SIDEWALKS

1. ALL SIDEWALKS SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE WITH A COMPRESSIVE STRENGTH OF 2,500 P.S.I. IN TWENTY-EIGHT DAYS AND A MIN. THICKNESS OF FIVE INCHES.
2. ALL SIDEWALKS TO HAVE A WIDTH OF FIVE FEET AND AND SHALL BE CONSTRUCTED AS PER THE LOCATION SHOWN ON THIS PLAN.
3. ALL SIDEWALKS SHALL BE SCORED TO A DEPTH OF 3/4" AT FOUR FOOT INTERVALS WITH EXPANSION JOINTS PLACED AT TWENTY FOOT INTERVALS.
4. EXPANSION JOINTS SHALL BE CONSTRUCTED OF 1/2" THICK PRE-MOLDED EXPANSION MATERIAL WITH ALL CORNERS TO BE FORMED BY EXPANSION JOINTS.
5. ANY SIDEWALK OR ACCESSIBLE ROUTE THAT IS NOT AT A LEVEL ELEVATION AT IT'S INTERSECTION WITH A DRIVEWAY OR STREET WILL BE REQUIRED TO INSTALL A CURB RAMP AT A MAX. SLOPE OF 1:12 WITH A MAX. RISE OF 30" AND A MIN. LEVEL STRAIGHT CURB SEGMENT OF 48".
6. THE TEXTURE OF THE DRIVEWAY AND INTERSECTION HANDICAP RAMPS SHALL BE CONSTRUCTED OF A NON-SLIP SURFACE. ACCOMPLISHED BY "BROOMING" THE RAMP SURFACE AND GROOVING 2-3 INCH SPACING AT RIGHT ANGLE DIRECTIONS. GROOVES TO BE APPROXIMATELY 1/4" x 1/8" INCH WIDE.
7. SIDEWALK SHALL BE SLOPED 1" TOWARDS THE STREET.
8. CONTRACTOR SHALL CONTACT THE DEPARTMENT OF ENGINEERING PRIOR TO ANY WORK DONE WITHIN THE PARISH OR CITY RIGHT OF WAY OR SERVITUDE.

DRIVEWAYS

1. ALL DRIVEWAYS BETWEEN STREET AND PROPERTY LINE SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE WITH A COMPRESSIVE STRENGTH OF 4,000 P.S.I. IN TWENTY-EIGHT DAYS AND A MIN. THICKNESS OF SIX INCHES.
2. ALL DRIVEWAYS BETWEEN STREET AND PROPERTY LINE CONNECTING WITH AN EXISTING ROADWAY TO BE CONSTRUCTED IN ACCORDANCE WITH DETAIL AS SHOWN ON THIS PLAN.
3. EXACT LOCATIONS OF ROADWAY AND DRIVEWAY CURBING WILL BE DETERMINED IN THE FIELD BY A REPRESENTATIVE OF THE DEPARTMENT OF ENGINEERING.
4. CONTRACTOR SHALL CONTACT THE DEPARTMENT OF ENGINEERING PRIOR TO THE FORMING OF THE DRIVEWAYS CONNECTING TO THE ROADWAY.

PARKING LOT

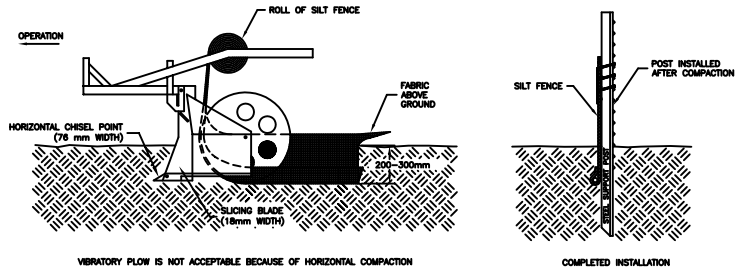
5. PARKING STALLS MUST BE STRIPED WITH A FOUR INCH CONTRASTING STRIPE (YELLOW ON CONCRETE AND YELLOW OR WHITE ON ASPHALT PARKING LOT).
6. HANDICAP PARKING SPACE TO BE DESIGNATED BY BLUE STRIPING & EITHER A BLUE SYMBOL ON A WHITE BACKGROUND OR A WHITE SYMBOL ON A BLUE BACKGROUND. HANDICAP PARKING STALL REQUIRES THE INSTALLATION OF THE PROPER SIGNAGE.
7. ALL WHEEL STOPS AND CONCRETE CURBS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS PLAN.
8. ALL PARKING SPACES TO BE LAID OUT AS SHOWN ON THIS PLAN UNLESS OTHERWISE INDICATED.

DRAINAGE

1. CONCRETE STRENGTH TO BE 4,000 P.S.I. (MIN.) @ 28 DAYS.
2. WHEN BOX IS 7'-0" OR LESS IN HEIGHT USE ONE LAYER OF BRICK. WHEN BOX IS 7'-0" BUT LESS THAN 12'-0" USE TWO LAYERS OF BRICK.
3. ALL MASONRY TO BE LAID WITH RUNNING BOND AND HEADER COURSE (EVERY FOURTH LAYER).
4. ALL WALLS TO BE PLASTERED 1/2" THICK INSIDE AND OUTSIDE.
5. 12" THICK LIMESTONE BEDDING FOUNDATION SHALL BE REQUIRED UNDER ALL MANHOLES AND BASINS.
6. WHEN THE DEPTH OF BOX OR MANHOLE IS FOUR FOOT OR GREATER THE INSTALLATION OF STEPS WILL BE REQUIRED IN ACCORDANCE WITH PUBLIC WORKS STANDARDS.
7. THE MIN. DRAIN SIZE ACCEPTABLE FOR ANY INSTALLATION ON PUBLIC RIGHT-OF-WAY SHALL BE 24" INCHES IN DIAMETER.
8. CONTRACTOR WILL CONTACT THE DEPARTMENT OF ENGINEERING PRIOR TO ANY WORK DONE WITHIN THE PARISH OR CITY RIGHT OF WAY OR SERVITUDE.

TRAFFIC CONTROLS

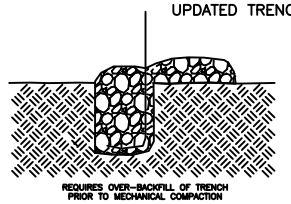
ANY WORK IN THE ROADWAY OR ADJACENT TO THE ROADWAY CAUSING AN INTERFERENCE TO VEHICULAR TRAFFIC REQUIRES PRIOR NOTIFICATION TO THE PARISH OR CITY TRAFFIC ENGINEERING DIVISION AND CONFORMITY TO THE REQUIREMENTS OF THE UNIFORM MANUAL ON TRAFFIC CONTROL DEVICES OF THE STATE OF LOUISIANA. THE CONTRACTOR MUST FURNISH ALL NECESSARY TRAFFIC SIGNS AND/ OR BARRICADES AND MAINTAIN THEM DURING CONSTRUCTION ACTIVITY.

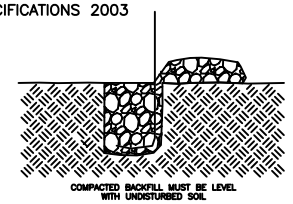


VIBRATORY PLOW IS NOT ACCEPTABLE BECAUSE OF HORIZONTAL COMPACTION

COMPLETED INSTALLATION

ASTM D-6462-03
UPDATED TRENCHING SPECIFICATIONS 2003


REQUIRES OVER-BACKFILL OF TRENCH PRIOR TO MECHANICAL COMPACTION


COMPACTED BACKFILL MUST BE LEVEL WITH UNDISTURBED SOIL

ASTM D6462

Designation: D6462 – 03

Standard Practice for
Silt Fence Installation

This standard is issued under the fixed designation D 6462; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This practice covers common installation requirements for temporary silt fence applications. This practice is based on AASHTO M288.
1.2 This practice is applicable to the use of silt fence as a vertical permeable interceptor designed to remove suspended soil from overland, nonconcentrated water flow. The function of a temporary silt fence is to trap and allow settlement of entrained sediment from water. The purpose is to greatly limit the transport of eroded soil from a construction site by water runoff.
1.3 The practices presented herein are intended to ensure good workmanship and quality and are not necessarily adequate for all purposes in view of the wide variety of possible sediments and performance objectives.
1.4 The values stated in SI units are to be regarded as the standard. The values in inch–pound units are provided for information only.
1.5 This practice offers an organized collection of information or a series of options and does not recommend a specific course of action. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this guide may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project's many unique aspects. The word "Standard" in the title of this document means only that the document has been approved through the ASTM consensus process.
1.6 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

2.1 ASTM Standards:
D 653 Terminology Relating to Soil, Rock and Contained Fluids
D 3740 Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
D 4632 Test Method for Grab Breaking Load and Elongation of Geotextiles
D 6461 Specification For Silt Fence Materials
2.2 AASHTO Standard:
M288–96 Standard Specification for Geotextile Specification for Highway Applications

3. Terminology

3.1 For definitions of terms used in this practice, see Terminology D 653.

4. Significance and Use

4.1 Proper installation is critical to effective performance of silt fence. This practice presents procedures for installing silt fence that have been shown to result in the silt fence installations that effectively redirect and impound surface runoff and, thereby, provide effective sediment control.

5. Controlling Material Specifications

5.1 All materials used for temporary silt fence shall conform with the specification requirements of ASTM Specification D 6461 unless otherwise specified in the controlling project specifications.

6. Certification

6.1 The contractor shall provide to the engineer all certifications required by the controlling material specification.

7. Sampling, Testing, and Acceptance

7.1 Silt fence materials shall be subject to sampling and testing in accordance with and to verify conformance with the controlling material specification.

8. Silt Fence Installation

8.1 Materials – Silt fence materials shall conform to the requirements of Section 5. Unless otherwise specified, the silt fence installation shall conform to the following:
8.1.1 The geotextile used for temporary silt fence may not be supported between posts with wire or polymeric mesh.
8.1.2 The minimum height above ground for the silt fence shall be 600 mm (2.0 ft). Minimum embedment depth shall be 150 mm (0.5 ft).
8.1.3 Maximum post spacing shall be based on the fabric support or, if unsupported, on elongation as measured in accordance with Test Method D4632. Supported silt fence shall have a maximum post spacing of 1.2 m (4 ft). Unsupported silt fence with elongation > 50% shall also have a maximum post spacing of 1.2 m (4 ft). Unsupported silt fence with elongation < 50% shall have a maximum post spacing of 2 m (6.5 ft).
8.1.4 Wood, steel, or synthetic support posts having a minimum length of 1 m (3.3 ft) plus the burial depth may be used. They shall be of sufficient strength to resist damage during installation
and to the support applied loads due to material build up behind the silt fence.

NOTE 1 – It has been found that hardwood posts having dimensions of at least 30 X 30 mm (1.2 X 1.2 in.), No. 2 Southern Pine at least 65 X 65 mm (2.5 X 2.5 in.) or steel posts of U1L of C shape, weighing 600 g per 300 mm (1.3 lb/ft) have performed satisfactorily.

8.1.5 Wire or polymer support fence shall be at least 750 mm (2.5 ft) high and strong enough to support applied loads. Polymer support fences shall meet the same ultraviolet degradation requirements as the geotextile.

NOTE 2 – Wire support fence having at least 6 horizontal wires, and being at least 14–gage wire have performed satisfactorily. Vertical wires should be a maximum of 150 mm (0.5 ft) apart.

8.2 Construction:
8.2.1 Trench Construction – The bottom of the silt fence geotextile shall be buried in a "J" configuration to a minimum depth of 150 mm (6 in.) in a trench so that no flow can pass under the silt fence. Backfill the trench and compact the soil over the geotextile so that the compacted soil completely fills the trench.
8.2.2 Soil Slicing Construction – Insert the geotextile in a slit in the soil 0.2 to 0.3 m (8 to 12 in.) deep so that no flow can pass under the silt fence. Create the slit such that a horizontal cutout point (approx. 76 mm/3 in. wide) at the base of a soil slicing blade (approx. 18 mm/0.75 in. wide) slightly disrupts soil upward as the blade slices through the soil. This upward disruption minimizes horizontal compaction and creates an optimal soil condition for mechanical compaction against the geotextile. Mechanically insert the geotextile directly behind the soil slicing blade in a simultaneous operation, achieving consistent placement and depth.
8.2.3 Splice the geotextile together only at support posts. Two sections of fence may be overlapped or alternatively spliced as long as there are no gaps, voids, or other loss of integrity of the barrier.
8.2.4 Place the posts at spacing as shown on the project plans. Drive posts or place a minimum of 500 mm (1.65 ft) into the ground. Increase depth to 600 mm (2 ft) if fence is placed on a slope of 2H:1V or greater.
NOTE 3 – Where 500 mm (1.65 ft) depth is impossible to attain, the posts should be adequately secured to prevent overturning of the fence due to sediment loading.

8.2.5 Fasten the support fence securely to the upslope side of the fence post. The support fence shall extend from the ground surface to the top of the geotextile.
8.2.6 When self–supporting fence is used, securely fasten the geotextile to the fence posts.
8.2.7 Silt fence should be continuous and transverse to the flow. the silt fence should follow the contours of the site as closely as possible. Place the fence such that the water cannot runoff around the end of the fence.

NOTE 4 – Commonly, silt fence is limited to handle an area equivalent to 90 m^3 m (1000 ft^3/10 ft) of fence. Caution is used where the site slope is greater than 1H: 1V, and water flow rates exceed 3 L/s/3 m (50 gal/min/10 ft) of fence.

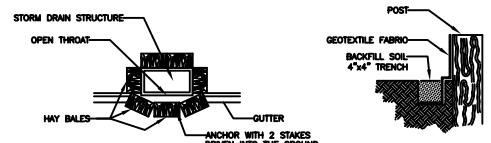
8.2.8 Compaction–When assembling silt fence on–site, compaction prior to installing posts is recommended. Compact the backfill soil immediately
next to the silt fence geotextile. Compact the upstream side
first, and then the downstream side. When installing pre–assembled silt fence, care shall be taken to sufficiently compact soil adjacent to the installed geotextile and posts. The soil adjacent to the buried silt fence geotextile shall be compacted to achieve no less than 50 % of its original insitu strength when measured using a suitably calibrated hand–held penetrometer or shear vane, utilizing appropriate compaction measurement technique and associated compaction criteria is directed by the engineer.

NOTE 5–Installed posts may interfere with compaction by large equipment adjacent to the silt fence. Compaction is commonly accomplished with the front wheel of a tractor, skid steer, roller or other device, as well as with manual tamping or other manual means.

8.3 Maintenance
8.3.1 The contractor shall inspect all temporary silt fences immediately after each rainfall, and at least daily during prolonged rainfall. Any deficiencies shall be immediately corrected by the contractor.
8.3.1.1 The contractor shall also make a daily check of the location of silt fences in areas where construction activities have altered the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist as determined by the engineer, additional silt fence shall be installed as directed by the engineer.
8.3.1.2 Repair damaged or otherwise ineffective silt fences or replace promptly.
8.3.2 Either remove sediment deposits when the deposit reaches half the height of the fence, or install a second silt fence as directed by the engineer.
8.3.3 The silt fence shall remain in place until the engineer directs it to be removed. Upon removal the contractor shall remove and dispose of any excess sediment accumulations, dress the area to give it a pleasing appearance, and vegetate all bare areas in accordance with contract requirements.
8.3.1 Removed silt fence may be used at other locations provided the geotextile and other material requirements continue to be met to the satisfaction of the engineer.

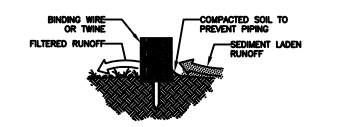
9. Keywords

9.1 geotextile; silt fence; sediment control

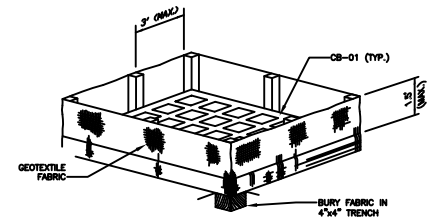


PLAN SHOWING HAY BALES

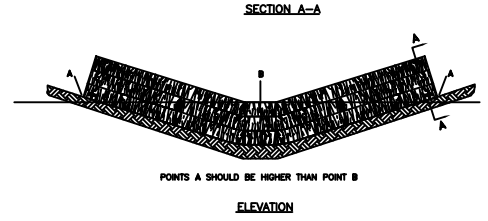
SECTION THRU TRENCH SHOWING GEOTEXTILE FABRIC



SECTION A–A



ISOMETRIC VIEW SHOWING GEOTEXTILE FABRIC (BACKFILL SOIL NOT SHOWN)



POINTS A SHOULD BE HIGHER THAN POINT B

ELEVATION

TEMPORARY SEDIMENT CHECK DAM (HAY)

NOTES:

THE TEMPORARY DROP INLET SILT TRAP IS TO BE USED IN SMALL DRAINAGE AREAS (LESS THAN 1 ACRE) WHERE THE STORM DRAIN IS FUNCTIONAL BEFORE THE AREA IS STABILIZED. THE TRAP CAN BE EITHER GEOTEXTILE FABRIC OR HAY BALES.

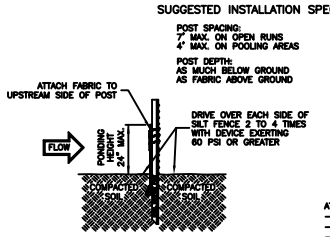
1. THE GEOTEXTILE FABRIC SHALL CONFORM TO SECTION 1019 (TYPE G) OF THE LA DOTD STANDARD SPECIFICATIONS.
2. WOODEN STAKES SUPPORTING THE FABRIC SHALL BE SPACED AROUND THE INLET AT A MAXIMUM SPACING OF 3 FEET.
3. THE HEIGHT OF THE FABRIC ABOVE THE INLET SHALL BE LIMITED TO 1.0' AND THE BOTTOM OF THE FABRIC SHALL BE BURIED IN A TRENCH APPROXIMATELY 4" WIDE BY 4" DEEP. THE FABRIC SHALL BE STAPLED TO THE POST WITH 3" STAPLES.
4. THE TRAP SHOULD BE INSPECTED REGULARLY AND AFTER EACH STORM. THE SEDIMENT SHOULD BE REMOVED AND MAKE SURE EACH STAKE IS FIRMLY IN THE GROUND.

NOTES:

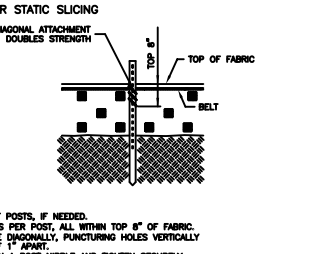
A HAY BALE IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF A ROW OF ENTRENCHED AND ANCHORED BALES OF STRAW OR HAY. THE HAY BALE BARRIER IS ALSO USED AS A CHECK DAM TO REDUCE THE VELOCITY IN SMALL DITCHES OR SWALES. THE HAY BALE SHALL BE IN THE ACCORDANCE WITH LA DOTD STANDARD SPECIFICATIONS. SECTION 204. A FEW BASIC DESIGN GUIDELINES BEFORE THE USE OF A HAY BARRIER ARE:

1. USE WHERE EROSION WOULD OCCUR IN THE FORM OF SHEET AND RILL EROSION:
2. USE IN MINOR SWALES OR DITCHES WHERE THE MAXIMUM DRAINAGE AREA IS 2 ACRES:
3. ONLY USE WHERE THE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS.
4. DO NOT USE IN LIVE STREAMS OR IN SWALES OR DITCHES WHERE THERE IS A POSSIBILITY OF A WASHOUT.

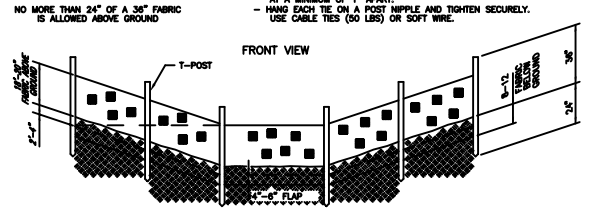
SUGGESTED INSTALLATION SPECIFICATIONS FOR STATIC SLICING



NO MORE THAN 24" OF A 36" FABRIC IS ALLOWED ABOVE GROUND



ATTACHMENT DETAILS:
- GATHER FABRIC AT POSTS, IF NEEDED.
- UTILIZE THREE TIES PER POST, ALL WITHIN TOP 8" OF FABRIC.
- POSITION EACH TIE DIAGONALLY, PUNCTURING HOLES VERTICALLY AT A MINIMUM OF 1" APART.
- HANG EACH TIE ON A POST NIPPLE AND TIGHTEN SECURELY. USE CABLE TIES (50 LBS) OR SOFT WIRE.



THE BASE OF BOTH END POSTS MUST BE 2–4" ABOVE THE FABRIC ON THE MIDDLE POSTS FOR ALL THE SILT FENCE TO PROPERLY DRAIN. USE STRING LEVEL WHEN NECESSARY.

METHOD FOR SILT FENCE INSTALLATION

1. The base of both end posts must be at least 2–4" above the top of the silt fence fabric on the middle posts for ditch checks to drain properly. Use a hand level or string level, if necessary, to mark base points before installation.
2. Install posts 3–4 feet apart in critical water retention areas and 6–7 feet apart on standard applications.
3. Install posts 24 inches deep on the downstream side of the silt fence, and as close as possible to the fabric, enabling posts to support the fabric from upstream water pressure.
4. Install posts with the nipples facing away from the silt fence fabric.
5. Attach the fabric to each post with three ties, all spaced within the top 8" of the fabric. Attach each tie diagonally 45 degrees through the fabric, with each puncture at least 1" vertically apart. Also, each tie should be positioned to hang on a post nipple when tightened to prevent sagging.
6. Wrap approximately 6 inches of fabric around the end posts and secure with 3 ties.
7. No more than 24" of a 36" fabric is allowed above ground level.
8. The installation should be checked and corrected for any deviations before compaction. Use a flat–bladed shovel to tuck fabric deeper into the slit if necessary.
9. Compacting is vitally important for effective results. Compact the soil immediately next to the silt fence fabric with the front wheel of the tractor, skid steer, or roller exerting at least 80 pounds per sq.inch. Compact the upstream side first, and then each side twice for a total of four tripe.

DRAINAGE CALCULATIONS

PROJECT:	Griswold - New Office Building				
DRAINAGE RUN OFF CALCULATIONS -- RATIONAL METHOD					
PRIOR DEVELOPMENT 10 Year Frequency					
Q_1 = CIA					
Watertight Surfaces			0 sqft =	0.000	Acres
	c(1) =	0.9			
Gravel Surface			0 sqft =	0.000	Acres
	c(2) =	0.21			
Green Space			18175 sqft =	0.417	Acres
	c(3) =	0.35			
Summary			18175 sqft =	0.417	Acres
	c =	0.35			
Duration (D) = Time of concentration (TC)					
TC = .7039(L^.3917)(c^-1.1309)(S^-.1985)					
where	L = 175	Runoff length ft		Elev diff = 1.6	
	c = 0.35	Runoff coef			
	S = 0.9143	Percent Slope			
therefore	TC = D = 17.77	minutes or			
and from Rainfall Intensity Table	I = 4.50	in/hr			
	Q_1 =	**0.657 cfs**	**RUNOFF LIMIT 90%**	**0.591 cfs**	
POST DEVELOPMENT 10 Year Frequency					
Q_2 = CIA					
Watertight Surfaces			15753 sqft =	0.362	Acres
	c(1) =	0.9			
Gravel Surface			0 sqft =	0.000	Acres
	c(2) =	0.21			
Green Space			2422 sqft =	0.056	
	c(3) =	0.35			
Summary			18175 sqft =	0.417	Acres
	c =	0.83			
D = Time of concentration (TC)					
TC = .7039(L^.3917)(c^-1.1309)(S^-.1985)					
where	L = 175	Runoff length ft		Elev diff = 1.6	
	c = 0.83	Runoff coef			
	S = 0.9143	Percent Slope			
therefore	TC = D = 6.72	minutes or			
and from Rainfall Intensity Table	I = 7.60	in/hr			
	Q_2 =	**2.622 cfs**			
RESULTS					
DETENTION REQUIRED Q_2-Q_1		2.030 cfs			
ONE HOUR DETENTION		7308.3 cuft			
DETENTION DIMENSIONS		WIDTH	93 feet		
		LENGTH	170 feet		
		DEPTH	**0.46 feet**		
DISCHARGE END AREA CALCULATIONS					
Q = cA(2gH)^1/2	where Q is allowable run off				
Allowable run off	Q =	0.591 cfs			
Friction loss factor	c =	0.98 coefficient			
Acceleration	g =	32.2 ft/ft/sec			
Height above invert	if H =	3.05 feet			
End area	A =	0.04 sqft			
REQUIRED CONDUIT =		**2.81 inch diameter**			

PROJECT:	Existing Fazoli's Restaurant				
DRAINAGE RUN OFF CALCULATIONS -- RATIONAL METHOD					
PRIOR DEVELOPMENT 10 Year Frequency					
Q_1 = CIA					
Watertight Surfaces			23857 sqft =	0.548	Acres
	c(1) =	0.9			
Gravel Surface			0 sqft =	0.000	Acres
	c(2) =	0.21			
Green Space			5516 sqft =	0.127	Acres
	c(3) =	0.35			
Summary			29373 sqft =	0.674	Acres
	c =	0.80			
Duration (D) = Time of concentration (TC)					
TC = .7039(L^.3917)(c^-1.1309)(S^-.1985)					
where	L = 300	Runoff length ft		Elev diff = 0.5	
	c = 0.80	Runoff coef			
	S = 0.1667	Percent Slope			
therefore	TC = D = 12.14	minutes or			
and from Rainfall Intensity Table	I = 4.50	in/hr			
	Q_1 =	**2.418 cfs**	**RUNOFF LIMIT 90%**	**2.176 cfs**	
POST DEVELOPMENT 10 Year Frequency					
Q_2 = CIA					
Watertight Surfaces			23857 sqft =	0.548	Acres
	c(1) =	0.9			
Gravel Surface			0 sqft =	0.000	Acres
	c(2) =	0.21			
Green Space			5516 sqft =	0.127	
	c(3) =	0.35			
Summary			29373 sqft =	0.674	Acres
	c =	0.80			
D = Time of concentration (TC)					
TC = .7039(L^.3917)(c^-1.1309)(S^-.1985)					
where	L = 300	Runoff length ft		Elev diff = 0.5	
	c = 0.80	Runoff coef			
	S = 0.1667	Percent Slope			
therefore	TC = D = 12.14	minutes or			
and from Rainfall Intensity Table	I = 7.60	in/hr			
	Q_2 =	**4.083 cfs**			
RESULTS					
DETENTION REQUIRED Q_2-Q_1		1.907 cfs			
ONE HOUR DETENTION		6865.8 cuft			
DETENTION DIMENSIONS		WIDTH	100 feet		
		LENGTH	280 feet		
		DEPTH	**0.25 feet**		
DISCHARGE END AREA CALCULATIONS					
Q = cA(2gH)^1/2	where Q is allowable run off				
Allowable run off	Q =	2.176 cfs			
Friction loss factor	c =	0.98 coefficient			
Acceleration	g =	32.2 ft/ft/sec			
Height above invert	if H =	3.05 feet			
End area	A =	0.16 sqft			
REQUIRED CONDUIT =		**5.39 inch diameter**			

PROJECT:	Combined Griswold Properties				
DRAINAGE RUN OFF CALCULATIONS -- RATIONAL METHOD					
PRIOR DEVELOPMENT 10 Year Frequency					
Q_1 = CIA					
Watertight Surfaces			23857 sqft =	0.548	Acres
	c(1) =	0.9			
Gravel Surface			0 sqft =	0.000	Acres
	c(2) =	0.21			
Green Space			23691 sqft =	0.544	Acres
	c(3) =	0.35			
Summary			47548 sqft =	1.092	Acres
	c =	0.63			
Duration (D) = Time of concentration (TC)					
TC = .7039(L^.3917)(c^-1.1309)(S^-.1985)					
where	L = 470	Runoff length ft		Elev diff = 1	
	c = 0.63	Runoff coef			
	S = 0.2128	Percent Slope			
therefore	TC = D = 18.11	minutes or			
and from Rainfall Intensity Table	I = 4.50	in/hr			
	Q_1 =	**3.075 cfs**	**RUNOFF LIMIT 90%**	**2.767 cfs**	
POST DEVELOPMENT 10 Year Frequency					
Q_2 = CIA					
Watertight Surfaces			39610 sqft =	0.909	Acres
	c(1) =	0.9			
Gravel Surface			0 sqft =	0.000	Acres
	c(2) =	0.21			
Green Space			7938 sqft =	0.182	
	c(3) =	0.35			
Summary			47548 sqft =	1.092	Acres
	c =	0.81			
D = Time of concentration (TC)					
TC = .7039(L^.3917)(c^-1.1309)(S^-.1985)					
where	L = 470	Runoff length ft		Elev diff = 1	
	c = 0.81	Runoff coef			
	S = 0.2128	Percent Slope			
therefore	TC = D = 13.57	minutes or			
and from Rainfall Intensity Table	I = 7.60	in/hr			
	Q_2 =	**6.704 cfs**			
RESULTS					
DETENTION REQUIRED Q_2-Q_1		3.937 cfs			
ONE HOUR DETENTION		14174.1 cuft			
DETENTION DIMENSIONS		WIDTH	100 feet		
		LENGTH	441 feet		
		DEPTH	**0.32 feet**		
DISCHARGE END AREA CALCULATIONS					
Q = cA(2gH)^1/2	where Q is allowable run off				
Allowable run off	Q =	2.767 cfs			
Friction loss factor	c =	0.98 coefficient			
Acceleration	g =	32.2 ft/ft/sec			
Height above invert	if H =	3.05 feet			
End area	A =	0.20 sqft			
REQUIRED CONDUIT =		**6.08 inch diameter**			

PAVING NOTES AND DETAILS

NEW OFFICE BUILDING

REINE CONSTRUCTION CORP.
HOWZE BEACH ROAD
SLIDELL, LOUISIANA

DAMMON ENGINEERING, INC.
1095 FLORIDA AVENUE 985-649-5832
DAMMONENGINEERING.COM

SCALE:AS NOTED

FILE:

JOB NO.1550

DATE:11-15-05

SHEET 4

C-3

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