

**DESIGN, SPECIFICATIONS, AND GENERAL NOTES**

**GRAVITY STONE RETAINING WALL**

NO SCALE

**Geotechnical Information:**  
This retaining wall design is based on geotechnical information taken from: USDA Soil Survey - Rockwall County. The decision whether to obtain a site specific geotechnical report and the choice of retaining wall design is made by the builder and its client, based upon economic considerations balanced against acceptable risk, soil type, retaining wall geometry, structural loadings, etc. It should be noted that the risk of soil settlement and/or heaving is associated with all types of retaining walls and there is no such thing as a zero risk retaining wall design. A global stability analysis of the overall slope has not been performed during this design. It is recommended that the global stability of the slope be confirmed by a geotechnical engineer.

Design is in compliance with IBC section 1610

**Material Strengths and Properties:**

Beckell Equivalent Fluid Pressure: 45 bsf  
Bearing Pressure:  $Q_{ult} = 1300$  lbs/ft<sup>2</sup>  
Mortar: Type S ( $f_c = 1800$  psi)

**Existing Utilities:**

Locating all existing utilities was outside the scope of our firm's services for this project. The contractor should call 1-800-485-BEFORE construction commences to verify the location of existing utilities. Contact the Engineer if the location(s) of any existing utilities will coincide and/or conflict with any excavations and/or specifications by the engineer.

**Site Conditions:**

This retaining wall plan is based on site conditions as reported by the client and from any field inspections that have been made by this engineering firm. If any structures or excavations occur within 1-1/2 times the height of the retaining wall, notify this Engineer for recommendations.

**Temporary Slopes:**

Temporary slope by contractor or developer, as required for safety. Temporary slopes in fill or native soil shall be constructed per Civil Engineer's specifications.

**Drain:**

On retaining walls 3 ft. high or less, the 4" diameter N 12 ADS perforated pipe may be omitted, but the porous drain area must still be wrapped with Miraf 140 N geosynthetic (or equal) and the 2" (or 4") thru face drain pipe provided.

**Fill:**

All fill behind geosynthetic filter drain to be native soil free of organics and deleterious materials, compacted in lifts not exceeding 12 inches to minimum 90% standard proctor at (+/-) 3% of optimum moisture content. Compaction tests by others. No rock greater than 6" maximum dimension, disperse smaller rock to avoid nesting.

**Control Joints:**

Construction / temperature joints are recommended at 25' o.c. (max.)

**Maintenance and Management Letter:**

Accompanying Gravity Stone Retaining Wall Maintenance and Management letter is part of these plans and specifications. Contact our office if a copy of this letter is required.

**Inspection Requirements and Recommendations:**

These inspections will be performed by or under the direction of the design Engineer:

1. Pre-construction site inspection to determine if any exceptional conditions exist that could affect the retaining wall design.
2. Inspection to review the sub-base, dimensions (base width and embedment depth), geosynthetic placement, ADS drain pipe and through face drainage.
3. Inspection to review the geosynthetic filter drain (including porous drain area).
4. Inspection to review final grades to establish proper drainage.
5. All walls with heights equal to or greater than 4 feet must have an inspection performed under the supervision of this engineer and must meet current code and city requirements.

REAR OF WALL MAY SLOPE TO CAP (12" MIN.) OR BE VERTICAL

DRAINAGE SWALE BEHIND WALL. SLOPE FINISH GRADE TO SWALE AT TOP OF WALL. SLOPE SWALE TO DRAIN WATER FROM BEHIND WALL. NOTIFY THIS ENGINEER IF GRADE SLOPE IS GREATER THAN 4:1.

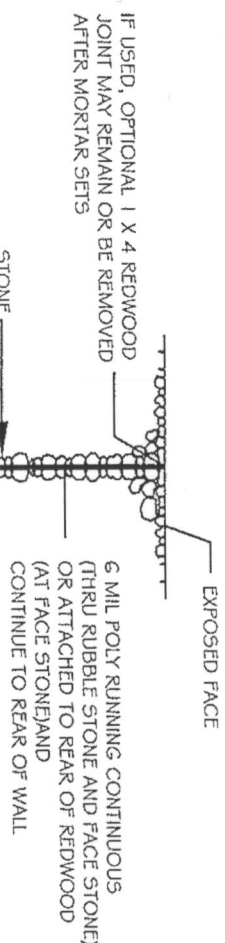
SEED ALL SLOPES 4:1 OR LESS. INSTALL CURLEX (OR EQUAL) SLOPE PROTECTION ON SLOPES GREATER THAN 4:1.

12" THICK LAYER OF ON-SITE CLAY OR SIMILAR TO COVER FILTER DRAIN. THIS CLAY LAYER IS TO EXTEND A MINIMUM OF 8'-0" BEHIND THE RETAINING WALL.

WRAP EXPOSED RUBBLE STONES WITH MIRAF 140 N GEOSYNTHETIC (OR EQUAL) - LAP AT TOP AND BOTTOM AS SHOWN. IF ALTERNATE GEOSYNTHETIC IS TO BE USED, A COPY OF THE TECHNICAL DATA SHEET FOR THE ALTERNATE GEOSYNTHETIC MUST BE PROVIDED TO OUR FIRM FOR REVIEW.

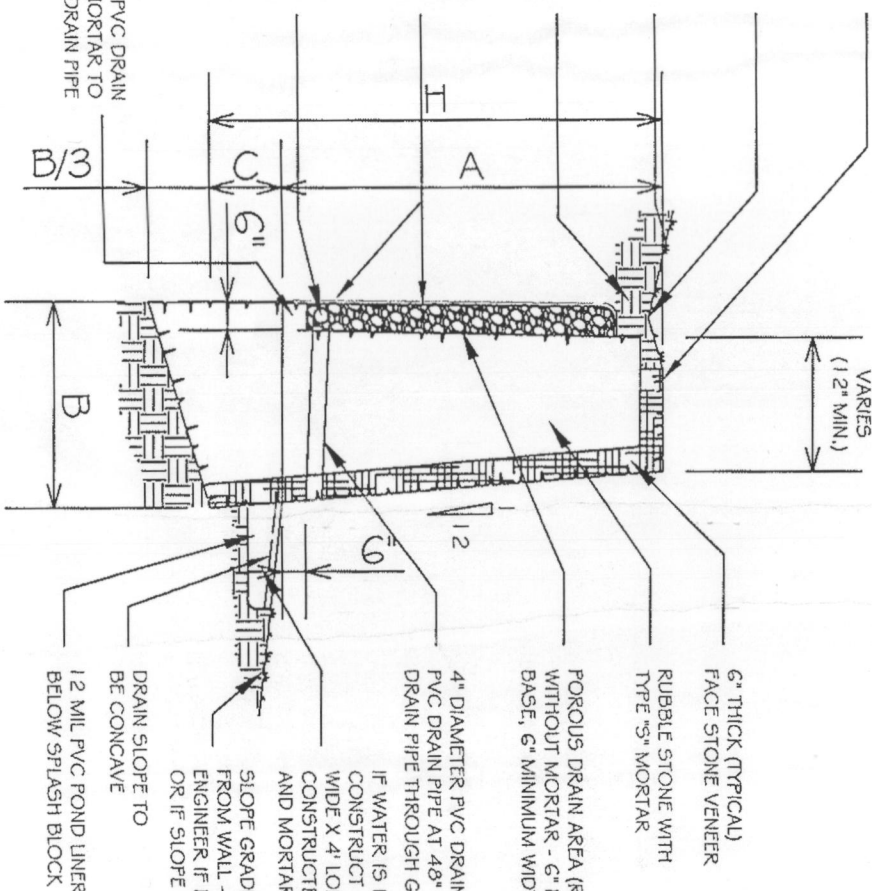
CONTINUOUS 4" DIAMETER N 12 ADS PERFORATED PIPE - TO BE INSTALLED AT, OR SLIGHTLY ABOVE, FINAL GRADE. IF PARALLEL OR THRU FACE DRAINAGE CANNOT BE ACHIEVED, NOTIFY THIS ENGINEER.

RUBBLE STONE AREA BELOW PVC DRAIN PIPE TO BE SURFACED WITH MORTAR TO FORM SMOOTH BASE FOR PVC DRAIN PIPE



**CONTROL / EXPANSION JOINT**

NO SCALE



WALL DIMENSIONS TABLE

HEIGHT ABOVE GRADE	A	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"
WIDTH OF BASE	B	1'-6"	1'-6"	2'-0"	2'-0"	2'-6"	2'-9"	3'-0"	3'-6"
DEPTH BELOW GRADE*	C	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
DEPTH SLOPED TOE*	B/3	6"	6"	0'-8"	0'-8"	1'-0"	1'-0"	1'-4"	1'-6"
TOTAL HEIGHT OF WALL**	H	2'-6"	3'-0"	4'-0"	5'-0"	7'-0"	8'-0"	9'-4"	10'-6"

\* MINIMUM DEPTH, UNLESS ROCK IS ENCOUNTERED, UPON ENCOUNTERING ROCK - NOTIFY THIS ENGINEER. \*\* TOTAL HEIGHT OF WALL INCLUDING HEIGHT ABOVE GRADE AND DEPTH BELOW GRADE.

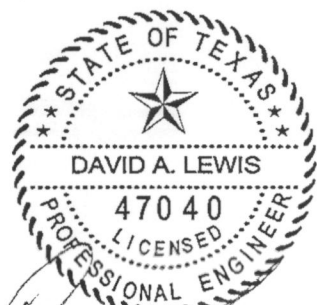
ENGINEER INSPECTION OF WALL MAY BE REQUIRED BY LOCAL MUNICIPALITY, NOTIFY AND SCHEDULE INSPECTION WITH ENGINEER PRIOR TO COMMENCING CONSTRUCTION.

SEE GRADING/DRAINAGE PLANS BY JBI PARTNERS (PROJECT NO. HOE132) FOR WALL HEIGHTS & LOCATIONS.

RELEASED FOR CONSTRUCTION  
ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING NO PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.

CITY

DATE 2-12-15



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DAVID A. LEWIS, P.E. 47040 ON 02-09-15.

DRAWN BY:	JCR
CHECKED:	DAL
DATE:	02-09-15
SCALE:	AS NOTED
	STRUCTURAL

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WHITES TEXAS STONE ENTERPRISES  
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RETAINING WALL  
SHEET  
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