DAMMON ENGINEERING, INC.

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RENOVATE OFFICE BUILDING

DRAINAGE PLAN

ST. TAMMANY PARISH ADMIN. COMPLEX
520 OLD SPANISH TRAIL
SLIDELL, LOUISIANA

SCALE: 1"=20'
FILE:
JOB NO. 1729
DATE:1-12-07
SHEET
C – 4
OF

OLD SPANISH TRAIL

LEGEND

- PROPERTY LINE
- SETBACK LINE
- NEW BUILDING
- EXISTING CURB
- NEW CURB
- SLOPE LINE
- DRAIN LINE
- T.O.C. — TOP OF CURB
- F.F. — FINISHED FLOOR
- PSF — POUNDS PER SQUARE FOOT
- DIRECTIONAL FLOW
- X.X' — NEW ELEVATION
- # X.X' — NEW INVERT ELEVATION
- # X.X' — NEW TOP OF GRATE
- ×4.4 — EXISTING ELEVATIONS
- TEMPORARY SILT FENCE
- NEW JUNCTION BOX
- NEW CATCH BASIN W/ TEMPORARY INLET PROTECTION
- EXISTING CATCH BASIN

NOTE:
SEE DWG. C-5 FOR PAVING DETAILS.
SEE DWG. C-8 FOR PAVING NOTES & DETAILS.

DRAINAGE PLAN

SCALE: 1"=20'-0"

6"ø DRAIN FROM ROOF

REGRADE EXISTING DITCH TO FLOW TOWARDS OLD SPANISH TRAIL

15" RCP INV 3.11'

15" RCP INV 2.88'

15" RCP INV 1.85'

NEW 15" RCP INV

15" HDPE NEW

EXIST. DITCH TO BE FILLED IN

9" ORIFICE

4" ORIFICE

EXISTING 15" RCP INV. 2.83'

EXISTING 15" RCP INV. 2.40'

EXISTING CATCH BASIN T.C. 4.30' INV. 2.00'

EXISTING CATCH BASIN T.C. 4.22' INV. 1.80'

SLOPE TO STREET

EXISTING CURB TO REMAIN

INV. 2.23'

INV. 2.47'

INV. 2.43'

TEL

DUMPSTER ON PAD W/ 7' HIGH FENCE AND GATE

RUNOFF FROM ROOF DISCHARGES TO PARKING LOT

F. F. EL. 5.58'

CA CB

CB

ASPH

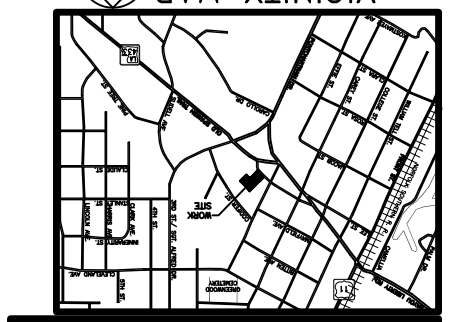
EDGE OF PAVEMENT

SGT. ALFRED DRIVE

N

VICINITY MAP

N. T. S.



PROJECT: Towers Existing Parking- Slidell

DRAINAGE RUN OFF CALCULATIONS – RATIONAL METHOD

PRIOR DEVELOPMENT

10 Year Frequency

$Q_1 = CIA$

Watersight Surfaces	c(1) = 0.9	sqft = 57278	1.315 Acres
Street Surface	c(2) = 0.21	0 sqft = 0	0.000 Acres
Green Space	c(3) = 0.35	26564 sqft =	0.630 Acres
Summary	c = 0.81	68737 sqft =	1.578 Acres

Duration (D) = Time of concentration (TC)

TC = 7030(L^.3817)/(c^-1.1309S^-.1989)

Where	L = 256	Round length ft	Elev diff = 0.5
	c = 0.81	Round coef	
	S = 0.1053	Percent Slope	
Rainfall Intensity Table	TC = D = 2.62	minutes or	
	I = 4.50	in/hr	

Q_1 = 5.740 cfs RUNOFF LIMIT 90% 5.166 cfs

POST DEVELOPMENT

10 Year Frequency

$Q_2 = CIA$

Watersight Surfaces	c(1) = 0.9	sqft = 54387	1.249 Acres
Street Surface	c(2) = 0.21	0 sqft =	0.000 Acres
Green Space	c(3) = 0.35	14350 sqft =	0.329 Acres
Summary	c = 0.79	68737 sqft =	1.578 Acres

Duration (D) = Time of concentration (TC)

TC = 7030(L^.3817)/(c^-1.1309S^-.1989)

Where	L = 256	Round length ft	Elev diff = 0.5
	c = 0.79	Round coef	
	S = 0.2721	Percent Slope	
Rainfall Intensity Table	TC = D = 11.24	minutes or	
	I = 7.60	in/hr	

Q_2 = 9.416 cfs

RESULTS

DETENTION REQUIRED Q_2-Q_1 4.251 cfs
ONE HOUR DETENTION 13002.2 cuft 289.36 feet
DETENTION DIMENSIONS WIDTH 143.71 feet
LENGTH 395.28 feet
DEPTH 0.13 feet

DISCHARGE END AREA CALCULATIONS

$Q = CA(2gH)^{1/2}$ where Q is allowable run off

Allowable run off	Q =	5.166 cfs	
Friction loss factor	C =	0.98	coefficient
Acceleration	g =	32.2	ft/sec
Height above invert	H =	2.75	feet
End area	A =	0.40	sqft

REQUIRED CONDUIT = 8.52 inch diameter

PROJECT: Towers Existing Parking- Slidell

DRAINAGE RUN OFF CALCULATIONS – RATIONAL METHOD

PRIOR DEVELOPMENT

10 Year Frequency

$Q_1 = CIA$

Watersight Surfaces	c(1) = 0.9	sqft = 0	0.000 Acres
Street Surface	c(2) = 0.21	0 sqft =	0.000 Acres
Green Space	c(3) = 0.35	26564 sqft =	0.630 Acres
Summary	c = 0.81	68737 sqft =	1.578 Acres

Duration (D) = Time of concentration (TC)

TC = 7030(L^.3817)/(c^-1.1309S^-.1989)

Where	L = 183.1	Round length ft	Elev diff = 0.5
	c = 0.81	Round coef	
	S = 0.2721	Percent Slope	
Rainfall Intensity Table	TC = D = 8.92	minutes or	
	I = 7.60	in/hr	

Q_2 = 3.746 cfs

RESULTS

DETENTION REQUIRED Q_2-Q_1 2.882 cfs
ONE HOUR DETENTION 10374.4 cuft 143.71 feet
DETENTION DIMENSIONS WIDTH 102.1 feet
LENGTH 139.1 feet
DEPTH 0.39 feet

DISCHARGE END AREA CALCULATIONS

$Q = CA(2gH)^{1/2}$ where Q is allowable run off

Allowable run off	Q =	0.864	cfs
Friction loss factor	C =	0.98	coefficient
Acceleration	g =	32.2	ft/sec
Height above invert	H =	2.75	feet
End area	A =	.027	sqft

REQUIRED CONDUIT = 3.49 inch diameter