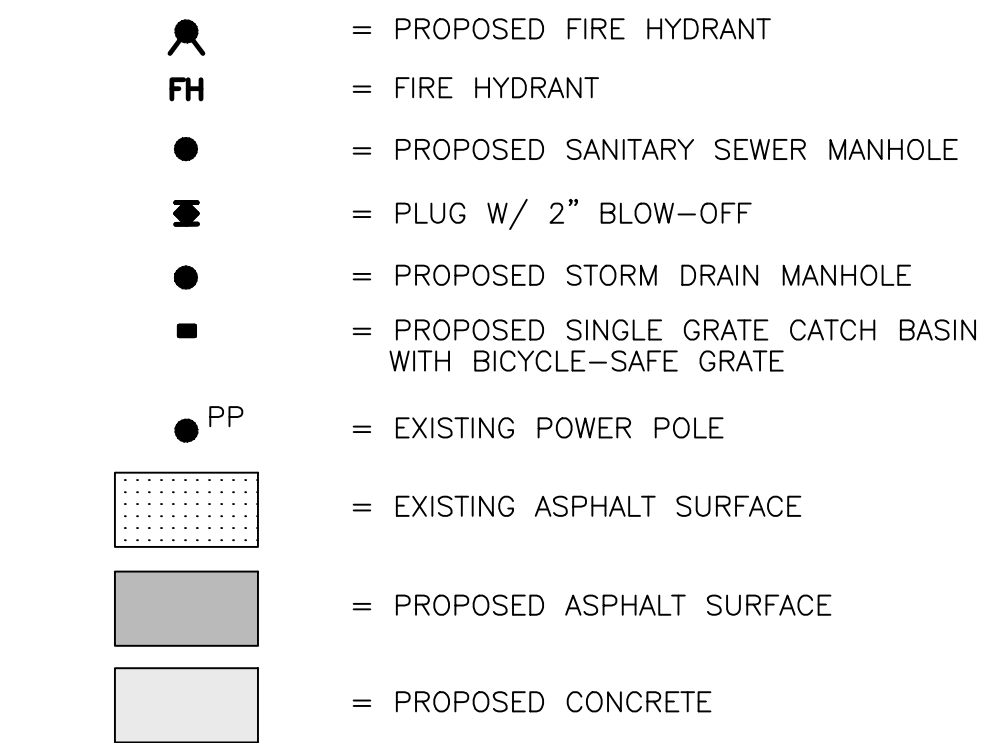


 = BOUNDARY LINE
 = LOT LINE
 = ADJOINING PROPERTY
 = EASEMENTS
 = ROAD CENTERLINE
 = PROPOSED SANITARY SEWER LINE
 = PROPOSED SECONDARY WATER LINE
 = PROPOSED CULINARY WATER LINE
 = EXISTING CULINARY WATER LINE
 = PROPOSED STORM DRAIN (SIZE VARIES)
 = EXISTING FENCE LINE



2/19/2024 KAF

The following runoff calculations are based on the Rainfall - Intensity - Duration Frequency Curve for the Ogden, UT area taken from the NOAA Atlas 14 database. Calculations have been completed for the 25-year 24-hr storm event. Storm water runoff has been calculated for a fully developed site and limited to a release rate of 0.1-cfs.

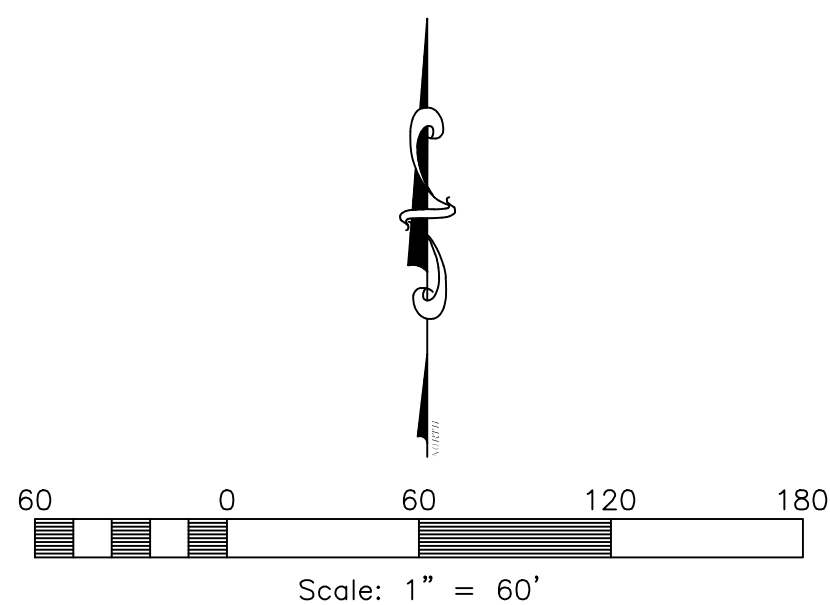
Total Area =	25.15 acre or	1,095,661 ft ²
Runoff Coefficients		
Pavement		265,431
Driveway		38,400
Roof		160,000
Landscaped Area		631,830
Weighted Runoff Coefficient		

LID Retention			
80 th Percentile Rainfall Event	0.48	in	
Is the site Feasible for LID?	Yes		
Site Imperviousness	0.42		
NRCS Soil Group	C/D		(USDA)
Rv Equation	0.83i ^{0.122}		
R _v	0.32		
V _{pond}	13866	c.f.	

C =	0.50					
I =	See Below in/hr					
A =	959661.47 ft ²					
Q(out) =	2.52 ft ³ /sec		(0.1-ft/cu per ac)			
time (min)	time (sec)	in (ft)	Q (cfs)	Vol. in (cu ft)	Vol. out (cu ft)	Difference (cu ft)
0	0	0.00	0	0	0	0
5	300	4.31	54.26	16277	765	15522
10	600	3.28	41.19	24774	1549	23265
15	900	2.71	34.11	30703	2293	28410
20	1800	1.82	22.91	41239	4528	36712
30	3600	1.13	14.42	51229	9005	42364
40	4800	0.820	7.68	57463	19116	38335
180	10800	0.443	5.58	62027	27165	34852
360	21600	0.27	3.40	73515	54330	30181
720	43200	0.12601	1.61	91261	108661	-17300
1440	86400	0.097	1.22	105005	217321	-110825

Given:	Q = 2.52 cfs	
	2g = 64.4 ft/s ²	
	H = 3.00 ft	
	Cd = 0.62	for circular openings
	R = $\text{SQRT}(Q/\pi/(0.7*(64.4*H)^{0.5}))$	
	R = 0.30 feet	
	3.66 inches	
	D = 7.32 inches	
	A = 42.05 inches ^2	0.2920 ft^2

The required 100-yr storage volume is _____
 The required LID Retention volume is _____
 The required orifice size is _____



Phil Holland
1082 W. Dutch Lane
Kaysville, UT 84037
(801) 668-1565

Weber County, Utah

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REVISIONS	
<u>DATE</u>	<u>DESCRIPTION</u>

Windmill West I

PART OF THE SW 1/4 OF SECTION 17, 16N., R.2W., S.1B & M., U.S. SURVEY
WEBER COUNTY, UTAH

Preliminary Plan

Engineer: _____

N. Reeve

Planner: C. Caye

Designer:

E. Roche

Date: 2-5-24

Name: _____

WINDMILL WE

slumber: 760

number: _____/_____/_____

--	--

Sheet

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