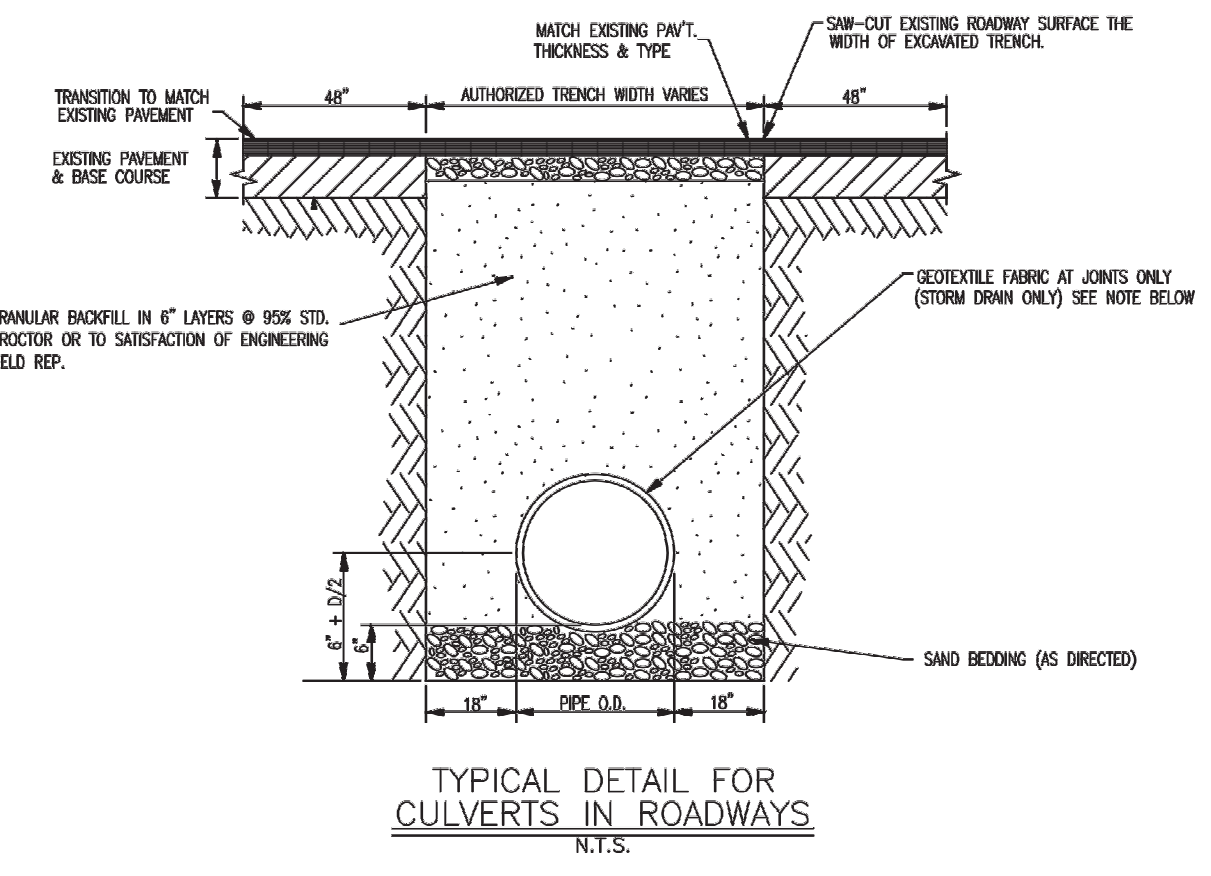
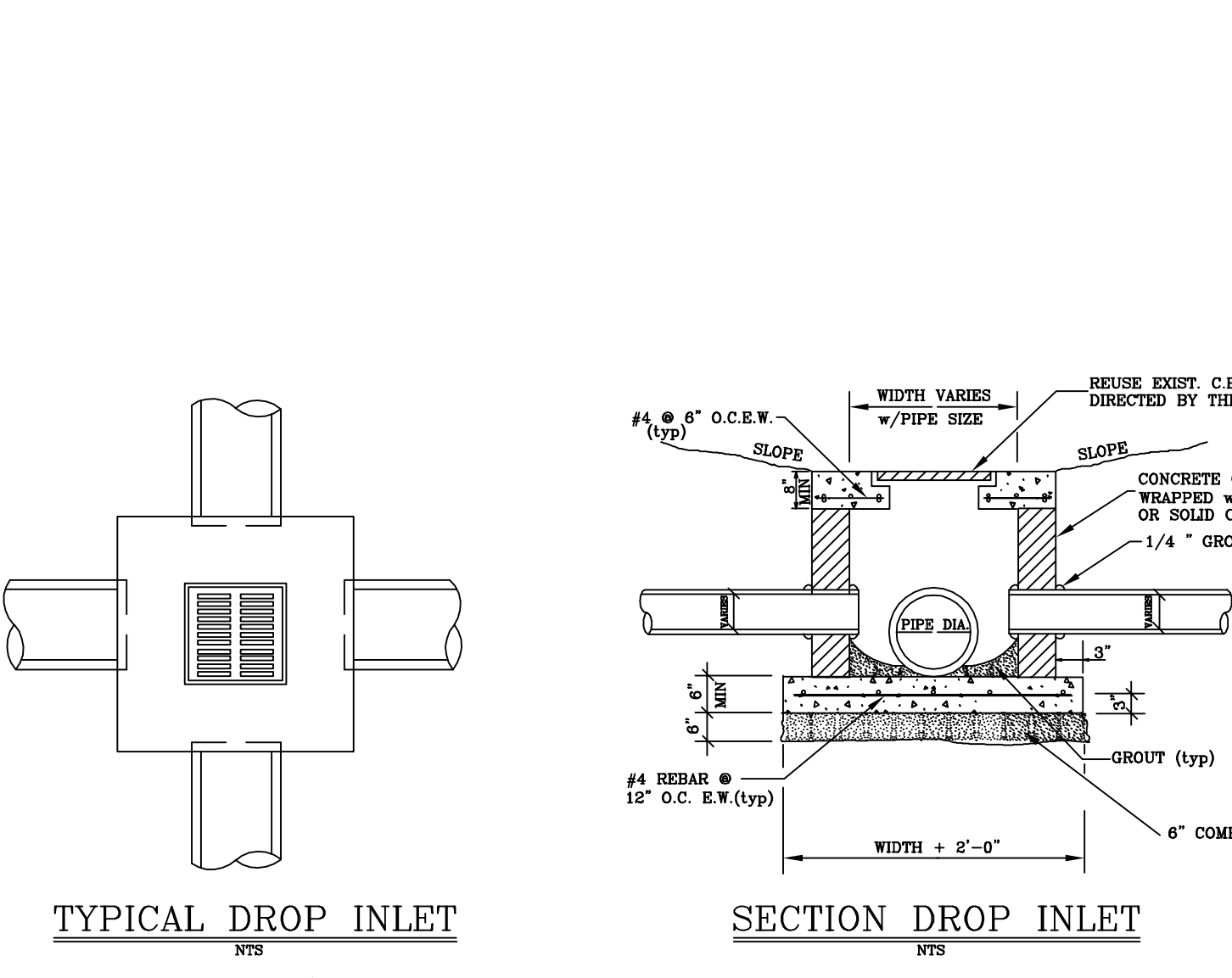
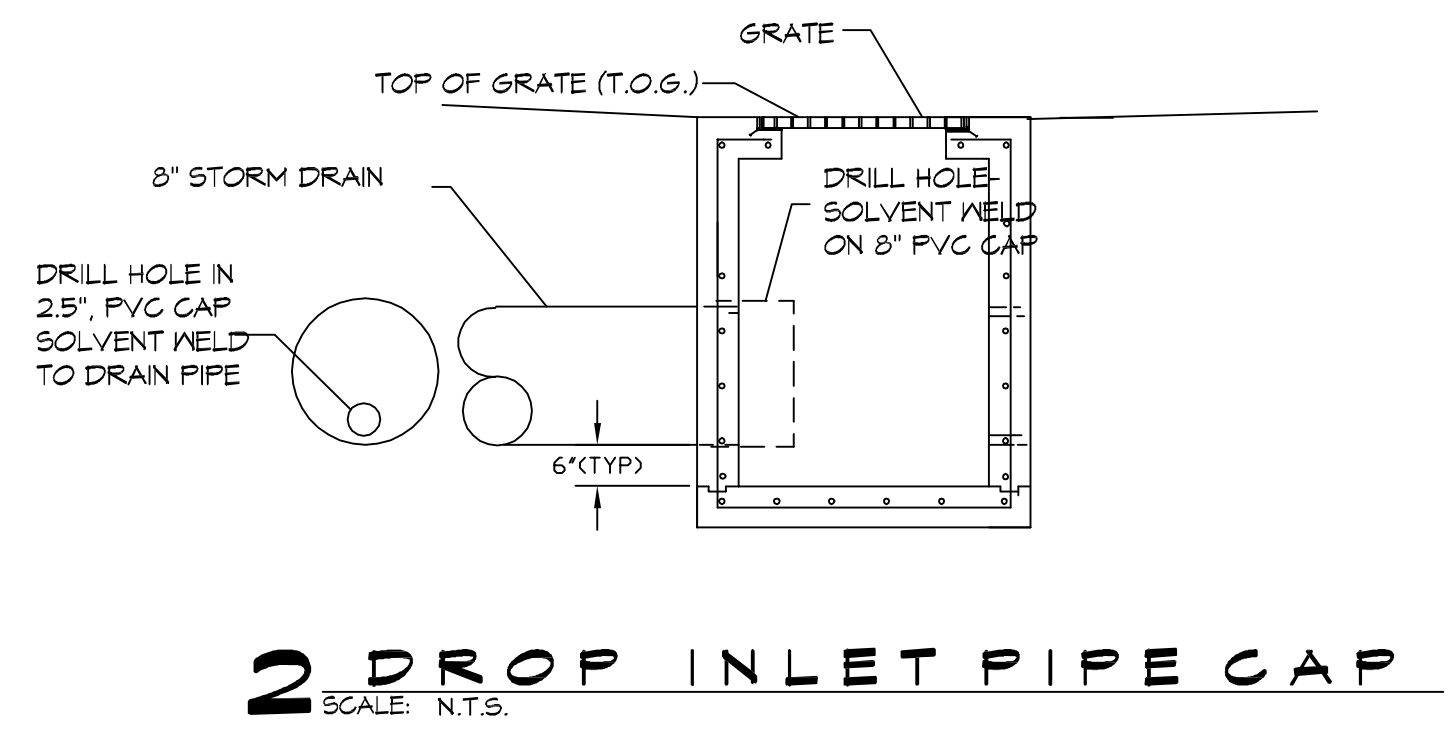


**1 DRAINAGE PLAN**  
SCALE: 1" = 30'-0"

PROJECT: RESTAURANT	
STORMWATER RUNOFF CALCULATIONS	
Gross Area:	
(1) RATIONAL METHOD: $Q = CiA$	
where: Q = Peak discharge of watershed in cubic feet per second (cfs) due to maximum storm assumed.	
A = Area of watershed in acres.	
C = Coefficient of run-off [2]	
i = Intensity of rainfall in inches per hour based on concentration time [3]	
(4) TC = $\frac{(L^2)(100 - 9)^{0.485}}{(1140)^{0.77}}$	
where: TC = Time of concentration - time required for rain falling at most remote point to reach discharge point.	
L = Site run-off coefficient based on conditions shown.	
S = Percent slope of watershed flow.	
PRIOR DEVELOPMENT	
25 Year Frequency	
Q = AiA	
Watershed Surface	0.8
Street Surface	0.25
Green Space	0.15
Summary	0.15
Duration (D) = Time of concentration (TC)	
where: L = 300' run-off length ft	
S = 0.15 percent slope	
TC = 2.338 minutes	
Expected rainfall intensity i = 7.66 in/hr	
Q = 1.98 cfs	
10% reduction = 0.98 cfs	
POST DEVELOPMENT	
25 Year Frequency	
Q = AiA	
Watershed Surface	0.8
Street Surface	0.25
Green Space	0.15
Summary	0.21
Duration (D) = Time of concentration (TC)	
where: L = 312' run-off length ft	
S = 0.21 percent slope	
TC = 2.338 minutes	
Expected rainfall intensity i = 7.66 in/hr	
Q = 1.98 cfs	
10% reduction = 0.98 cfs	
DETENTION REQUIREMENTS	
Detention required - Q <sub>1</sub> - Q <sub>2</sub> = 0.70 cfs	
ORIFICE FLOW CAPACITY	
WIDTH = 18" feet	
LENGTH = 18" feet	
DEPTH = 0.21 feet	
DISCHARGE END AREA REQUIREMENTS	
10 Year Frequency	
Q = 1.98 cfs	
REQUIRED CONDUIT = 2.23' each inside diameter	
Pipe Sizing	
Q = Discharge	0.198 cfs
h = Head	1.00 feet
C = Coefficient	0.85
A = Area	0.008 sqft
S = Slope	0.005 ft/ft
REQUIRED CONDUIT = 2.23' each inside diameter	
References:	
1. Chen, W.F. The Civil Engineering Handbook, 1995, Eq. 31.1, pg. 1006	
2. Swamy, Enay E. Data Book for Civil Engineers, Vol. 1, 1980, TB, 8, pg. 18-02	
3. Swamy, Enay E. Data Book for Civil Engineers, Vol. 1, 1980, TB, 8, pg. 18-01	
4. Chen, W.F. The Civil Engineering Handbook, 1995, TB, 31.2 Region Equation (n=0.013)	
5. Chen, W.F. The Civil Engineering Handbook, 1995, Eq. 8.28.32, pg. 609	



**3 PIPE BEDDING AND DROP INLET**  
SCALE: N.T.S.

**DRAINAGE NOTES**

- ELEVATIONS SHOWN ARE MSL.
- FIELD VERIFY ALL ELEVATIONS AND DRAINAGE SYSTEM PLACEMENT PRIOR TO START OF WORK.
- PROVIDE VERTICAL ELBOW AT DOWNSPOUTS WITH SPLASH BLOCKS.

**DRAINAGE LEGEND**

- TOP OF CONCRETE ELEVATION
- TOP OF GRATE ELEVATION
- INVERT OF PIPE ELEVATION
- CMP (CORRUGATED METAL PIPE) DRAINAGE OF FLOW ARROW, SEE PLAN FOR SIZE
- NEW ELEVATION
- NATURAL GRADE
- SLOPE

**FLOOD ZONE**

ZONE 'C'

**BUILDING ELEVATION**

FINISHED FLOOR ELEVATION = 18.50'

**DAMMON ENGINEERING, INC.**  
LOUISIANA & MISSISSIPPI

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info@dammonengineering.com  
Phone: 847.871.8224

REVISIONS	DATE	DESCRIPTION
1	9/26/2019	REVISED CUT/FILL CALC

SEAL:

**NEW RESTAURANT**  
ABACURANT  
RESTAURANT

LA HWY 1035 DEER CROSS DRIVE  
MADISONVILLE, LA 70447

JOB NO: 2345 DATE: 10-26-2019  
DRAWN BY: CACD CHECKED BY: BMM

SHEET TITLE: DRAINAGE PLAN

DRAWING NUMBER: **C101**

SHEET No: 4 of 2