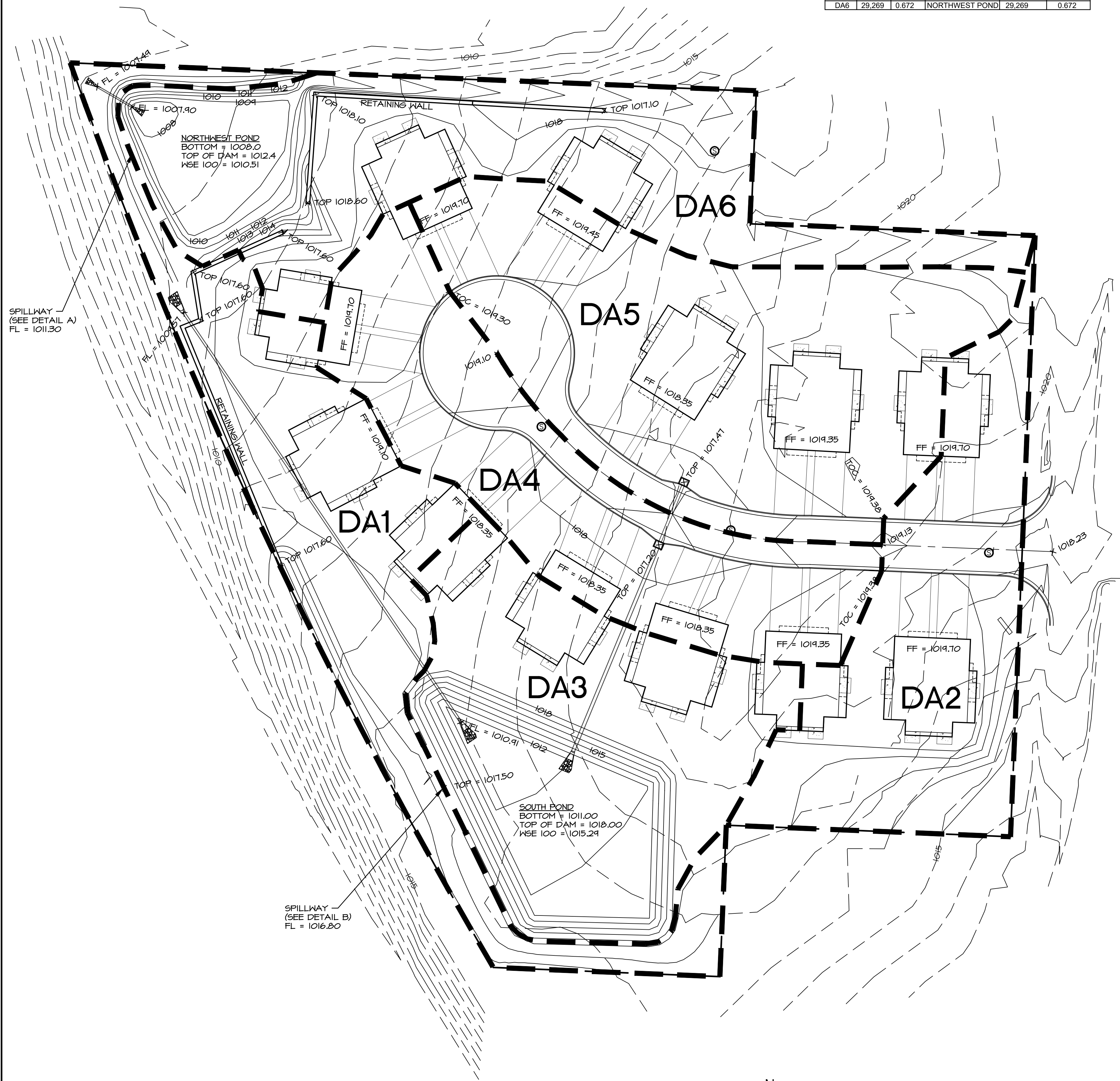




POND PLAN
SCALE: 1" = 30'-0"

AREA DESC.	AREA FT^2	AREA AC	DRAIN TO	TOTAL AREA FT^2	TOTAL AREA AC
DA1	26,760	0.614	UNCAPTURED	26,760	0.614
DA2	22,454	0.516	UNCAPTURED	22,454	0.516
DA3	27,876	0.640	SOUTH POND		
DA4	22,892	0.526	SOUTH POND	86,281	1.981
DA5	35,513	0.815	SOUTH POND		
DA6	29,269	0.672	NORTHWEST POND	29,269	0.672

Pond Design Calculations

Northwest Pond

Runoff Calculations
A = 0.672 Acres
Tc = 10.09 min.
CN = 90

Q2 = 2.20 cfs
Q10 = 3.63 cfs
Q100 = 5.53 cfs

Stage Storage:

100-yr WSE = 1010.28'

Emergency Spillway Design:

Weir Length = 90 ft
Weir Elevation = 1011.30'
Side Slope = 3:1
Flow Depth = 0.10 ft

Spillway Erosion Protection (APWA 5605.5, E.1):

Flow Area = 9.03 ft^2
Flow WP = 90.6 ft
R = 0.10 ft
S = 0.22 ft/ft
Y = 62.4 x 0.10 x 0.22 = 1.37 psf

Spillway to be lined with well maintained turf grass.
No additional erosion protection required.

NW Pond 100-yr Spillway Performance (100% Clogged)

Trapezoidal Weir
Crest = Broad
Bottom Length (ft) = 90
Total Depth (ft) = 1.10

Calculations
Weir Coeff. Cw = 3.09
Compute By - Known Q
Known Q (cfs) = 5.53

Highlighted
Depth (ft) = 0.10
Q (cfs) = 5.53
Area (sq ft) = 9.03
Velocity (fps) = 0.61
Top Width (ft) = 93.3
Energy (ft) = 0.11

Pond Design Calculations

South Pond

Runoff Calculations
A = 1.981 Acres
Tc = 10.62 min.
CN = 90

Q2 = 6.45 cfs
Q10 = 10.67 cfs
Q100 = 16.22 cfs

Stage Storage:

100-yr WSE = 1015.41'

Emergency Spillway Design:

Weir Length = 50 ft
Weir Elevation = 1017.50'
Side Slope = 3:1
Flow Depth = 0.20 ft

Spillway Erosion Protection (APWA 5605.5, E.1):

Flow Area = 10.04 ft^2
Flow WP = 50.57 ft
R = 0.199 ft
S = 0.065 ft/ft
Y = 62.4 x 0.199 x 0.065 = 0.805 psf

Spillway to be lined with well maintained turf grass.
No additional erosion protection required.

S Pond 100-yr Spillway Performance (100% Clogged)

Trapezoidal Weir
Crest = Broad
Bottom Length (ft) = 50
Total Depth (ft) = 1.20

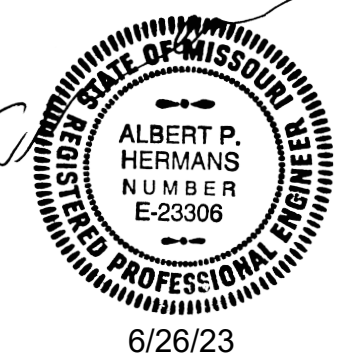
Calculations
Weir Coeff. Cw = 3.09
Compute By - Known Q
Known Q (cfs) = 16.22

Highlighted
Depth (ft) = 0.20
Q (cfs) = 16.22
Area (sq ft) = 10.04
Velocity (fps) = 1.62
Top Width (ft) = 50.4
Energy (ft) = 0.22

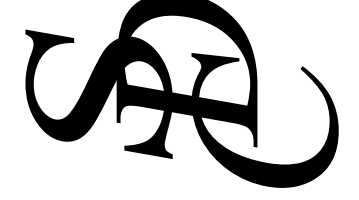
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DATE:	3/15/23
REVISION	
1	5/18/23
2	6/15/23
3	
4	

C09

REFERENCE PLANS PREPARED BY RENAISSANCE
INFRASTRUCTURE CONSULTING DATED 6/11/20 FOR
ADDITIONAL INFORMATION. SPECIFICALLY
REFERENCE SHEET C04 - POND PLAN FOR
ORIGINAL LAYOUT.