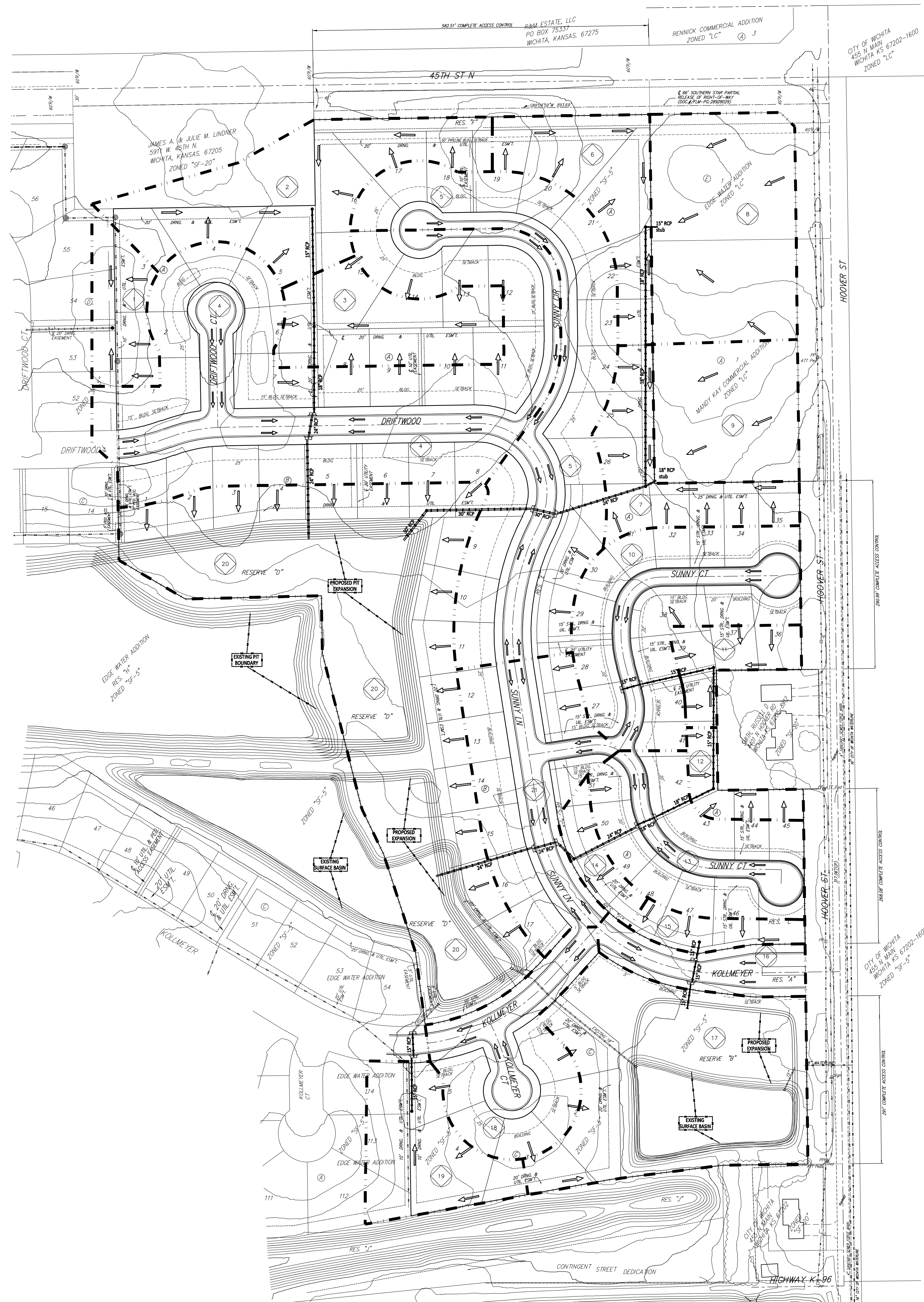


# DRAINAGE PLAN

## EDGE WATER 3RD ADDITION

### WICHITA, SEDGWICK COUNTY, KANSAS



Developed Intensity	2yr	10yr	100yr
Rational C	3.83	6.22	7.37
	0.6	0.62	0.76

Basin ID	Area (acres)	Developed Flowrates		
		2-yr cfs	10-yr cfs	100-yr cfs
1	0.6	1.1	1.9	3.4
2	2.2	4.2	7.1	12
3	1.3	2.5	4.2	7.3
4	5.6	11	18	31
5	3.6	6.9	12	20
6	1.2	2.3	3.9	6.7
7	1.1	2.1	3.6	6.2
8	2.3	4.4	7.4	13
9	1.4	2.7	4.5	7.8
10	2.3	4.4	7.4	13
11	0.5	1.0	1.6	2.8
12	0.4	0.8	1.3	2.2
13	1.7	3.3	5.5	9.6
14	0.3	0.6	1.0	1.7
15	0.4	0.8	1.3	2.2
16	0.6	1.1	1.9	3.4
17	3.2	6.1	10	18
18	1.5	2.9	4.9	8.4
19	1.1	2.1	3.6	6.2
20	5.9	11	19	33
21	2.0	3.8	6.5	11
<b>TOTAL</b>	<b>39.2</b>	<b>75</b>	<b>127</b>	<b>220</b>

STAGE	INFLOW	OUTFLOW	ELEVATION
2 yr	75 cfs	0.0 cfs	1325.6
5 yr	112 cfs	0.0 cfs	1325.7
10 yr	248 cfs	0.0 cfs	1325.7
25 yr	429 cfs	0.0 cfs	1327.1
100 yr	646 cfs	0.0 cfs	1328.3
500 yr	NA	0.0 cfs	1331.8

STAGE (ft)	TOTAL STORAGE (cu ft)	DISCHARGE (cfs)
1325.5	0.00	0.0
1322.0	11.2	38

The groundwater pond form was originally designed to drain through a series of basins to the north of this development, with an emergency overflow into the Center Street area via existing culvert under Hoover Road. This pit now will connect to a proposed 18" pipe to the north of this area to the existing 36" pipe. The pit was revised to the 100-year storm outflow. The peak and near peak grades are set per the back to back 100-year storm for this area. The 500-year storm will not be exceeded and is per the original drainage plan. Please note, the pond has expanded from the original plan and does provide more storage capacity.

STAGE	INFLOW	OUTFLOW	ELEVATION
2 yr	18 cfs	0.0 cfs	1328.0
5 yr	41 cfs	2.0 cfs	1328.0
10 yr	83 cfs	4.1 cfs	1329.0
25 yr	161 cfs	7.7 cfs	1329.0
100 yr	157 cfs	21 cfs	1330.4

STAGE (ft)	TOTAL STORAGE (cu ft)	DISCHARGE (cfs)
1328	0.00	0.0
1327	4.71	48.3

This basin will be expanded from its original intent and will include an approximate elevation of 1328.0. The pond will discharge, if needed, to the groundwater pit, as designed, to the north via the existing 18" pipe. The pond was originally designed as an entry pond and will be converted to an infiltration basin due to the large growth of trees and lack of water surface for water table. The existing pit will be lowered to maintain standing water and the groundwater downer will be lowered due to the lowering of the design water surface elevations.

STAGE	INFLOW	OUTFLOW	ELEVATION
2 yr	4.4 cfs	0.0 cfs	1329.1
5 yr	10 cfs	0.1 cfs	1329.2
10 yr	18 cfs	0.3 cfs	1329.5
25 yr	35 cfs	0.8 cfs	1329.5
100 yr	39 cfs	7.1 cfs	1329.8

STAGE (ft)	TOTAL STORAGE (cu ft)	DISCHARGE (cfs)
1329	0.00	0.0
1328	1.50	7.0
1327	3.12	9.9
1326	4.62	13
1325	6.61	15
1324	8.60	17

This basin will be expanded from its original intent and will include an approximate elevation of 1329.0. This pond will discharge, if needed, to the sump infiltration basin to the north via the existing 18" pipe. This basin is expected to be used as a sump tank as well as detention tank.

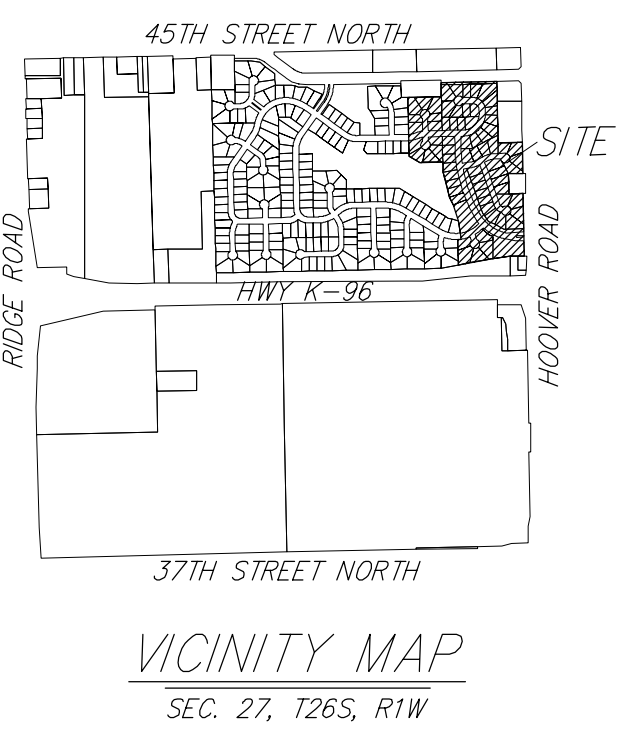
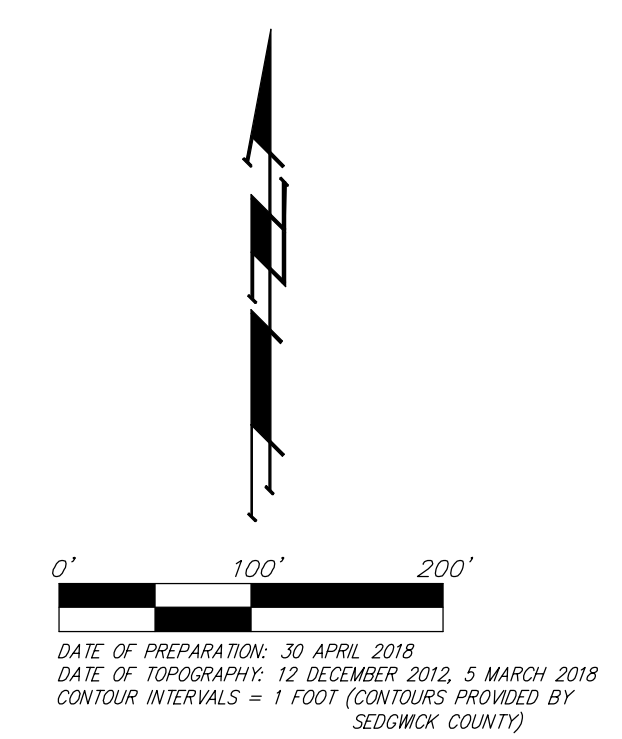
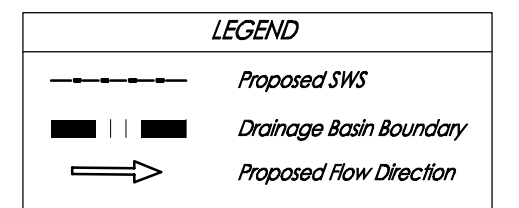
**NOTES:** There is no FEMA SFHA located on this property as of this date.

Water Quality will be achieved in two ways. First, the infiltration basins will treat runoff that is directly conveyed to the basins. Second, any runoff that is discharged into the groundwater pit will be pre-treated via a sump in the downstream most curb inlet(s).

This site will detain and treat runoff for the previously platted commercial lot at the north east corner as well as for the previously platted Mandy Kay Addition at the north east corner.

The onsite pits will have no discharge in the 100-year storm and therefore channel protection is not an issue on downstream properties.

For more information on the adjoining Edgewater Addition or for additional calculations relating to the original construction of the groundwater pits, please refer to the approved Drainage Plan for Edgewater Addition.



**BENCHMARK:**  
RAILROAD SPIKE IN WEST FACE OF POWER POLE,  
50' NORTHEAST OF THE SOUTHEAST CORNER OF  
RESERVE 'C', EDGE WATER 2ND ADDITION.  
ELEVATION = 1335.24 (NGVD29)



**DRAINAGE PLAN**  
**EDGE WATER**  
**3RD ADDITION**  
7 May 2018

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ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

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