

TOPOGRAPHIC SURVEY ELEVATION INFORMATION BY PLOTR A. DEBSKI.
THIS TOPOGRAPHIC SURVEY HAS BEEN REFERENCED TO HARRIS COUNTY
FLOODPLAIN REFERENCE MARK NO: 080190.

ELEVATION=53.26 FEET (NAVD88, 2001 ADJUSTED.)

THIS SITE LIES IN ZONE "X", AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON F.E.M.A. FLOOD INSURANCE RATE MAP NUMBER 48201C0680L, MAP REVISION DATED JUNE 18, 2007.

THE FEMA WEBSITE (WWW.MSC.FEMA.GOV) WAS CHECKED ON 12.05.2024. THIS FLOOD STATEMENT DOES IMPLY THAT THE PROPERTY OR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. ON RARE OCCASIONS FLOODS CAN AND WILL OCCUR AND FLOOD HEIGHTS MAY BE INCREASED BY MAN-MADE OR NATURAL CAUSES. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE ENGINEER.

 DRAINAGE AREA BOUNDARY

 DRAINAGE AREA DESIGNATION
 ACREAGE

 CUMULATIVE ACREAGE

 CUMULATIVE RUNOFF RATE (CFS)

 2-YR DIRECTION OF FLOW

 100-YR EXTREME EVENT DIRECTION OF FLOW

 SURROUNDING PROPERTIES DIRECTION OF FLOW

STORM SEWER DESIGN CALCULATIONS:

D = 36"

Where:

C = Runoff Coefficient

I = Intensity (mm)

A = Area (acres)

I =

b

(a+TC)ⁿ

TC = 10A^{0.7791} + 15

2 YEAR STORM FREQUENCY:

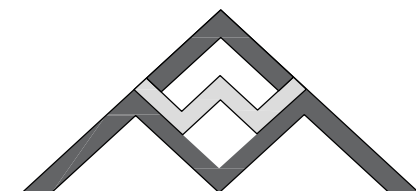
b=48.35

n=0.013

a=9.07

c=0.7244

																				HYDRAULIC GRADIENT			
MH From	MH To	Sub-Area (acres)	Additional Areas Draining Into Sub-Area (acres)	Sub-Runoff Coefficient C	Total Area (acres)	Sum CA	Intensity I (in/hr)	Flow (cfs)	Sum of Flows (cfs)	Time of Conc (min)	Reach Length (feet)	Diameter Pipe Used (inch)	Flowline Elevation Upstream (ft)	Flowline Elevation Downstream (ft)	Slope (%)	Mannings "n"	Capacity (cfs)	Design Velocity (ft/s)	Actual Velocity (ft/s)	HYDRAULIC GRADIENT (%)	CHANGE IN HEAD (ft)	Elev Up Stream (ft)	Elev Down Stream (ft)
SYSTEM "A"																							
A1	A2	0.026	0.008	0.80	0.034	0.03	4.18	0.09	0.11	20.26	43.00	8.00	52.40	52.00	0.93	0.01	1.17	3.34	1.68	0.01	0.01	52.67	52.67
A2	A3	0.107	0.004	0.80	0.146	0.12	4.04	0.35	0.47	21.75	126.00	10.00	52.00	51.10	0.70	0.01	1.83	3.36	2.54	0.05	0.03	52.05	52.02
CA	PROP MH	0.132	0.010	0.80	0.288	0.23	4.01	0.42	0.93	22.00	21.00	10.00	51.10	50.95	0.71	0.01	1.89	3.40	3.35	0.18	0.13	52.02	51.99
PROP MH	EX, DITCH		0.010	0.80	0.288	0.24	4.28	0.00	1.15	15.00	15.00	12.00	50.95	50.81	0.93	0.01	3.44	3.38	3.69	0.10	0.08	51.69	51.61
SYSTEM "B"																							
B	A1	0.006		0.80	0.008	0.01	4.28	0.03	0.03	19.30	52.00	6.00	53.00	52.40	1.16	0.01	0.60	3.07	1.07	0.00	0.00	52.68	52.67
C	A2	0.004		0.80	0.004	0.00	4.35	0.01	0.01	16.75	51.00	6.00	52.60	52.00	1.18	0.01	0.61	3.10	0.79	0.00	0.00	52.90	52.90
SYSTEM "D"																							
D	A3	0.004		0.80	0.004	0.00	4.34	0.01	0.01	16.83	51.00	6.00	52.60	52.00	1.18	0.01	0.61	3.10	0.79	0.00	0.00	52.02	52.02
SYSTEM "E"																							
E	A3	0.003		0.80	0.003	0.00	4.36	0.01	0.01	16.65	53.00	6.00	51.97	51.10	1.64	0.01	0.72	3.66	#N/A	0.00	0.00	52.50	52.50
SYSTEM "F"																							
F	A3	0.003		0.80	0.003	0.00	4.37	0.01	0.01	16.56	53.00	6.00	51.97	51.10	1.64	0.01	0.72	3.66	#N/A	0.00	0.00	52.02	52.02
SYSTEM "G"																							
G	PROP MH	0.010		0.80	0.010	0.01	4.27	0.03	0.03	19.44	30.00	6.00	51.83	50.95	2.93	0.01	0.96	4.89	1.46	0.00	0.00	52.50	52.50

[illegible]

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AWM PROJECT NO. 312



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AS SHOWN

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PROJECT NAME:
5116 DENMARK ST STACKED-DUPLEX
BLDG 1-3 (A&B)

**5116 DENMARK STREET
HOUSTON TEXAS 77016**

OWNER:

N/A

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DRAINAGE AREA MAP

C.400