Available Residual Pressure & Flow at Supply at Node 17: 51.000 @ 957.00	

Summary Of Outflowing Devices

Job Number: 1450D
Report Description: Residential (B03 R1)

Device		Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)			
Floating Node	6	36.60	36.60	0	45.125			
Sprinkler	**S18**	**13.00**	**13.00**	**4**	**10.563**			
Sprinkler	S19	14.05	13.00	4.9	8.224			
Sprinkler	S20	14.31	13.00	4.9	8.530			
Sprinkler	S21	15.13	13.00	4.9	9.528			

Most Demanding Sprinkler Data

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
S18	16'-6	4	13.00	¾	(See Notes)	26'-9½	150	10.563	• • • • • **Route 1** • • • • • Sprinkler,
100	9'-0		13.00	0.8740		17'-0 43'-9½	0.094407	3.251 4.136	Tr(1'-0), 3T(3'-0), E(7'-0)
100	9'-0		43.49	2	(See Notes)	8'-3	150	17.950	Flow (q) from Route 2
117	9'-0		56.49	2.0030		6'-0 14'-3	0.025195	0.359	3Tr(2'-0)
117	9'-0			2	(See Notes)	14'-0	150	18.309	
114	9'-0		56.49	2.0030		6'-0 20'-0	0.025195	-0.000 0.504	3Tr(2'-0)
114	9'-0			2	(See Notes)	3'-9½	150	18.813	
110	9'-0		56.49	2.0030		4'-0 7'-9½	0.025195	0.196	2Tr(2'-0)
110	9'-0			2	(See Notes)	6'-½	150	19.009	
111	9'-0		56.49	2.0030		2'-0 8'-½	0.025195	0.000 0.203	Tr(2'-0)
111	9'-0			2	(See Notes)	13'-6	150	19.211	
106	9'-0		56.49	2.0030		10'-0 23'-6	0.025195	0.592	5Tr(2'-0)
106	9'-0			2	(See Notes)	81'-8½	150	19.804	
102	3'-10½		56.49	2.0030		74'-6 156'-2½	0.025195	2.222 3.936	13Tr(2'-0), 4E(11'-0), cplg(1'-0), Tr(3'-6)
102	3'-10½			2		0'-6	120	25.962	
103	3'-1½		56.49	2.0670		0'-6	0.032664	0.316 0.016	
103	3'-1½			2	(See Notes)	1'-2	120	26.294	
104	1'-11½		56.49	2.1570		1'-2	0.026542	0.506 0.031	f(-0.000), f
104	1'-11½			2	(See Notes)	4'-0	120	26.831	
105	1'-0		56.49	2.0670		15'-0 19'-0	0.032664	0.424 11.547	T(10'-0), BFP(-10.927), E(5'-0), Gauge 1
105	1'-0			4	(See Notes)	24'-1½	150	38.802	
6	-13'-6		56.49	4.0700		22'-3½ 46'-5	0.000798	6.286 0.037	2GV(3'-2), E(15'-11), FN

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
6	-13'-6		36.60	4	(See Notes)	37'-1½	150	45.125	
						35'-½	0.002010		
11	-13'-6		93.09	4.0700		72'-2		0.145	GV(3'-2), T(31'-10)
11	-13'-6			8		148'-9½	150	45.270	
							0.000026		
10	-13'-6		47.25	7.6800		148'-9½		0.004	
10	-13'-6			8	(See Notes)	250'-6	150	45.274	
						66'-4½	0.000026		
15	-13'-6		47.25	7.6800		316'-10½		0.008	2EE(11'-3), T(43'-10)
15	-13'-6		45.84	8	(See Notes)	634'-6½	150	45.282	Flow (q) from Route 5
						126'-5½	0.000091		
16	-13'-6		93.09	7.6800		761'-½		0.069	3EE(11'-3), GV(5'-0), 2T(43'-10)
16	-13'-6			6	Supply (See Notes)	20'-11½	150	45.352	Avl.Pressure @ Supply: 53.960
						25'-6½	0.000341	-1.301	
17	-10'-6		93.09	5.8600		46'-6		0.016	2GV(3'-10), E(17'-10½), S
			0.00					44.067	Hose Allowance At Source
17			93.09						Total(Pt) Route 1
S19	16'-10½	4.9	14.05	¾	(See Notes)	26'-6½	150	8.224	• • • • • **Route 2** • • • • • Sprinkler,
						29'-0	0.109030	3.412	
101	9'-0		14.05	0.8740		55'-6½		6.056	4E(7'-0), Tr(1'-0)
101	9'-0			2	(See Notes)	3'-4	150	17.692	
						2'-0	0.001921		
108	9'-0		14.05	2.0030		5'-4		0.010	Tr(2'-0)
108	9'-0		15.13	2	(See Notes)	2'-6½	150	17.703	Flow (q) from Route 4
						2'-0	0.007422		
109	9'-0		29.18	2.0030		4'-6½		0.034	Tr(2'-0)
109	9'-0		14.31	2	(See Notes)	3'-2	150	17.736	Flow (q) from Route 3
						2'-0	0.015530		
113	9'-0		43.49	2.0030		5'-2		0.080	Tr(2'-0)
113	9'-0			2	(See Notes)	6'-7	150	17.817	
						2'-0	0.015530		
100	9'-0		43.49	2.0030		8'-7		0.134	Tr(2'-0)

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes: Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
								17.950	Total(Pt) Route 2
S20	16'-10½	4.9	14.31	¾	(See Notes)	22'-4½	150	8.530	• • • • • **Route 3** • • • • • Sprinkler,
109	9'-0		14.31	0.8740		29'-0 / 51'-4½	0.112768	3.412 / 5.795	3E(7'-0), 2T(3'-0), 2Tr(1'-0)
								17.736	Total(Pt) Route 3
S21	16'-10½	4.9	15.13	¾	(See Notes)	14'-1½	150	9.528	• • • • • **Route 4** • • • • • Sprinkler,
108	9'-0		15.13	0.8740		24'-0 / 38'-1½	0.124929	3.412 / 4.763	3E(7'-0), T(3'-0)
								17.703	Total(Pt) Route 4
13	-13'-6		45.84	8		2'-9	150	45.281	• • • • • **Route 5** • • • • • Flow (q) from Route 6
14	-13'-6		45.84	7.6800		2'-9	0.000025	0.000	
14	-13'-6			8		63'-5½	150	45.281	
15	-13'-6		45.84	7.6800		63'-5½	0.000025	0.002	
								45.282	Total(Pt) Route 5
12	-13'-6		45.84	8	(See Notes)	293'-8½	150	45.273	• • • • • **Route 6** • • • • • Flow (q) from Route 7
13	-13'-6		45.84	7.6800		22'-6½ / 316'-3	0.000025	0.008	2EE(11'-3)
								45.281	Total(Pt) Route 6
11	-13'-6		47.25	8	(See Notes)	87'-6½	150	45.270	• • • • • **Route 7** • • • • • Flow (q) from Route 1
12	-13'-6		45.84	7.6800		22'-6½ / 110'-1	0.000025	0.003	2EE(11'-3)
								45.273	Total(Pt) Route 7

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Fittings Legend

ALV	Alarm Valve	AngV	Angle Valve	b	Bushing
BalV	Ball Valve	BFP	Backflow Preventer	BV	Butterfly Valve
C	Cross Flow Turn 90°	cplg	Coupling	Cr	Cross Run
CV	Check Valve	DelV	Deluge Valve	DPV	Dry Pipe Valve
E	90° Elbow	EE	45° Elbow	Ee1	11¼° Elbow
Ee2	22½° Elbow	f	Flow Device	fd	Flex Drop
FDC	Fire Department Connection	fE	90° FireLock(TM) Elbow	fEE	45° FireLock(TM) Elbow
flg	Flange	FN	Floating Node	fT	FireLock(TM) Tee
g	Gauge	GloV	Globe Valve	GV	Gate Valve
Ho	Hose	Hose	Hose	HV	Hose Valve
Hyd	Hydrant	LtE	Long Turn Elbow	mecT	Mechanical Tee
Noz	Nozzle	P1	Pump In	P2	Pump Out
PIV	Post Indicating Valve	PO	Pipe Outlet	PrV	Pressure Relief Valve
PRV I	Pressure Reducing Valve In	PRV C	Pressure Reducing Valve Out	red	Reducer/Adapter
S	Supply	sCV	Swing Check Valve	SFx	Seismic Flex
Spr	Sprinkler	St	Strainer	T	Tee Flow Turn 90°
Tr	Tee Run	U	Union	WirF	Wirsbo
WMV	Water Meter Valve	Z	Cap		

Hydraulic Calculations

for

Project Name: MAYNARD CROSSING APARTMENTS: (1450D)

Location: , ,

Drawing Name: Maynard Crossing Apartments 1450D - FP400 Building Calculation Date: 8/6/2026

Design

Remote Area Number:	B03 R2
Occupancy Classification:	Light Hazard
Density	0.10gpm/ft²
Area of Application:	1700ft² (Actual 170ft²)
Coverage per Sprinkler:	130ft²
Type of sprinklers calculated:	Sidewall
No. of sprinklers calculated:	2
No. of nozzles calculated:	0

In-rack Demand:	N/A gpm	at Node:	N/A		
Hose Streams:	100.00	at Node:	17	Type:	Allowance at Source

Total Water Required (including Hose Streams where applicable):

From Water Supply at Node 17: 169.47 @ 37.966 (Safety Margin = 15.912)

Type of System:

Volume of Dry/PreAction/Antifreeze/OtherAgent System: N/A

Name of Contractor: MAKSON FIRE

Address: 1306 SPEEDWAY BLVD, SALISBURY, NC 28146

Phone Number: 704-636-5505

Name of designer: D.PORTER

Authority Having Jurisdiction: : HARNETT COUNTY FIRE MARSHAL

Notes:

Summary Notes:

Supply at Node 17

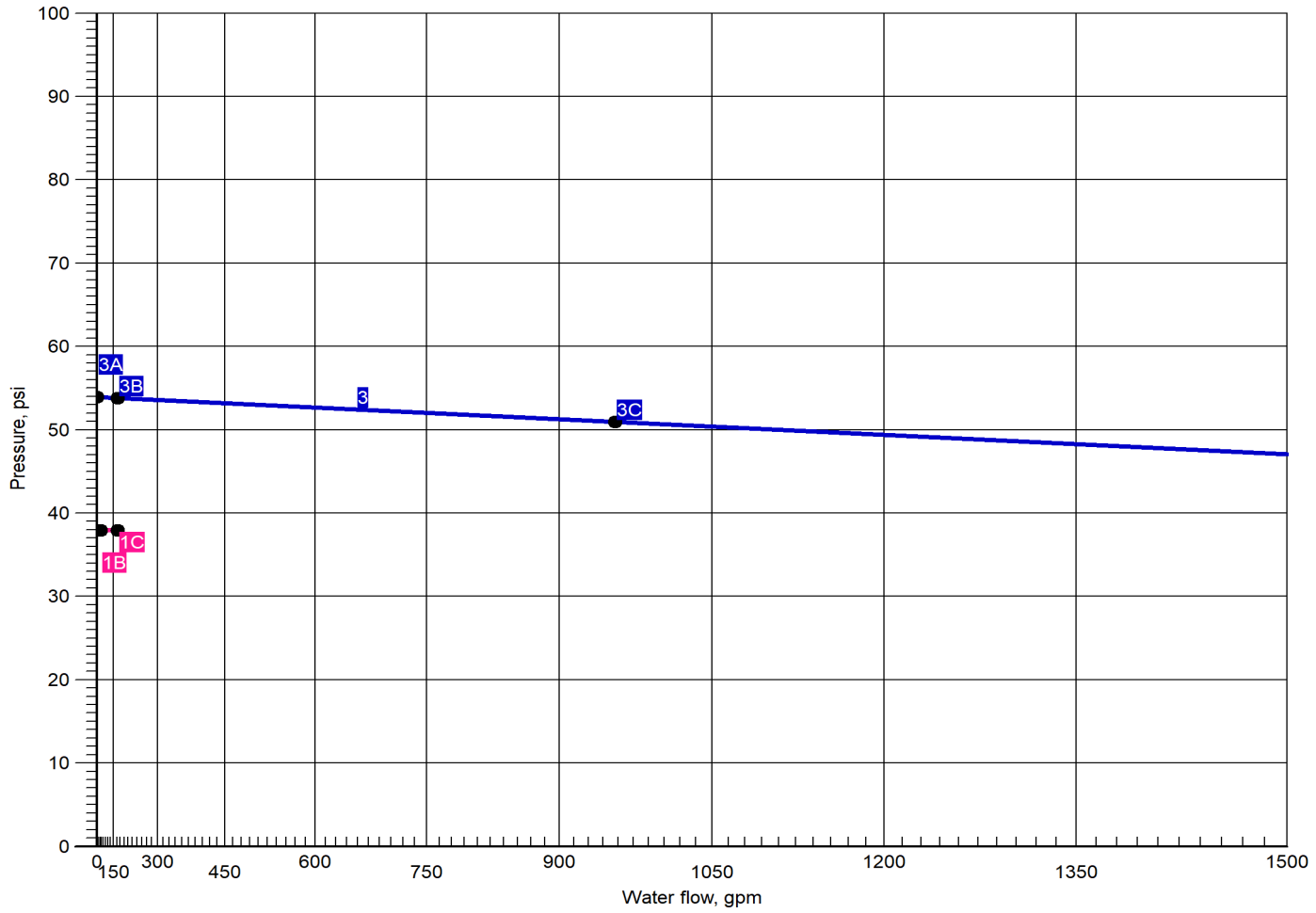
1 System Demand
3 Available Water Supply

Job Name: MAYNARD CROSSING APARTMENTS

Job Number: 1450D

Report Description: Light Hazard (B03 R2)

Remote Area Number: B03 R2



Curve	Data Point	Hydraulic Calculation Results	Additional Data
1	1B	Required Pressure at System Demand: 37.966 @ 69.47	Available Flow @ 20 PSI: 3550.30
	1C	Required Pressure at System Demand (Including Hose Allowance at Source): 37.966 @ 169.47	
3	3A	Available Static Pressure at Supply at Node 17: 54.000	
	3B	Available Residual Pressure at System Demand: 53.878 @ 169.47	
	3C	Available Residual Pressure & Flow at Supply at Node 17: 51.000 @ 957.00	

Summary Of Outflowing Devices

Job Number: 1450D
Report Description: Light Hazard (B03 R2)

Device		Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)			
Floating Node	6	36.60	36.60	0	39.126			
Sprinkler	**S22**	**14.82**	**14.82**	**5.6**	**7.000**			
Sprinkler	S23	18.05	14.82	5.6	10.390			

Most Demanding Sprinkler Data

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
S22	16'-6	5.6	14.82	1	(See Notes)	1'-0	100	7.000	• • • • • **Route 1** • • • • •
						3'-7	0.104671	0.027	Sprinkler,
107	16'-5		14.82	1.0490		4'-7		0.478	T(3'-7)
107	16'-5			¾	(See Notes)	32'-3	150	7.505	
						18'-0	0.120247	3.221	
114	9'-0		14.82	0.8740		50'-3		6.043	3T(3'-0), E(7'-0), 2Tr(1'-0)
114	9'-0		18.05	2	(See Notes)	3'-9½	150	16.768	Flow (q) from Route 2
						4'-0	0.009251		
110	9'-0		32.87	2.0030		7'-9½		0.072	2Tr(2'-0)
110	9'-0			2	(See Notes)	6'-½	150	16.841	
						2'-0	0.009251	0.000	
111	9'-0		32.87	2.0030		8'-½		0.074	Tr(2'-0)
111	9'-0			2	(See Notes)	13'-6	150	16.915	
						10'-0	0.009251		
106	9'-0		32.87	2.0030		23'-6		0.217	5Tr(2'-0)
106	9'-0			2	(See Notes)	81'-8½	150	17.132	
						74'-6	0.009251	2.222	
102	3'-10½		32.87	2.0030		156'-2½		1.445	13Tr(2'-0), 4E(11'-0), cplg(1'-0), Tr(3'-6)
102	3'-10½			2		0'-6	120	20.800	
							0.011993	0.316	
103	3'-1½		32.87	2.0670		0'-6		0.006	
103	3'-1½			2	(See Notes)	1'-2	120	21.122	
							0.009745	0.506	
104	1'-11½		32.87	2.1570		1'-2		0.011	f(-0.000), f
104	1'-11½			2	(See Notes)	4'-0	120	21.639	
						15'-0	0.011993	0.424	
105	1'-0		32.87	2.0670		19'-0		10.763	T(10'-0), BFP(-10.535), E(5'-0), Gauge 1
105	1'-0			4	(See Notes)	24'-1½	150	32.826	
						22'-3½	0.000293	6.286	
6	-13'-6		32.87	4.0700		46'-5		0.014	2GV(3'-2), E(15'-11), FN
6	-13'-6		36.60	4	(See Notes)	37'-1½	150	39.126	
						35'-½	0.001169		
11	-13'-6		69.47	4.0700		72'-2		0.084	GV(3'-2), T(31'-10)

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
11	-13'-6			8		148'-9½	150	39.210	
10	-13'-6		35.26	7.6800		148'-9½	0.000015	0.002	
10	-13'-6			8	(See Notes)	250'-6	150	39.212	
15	-13'-6		35.26	7.6800		66'-4½ 316'-10½	0.000015	0.005	2EE(11'-3), T(43'-10)
15	-13'-6		34.21	8	(See Notes)	634'-6½	150	39.217	Flow (q) from Route 3
16	-13'-6		69.47	7.6800		126'-5½ 761'-½	0.000053	0.040	3EE(11'-3), GV(5'-0), 2T(43'-10)
16	-13'-6			6	Supply (See Notes)	20'-11½	150	39.258	Avl.Pressure @ Supply: 53.878
17	-10'-6		69.47	5.8600		25'-6½ 46'-6	0.000198	-1.301 0.009	2GV(3'-10), E(17'-10½), S
			100.00					37.966	Hose Allowance At Source
17			169.47						Total(Pt) Route 1
S23	16'-6	5.6	18.05	1	(See Notes)	1'-0	100	10.390	• • • • • **Route 2** • • • • • Sprinkler,
116	16'-5		18.05	1.0490		3'-7 4'-7	0.150823	0.027 0.689	T(3'-7)
116	16'-5			¾	(See Notes)	7'-9	150	11.105	
117	9'-0		18.05	0.8740		6'-0 13'-9	0.173267	3.221 2.381	2T(3'-0)
117	9'-0			2	(See Notes)	14'-0	150	16.707	
114	9'-0		18.05	2.0030		6'-0 20'-0	0.003053	-0.000 0.061	3Tr(2'-0)
								16.768	Total(Pt) Route 2
13	-13'-6		34.21	8		2'-9	150	39.216	• • • • • **Route 3** • • • • • Flow (q) from Route 4
14	-13'-6		34.21	7.6800		2'-9	0.000014	0.000	
14	-13'-6			8		63'-5½	150	39.216	
15	-13'-6		34.21	7.6800		63'-5½	0.000014	0.001	
								39.217	Total(Pt) Route 3

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes
12	-13'-6		34.21	8	(See Notes)	293'-8½	150	39.212	• • • • • **Route 4** • • • • • Flow (q) from Route 5
						22'-6½	0.000014		
13	-13'-6		34.21	7.6800		316'-3		0.005	2EE(11'-3)
								39.216	Total(Pt) Route 4
11	-13'-6		35.26	8	(See Notes)	87'-6½	150	39.210	• • • • • **Route 5** • • • • • Flow (q) from Route 1
						22'-6½	0.000014		
12	-13'-6		34.21	7.6800		110'-1		0.002	2EE(11'-3)
								39.212	Total(Pt) Route 5

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Fittings Legend

ALV	Alarm Valve	AngV	Angle Valve	b	Bushing
BalV	Ball Valve	BFP	Backflow Preventer	BV	Butterfly Valve
C	Cross Flow Turn 90°	cplg	Coupling	Cr	Cross Run
CV	Check Valve	DelV	Deluge Valve	DPV	Dry Pipe Valve
E	90° Elbow	EE	45° Elbow	Ee1	11¼° Elbow
Ee2	22½° Elbow	f	Flow Device	fd	Flex Drop
FDC	Fire Department Connection	fE	90° FireLock(TM) Elbow	fEE	45° FireLock(TM) Elbow
flg	Flange	FN	Floating Node	fT	FireLock(TM) Tee
g	Gauge	GloV	Globe Valve	GV	Gate Valve
Ho	Hose	Hose	Hose	HV	Hose Valve
Hyd	Hydrant	LtE	Long Turn Elbow	mecT	Mechanical Tee
Noz	Nozzle	P1	Pump In	P2	Pump Out
PIV	Post Indicating Valve	PO	Pipe Outlet	PrV	Pressure Relief Valve
PRV I	Pressure Reducing Valve In	PRV C	Pressure Reducing Valve Out	red	Reducer/Adapter
S	Supply	sCV	Swing Check Valve	SFx	Seismic Flex
Spr	Sprinkler	St	Strainer	T	Tee Flow Turn 90°
Tr	Tee Run	U	Union	WirF	Wirsbo
WMV	Water Meter Valve	Z	Cap		

Hydraulic Calculations

for

Project Name: MAYNARD CROSSING APARTMENTS: (1450D)

Location: , ,

Drawing Name: Maynard Crossing Apartments 1450D - FP400 Building Calculation Date: 8/6/2026

Design

Remote Area Number:	B03 R3
Occupancy Classification:	Residential
Density	0.05gpm/ft²
Area of Application:	526ft² (Actual 526ft²)
Coverage per Sprinkler:	130ft²
Type of sprinklers calculated:	Pendent, Sidewall
No. of sprinklers calculated:	4
No. of nozzles calculated:	0

In-rack Demand:	N/A gpm	at Node:	N/A		
Hose Streams:	0.0 gpm	at Node:	17	Type:	Allowance at Source

Total Water Required (including Hose Streams where applicable):

From Water Supply at Node 17: 91.82 @ 44.179 (Safety Margin = 9.781)

Type of System:

Volume of Dry/PreAction/Antifreeze/OtherAgent System: N/A

Name of Contractor: MAKSON FIRE

Address: 1306 SPEEDWAY BLVD, SALISBURY, NC 28146

Phone Number: 704-636-5505

Name of designer: D.PORTER

Authority Having Jurisdiction: : HARNETT COUNTY FIRE MARSHAL

Notes:

Summary Notes:

Supply at Node 17

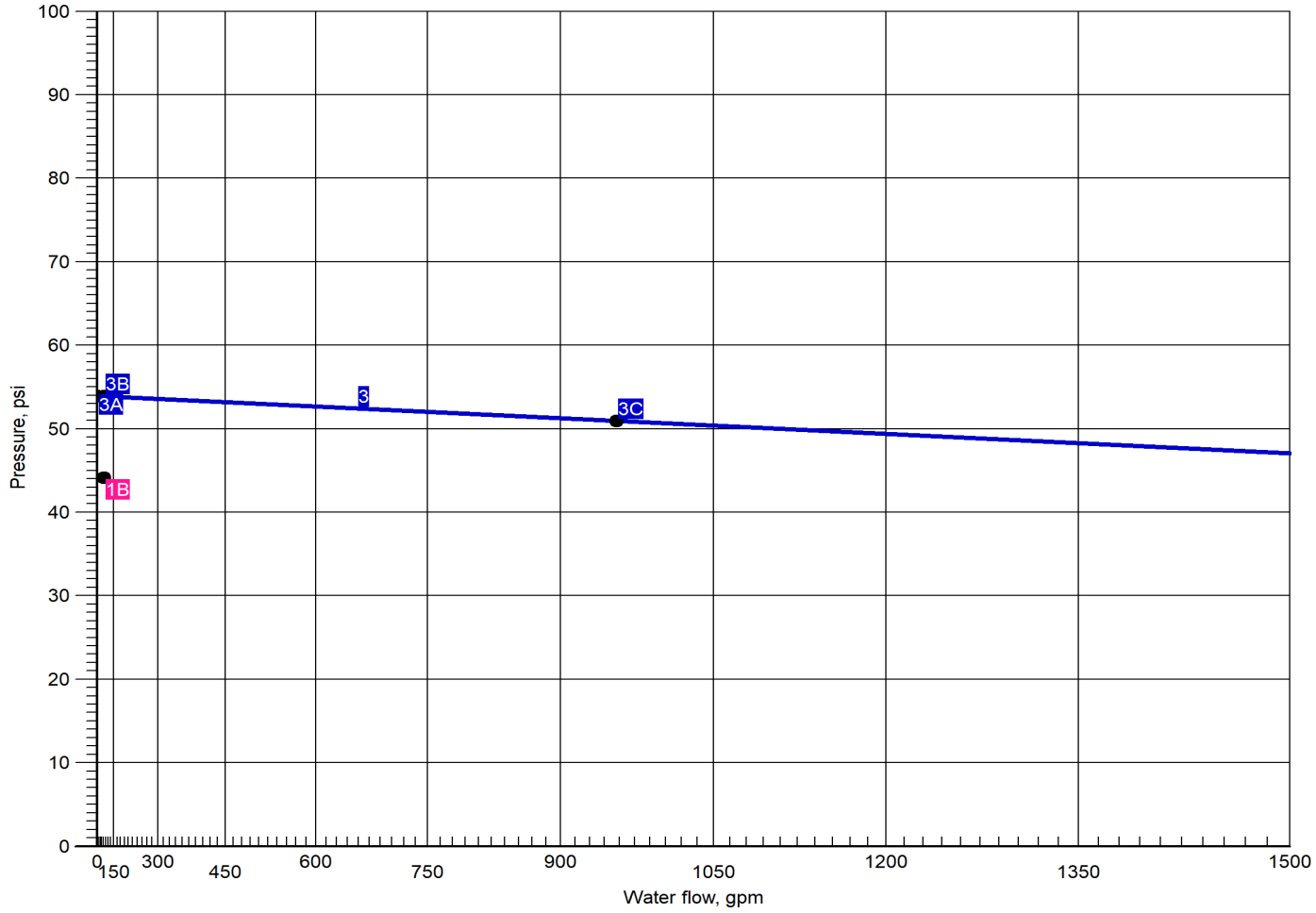
1 System Demand
3 Available Water Supply

Job Name: MAYNARD CROSSING APARTMENTS

Job Number: 1450D

Report Description: Residential (B03 R3)

Remote Area Number: B03 R3



Curve	Data Point	Hydraulic Calculation Results	Additional Data
1	1B	Required Pressure at System Demand: 44.179 @ 91.82	Available Flow @ 20 PSI: 3550.30
3	3A	Available Static Pressure at Supply at Node 17: 54.000	
	3B	Available Residual Pressure at System Demand: 53.961 @ 91.82	
	3C	Available Residual Pressure & Flow at Supply at Node 17: 51.000 @ 957.00	

Summary Of Outflowing Devices

Job Number: 1450D
Report Description: Residential (B03 R3)

Device		Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)			
Floating Node	6	36.60	36.60	0	45.244			
Sprinkler	**S24**	**13.00**	**13.00**	**4**	**10.563**			
Sprinkler	S25	13.87	13.00	4	12.027			
Sprinkler	S26	14.06	13.00	4	12.354			
Sprinkler	S27	14.28	13.00	4.9	8.498			

Most Demanding Sprinkler Data

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
S24	16'-6	4	13.00	¾	(See Notes)	38'-0	150	10.563	• • • • • **Route 1** • • • • •
106	9'-0		13.00	0.8740		29'-0 67'-0	0.094407	3.251 6.325	Sprinkler, 3E(7'-0), 2T(3'-0), 2Tr(1'-0)
106	9'-0		42.22	2	(See Notes)	81'-8½	150	20.139	Flow (q) from Route 2
102	3'-10½		55.22	2.0030		74'-6 156'-2½	0.024155	2.222 3.773	13Tr(2'-0), 4E(11'-0), cplg(1'-0), Tr(3'-6)
102	3'-10½			2		0'-6	120	26.135	
103	3'-1½		55.22	2.0670		0'-6	0.031316	0.316 0.016	
103	3'-1½			2	(See Notes)	1'-2	120	26.467	
104	1'-11½		55.22	2.1570		1'-2	0.025446	0.506 0.030	f(-0.000), f
104	1'-11½			2	(See Notes)	4'-0	120	27.002	
105	1'-0		55.22	2.0670		15'-0 19'-0	0.031316	0.424 11.496	T(10'-0), BFP(-10.901), E(5'-0), Gauge 1
105	1'-0			4	(See Notes)	24'-1½	150	38.922	
6	-13'-6		55.22	4.0700		22'-3½ 46'-5	0.000765	6.286 0.036	2GV(3'-2), E(15'-11), FN
6	-13'-6		36.60	4	(See Notes)	37'-1½	150	45.244	
11	-13'-6		91.82	4.0700		35'-½ 72'-2	0.001959	0.141	GV(3'-2), T(31'-10)
11	-13'-6			8		148'-9½	150	45.385	
10	-13'-6		46.60	7.6800		148'-9½	0.000025	0.004	
10	-13'-6			8	(See Notes)	250'-6	150	45.389	
15	-13'-6		46.60	7.6800		66'-4½ 316'-10½	0.000025	0.008	2EE(11'-3), T(43'-10)
15	-13'-6		45.21	8	(See Notes)	634'-6½	150	45.397	Flow (q) from Route 5
16	-13'-6		91.82	7.6800		126'-5½ 761'-½	0.000089	0.068	3EE(11'-3), GV(5'-0), 2T(43'-10)
16	-13'-6			6	Supply (See Notes)	20'-11½	150	45.465	Avl.Pressure @ Supply: 53.961
17	-10'-6		91.82	5.8600		25'-6½ 46'-6	0.000332	-1.301 0.015	2GV(3'-10), E(17'-10½), S

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
			0.00					44.179	Hose Allowance At Source
17			91.82						Total(Pt) Route 1
S27	16'-10½	4.9	14.28	¾	(See Notes)	33'-2	150	8.498	• • • • • **Route 2** • • • • • Sprinkler,
111	9'-0		14.28	0.8740		37'-0 / 70'-2	0.112385	3.412 / 7.883	4E(7'-0), 3T(3'-0)
111	9'-0		27.93	2	(See Notes)	13'-6	150	19.794	Flow (q) from Route 3
106	9'-0		42.22	2.0030		10'-0 / 23'-6	0.014700	0.345	5Tr(2'-0)
								20.139	Total(Pt) Route 2
S25	16'-6	4	13.87	¾	(See Notes)	27'-9	150	12.027	• • • • • **Route 3** • • • • • Sprinkler,
114	9'-0		13.87	0.8740		14'-0 / 41'-9	0.106458	3.251 / 4.445	2Tr(1'-0), 4T(3'-0)
114	9'-0			2	(See Notes)	3'-9½	150	19.724	
110	9'-0		13.87	2.0030		4'-0 / 7'-9½	0.001876	0.015	2Tr(2'-0)
110	9'-0		14.06	2	(See Notes)	6'-½	150	19.739	Flow (q) from Route 4
111	9'-0		27.93	2.0030		2'-0 / 8'-½	0.006846	0.000 / 0.055	Tr(2'-0)
								19.794	Total(Pt) Route 3
S26	16'-6	4	14.06	¾	(See Notes)	17'-10½	150	12.354	• • • • • **Route 4** • • • • • Sprinkler,
110	9'-0		14.06	0.8740		20'-0 / 37'-10½	0.109132	3.251 / 4.133	2E(7'-0), 3Tr(1'-0), T(3'-0)
								19.739	Total(Pt) Route 4
13	-13'-6		45.21	8		2'-9	150	45.395	• • • • • **Route 5** • • • • • Flow (q) from Route 6
14	-13'-6		45.21	7.6800		2'-9	0.000024	0.000	
14	-13'-6			8		63'-5½	150	45.395	
15	-13'-6		45.21	7.6800		63'-5½	0.000024	0.002	
								45.397	Total(Pt) Route 5

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes
12	-13'-6		45.21	8	(See Notes)	293'-8½	150	45.388	• • • • • **Route 6** • • • • • Flow (q) from Route 7
13	-13'-6		45.21	7.6800		22'-6½ / 316'-3	0.000024	0.008	2EE(11'-3)
								45.395	Total(Pt) Route 6
11	-13'-6		46.60	8	(See Notes)	87'-6½	150	45.385	• • • • • **Route 7** • • • • • Flow (q) from Route 1
12	-13'-6		45.21	7.6800		22'-6½ / 110'-1	0.000024	0.003	2EE(11'-3)
								45.388	Total(Pt) Route 7

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Fittings Legend

ALV	Alarm Valve	AngV	Angle Valve	b	Bushing
BalV	Ball Valve	BFP	Backflow Preventer	BV	Butterfly Valve
C	Cross Flow Turn 90°	cplg	Coupling	Cr	Cross Run
CV	Check Valve	DelV	Deluge Valve	DPV	Dry Pipe Valve
E	90° Elbow	EE	45° Elbow	Ee1	11¼° Elbow
Ee2	22½° Elbow	f	Flow Device	fd	Flex Drop
FDC	Fire Department Connection	fE	90° FireLock(TM) Elbow	fEE	45° FireLock(TM) Elbow
flg	Flange	FN	Floating Node	fT	FireLock(TM) Tee
g	Gauge	GloV	Globe Valve	GV	Gate Valve
Ho	Hose	Hose	Hose	HV	Hose Valve
Hyd	Hydrant	LtE	Long Turn Elbow	mecT	Mechanical Tee
Noz	Nozzle	P1	Pump In	P2	Pump Out
PIV	Post Indicating Valve	PO	Pipe Outlet	PrV	Pressure Relief Valve
PRV I	Pressure Reducing Valve In	PRV C	Pressure Reducing Valve Out	red	Reducer/Adapter
S	Supply	sCV	Swing Check Valve	SFx	Seismic Flex
Spr	Sprinkler	St	Strainer	T	Tee Flow Turn 90°
Tr	Tee Run	U	Union	WirF	Wirsbo
WMV	Water Meter Valve	Z	Cap		

Hydraulic Calculations

for

Project Name: MAYNARD CROSSING APARTMENTS: (1450D)

Location: , ,

Drawing Name: Maynard Crossing Apartments 1450D - FP400 Building Calculation Date: 8/6/2026

Design

Remote Area Number:	B03 R4
Occupancy Classification:	Residential
Density	0.05gpm/ft²
Area of Application:	489ft² (Actual 498ft²)
Coverage per Sprinkler:	130ft²
Type of sprinklers calculated:	Pendent
No. of sprinklers calculated:	4
No. of nozzles calculated:	0

In-rack Demand:	N/A gpm	at Node:	N/A		
Hose Streams:	0.0 gpm	at Node:	17	Type:	Allowance at Source

Total Water Required (including Hose Streams where applicable):

From Water Supply at Node 17: 109.43 @ 48.229 (Safety Margin = 5.717)

Type of System:

Volume of Dry/PreAction/Antifreeze/OtherAgent System: N/A

Name of Contractor: MAKSON FIRE

Address: 1306 SPEEDWAY BLVD, SALISBURY, NC 28146

Phone Number: 704-636-5505

Name of designer: D.PORTER

Authority Having Jurisdiction: : HARNETT COUNTY FIRE MARSHAL

Notes:

Summary Notes:

Supply at Node 17

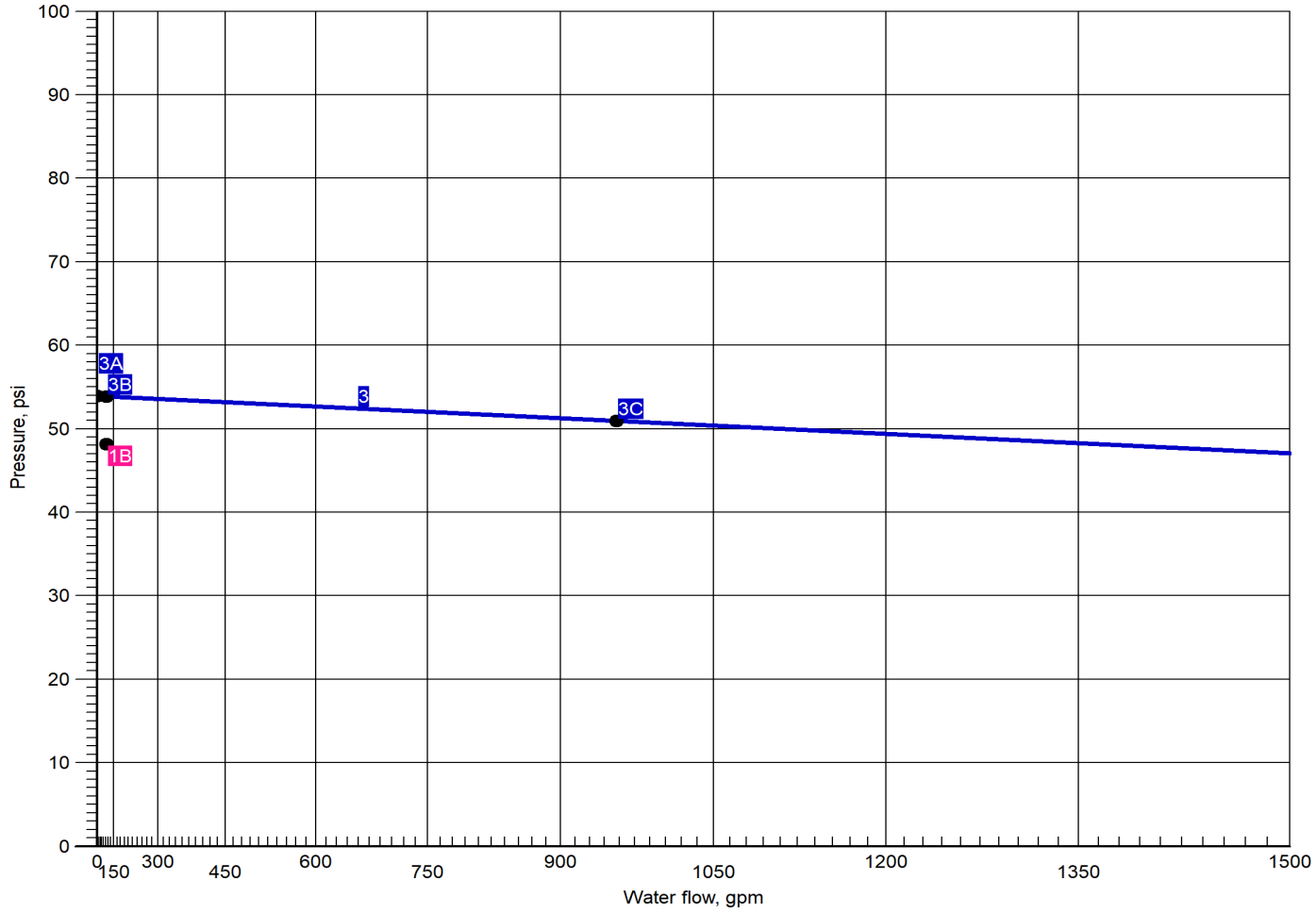
1 System Demand
3 Available Water Supply

Job Name: MAYNARD CROSSING APARTMENTS

Job Number: 1450D

Report Description: Residential (B03 R4)

Remote Area Number: B03 R4



Curve	Data Point	Hydraulic Calculation Results	Additional Data
1	1B	Required Pressure at System Demand: 48.229 @ 109.43	Available Flow @ 20 PSI: 3550.30
3	3A	Available Static Pressure at Supply at Node 17: 54.000	
	3B	Available Residual Pressure at System Demand: 53.946 @ 109.43	
	3C	Available Residual Pressure & Flow at Supply at Node 17: 51.000 @ 957.00	

Summary Of Outflowing Devices

Job Number: 1450D
Report Description: Residential (B03 R4)

Device		Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)			
Floating Node	6	36.60	36.60	0	49.203			
Sprinkler	**S28**	**20.00**	**20.00**	**4.9**	**16.660**			
Sprinkler	S29	16.89	13.00	4.9	11.875			
Sprinkler	S30	17.15	13.00	4.9	12.243			
Sprinkler	S31	18.80	13.00	4.9	14.717			

Most Demanding Sprinkler Data

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
S28	8'-0	4.9	20.00	1	(See Notes)	10'-5	150	16.660	• • • • • **Route 1** • • • • •
101	9'-0		20.00	1.1010		12'-0 22'-5	0.068041	-0.434 1.526	Sprinkler, E(7'-0), T(5'-0)
101	9'-0			2	(See Notes)	3'-4	150	17.752	
108	9'-0		20.00	2.0030		2'-0 5'-4	0.003691	0.020	Tr(2'-0)
108	9'-0			2	(See Notes)	2'-6½	150	17.771	
109	9'-0		20.00	2.0030		2'-0 4'-6½	0.003691	0.017	Tr(2'-0)
109	9'-0		16.89	2	(See Notes)	3'-2	150	17.788	Flow (q) from Route 2
113	9'-0		36.89	2.0030		2'-0 5'-2	0.011452	0.059	Tr(2'-0)
113	9'-0		18.80	2	(See Notes)	6'-7	150	17.847	Flow (q) from Route 4
100	9'-0		55.68	2.0030		2'-0 8'-7	0.024534	0.211	Tr(2'-0)
100	9'-0		17.15	2	(See Notes)	8'-3	150	18.058	Flow (q) from Route 3
117	9'-0		72.83	2.0030		6'-0 14'-3	0.040313	0.574	3Tr(2'-0)
117	9'-0			2	(See Notes)	14'-0	150	18.632	
114	9'-0		72.83	2.0030		6'-0 20'-0	0.040313	-0.000 0.806	3Tr(2'-0)
114	9'-0			2	(See Notes)	3'-9½	150	19.438	
110	9'-0		72.83	2.0030		4'-0 7'-9½	0.040313	0.314	2Tr(2'-0)
110	9'-0			2	(See Notes)	6'-½	150	19.752	
111	9'-0		72.83	2.0030		2'-0 8'-½	0.040313	0.000 0.324	Tr(2'-0)
111	9'-0			2	(See Notes)	13'-6	150	20.076	
106	9'-0		72.83	2.0030		10'-0 23'-6	0.040313	0.947	5Tr(2'-0)
106	9'-0			2	(See Notes)	81'-8½	150	21.024	
102	3'-10½		72.83	2.0030		74'-6 156'-2½	0.040313	2.222 6.297	13Tr(2'-0), 4E(11'-0), cplg(1'-0), Tr(3'-6)

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
102	3'-10½			2		0'-6	120	29.543	
								0.316	
103	3'-1½		72.83	2.0670		0'-6	0.052264	0.026	
103	3'-1½			2	(See Notes)	1'-2	120	29.886	
								0.506	
104	1'-11½		72.83	2.1570		1'-2	0.042468	0.050	f(-0.000), f
104	1'-11½			2	(See Notes)	4'-0	120	30.441	
						15'-0		0.424	
105	1'-0		72.83	2.0670		19'-0	0.052264	11.992	T(10'-0), BFP(-11.000), E(5'-0), Gauge 1
105	1'-0			4	(See Notes)	24'-1½	150	42.857	
						22'-3½		6.286	
6	-13'-6		72.83	4.0700		46'-5	0.001276	0.059	2GV(3'-2), E(15'-11), FN
6	-13'-6		36.60	4	(See Notes)	37'-1½	150	49.203	
						35'-½			
11	-13'-6		109.43	4.0700		72'-2	0.002710	0.196	GV(3'-2), T(31'-10)
11	-13'-6			8		148'-9½	150	49.398	
10	-13'-6		55.54	7.6800		148'-9½	0.000035	0.005	
10	-13'-6			8	(See Notes)	250'-6	150	49.404	
						66'-4½			
15	-13'-6		55.54	7.6800		316'-10½	0.000035	0.011	2EE(11'-3), T(43'-10)
15	-13'-6		53.88	8	(See Notes)	634'-6½	150	49.415	Flow (q) from Route 5
						126'-5½			
16	-13'-6		109.43	7.6800		761'-½	0.000123	0.094	3EE(11'-3), GV(5'-0), 2T(43'-10)
16	-13'-6			6	Supply (See Notes)	20'-11½	150	49.508	
						25'-6½		-1.301	Avl.Pressure @ Supply: 53.946
17	-10'-6		109.43	5.8600		46'-6	0.000459	0.021	2GV(3'-10), E(17'-10½), S
			0.00					48.229	Hose Allowance At Source
17			109.43						Total(Pt) Route 1
S29	8'-0	4.9	16.89	¾	(See Notes)	21'-5½	150	11.875	• • • • • **Route 2** • • • • • Sprinkler,
						20'-0		-0.434	
109	9'-0		16.89	0.8740		41'-5½	0.153151	6.346	2E(7'-0), 3Tr(1'-0), T(3'-0)

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes: Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
								17.788	Total(Pt) Route 2
S30	8'-0	4.9	17.15	¾	(See Notes)	21'-8	150	12.243	• • • • • **Route 3** • • • • • Sprinkler,
100	9'-0		17.15	0.8740		18'-0 / 39'-8	0.157532	-0.434 / 6.249	2E(7'-0), Tr(1'-0), T(3'-0)
								18.058	Total(Pt) Route 3
S31	8'-0	4.9	18.80	¾	(See Notes)	6'-1	150	14.717	• • • • • **Route 4** • • • • • Sprinkler,
113	9'-0		18.80	0.8740		13'-0 / 19'-1	0.186768	-0.434 / 3.564	2T(3'-0), E(7'-0)
								17.847	Total(Pt) Route 4
13	-13'-6		53.88	8		2'-9	150	49.413	• • • • • **Route 5** • • • • • Flow (q) from Route 6
14	-13'-6		53.88	7.6800		2'-9	0.000033	0.000	
14	-13'-6			8		63'-5½	150	49.413	
15	-13'-6		53.88	7.6800		63'-5½	0.000033	0.002	
								49.415	Total(Pt) Route 5
12	-13'-6		53.88	8	(See Notes)	293'-8½	150	49.402	• • • • • **Route 6** • • • • • Flow (q) from Route 7
13	-13'-6		53.88	7.6800		22'-6½ / 316'-3	0.000033	0.010	2EE(11'-3)
								49.413	Total(Pt) Route 6
11	-13'-6		55.54	8	(See Notes)	87'-6½	150	49.398	• • • • • **Route 7** • • • • • Flow (q) from Route 1
12	-13'-6		53.88	7.6800		22'-6½ / 110'-1	0.000033	0.004	2EE(11'-3)
								49.402	Total(Pt) Route 7

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Fittings Legend

ALV	Alarm Valve	AngV	Angle Valve	b	Bushing
BalV	Ball Valve	BFP	Backflow Preventer	BV	Butterfly Valve
C	Cross Flow Turn 90°	cplg	Coupling	Cr	Cross Run
CV	Check Valve	DelV	Deluge Valve	DPV	Dry Pipe Valve
E	90° Elbow	EE	45° Elbow	Ee1	11¼° Elbow
Ee2	22½° Elbow	f	Flow Device	fd	Flex Drop
FDC	Fire Department Connection	fE	90° FireLock(TM) Elbow	fEE	45° FireLock(TM) Elbow
flg	Flange	FN	Floating Node	fT	FireLock(TM) Tee
g	Gauge	GloV	Globe Valve	GV	Gate Valve
Ho	Hose	Hose	Hose	HV	Hose Valve
Hyd	Hydrant	LtE	Long Turn Elbow	mecT	Mechanical Tee
Noz	Nozzle	P1	Pump In	P2	Pump Out
PIV	Post Indicating Valve	PO	Pipe Outlet	PrV	Pressure Relief Valve
PRV I	Pressure Reducing Valve In	PRV C	Pressure Reducing Valve Out	red	Reducer/Adapter
S	Supply	sCV	Swing Check Valve	SFx	Seismic Flex
Spr	Sprinkler	St	Strainer	T	Tee Flow Turn 90°
Tr	Tee Run	U	Union	WirF	Wirsbo
WMV	Water Meter Valve	Z	Cap		

Hydraulic Calculations

for

Project Name: MAYNARD CROSSING APARTMENTS: (1450D)

Location: , ,

Drawing Name: Maynard Crossing Apartments 1450D - FP400 Building Calculation Date: 8/6/2026

Design

Remote Area Number:	B03 R5
Occupancy Classification:	Residential
Density	0.05gpm/ft²
Area of Application:	523ft² (Actual 523ft²)
Coverage per Sprinkler:	130ft²
Type of sprinklers calculated:	Pendent
No. of sprinklers calculated:	3
No. of nozzles calculated:	0

In-rack Demand:	N/A gpm	at Node:	N/A		
Hose Streams:	0.0 gpm	at Node:	17	Type:	Allowance at Source

Total Water Required (including Hose Streams where applicable):

From Water Supply at Node 17: 97.27 @ 47.971 (Safety Margin = 5.985)

Type of System:

Volume of Dry/PreAction/Antifreeze/OtherAgent System: N/A

Name of Contractor: MAKSON FIRE

Address: 1306 SPEEDWAY BLVD, SALISBURY, NC 28146

Phone Number: 704-636-5505

Name of designer: D.PORTER

Authority Having Jurisdiction: : HARNETT COUNTY FIRE MARSHAL

Notes:

Summary Notes:

Supply at Node 17

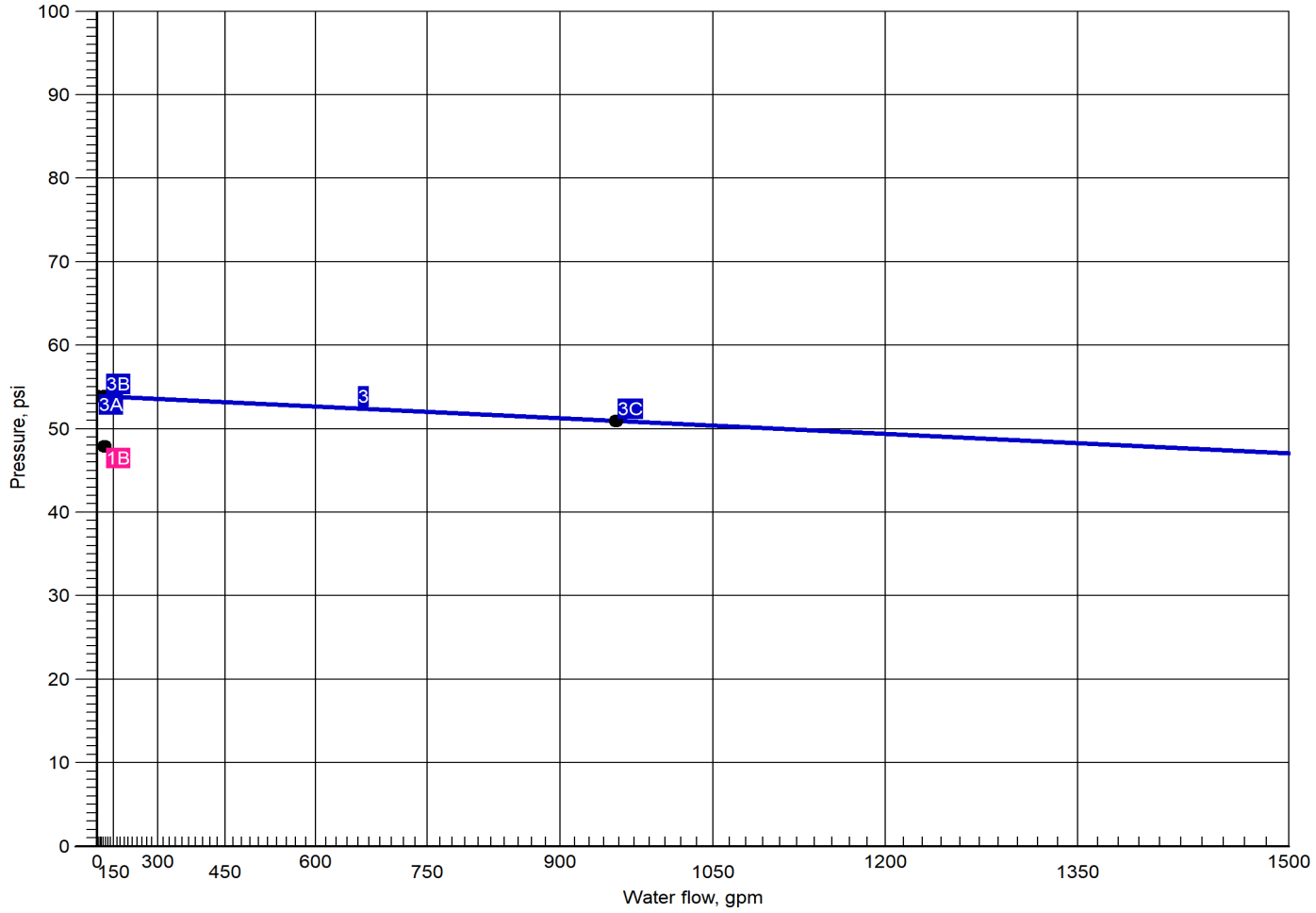
1 System Demand
3 Available Water Supply

Job Name: MAYNARD CROSSING APARTMENTS

Job Number: 1450D

Report Description: Residential (B03 R5)

Remote Area Number: B03 R5



Curve	Data Point	Hydraulic Calculation Results	Additional Data
1	1B	Required Pressure at System Demand: 47.971 @ 97.27	Available Flow @ 20 PSI: 3550.30
3	3A	Available Static Pressure at Supply at Node 17: 54.000	
	3B	Available Residual Pressure at System Demand: 53.956 @ 97.27	
	3C	Available Residual Pressure & Flow at Supply at Node 17: 51.000 @ 957.00	

Summary Of Outflowing Devices

Job Number: 1450D
Report Description: Residential (B03 R5)

Device		Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)			
Floating Node	6	36.60	36.60	0	49.009			
Sprinkler	**S32**	**20.00**	**20.00**	**4.9**	**16.660**			
Sprinkler	S33	19.56	17.00	4.9	15.942			
Sprinkler	S34	21.10	13.00	4.9	18.551			

⇨ Most Demanding Sprinkler Data

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
S32	8'-0	4.9	20.00	¾	(See Notes)	17'-11	150	16.660	• • • • • **Route 1** • • • • •
						11'-0	0.209466	-0.434	Sprinkler,
111	9'-0		20.00	0.8740		28'-11		6.057	E(7'-0), Tr(1'-0), T(3'-0)
111	9'-0		40.67	2	(See Notes)	13'-6	150	22.283	Flow (q) from Route 2
						10'-0	0.028753		
106	9'-0		60.67	2.0030		23'-6		0.676	5Tr(2'-0)
106	9'-0			2	(See Notes)	81'-8½	150	22.959	
						74'-6	0.028753	2.222	
102	3'-10½		60.67	2.0030		156'-2½		4.491	13Tr(2'-0), 4E(11'-0), cplg(1'-0), Tr(3'-6)
102	3'-10½			2		0'-6	120	29.673	
							0.037277	0.316	
103	3'-1½		60.67	2.0670		0'-6		0.019	
103	3'-1½			2	(See Notes)	1'-2	120	30.008	
							0.030290	0.506	
104	1'-11½		60.67	2.1570		1'-2		0.035	f(-0.000), f
104	1'-11½			2	(See Notes)	4'-0	120	30.549	
						15'-0	0.037277	0.424	
105	1'-0		60.67	2.0670		19'-0		11.708	T(10'-0), BFP(-11.000), E(5'-0), Gauge 1
105	1'-0			4	(See Notes)	24'-1½	150	42.680	
						22'-3½	0.000910	6.286	
6	-13'-6		60.67	4.0700		46'-5		0.042	2GV(3'-2), E(15'-11), FN
6	-13'-6		36.60	4	(See Notes)	37'-1½	150	49.009	
						35'-½	0.002180		
11	-13'-6		97.27	4.0700		72'-2		0.157	GV(3'-2), T(31'-10)
11	-13'-6			8		148'-9½	150	49.166	
							0.000028		
10	-13'-6		49.37	7.6800		148'-9½		0.004	
10	-13'-6			8	(See Notes)	250'-6	150	49.170	
						66'-4½	0.000028		
15	-13'-6		49.37	7.6800		316'-10½		0.009	2EE(11'-3), T(43'-10)
15	-13'-6		47.90	8	(See Notes)	634'-6½	150	49.179	Flow (q) from Route 4
						126'-5½	0.000099		
16	-13'-6		97.27	7.6800		761'-½		0.075	3EE(11'-3), GV(5'-0), 2T(43'-10)

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
16	-13'-6			6	Supply (See Notes)	20'-11½	150	49.255	Avl.Pressure @ Supply: 53.956
17	-10'-6		97.27	5.8600		25'-6½	0.000369	-1.301	2GV(3'-10), E(17'-10½), S
						46'-6		0.017	
			0.00					47.971	Hose Allowance At Source
17			97.27						Total(Pt) Route 1
S33	8'-0	4.9	19.56	¾	(See Notes)	21'-0	150	15.942	• • • • • **Route 2** • • • • • Sprinkler,
114	9'-0		19.56	0.8740		12'-0	0.201109	-0.434	E(7'-0), 2Tr(1'-0), T(3'-0)
						33'-0		6.637	
114	9'-0			2	(See Notes)	3'-9½	150	22.145	
110	9'-0		19.56	2.0030		4'-0	0.003543		2Tr(2'-0)
						7'-9½		0.028	
110	9'-0		21.10	2	(See Notes)	6'-½	150	22.173	Flow (q) from Route 3
111	9'-0		40.67	2.0030		2'-0	0.013719	0.000	Tr(2'-0)
						8'-½		0.110	
								22.283	Total(Pt) Route 2
S34	8'-0	4.9	21.10	¾	(See Notes)	4'-6½	150	18.551	• • • • • **Route 3** • • • • • Sprinkler,
110	9'-0		21.10	0.8740		13'-0	0.231375	-0.434	E(7'-0), 2T(3'-0)
						17'-6½		4.055	
								22.173	Total(Pt) Route 3
13	-13'-6		47.90	8		2'-9	150	49.178	• • • • • **Route 4** • • • • • Flow (q) from Route 5
14	-13'-6		47.90	7.6800			0.000027		
						2'-9		0.000	
14	-13'-6			8		63'-5½	150	49.178	
15	-13'-6		47.90	7.6800			0.000027		
						63'-5½		0.002	
								49.179	Total(Pt) Route 4
12	-13'-6		47.90	8	(See Notes)	293'-8½	150	49.169	• • • • • **Route 5** • • • • • Flow (q) from Route 6
13	-13'-6		47.90	7.6800		22'-6½	0.000027		2EE(11'-3)
						316'-3		0.008	
								49.178	Total(Pt) Route 5

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) Fitting / Total	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
11	-13'-6		49.37	8	(See Notes)	87'-6½	150	49.166	• • • • • **Route 6** • • • • •
						22'-6½	0.000027		Flow (q) from Route 1
12	-13'-6		47.90	7.6800		110'-1		0.003	2EE(11'-3)
								49.169	Total(Pt) Route 6

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Fittings Legend

ALV	Alarm Valve	AngV	Angle Valve	b	Bushing
BalV	Ball Valve	BFP	Backflow Preventer	BV	Butterfly Valve
C	Cross Flow Turn 90°	cplg	Coupling	Cr	Cross Run
CV	Check Valve	DelV	Deluge Valve	DPV	Dry Pipe Valve
E	90° Elbow	EE	45° Elbow	Ee1	11¼° Elbow
Ee2	22½° Elbow	f	Flow Device	fd	Flex Drop
FDC	Fire Department Connection	fE	90° FireLock(TM) Elbow	fEE	45° FireLock(TM) Elbow
flg	Flange	FN	Floating Node	fT	FireLock(TM) Tee
g	Gauge	GloV	Globe Valve	GV	Gate Valve
Ho	Hose	Hose	Hose	HV	Hose Valve
Hyd	Hydrant	LtE	Long Turn Elbow	mecT	Mechanical Tee
Noz	Nozzle	P1	Pump In	P2	Pump Out
PIV	Post Indicating Valve	PO	Pipe Outlet	PrV	Pressure Relief Valve
PRV I	Pressure Reducing Valve In	PRV C	Pressure Reducing Valve Out	red	Reducer/Adapter
S	Supply	sCV	Swing Check Valve	SFx	Seismic Flex
Spr	Sprinkler	St	Strainer	T	Tee Flow Turn 90°
Tr	Tee Run	U	Union	WirF	Wirsbo
WMV	Water Meter Valve	Z	Cap		