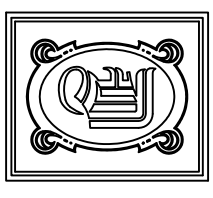
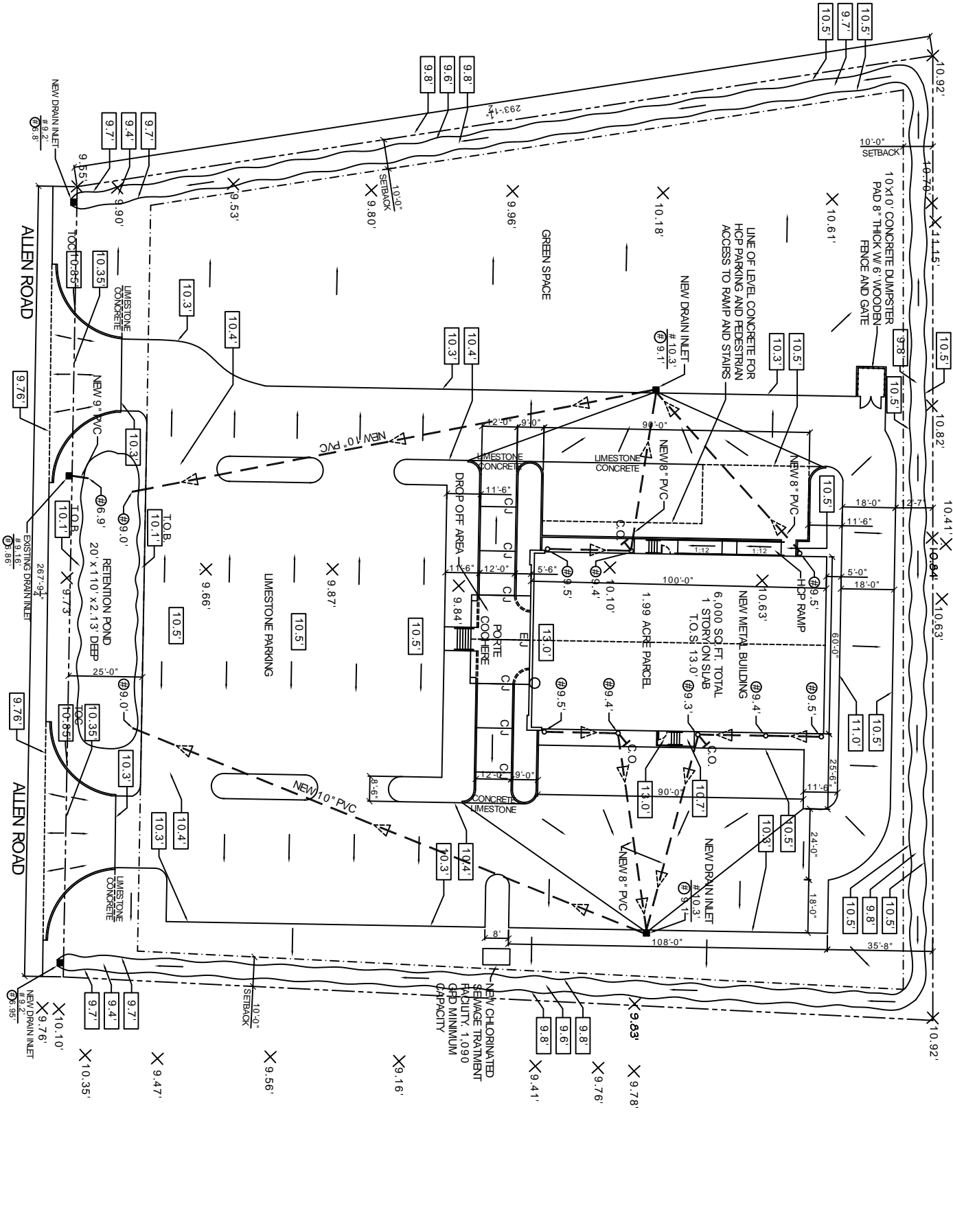
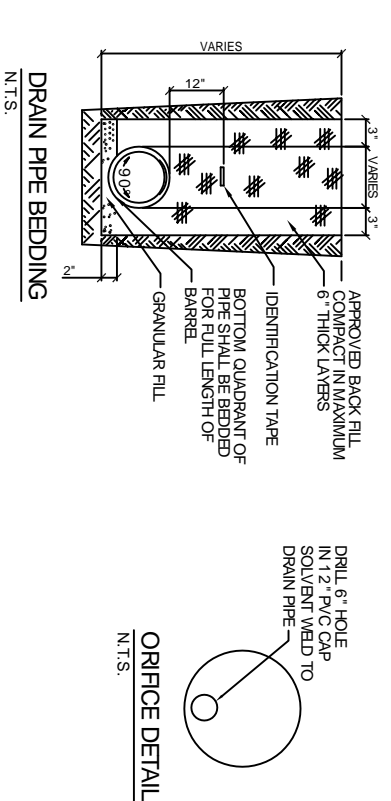


PROJECT: EL-BETHEL			
DRAINAGE RUN OFF CALCULATIONS - RATIONAL METHOD			
PRIOR DEVELOPMENT 25 Year Frequency			
Waterright Surfaces	c(1) = 0.9	sqft = 0	0.000 Acres
Gravel Surfaces	c(2) = 0.21	sqft = 0	0.000 Acres
Green Space	c(3) = 0.35	sqft = 88804	1.993 Acres
Summary	c = 0.35	sqft = 88804	1.993 Acres
Duration (D) = Time of concentration (TC) TC = .7039(L ^{0.3917} C ^{-1.1309})(S ^{-0.1985}) Where L = 290 C = 0.35 S = 0.5000 TC = D = 24.41 therefore and from Rainfall Intensity Table I = 5.78 I/hr			
Q ₁ = CIA		4.033 cfs	10% Reduction POST DEVELOPMENT 25 Year Frequency
Waterright Surfaces		10400	sqft = 0.239 Acres
Gravel Surfaces	c(1) = 0.9	32895	sqft = 0.748 Acres
Green Space	c(2) = 0.21	43819	sqft = 1.008 Acres
Summary	c(3) = 0.35	88804	sqft = 1.993 Acres
D = Time of concentration (TC) TC = .7039(L ^{0.3917} C ^{-1.1309})(S ^{-0.1985}) where L = 120 C = 0.36 S = 0.5633 TC = D = 16.06 therefore and from Rainfall Intensity Table I = 6.81 I/hr			
Q ₂ =		4.929 cfs	
RESULTS			
DETENTION REQUIRED, ONE HOUR DETENTION		1.299 cfs	
DETENTION DIMENSIONS		4876.1 cuft	
	WIDTH	20 feet	
	LENGTH	110 feet	
	DEPTH	2.13 feet	
DISCHARGE END AREA CALCULATIONS			
where Q is allowable run off			
Q = cA(2gh) ^{0.5}	Q =	3.630 cfs	
Allowable run off	c =	0.36	
Friction loss factor	g =	32.2 ft/sec ²	
Acceleration	h =	1.00 feet	
Height above invert	A =	0.46 sqft	
End area			
REQUIRED CONDUIT = 9.20 inch diameter			



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ARCHITECTURE
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 EXPERT WITNESS

EL-BETHEL CHURCH

REV. EUGENE WELINGTON
 ALLEN ROAD SUDELL, LA 70461

DRAINAGE PLAN

REV:	
SCALE:	AS NOTED
JOB#:	1819A
DATE:	11-19-08
SHEET:	4