

RICHARD M. MAY, PE TN 115983 3411 KINGTOWN RD WINFIELD, TN 37892 423-539-4339



SITE PLAN FOR: Diversified Electric

LOCATION MAP

OAK RIDGE, TN 37831

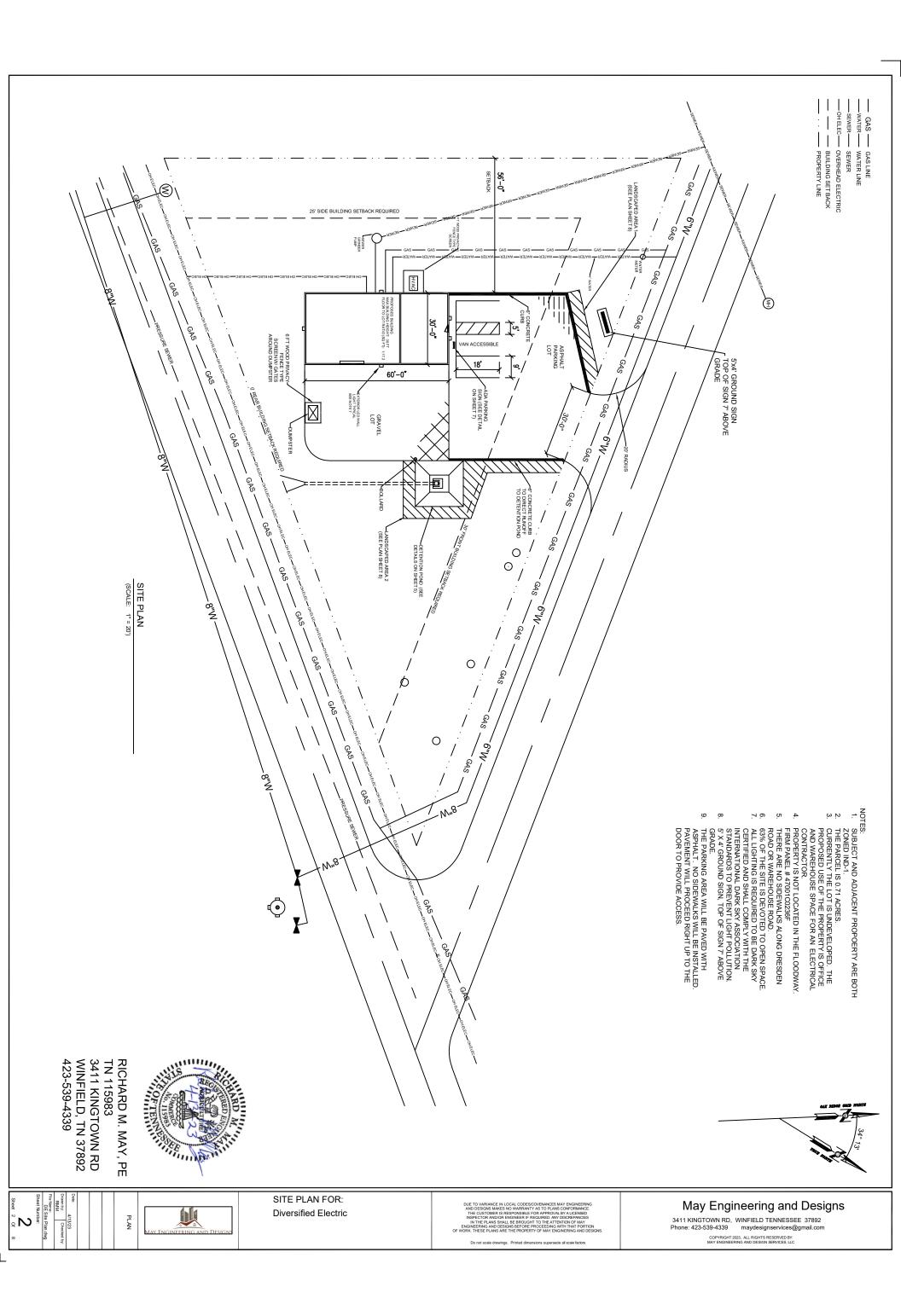
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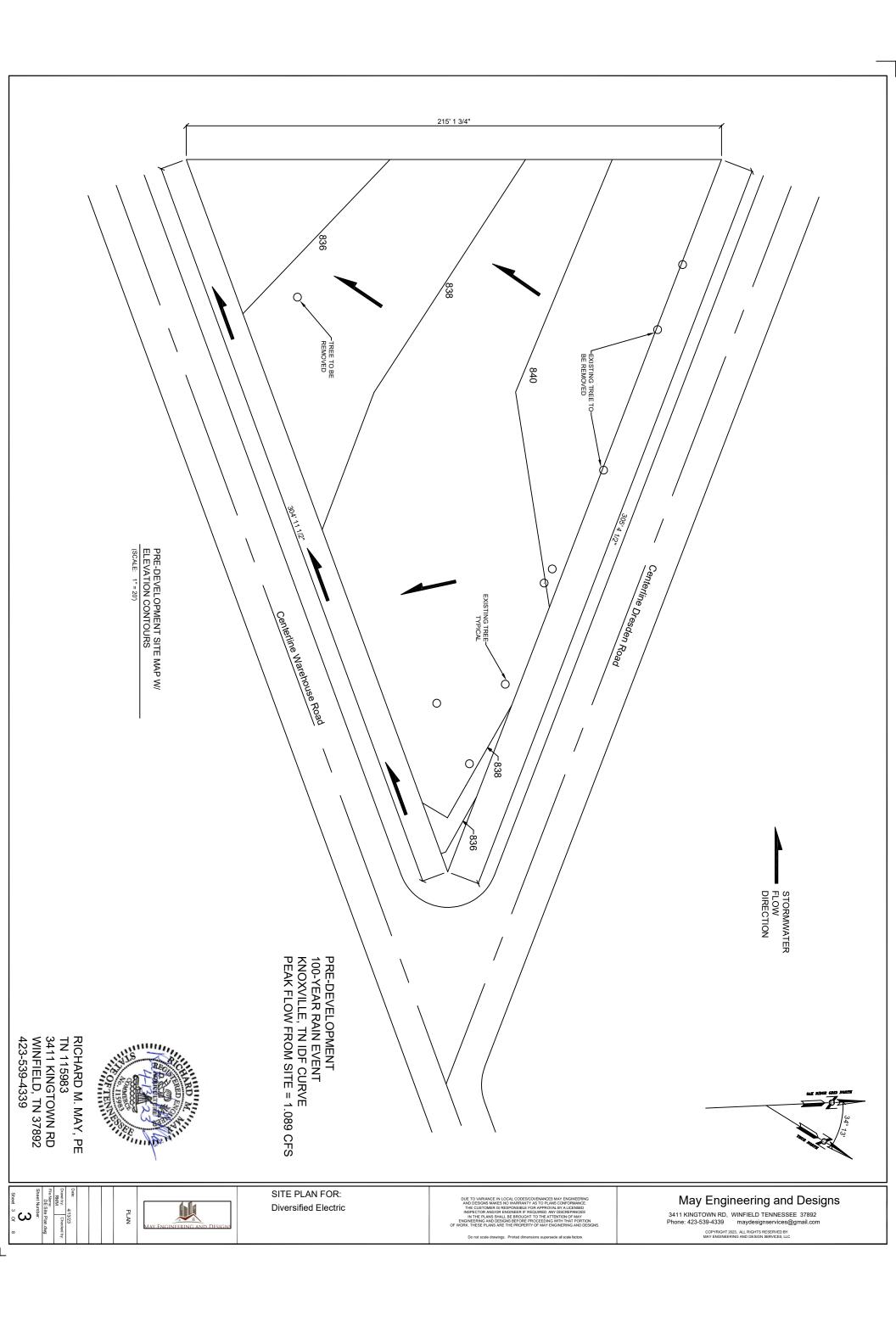
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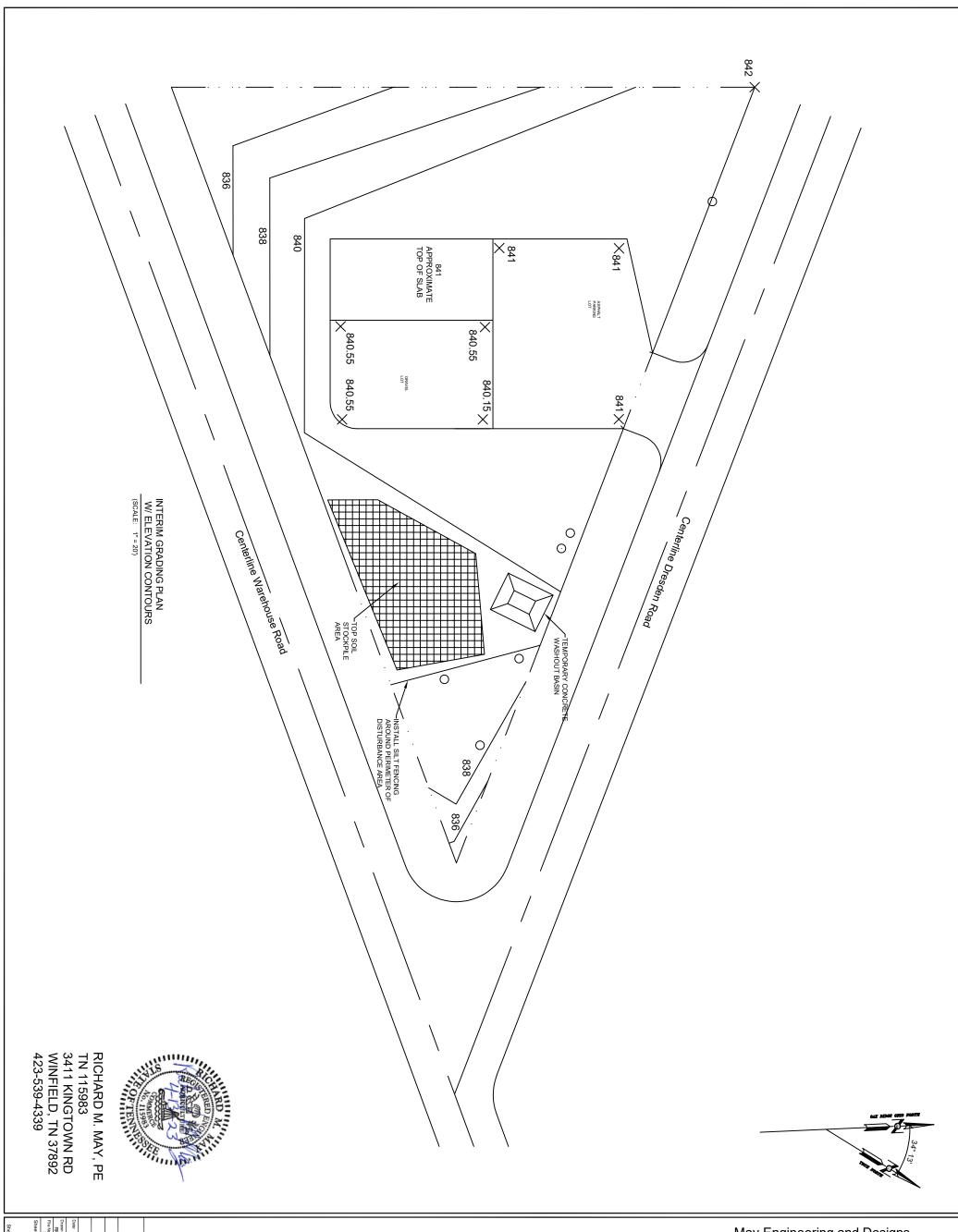
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PREPARED: 04/13/23 LAST REVISED: 04/13/23

Cover Sheet







Date: 4/13/23

Trawn by. Checked by. RMM.

File Name:
DE Site Plan.dwg

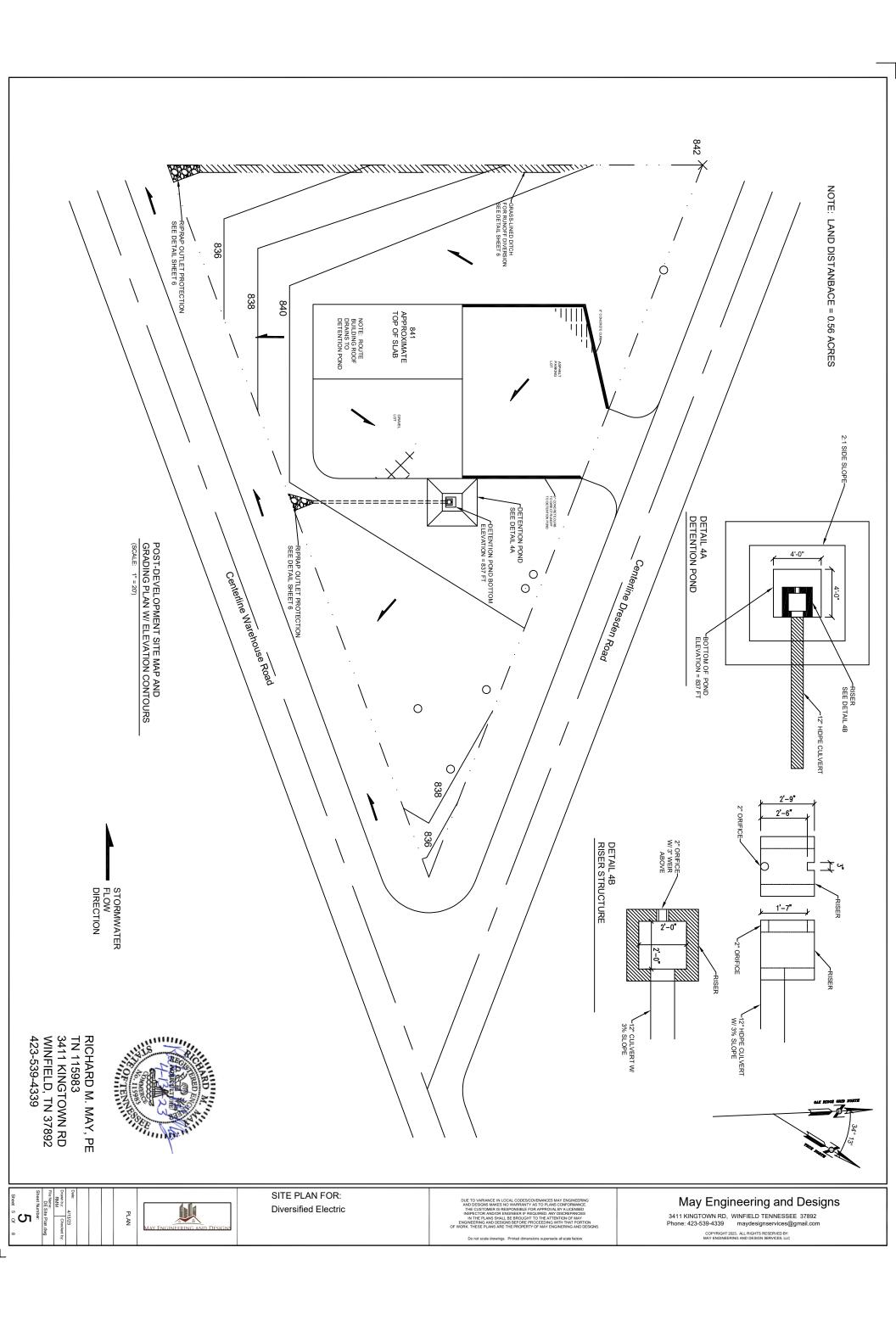
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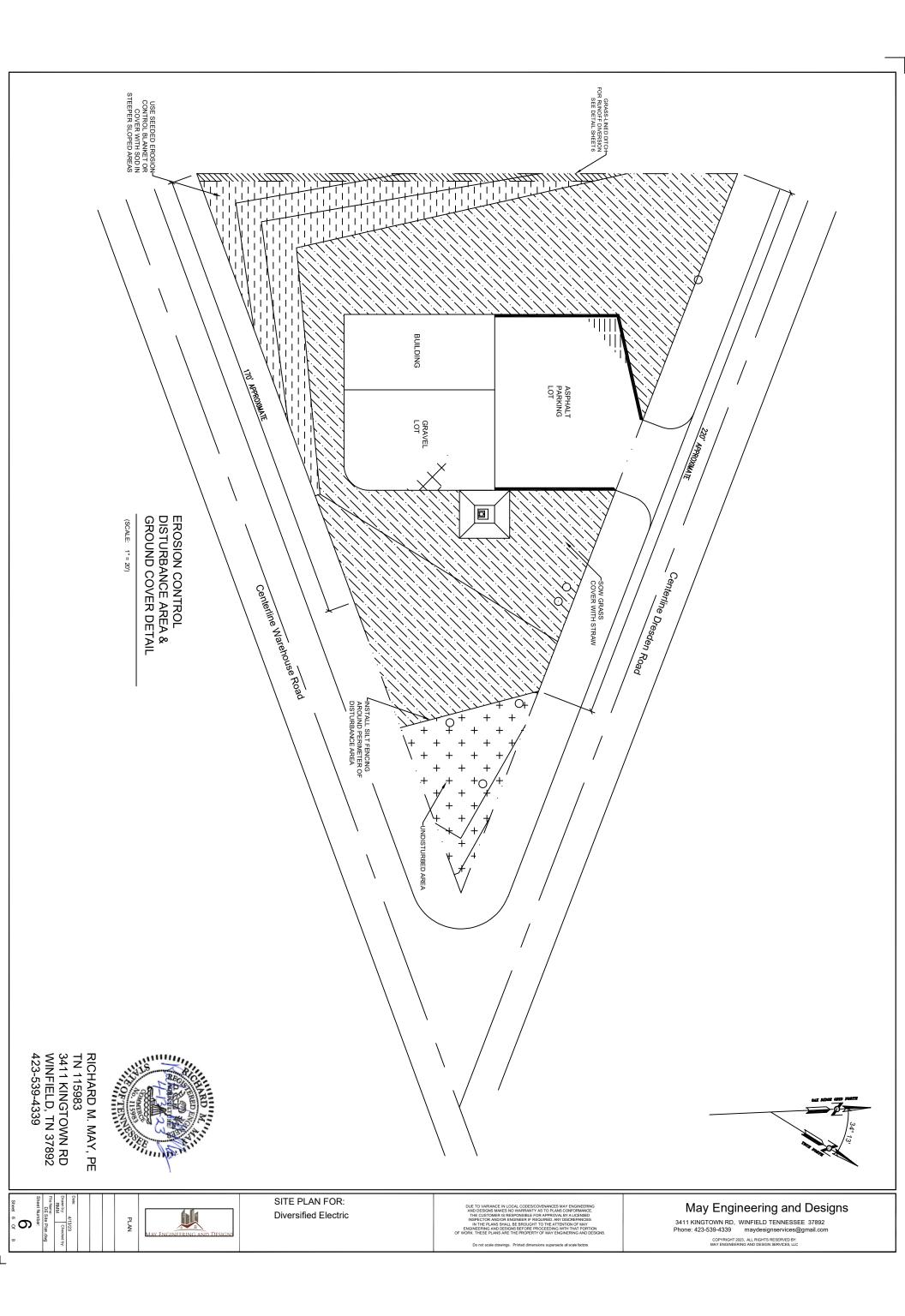
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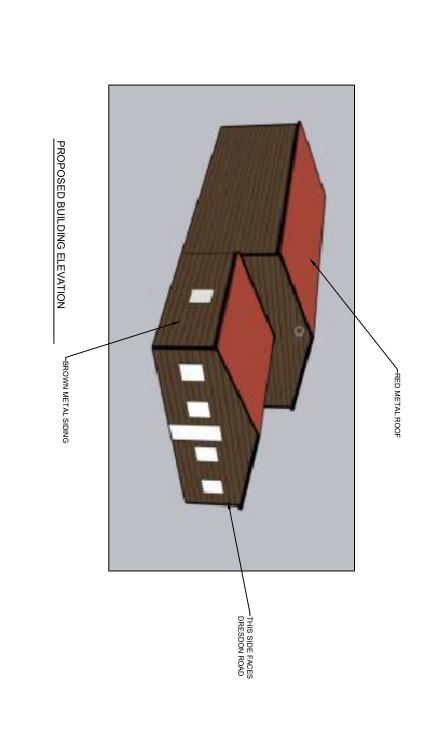
Sheet A Of 8

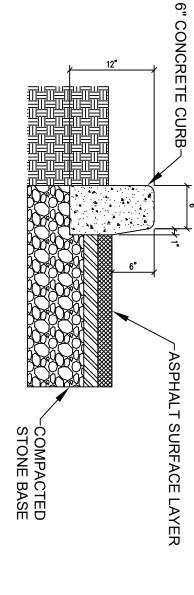


PLAN









CONCRETE CURB DETAIL

-8" COMPACTED STONE BASE 2" SURFACE LAYER -2 1/4" BINDER LAYER

Space Sign Detail Oak Ridge ADA Parking

DETAIL

ASPHALT PAVEMENT

-COMPACTED EARTH



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PLAN

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Drainage Calculations

PRE-DEVELOPMENT

Oak Ridge, TN is in Knoxville IDF zone so the Knoxville IDF curves were used for runoff calculations. The site is 0.71 acres in total. In its pre-developed state, the site is covered in grass. The following parameters were used in calculating the pre-developed runoff:

 $Runoff Coefficient (C) = 0.3 (turf meadows) \\ Slope = 3.0\% \\ Runoff length = 215 ft \\ Manning's n for overland flow = 0.3$

4 #	Rain Event 1 year 2 year	Concentration (min) 34.6 31	Intensity (in/hr) 1.6 2.1	Discharge (cfs) 0.37 0.49
, .	1 year	34.6	1.6	0.37
ξ≝'	2 year	31	2.1	0.49
4 44	5 year	28	2.7	0.63
•	10 year	26.2	3.2	0.75
	25 year	24.2	3.9	0.91

In its post-development state, the site will have 0.041 acres taken up by the building, 0.08 acres of asphalt parking lot and 0.055 acres of gravel lot with the remainder being grass lawn. The asphalt parking lot and the gravel lot are sloped so that runoff from these areas is directed to the detention pond. Runoff from the building roof is sent by gutters and pipes directly to the detention pond. The grassy areas are allowed to drain directly off site as they did in the pre-developed state. A grass covered berm is to be constructed along the west property line to prevent runoff from west side of the site from crossing over onto the adjacent lot. The following parameters were used in calculating the post-developed runoff:

Runoff Coefficient (C) = 0.57 (combined for all surface types)
Slope: grass lawn = 3% asphalt, gravel & roof = 1%

grass lawn = 215 ft asphalt = 85 ft gravel & roof = 40 ft

Runoff length:

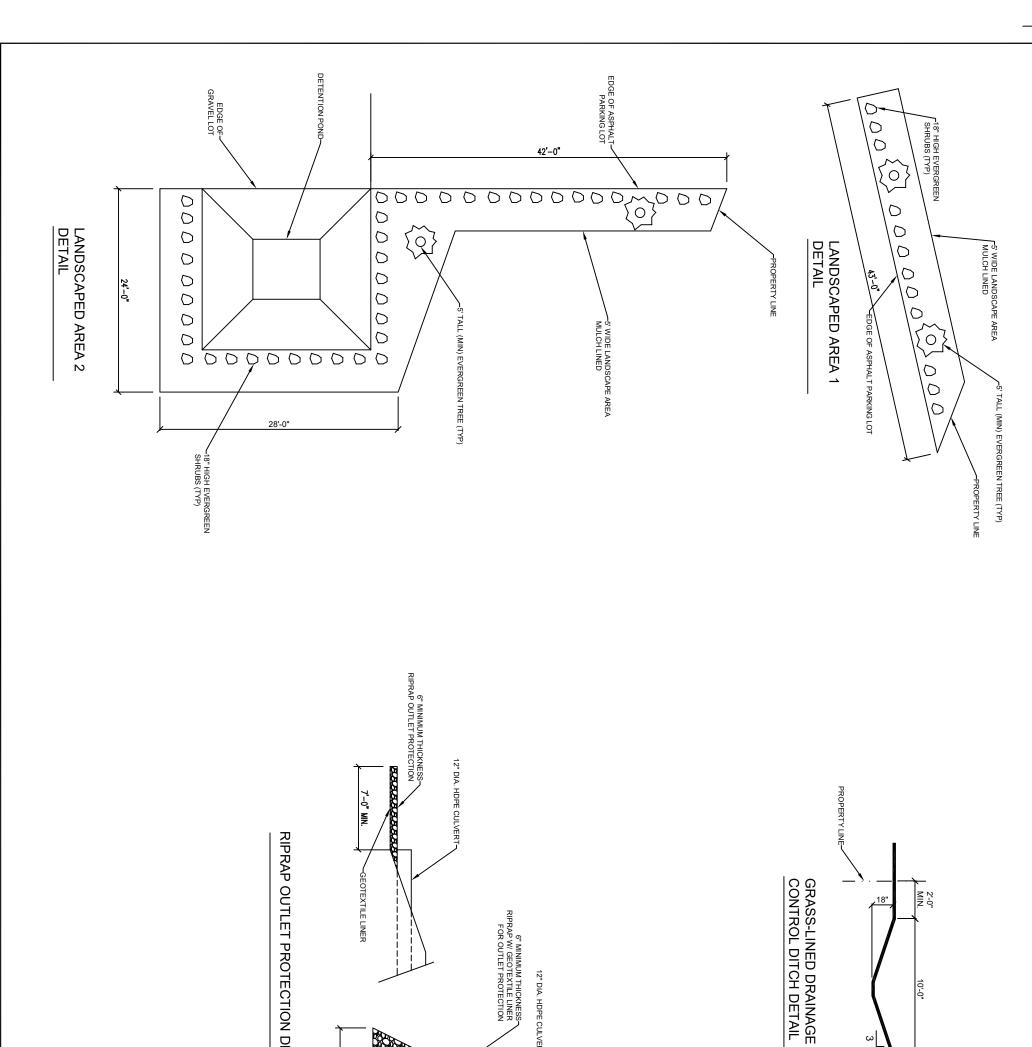
Manning's n for overland flow: grass lawn = 0.3 asphalt, gravel & roof = 0.012

				Rain Event	
30.5	32.7	35.6	39.5	Concentration (min)	Time of
2.91	2.4	1.9	1.45	lintensity (in/hr)	Rainfall
1.17	0.96	0.76	0.58	Discharge (cfs)	
	30.5 2.91	32.7 2.4 30.5 2.91	35.6 1.9 32.7 2.4 30.5 2.91	1 year 39.5 1.45 0.58 2 year 35.6 1.9 0.76 5 year 32.7 2.4 0.96 10 year 30.5 2.91 1.17	vent Concentration (min) lintensity (in/hr) 39.5 1.45 35.6 1.9 32.7 2.4 30.5 2.91

The detention pond design shown on Sheet 4 reduces the discharge from the site to the levels shown below:

25 year	10 year	5 year	2 year	1 year	Rain Event
0.82	0.65	0.56	0.45	0.37	Discharge (cfs)

These levels are equal to or less than the pre-development discharge levels for the site.



6" MINIMUM THICKNESS-RIPRAP W/ GEOTEXTILE LINER FOR OUTLET PROTECTION

12" DIA. HDPE CULVERT

3'-0" MIN.

RIPRAP OUTLET PROTECTION DETAIL





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MAY ENGINEERING AND DESIGNS

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10'-0" MIN

7'-0" MIN.

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