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ARCHITECTURE
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PAUL REES
OFFICE BUILDING
2271 8TH. ST.
MANDEVILLE, LA
70471

DRAINAGE
PLAN

REV:
SCALE: AS NOTED
JOB#: 2104
DATE: 05-20-11
SHEET 4
C-3
OF 20

PROJECT: PAUL REES OFFICE BUILDING

STORMWATER RUN OFF CALCULATIONS -- RATIONAL METHOD

PRIOR DEVELOPMENT
25 Year Frequency

$Q_p = Aci$

Watertight Surfaces $c(1) = 0.9$ $sqft = 0.000$ Acres

Gravel Surface $c(2) = 0.25$ $sqft = 0.000$ Acres

Green Space $c(3) = 0.15$ 10908 $sqft = 0.248$ Acres

Summary $c = 0.15$ 10908 $sqft = 0.248$ Acres

Duration (D) = Time of concentration (TC)
 $TC = .70391L^{.39177}c^{-.11309}(S^{-.19885})$
where
 $L = 1.40$ Runoff length ft
 $c = 0.15$ Runoff coef
 $S = 1.0000$ Percent Slope
 $TC = D = 2.1.69$ minutes
 $I = 3.64$ in/hr

therefore
and from Rainfall Intensity Table

$Q_p = 0.135$ cfs 10% reduction 0.014 cfs

POST DEVELOPMENT
25 Year Frequency

$Q_2 = Aci$

Watertight Surfaces $c(1) = 0.9$ 6026 $sqft = 0.138$ Acres

Gravel Surface $c(2) = 0.25$ 0 $sqft = 0.000$ Acres

Green Space $c(3) = 0.15$ 4720 $sqft = 0.110$ Acres

Summary $c = 0.57$ 10908 $sqft = 0.248$ Acres

$D =$ Time of concentration (TC)
 $TC = .70391L^{.39177}c^{-.11309}(S^{-.19885})$
where
 $L = 1.22$ Runoff length ft
 $c = 0.57$ Runoff coef
 $S = 2.5410$ Percent Slope
 $TC = D = 1.21.6$ minutes
and from Rainfall Intensity Table
 $I = 3.64$ in/hr

therefore
and from Rainfall Intensity Table

$Q_2 = 0.513$ cfs

DETENTION REQUIREMENTS

DETENTION REQUIRED $Q_2 - Q_1$ 0.38 cfs

ONE HOUR DETENTION 1360.0 cuft

DETENTION DIMENSIONS 72 feet

WIDTH 40 feet

LENGTH 0.47 feet

DEPTH

DISCHARGE END AREA REQUIREMENTS

10 Year Frequency

where Q is allowable run off

ALLOWABLE RUN OFF

Friction loss factor $Q = 0.014$ cfs

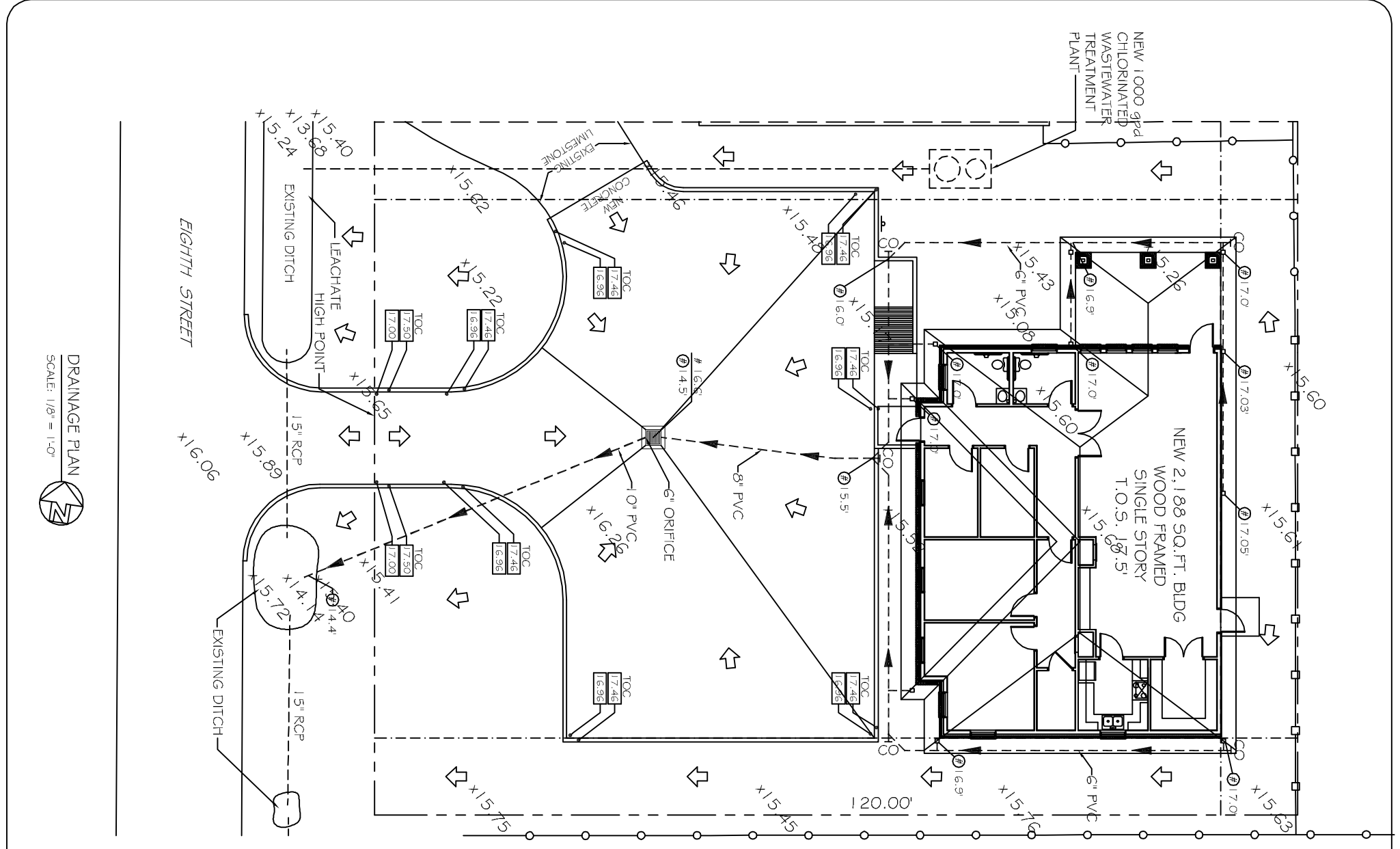
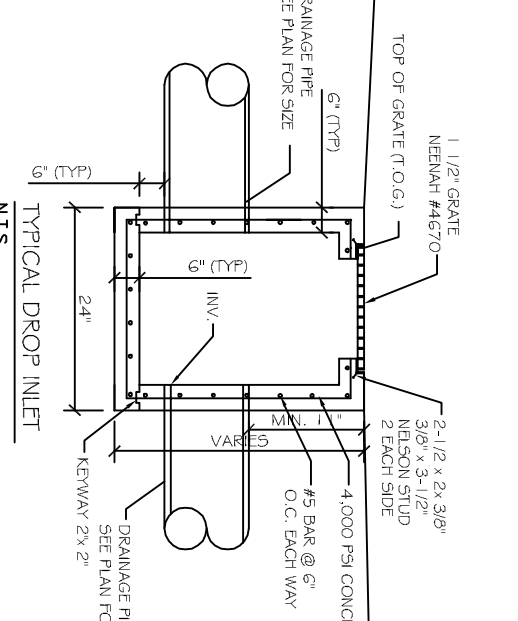
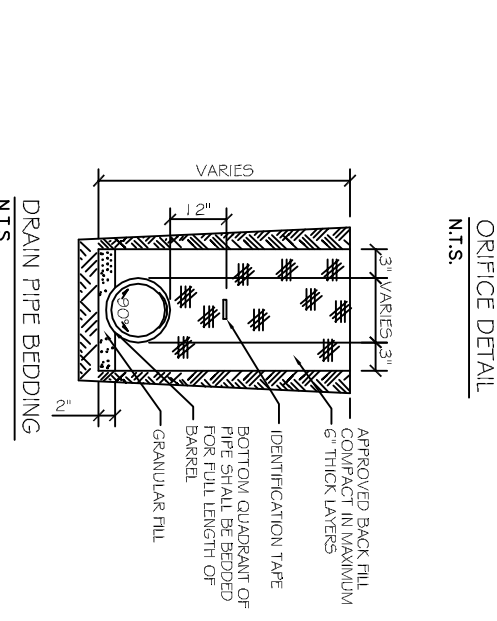
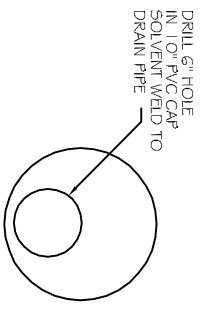
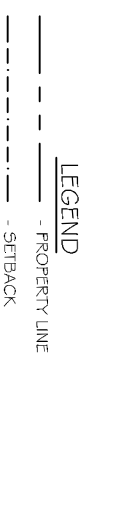
Acceleration $c = 0.62$ coefficient

Height above invert $g = 32.16$ ft/sec

End area $h = 3.00$ feet

REQUIRED CONDUIT = $A = 0.002$ sqft

- DRAINAGE NOTES:**
- 1) DRAIN PIPE & FITTINGS WITHIN PROPERTY LINE SHALL BE POLYVINYL CHLORIDE PLASTIC PIPE, MEETING CLASS 100 C-900 PVC.
 - 2) ELEVATIONS SHOWN ARE M.S.L.
 - 3) FIELD VERIFY ALL ELEVATIONS AND DRAINAGE SYSTEM.
 - 4) DOWN SPOUTS SHALL FLOW INTO SUB-SURFACE DRAINAGE SYSTEM.
 - 5) THERE IS NO EVIDENCE OF EXISTING OFF-SITE FLOW CROSSING THE PROPERTY; NEW DRAINAGE CALCULATIONS ARE DETERMINED ACCORDINGLY.



DRAINAGE PLAN
SCALE: 1/8" = 1'-0"