

FILL CALCS
 74.05 s.f. (Section B) x 52.75' (Section A) = 3,906 c.f.
 36.35 s.f. (Section A) x 43.50' (Section B) = 3,949 c.f.
 Average Fill Calcs = 3,653 c.f.

RE-SHAPE EXISTING 25' SWALE
 3 sections of swale average 3.95 s.f. x 183 linear ft long
 Average Fill Calc for Swale = 123 c.f.

(NOTE: ALL SIDEWALKS and DRIVES ARE LEVEL WITH EXISTING GRADES)

Fill Total = 4,376 c.f.

4 DETAIL
 SCALE: NTS

SWALE BETWEEN BUILDING CUT CALCS
 AVERAGE AREA = 1.76 s.f. x 1.57 s.f. = 1.67 s.f.
 LENGTH OF SWALE = 183 ft
 Volume of SWALE CUT = 222 c.f.

RE-SHAPE EXISTING 25' SWALE CUT CALCS
 3 sections of swale average 4.95 s.f. x 183 linear ft long
 Average Fill Calc for Swale = 906 c.f.

WOODED AREA CUT CALCS
 The area to be cut is (130.7ft x 59.5ft) x 0.50 ft depth = 3,910 c.f.

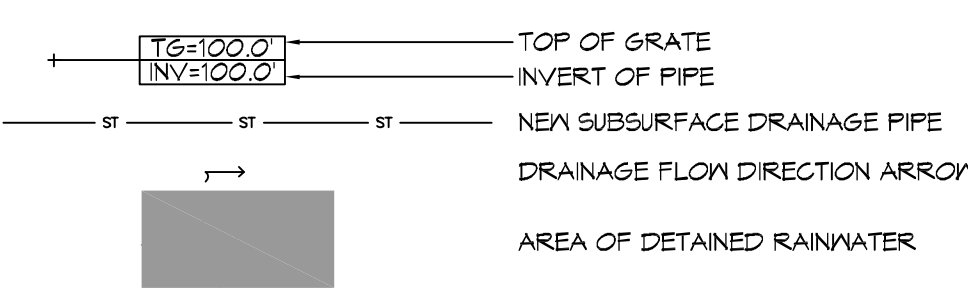
CUT Totals = 4,838 c.f.

NO NET FILL CALCULATIONS

GENERAL SITE DRAINAGE NOTES

- REMOVE DEBRIS AND CLEAN BOTTOM OF EXISTING SWALL.
- ALL ELEVATIONS SHOWN ARE M.S.L. AND ARE PLUS OR MINUS
- FIELD VERIFY ALL ELEVATIONS AND AND DRAINAGE SYSTEM PLACEMENT PRIOR TO START OF WORK.

SITE DRAINAGE LEGEND



STORM WATER RUN-OFF CALCULATIONS

OUR LADY OF FATIMA 65110 VORTISCH ROAD LACOMBE, LOUISIANA			
Drainage Calculations - Modified Rational Method, LDDTD Hydraulics Manual Postdevelopment Condition 25 Year Frequency			
Q ₂₅ Paved Flow	2.73 cfs		
10% Reduction	2.46 cfs		

OUR LADY OF FATIMA 65110 VORTISCH ROAD LACOMBE, LOUISIANA			
Drainage Calculations - Modified Rational Method, LDDTD Hydraulics Manual Postdevelopment Condition 25 Year Frequency			
Q ₂₅ Paved Flow	4.64 cfs		
Q ₂₅ Allowable Flow - Undeveloped Flow =	2.46 cfs		

OUR LADY OF FATIMA 65110 VORTISCH ROAD LACOMBE, LOUISIANA			
Drainage Calculations - Modified Rational Method, LDDTD Hydraulics Manual Storage Requirements for a 25 Year Frequency Storm Event			
Storm Duration (D) Time	I	Q ₂₅	Max. Storage Volume
10 min	7.88	6.28	1,128
20 min	6.28	4.92	863
30 min	5.27	4.42	653
40 min	4.58	3.63	415
50 min	4.24	3.30	330
60 min	3.94	3.05	272
70 min	3.71	2.79	227
80 min	3.53	2.56	190
90 min	3.38	2.37	158
100 min	2.94	2.21	138

OUR LADY OF FATIMA
 65110 VORTISCH ROAD
 LACOMBE, LOUISIANA

Detention Area: Storage detention required = 4,474 c.f.

There are 3 parking lots that are 64 ft wide and have an aggregate length of 333 ft; the parking lot edges are 0.2 ft above the 100 ft in those areas. The detention calculations are based on the area of a triangle (0.5ab) where 0.2 ft is divided by 2 = 0.1 ft depth
 333 ft long
 64 ft width
 0.1 ft depth
 2131.2 cubic feet of detention

Swale Detained water surface elevation = 27.00 ft

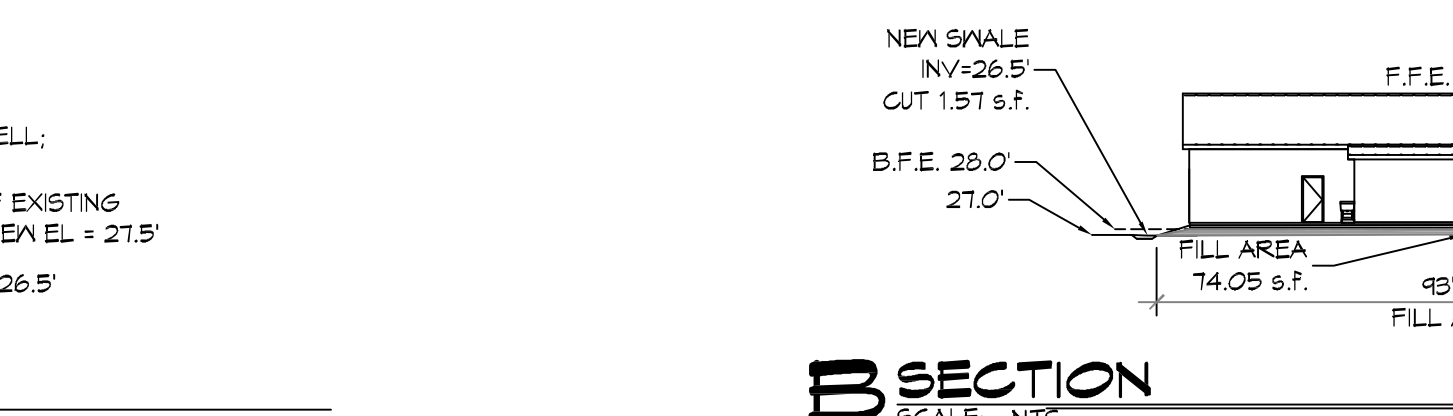
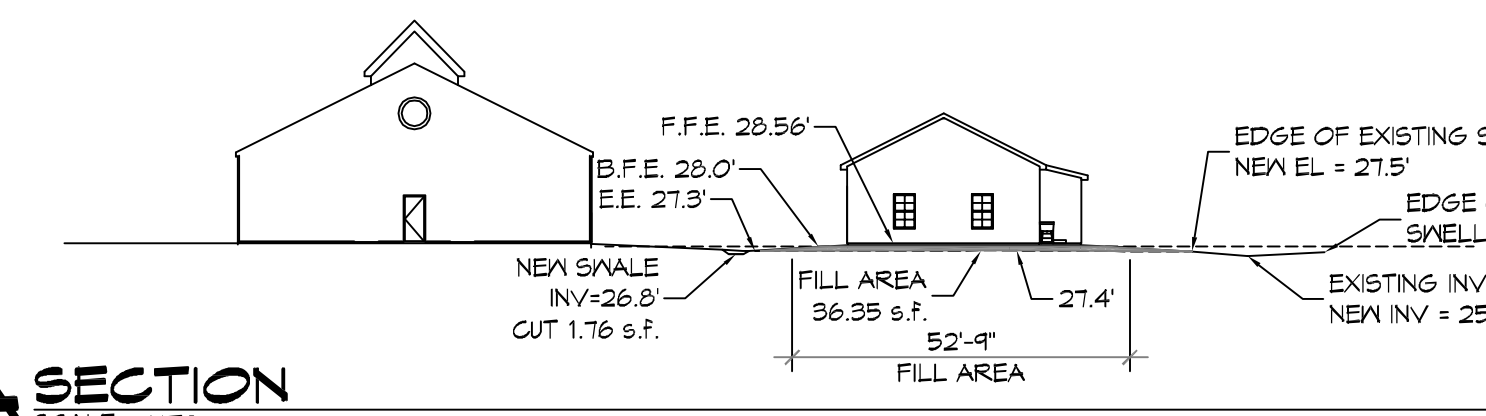
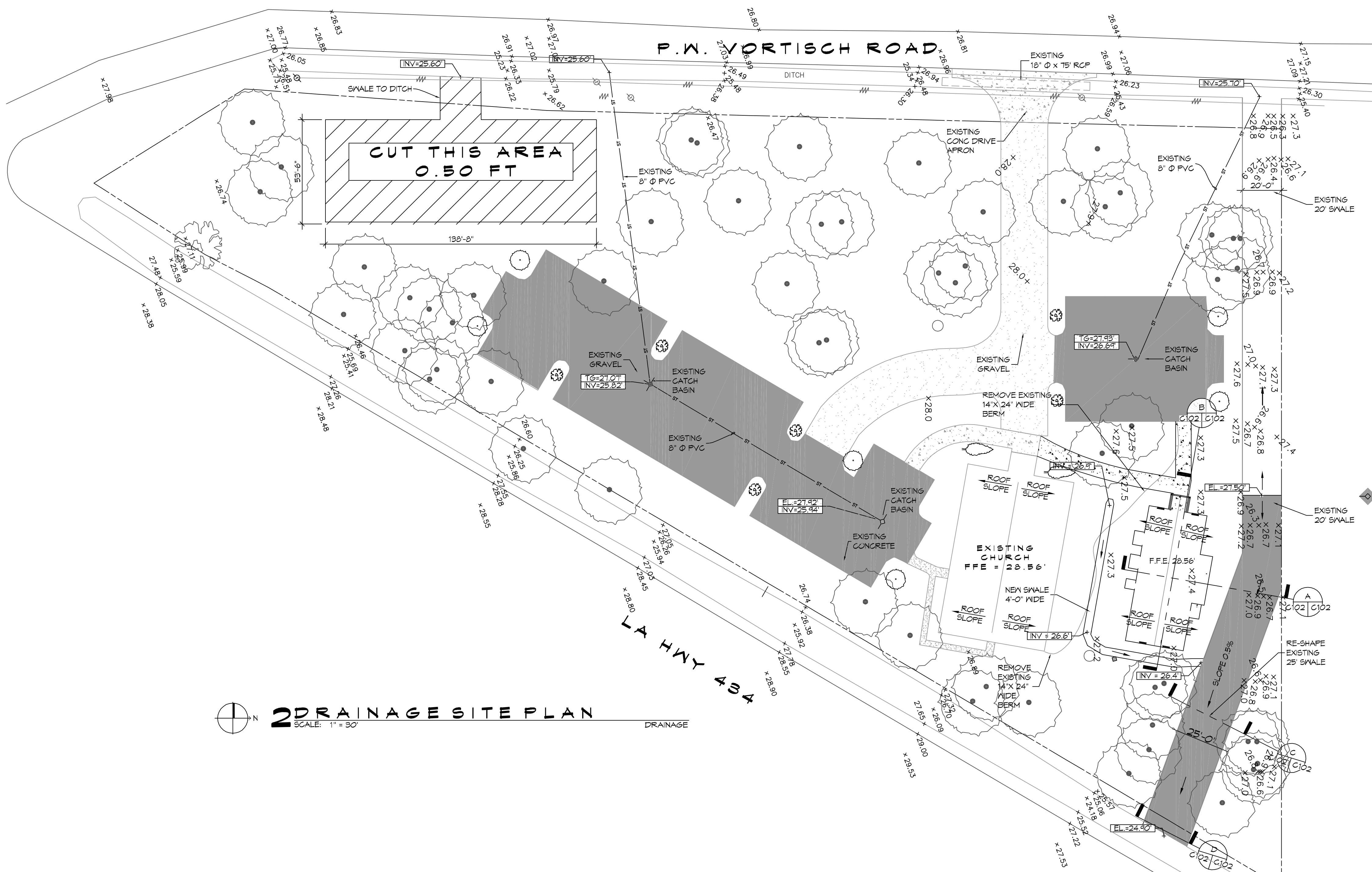
Three different cross sections were evaluated for the new swale to detain rainwater up to the water surface elevation of 27.0 ft, beginning, middle and end of swale. The average area of these sections are 16.21 s.f. The length of swale to be used for detention is 183 ft.
 16.21 s.f.
 183 linear ft
 2968.43 cubic feet of detention

Total detention provided = 5,098 c.f. of water which exceeds the detention required.

OUR LADY OF FATIMA 65110 VORTISCH ROAD LACOMBE, LOUISIANA			
Discharge End Area Calculations: $Q = A(2gh)^{1/2}$			
Allowable Run Off, Q	2.46 CFS	per pipe	
Friction Factor, c	0.88		
Acceleration, g	32.2 ft/sec		
Height above invert, H ft	1.63 ft		
End Area, Sq ft	0.24		10.24558
Square Inches	35.22"		
Diameter, inches	6.70"		

Use 6.5" Diameter Orifice Plate in Terminal CB

SINCE EACH DETENTION AREA DETAINS APPROXIMATELY 1/2 OF THE VOLUME, EACH AREA SHOULD HAVE AN ORIFICE 35.22 SQ. INCHES / 2 = 17.61 SQ. INCHES. THEREFORE THE DIAMETER CALCULATES TO 4.74" DIAMETER ORIFICE.



A SECTION
 SCALE: NTS

B SECTION
 SCALE: NTS

DAMMON ENGINEERING, INC.
 LOUISIANA & MISSISSIPPI

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DATE	REVISIONS
	# DESCRIPTION

SEAL:

MULTI-PURPOSE BUILDING
 OF OUR LADY OF FATIMA

65110 VORTISCH ROAD
 LACOMBE, LOUISIANA 70445

JOB No: 25710 DATE: 07-15-2020
 DRAWN BY: CKD CHECKED BY: CKD

SHEET TITLE:
 SITE PLAN - DRAINAGE

DRAWING NUMBER:
C102

SHEET No: 4 of 12