Pipe Number	Upstream Structure	Downstream Structure	Length	Subbasin No.	Aj	% IMP	PI Factor	PI*Aj	Sum PI*Aj	Q (15)	Pipe Diameter (ft)	Pipe Slope (ft/ft)	Pipe Capacity (cfs)	Velocity (ft/sec)	Travel Time (min.)	% of Capacity	HGL	Rim Elevation	Freeboard (ft)
DS1	Bldg	ST #1	146	DS1	0.15	100%	3.54	0.53	0.53	0.53	0.8333	0.0050	1.81	3.3	0.733	29.5%	-	-	-
1	ST #1	ST #2	128	1, DS1	0.40	30%	2.19	0.88	1.41	1.41	1	0.0100	4.16	5.3	0.402	33.9%	555.61	558.94	3.33
DS2	Bldg	ST #2	78	DS2	0.03	100%	3.54	0.10	0.10	0.10	0.8333	0.0400	5.12	9.4	0.138	1.9%	-	-	-
2	ST #2	Ex Inlet	169	DS1, 1, DS2, 2,	0.24	95%	3.45	0.84	2.35	2.35	1	0.0032	2.35	3.0	0.939	99.9%	553.89	558.46	4.57
3	ST #3	ST #4	47	3,6	0.05	100%	3.54	0.17	0.26	0.26	1	0.0020	1.86	2.4	0.330	14.1%	553.50	554.70	1.20
4	ST #4	ST #5	8	3, 4,6	0.01	86%	3.24	0.04	0.30	0.30	1	0.0020	1.86	2.4	0.056	16.1%	553.41	554.74	1.33
5	ST #5	Ex Inlet	45	3, 4, 5,6	0.04	94%	3.45	0.13	0.42	0.42	1	0.0030	2.28	2.9	0.258	18.6%	553.39	554.59	1.20
8	Str #6	ST #3	54	6	0.05	11%	2.01	0.10	0.10	0.10	1	0.0200	5.89	7.5	0.120	1.6%	554.59	556.63	2.04

* 15 Year, 20 Minute PI factor per Metropolitan St. Louis Sewer District

Inlet Number	Subbasin No.	Aj (ac.)	% Impervious	PI Factor	Q (15)	Slope (ft/ft)	Cross Slope (ft/ft)	Mannings N	T (ft)	y (ft)	y (in)
1	1	0.40	40%	2.19	0.88	0.0294	0.0174	0.013	5.647	0.10	1.18
2	2	0.24	95%	3.45	0.84	0.0218	0.0100	0.013	8.311	0.08	1.00
3	3	0.05	100%	3.54	0.17	0.0100	0.0520	0.013	1.874	0.10	1.17
4	4	0.01	86%	3.24	0.04	0.0100	0.0435	0.013	1.176	0.05	0.61
5	5	0.04	94%	3.45	0.13	0.0100	0.0595	0.013	1.546	0.09	1.10
6	6	0.11	11%	2.01	0.10	0.0300	0.0100	0.013	3.457	0.03	0.41
7	7	0.10	95%	3.45	0.35	0.0440	0.0100	0.013	5.236	0.05	0.63

Subasin	Area (S.F.)	Structures (S.F.)	Pavement (S.F.)	Gravel (S.F.)	Rolling (S.F.)	Rolling (S.F.)	Grass (S.F.)
DS1	6,565	5,838	-	-	-	-	-
1	17,467	-	5,260	-	-	-	12,207
DS2	1,218	1,218	-	-	-	-	-
2	10,630	-	10,120	-	-	-	510
3	2,064	-	2,064	-	-	-	-
4	483	-	413	-	-	-	70
5	1,587	-	1,492	-	-	-	95
7	4,404	-	4,182	-	-	-	222
11	7,269	7,269	-	-	-	-	-
10	3,350	-	3,017	-	-	-	334
8	14,349	-	10,223	-	-	-	4,125
6	4,616	-	528	-	-	-	4,088

Subasin	Area (Ac.)	Weighted C	% Impervious	PI Factor
DS1	0.15	0.845	100.0%	3.54
1	0.40	0.426	30.1%	2.19
DS2	0.03	0.000	100.0%	3.54
2	0.24	0.914	95.2%	3.45
3	0.05	0.950	100.0%	3.54
4	0.01	0.841	85.5%	3.24
5	0.04	0.905	94.0%	3.45
7	0.10	0.912	95.0%	3.45
11	0.17	0.950	100.0%	3.54
10	0.08	0.875	90.0%	3.36
8	0.33	0.734	71.2%	2.97
6	0.11	0.286	11.4%	1.79

Legend

These standard symbols may be found in the drawing.

- W — Water Line
- SS — Sanitary Sewer Main
- X — Fence
- 470 — Existing Contours
- UGT — Underground Telephone
- S — Storm Sewer
- 460 — Proposed Contours
- OHE — Overhead Utility Lines
- G — Gas Lines
- Swale
- Iron Pin
- Sanitary Sewer Manhole
- Parking Bumper
- Sign
- Bollard
- Water Meter
- Soil Boring Location
- Water Valve
- Sanitary Sewer Cleanout
- Utility Pole
- Gas Meter
- TBR — To Be Removed
- Storm Sewer Curb Inlet
- TC — Top of Curb
- Storm Sewer MH/Open Lid
- PV — Pavement
- Light Pole or Traffic Light
- ME — Match Existing
- Storm Sewer Manhole
- 470.0 — Grade point
- Tree
- Number of Parking Spaces
- Mag Nail
- Existing Concrete
- New Concrete Walk/Pavement
- Existing Pavement
- New Asphalt
- Parking Maintenance Area

Storm Sewer Notes

HDPE pipe is to be N-12WT or equal and to meet ASTM F1417 water tight field test.

Structure Table

Structure I.D.	Description	Casting	Rim Elev	Invert Elev
STR. #1	2'x2' Inlet See Detail 1, Sheet C3	Neenah R-4350 Type D	558.69'	10" In-S = 556.69' 12" Out SW = 554.78'
STR. #2	3'x3' Inlet See Detail 1, Sheet C3	Neenah R-3070 Type A	558.46'	12" In-NE = 553.55' 10" In-E = 553.53' 12" Out-SE = 553.00'
STR. #3	2'x2' Inlet See Detail 1, Sheet C3	Neenah R-3070 Type A	554.70'	12" Out-SW = 552.70'
STR. #4	3'x3' Inlet See Detail 1, Sheet C3	Neenah R-3070 Type A	554.74'	12" In-NE = 552.61' 12" Out-SW = 552.61'
STR. #5	3'x3' Inlet See Detail 1, Sheet C3	Neenah R-3070 Type A	554.59'	12" In-E = 552.59' 12" Out-SW = 552.59'
STR. #6	2'x2' Inlet See Detail 1, Sheet C3	Neenah R-4350 Type D	556.63'	12" Out-SE = 553.79'

Pipe Table

Pipe I.D.	Upstream Str.	Downstream Str.	Length	Type	Slope
#1	STR. #1	STR #2	128'	12" HDPE	1.3%
#2	STR #2	STR #7-BY OTHERS	169'	12" HDPE	0.32%
#3	STR #3	STR #4	47'	12" HDPE	0.2%
#4	STR. #4	STR #5	7'	12" HDPE	0.2%
#5	STR. #5	STR #7-BY OTHERS	45'	12" HDPE	0.3%
#6	BLDG	STR #1	155'	10" HDPE	0.5%/1.1%
#7	BLDG	STR #2	110'	10" HDPE	3.0%
#8	STR #6	STR #3	54'	12" HDPE	2.0%

0' 20' 40' 60'

Missouri One Call System, Inc. is open 7 days a week, 24 hours a day to process locate requests or address questions regarding a locate request. The toll free number is 1-800-344-7483 or 811 (the National three digit call before you dig phone number).

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REVISIONS

NO.	DESCRIPTION	DATE
	CONSTRUCTION DOCUMENTS	11/29/22

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Civil Engineer
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Phone: (618) 263-4100

SCALE:	1"=20'
DRAWN BY:	RM
DESIGNER:	TJL,RM
CHECKED BY:	TJL
ENGINEER:	Michael E. Neikirk
ARCHITECT:	IDesign
OWNER:	Bluegrass Hospitality Group

STATE OF MISSOURI
MICHAEL E. NEIKIRK
NUMBER PE-2005010806
PROFESSIONAL ENGINEER

CERTIFIED BY

JOB TITLE
DRAKE'S RESTAURANT
900 HIGHWAY K
O'FALLON, MO

DRAWING TITLE
DRAINAGE AREA

FILE LOCATION

DRAWING NUMBER
C4.1

REV #