

1. Design Building Code

International Building Code, 2012 Edition

2. Geotechnical Report

Firm: Alpha Testing, Inc.
 Report No. G140086 Dated: April 29, 2014
 Allowable Bearing Capacity 1500 psf, 2500 psf

3. Geotechnical Criteria

Bearing on Stiff Natural Undisturbed Clayey Soils or Compacted and Tested Soils

Allowable Bearing = 1500 psf, min.
 Friction Angle between Base of Wall and Soil = 17 deg

Backfill Soil Parameters:
 Backfill Soil - Natural Clays or Fill Soils
 Backfill Angle of Internal Friction PHI = 26 deg

Backfill Soil - Gravel or Stone
 Backfill Angle of Internal Friction PHI = 35 deg

Base Soil Parameters:
 Soil at Toe - Natural, Undisturbed or Fill Soils
 Angle of Internal Friction PHI = 26 deg

Bearing on Remediated Base

Allowable Bearing = 2500 psf, min.
 Friction Angle Between Base of Wall and Soil = 28 deg

Backfill Soil Parameters:
 Backfill Soil - Natural Clays or Fill Soils
 Backfill Angle of Internal Friction PHI = 26 deg

Backfill Soil - Gravel or Stone
 Backfill Angle of Internal Friction PHI = 35 deg

Base Soil Parameters:
 Soil at Toe - Natural, Undisturbed Soils
 Angle of Internal Friction PHI = 26 deg

4. Materials:

Rock for Wall Construction:

Average density of masonry stone wall varies from 135 pcf to 145 pcf. Size of stone within wall varies from 4" to 18". Crushed concrete is acceptable to be used in the wall construction in place of natural stone. Face stone to be coordinated between contractor and owner/developer.

Drainage Zone Materials:

Drainage zone materials may be composed of clean gravel or stone ranging from 1" to 5". Crushed concrete is acceptable provided it is clean and generally free of dust or other deleterious materials. Drainage zone shall be wrapped with filter fabric. Filter fabric shall be Mirafi 140N or approved equal.

Portland Cement Mortar for Retaining Wall Construction.

The portland cement mortar used for construction of the masonry retaining walls shall be provided with the following proportions per cubic yard of concrete. The portland cement mortar supplier shall provide "batch tickets" clearly indicating that the appropriate amount of materials are provided in each concrete mixer truck load. The batch tickets shall clearly indicate the amount batched, the date, the project name and shall be provided to Falkofsk Engineering, Inc. for review, documentation, and file.

Contents	Amount per cubic yard
Type 1 Portland cement:	414 lbs
Type F Fly Ash	103 lbs
Fine Aggregate (sand):	2987 lbs
Sika-Air	2 oz
Plastiment ES	20.6 oz
Sikament 686	15.5 oz
Potable Water	258 lbs

Concrete retarders may be used at the discretion of the masonry wall contractor. A greater amount of retarder is typically used during hot periods and a less amount of retarder is typically used during cool weather.

Please note that the above proportions will provide a portland cement mortar with a compressive strength of about $f_c = 2000$ psi. Falkofsk Engineering, Inc. does not require any concrete testing provided the above proportions are verified by way of the "batch tickets".

5. Construction Reviews

Falkofsk Engineering, Inc. shall be called for construction review of masonry wall.

6. Retaining Wall Design Constraints

Retaining walls should not have solid fence placed on top of wall other than that shown on these plans. Retaining walls shall not have additional surcharge placed above wall other than that shown on these plans. Retaining walls shall not have slope at base or top of wall that exceed that which is shown on these plans. The retaining walls noted above require special design.

Minor variations in the construction of the retaining walls from these documents may be accepted at the discretion of the design engineer.

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 ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN
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 OF ROCKWALL, IN REVIEWING AND RELEASING
 PLANS FOR CONSTRUCTION, ASSUMES NO
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 OF DESIGN.

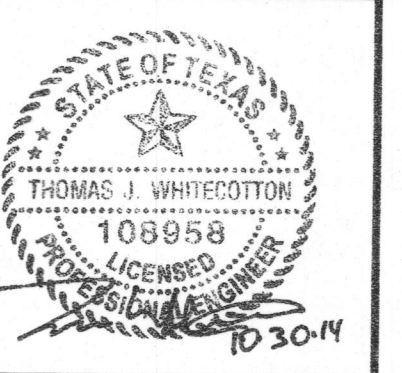
CITY _____ DATE _____

NO.	DATE	BY	REVISION

FALCOFSKE ENGINEERING, INC.
 Structural Engineering Consultants
 Texas Registered Engineering Firm: # F-4038
 722 North Fielder Road
 Arlington, Texas 76012
 (817) 261-8300

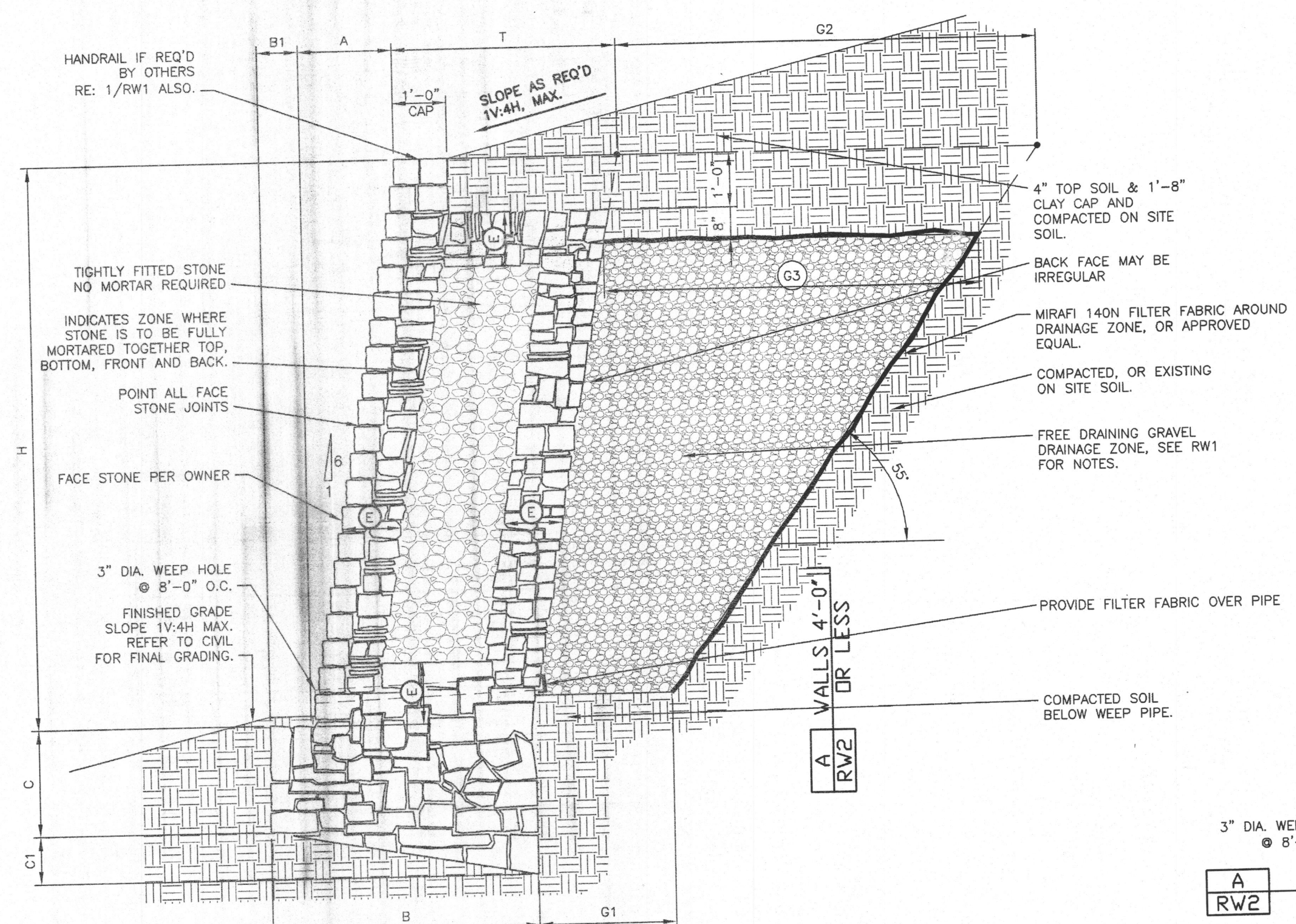
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MASONRY RETAINING WALLS - NOTES & STANDARD DETAILS
 BREEZY HILL - PHASE 4
 LIFE SPRINGS DRIVE AT JOHN KING BOULEVARD
 ROCKWALL, TEXAS
 RPM xCONSTRUCTION, LLC
 PLANO, TEXAS



JOB NO. 285.14

RW1



MASONRY WALL SCHEDULE
1500 psf - BEARING CAPACITY (STIFF NATURAL UNDISTURBED SOILS OR COMPACTED AND TESTED SOILS SEE GENERAL NOTES SHEET RW1)

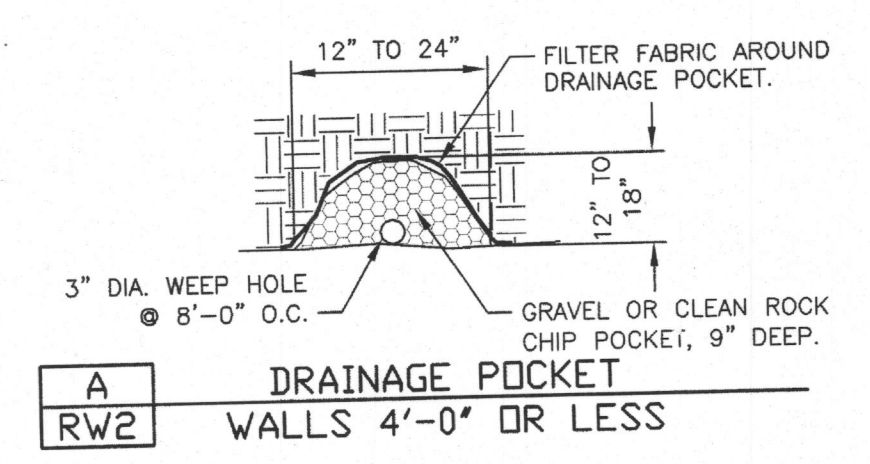
WALL HEIGHT H	BASE WIDTH B	TOE B1	BASE DEPTH (TOE) C	BASE DEPTH (HEEL) C1	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	GRAVEL (BOTTOM) G1	GRAVEL (TOP) G2	GRAVEL G3	BEARING CAPACITY
1'-0"	1'-0"	0'-0"	0'-6"	0'-2"	0'-2"	FULLY MORTARED	1'-0"	SEE A/RW2	SEE A/RW2	SEE A/RW2	1500 psf
2'-0"	1'-4"	0'-2"	0'-9"	0'-3"	0'-4"	FULLY MORTARED	1'-2"	SEE A/RW2	SEE A/RW2	SEE A/RW2	
3'-0"	1'-11"	0'-4"	0'-9"	0'-5"	0'-6"	FULLY MORTARED	1'-7"	SEE A/RW2	SEE A/RW2	SEE A/RW2	
4'-0"	2'-6"	0'-5"	1'-0"	0'-6"	0'-8"	FULLY MORTARED	2'-1"	SEE A/RW2	SEE A/RW2	SEE A/RW2	
5'-0"	2'-8"	0'-5"	1'-3"	0'-6"	0'-10"	0'-8"	2'-1"	1'-6"	3'-11"	3'-0"	
6'-0"	2'-10"	0'-6"	1'-3"	0'-6"	0'-10"	2'-4"	1'-8"	4'-7"	3'-9"		
7'-0"	3'-5"	0'-8"	1'-6"	0'-7"	0'-10"	2'-9"	1'-10"	5'-4"	4'-5"		
8'-0"	4'-2"	0'-11"	1'-6"	0'-9"	1'-4"	1'-0"	3'-3"	2'-0"	6'-0"	5'-2"	
9'-0"	4'-11"	1'-2"	1'-9"	0'-11"	1'-6"	1'-0"	3'-9"	2'-2"	6'-9"	5'-10"	

WALL DESIGN CRITERIA

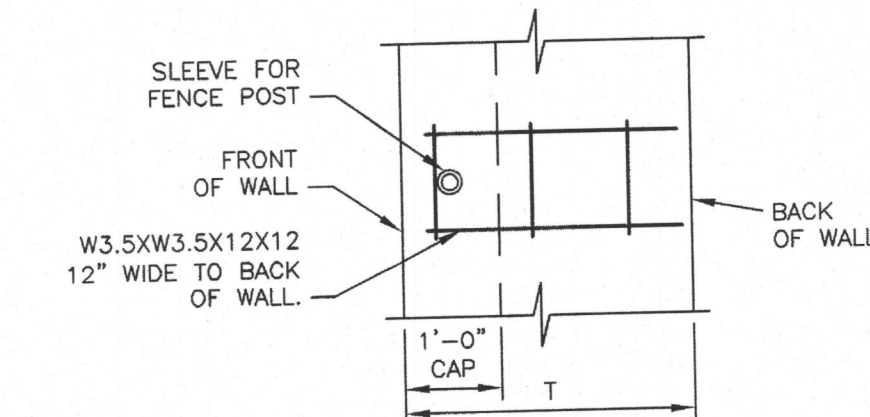
BEARING q_u	SLOPE TOP β	SLOPE BOT β_1	ACTIVE PRESSURE α_a	PASSIVE PRESSURE α_p	FRICTION ANGLE BASE δ	SLOPE OF BACK OF WALL α	SURCHARGE q
1500PSF	14 deg	14 deg	26 deg	35 deg	17 deg	99.46 deg	0 psf

USE THIS SCHEDULE FOR 2/RW2

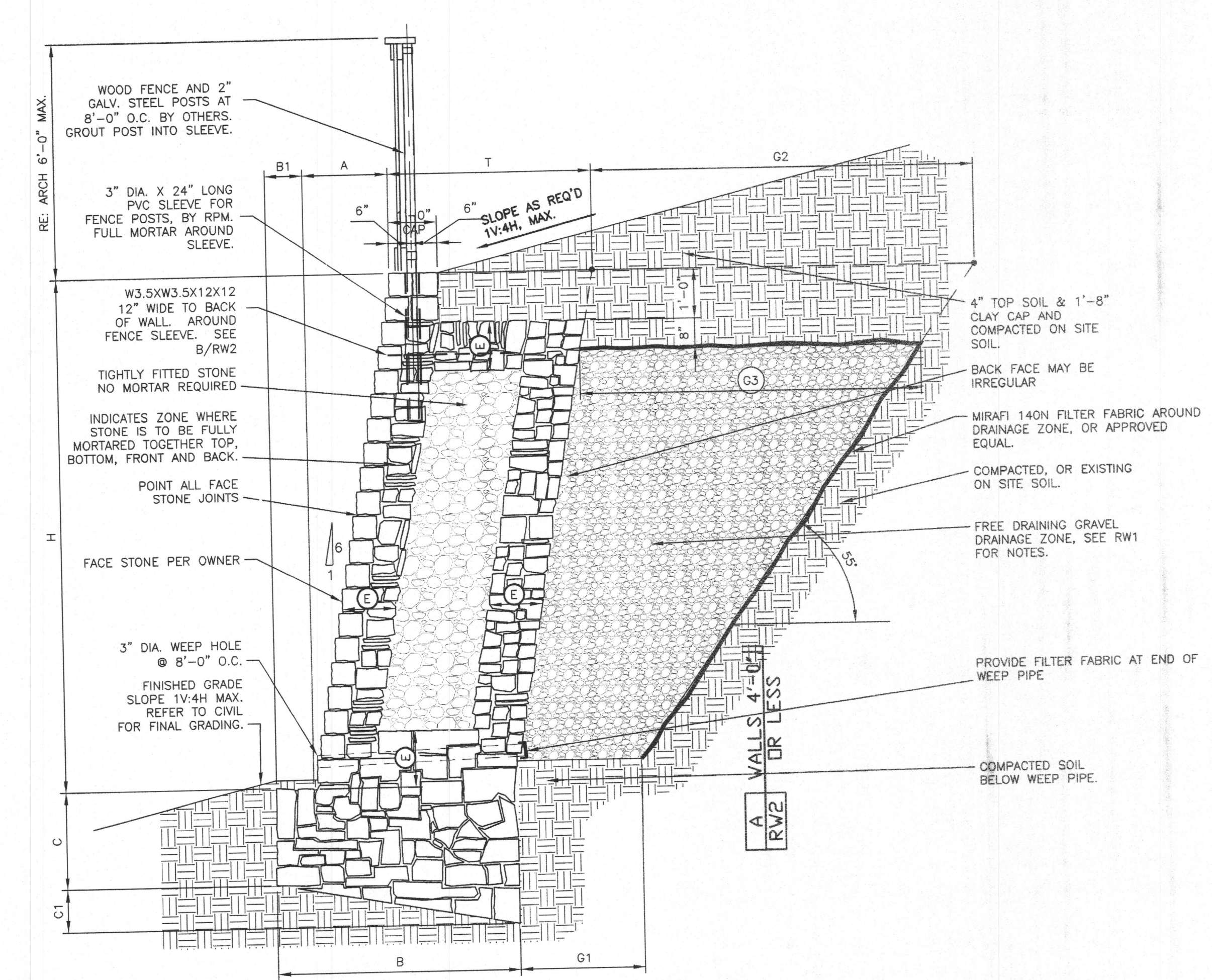
2
RW2 TYPICAL WALL SECTION - 1V:4H MAX SLOPE ABOVE WALL BEARING IN CLAYEY SOILS



A
RW2 DRAINAGE POCKET WALLS 4'-0" OR LESS



B
RW2 ELEVATION OF WELDED WIRE FABRIC FOR FENCE SLEEVE



1
RW2 TYPICAL WALL SECTION - WITH 6' WOOD FENCE ABOVE WALL 1V:4H MAX SLOPE ABOVE WALL BEARING IN CLAYEY SOILS

MASONRY WALL SCHEDULE
1500 psf - BEARING CAPACITY (STIFF NATURAL UNDISTURBED SOILS OR COMPACTED AND TESTED SOILS SEE GENERAL NOTES SHEET RW1)

WALL HEIGHT H	BASE WIDTH B	TOE B1	BASE DEPTH (TOE) C	BASE DEPTH (HEEL) C1	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	GRAVEL (BOTTOM) G1	GRAVEL (TOP) G2	GRAVEL G3	BEARING CAPACITY
1'-0"	2'-0"	0'-3"	1'-0"	0'-2"	0'-2"	FULLY MORTARED	1'-9"	SEE A/RW2	SEE A/RW2	SEE A/RW2	1500 psf
2'-0"	2'-0"	0'-3"	1'-0"	0'-3"	0'-4"	FULLY MORTARED	1'-9"	SEE A/RW2	SEE A/RW2	SEE A/RW2	
3'-0"	2'-1"	0'-3"	1'-0"	0'-4"	0'-6"	FULLY MORTARED	1'-10"	SEE A/RW2	SEE A/RW2	SEE A/RW2	
4'-0"	2'-6"	0'-3"	1'-0"	0'-6"	0'-8"	FULLY MORTARED	2'-3"	SEE A/RW2	SEE A/RW2	SEE A/RW2	
5'-0"	2'-7"	0'-4"	1'-3"	0'-6"	0'-10"	0'-8"	2'-3"	1'-6"	3'-11"	3'-0"	
6'-0"	2'-9"	0'-5"	1'-3"	0'-6"	0'-10"	2'-4"	1'-8"	4'-7"	3'-9"		
7'-0"	3'-5"	0'-8"	1'-6"	0'-7"	0'-10"	2'-9"	1'-10"	5'-4"	4'-5"		
8'-0"	4'-2"	0'-11"	1'-6"	0'-9"	1'-4"	1'-0"	3'-3"	2'-0"	6'-0"	5'-2"	
9'-0"	4'-11"	1'-2"	1'-9"	0'-11"	1'-6"	1'-0"	3'-9"	2'-2"	6'-9"	5'-10"	

WALL DESIGN CRITERIA

BEARING q_u	SLOPE TOP β	SLOPE BOT β_1	ACTIVE PRESSURE α_a	PASSIVE PRESSURE α_p	FRICTION ANGLE BASE δ	SLOPE OF BACK OF WALL α	WIND LOAD W
1500PSF	14 deg	14 deg	35 deg	26 deg	17 deg	99.46 deg	15 psf

USE THIS SCHEDULE FOR 1/RW2

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DATE: 10-30-14
DES: T.J.W.
DRN: T.J.W.
CHK: A.M.B.
NO. DATE: 10-30-14
REVISION: BY

FALFOLSKO ENGINEERING, INC.
Structural Engineering Consultants
Texas Registered Engineering Firm: # F-4038
722 North Fielder Road
Arlington, Texas 76012
(817) 261-8300

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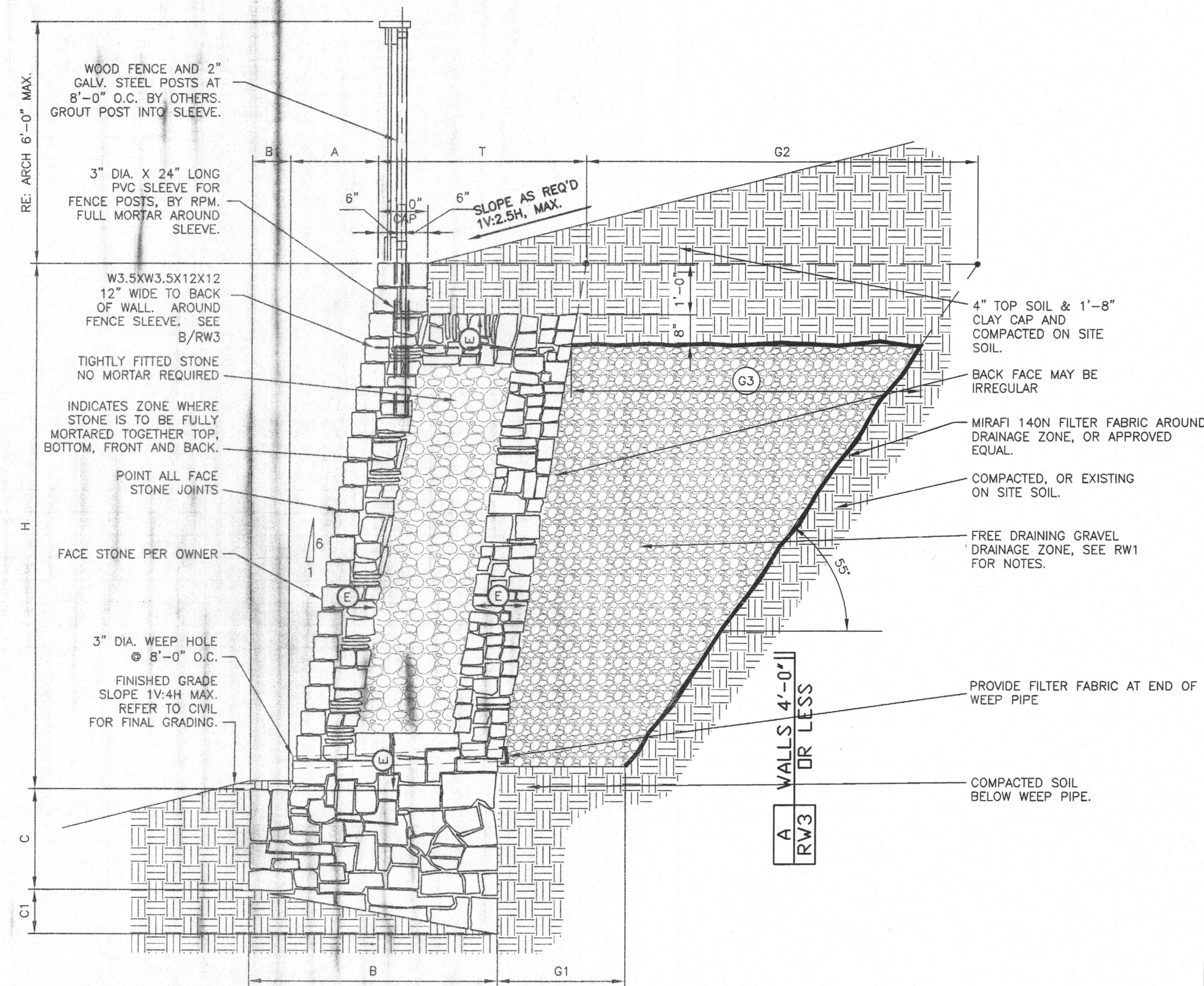
MASONRY RETAINING WALLS
BREEZY HILL - PHASE 4
LIFE SPRINGS DRIVE AT JOHN KING BOULEVARD
ROCKWALL, TEXAS

RPM xCONSTRUCTION, LLC
TEXAS

CITY: _____ DATE: _____

THOMAS J. WHEATON
106358
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS

JOB NO. 285.1
RW2



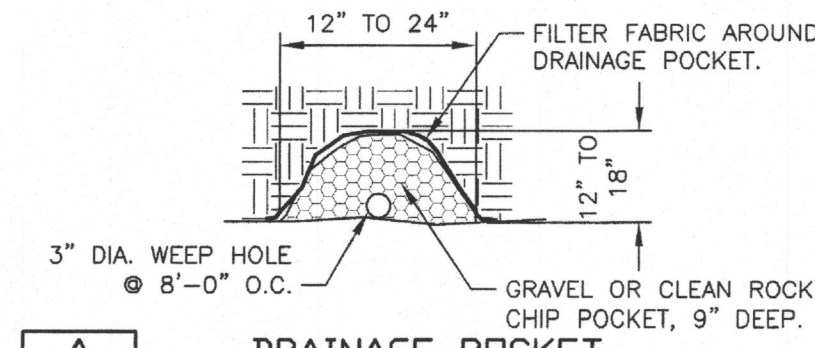
MASONRY WALL SCHEDULE
1500 psf - BEARING CAPACITY (STIFF NATURAL UNDISTURBED SOILS OR COMPACTED AND TESTED SOILS - SEE GENERAL NOTES SHEET RW1)

WALL HEIGHT H	BASE WIDTH B	TOE DEPTH C1	BASE DEPTH (HEEL) C2	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	GRWEL (TOP) G1	GRWEL (BOTTOM) G2	GRWEL G3	BEARING CAPACITY
1'-0"	2'-2"	0'-6"	1'-3"	0'-5"	0'-2"	1'-8"	SEE A/RW3	SEE A/RW3	SEE A/RW3	1500 psf
2'-0"	2'-3"	0'-7"	1'-3"	0'-5"	0'-4"	1'-8"	SEE A/RW3	SEE A/RW3	SEE A/RW3	1500 psf
3'-0"	2'-4"	0'-7"	1'-3"	0'-5"	0'-6"	1'-9"	SEE A/RW3	SEE A/RW3	SEE A/RW3	1500 psf

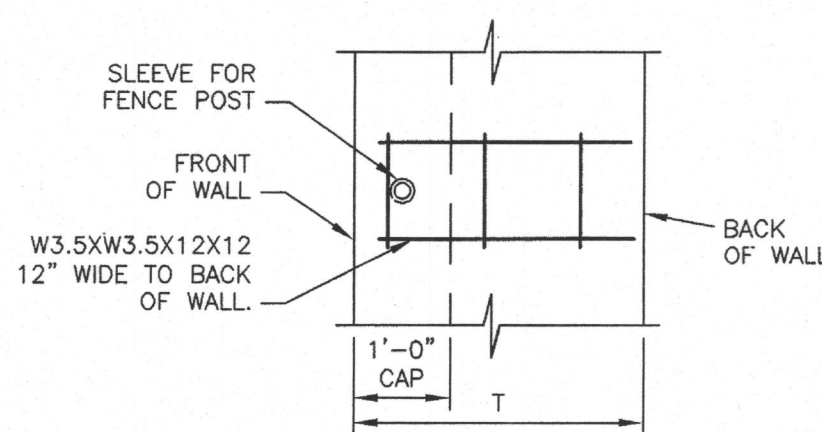
WALL DESIGN CRITERIA

BEARING q_u	SLOPE TOP β	SLOPE BOT β_1	ACTIVE PRESSURE WALLS < 4' e_a	ACTIVE PRESSURE WALLS > 4' e_a	PASSIVE PRESSURE e_p	FRICTION ANGLE BASE δ	SLOPE OF BACK OF WALL α	SURCHARGE q_s	WINDLOAD WL
1500PSF	28.4 deg	14 deg	26 deg	35 deg	17 deg	17 deg	99.46 deg	0 psf	15 psf

USE THIS SCHEDULE FOR 2/RW3

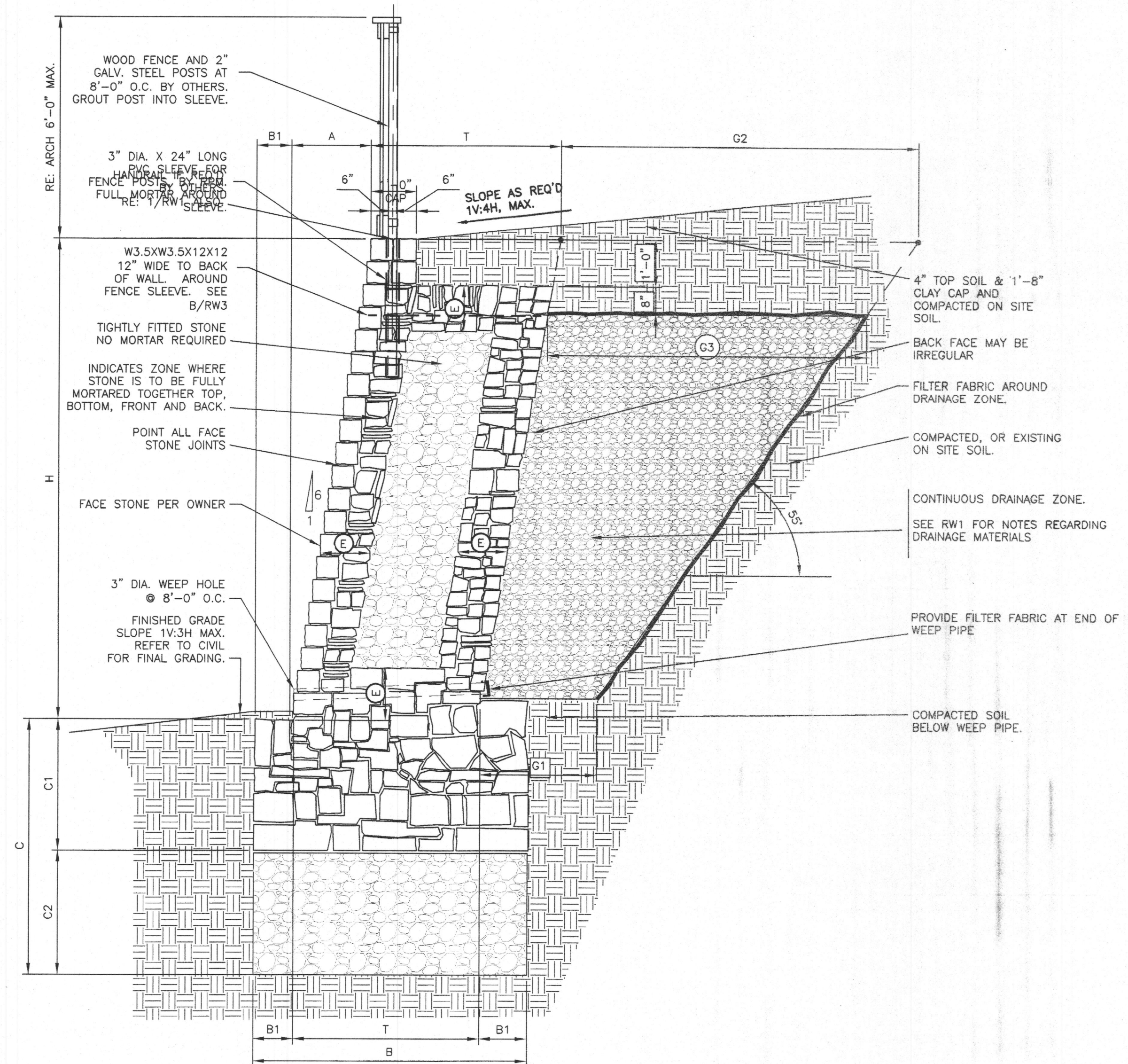


A DRAINAGE POCKET
RW3 WALLS 4'-0" OR LESS



B ELEVATION OF WELDED WIRE FABRIC FOR FENCE SLEEVE
RW3

2 TYPICAL WALL SECTION - 1V:1.25H MAX SLOPE ABOVE WALL
RW3 BEARING IN CLAYEY SOILS - WITH 6'-0" WOOD FENCE IN CAP OF WALL



MASONRY WALL SCHEDULE
2500 psf - BEARING CAPACITY (REMEDIATED BASE - SEE GENERAL NOTES SHEET RW1)

WALL HEIGHT H	BASE WIDTH B	TOE DEPTH C1	BASE DEPTH C2	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	GRWEL (BOTTOM) G1	GRWEL (TOP) G2	GRWEL G3	BEARING CAPACITY
1'-0"	2'-5"	0'-4"	3'-0"	1'-6"	0'-2"	1'-9"	SEE A/RW3	SEE A/RW3	SEE A/RW3	2500 psf
2'-0"	2'-5"	0'-4"	3'-0"	1'-6"	0'-4"	1'-9"	SEE A/RW3	SEE A/RW3	SEE A/RW3	2500 psf
3'-0"	2'-7"	0'-4"	3'-0"	1'-6"	0'-6"	1'-10"	SEE A/RW3	SEE A/RW3	SEE A/RW3	2500 psf
4'-0"	2'-11"	0'-4"	4'-0"	2'-0"	0'-8"	2'-3"	SEE A/RW3	SEE A/RW3	SEE A/RW3	2500 psf
5'-0"	3'-1"	0'-5"	5'-0"	2'-6"	0'-10"	2'-3"	1'-6"	3'-11"	3'-0"	2500 psf
6'-0"	3'-4"	0'-6"	6'-0"	3'-0"	0'-10"	2'-4"	1'-8"	4'-7"	3'-9"	2500 psf
7'-0"	4'-0"	0'-7"	7'-0"	4'-0"	0'-10"	2'-10"	1'-10"	5'-4"	4'-5"	2500 psf
8'-0"	4'-6"	0'-8"	8'-0"	5'-0"	0'-10"	3'-2"	2'-0"	6'-0"	5'-2"	2500 psf
9'-0"	5'-0"	0'-8"	11'-0"	5'-6"	0'-10"	3'-8"	2'-2"	6'-9"	5'-10"	2500 psf
10'-0"	5'-10"	0'-9"	12'-0"	6'-6"	0'-10"	4'-4"	2'-5"	7'-5"	6'-7"	2500 psf

WALL DESIGN CRITERIA

BEARING q_u	SLOPE TOP β	SLOPE BOT β_1	ACTIVE PRESSURE e_a	PASSIVE PRESSURE e_p	FRICTION ANGLE BASE δ	SLOPE OF BACK OF WALL α	SURCHARGE q_s
2500PSF	14 deg	18.4 deg	35 deg	26 deg	28 deg	99.46 deg	0 psf

USE THIS SCHEDULE FOR 1/RW3

1 TYPICAL WALL SECTION - 1V:1.0H MAX SLOPE ABOVE WALL
RW3 BEARING IN CLAYEY SOILS

NO.	DATE	REVISION	BY
	10-30-14		TJW
	10-30-14		TJW
	10-30-14		AMB

FALKOFSKE ENGINEERING, INC.
Structural Engineering Consultants
Texas Registered Engineering Firm: # F-4038
722 North Fielder Road
Arlington, Texas 76012
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MASONRY RETAINING WALLS
BREEZY HILL - PHASE 4
LIFE SPRINGS DRIVE AT JOHN KING BOULEVARD
ROCKWALL, TEXAS

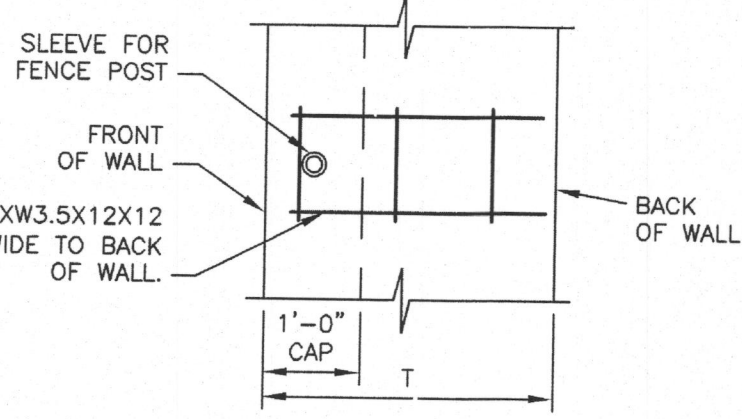
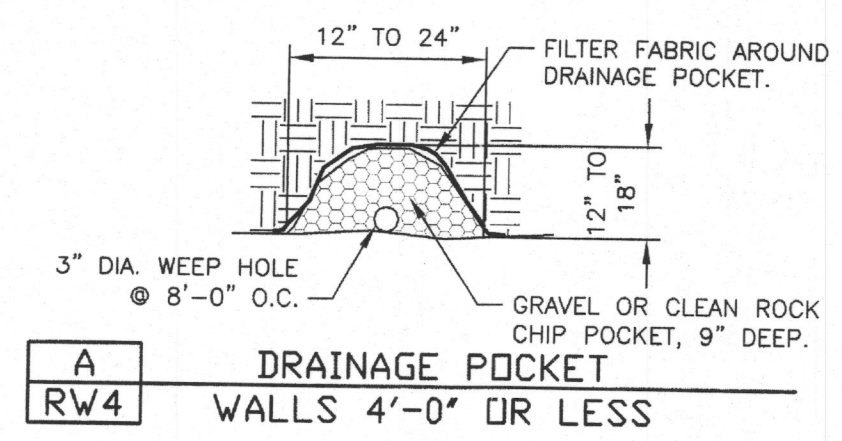
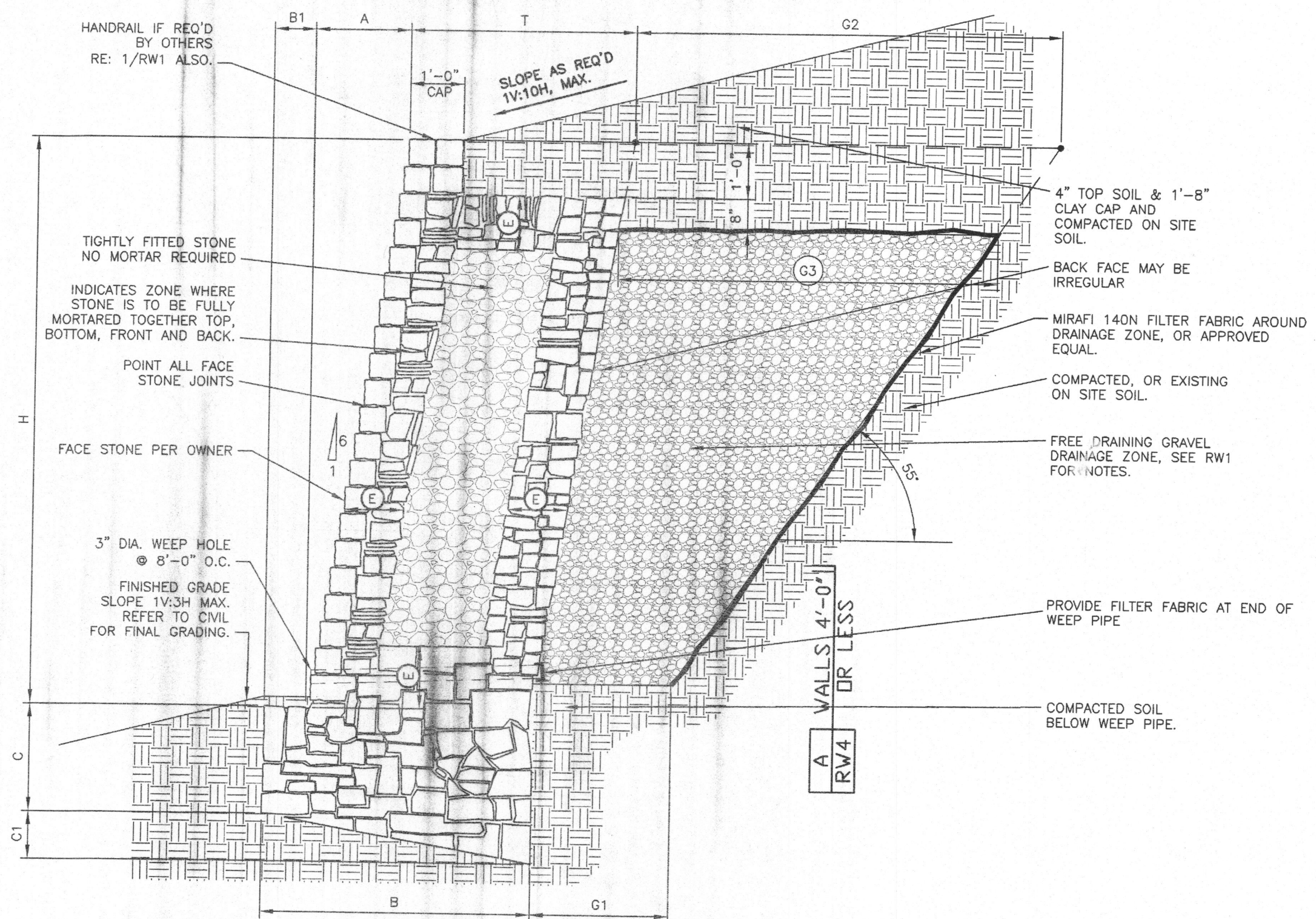
RPM XCONSTRUCTION, LLC
PLANO, TEXAS

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DATE



JOB NO. 285.14
RW3



MASONRY WALL SCHEDULE
1500 psf - BEARING CAPACITY (STIFF NATURAL UNDISTURBED SOILS OR COMPACTED AND TESTED SOILS SEE GENERAL NOTES SHEET RW1)

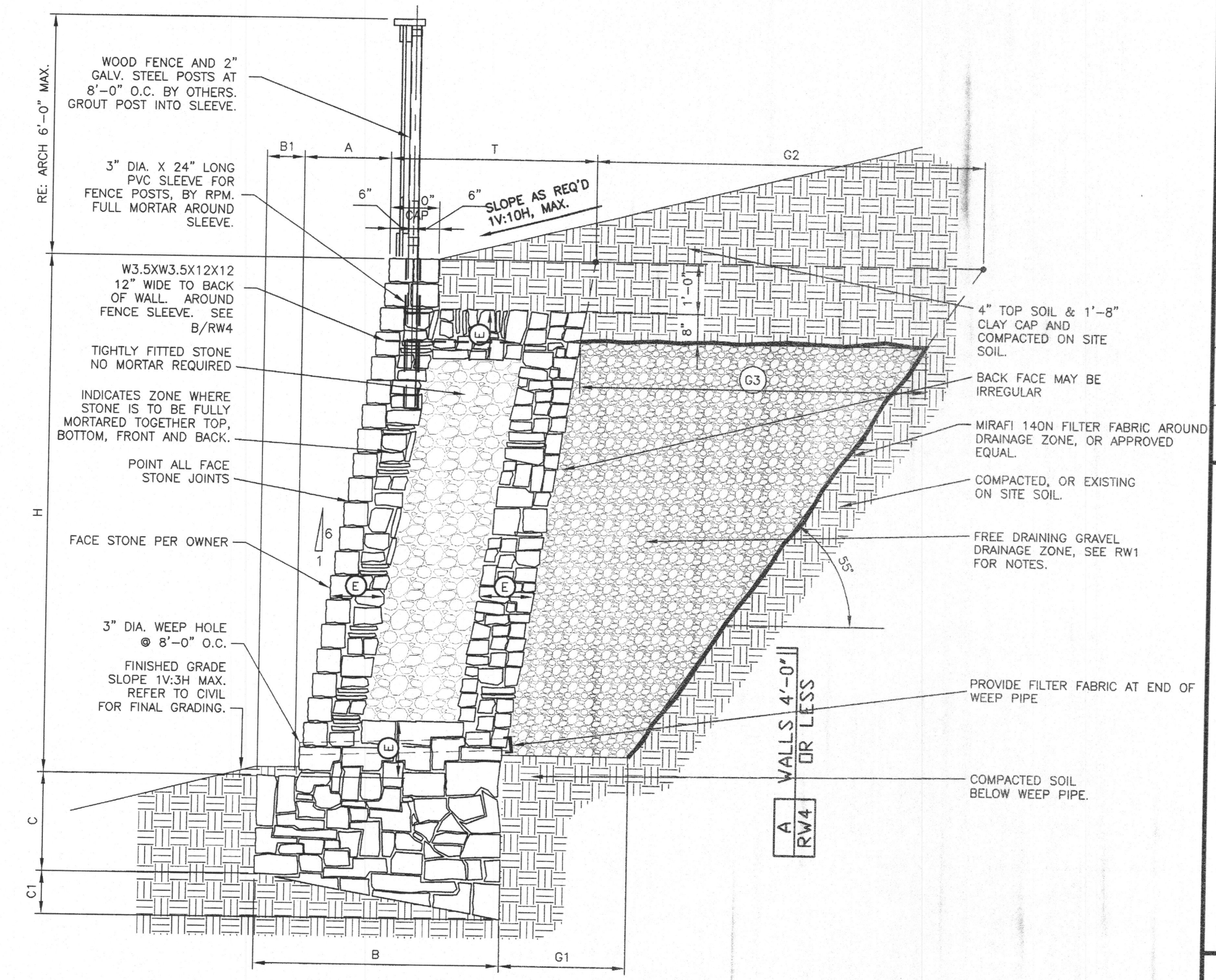
WALL HEIGHT H	BASE WIDTH B	TOE B1	BASE DEPTH (TOE) C	BASE DEPTH (HEEL) C1	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	GRAVEL (BOTTOM) G1	GRAVEL (TOP) G2	GRAVEL G3	BEARING CAPACITY
1'-0"	1'-3"	0'-3"	0'-6"	0'-2"	0'-2"	FULLY MORTARED	1'-0"	SEE A/RW4	SEE A/RW4	SEE A/RW4	1500 psf
2'-0"	1'-3"	0'-3"	0'-9"	0'-3"	0'-4"	FULLY MORTARED	1'-0"	SEE A/RW4	SEE A/RW4	SEE A/RW4	
3'-0"	1'-9"	0'-4"	0'-9"	0'-4"	0'-6"	FULLY MORTARED	1'-5"	SEE A/RW4	SEE A/RW4	SEE A/RW4	
4'-0"	2'-3"	0'-5"	1'-0"	0'-5"	0'-8"	FULLY MORTARED	1'-10"	SEE A/RW4	SEE A/RW4	SEE A/RW4	
5'-0"	2'-4"	0'-5"	1'-3"	0'-6"	0'-10"	FULLY MORTARED	0'-8"	1'-6"	3'-11"	3'-0"	
6'-0"	2'-8"	0'-6"	1'-3"	0'-6"	1'-0"	0'-10"	2'-2"	1'-8"	4'-7"	3'-9"	

WALL DESIGN CRITERIA

BEARING Q _u	SLOPE TOP β	SLOPE BOT β ₁	ACTIVE PRESSURE WALLS <4' H	ACTIVE PRESSURE WALLS >4' H	PASSIVE PRESSURE P _o	FRICTION ANGLE BASE α	SLOPE OF BACK OF WALL φ	SURCHARGE q	WINDLOAD WL
1500PSF	5.71 deg	18.4 deg	26 deg	35 deg	26 deg	17 deg	99.46 deg	0 psf	15 psf

USE THIS SCHEDULE FOR 2/RW4

2
RW4
TYPICAL WALL SECTION - 1V:10H MAX SLOPE ABOVE WALL BEARING IN CLAYEY SOILS



MASONRY WALL SCHEDULE
1500 psf - BEARING CAPACITY (STIFF NATURAL UNDISTURBED SOILS OR COMPACTED AND TESTED SOILS SEE GENERAL NOTES SHEET RW1)

WALL HEIGHT H	BASE WIDTH B	TOE B1	BASE DEPTH (TOE) C	BASE DEPTH (HEEL) C1	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	GRAVEL (BOTTOM) G1	GRAVEL (TOP) G2	GRAVEL G3	BEARING CAPACITY
1'-0"	2'-1"	0'-5"	1'-0"	0'-5"	0'-2"	FULLY MORTARED	1'-8"	SEE A/RW4	SEE A/RW4	SEE A/RW4	1500 psf
2'-0"	2'-1"	0'-5"	1'-0"	0'-5"	0'-4"	FULLY MORTARED	1'-8"	SEE A/RW4	SEE A/RW4	SEE A/RW4	
3'-0"	2'-1"	0'-5"	1'-3"	0'-4"	0'-6"	FULLY MORTARED	1'-8"	SEE A/RW4	SEE A/RW4	SEE A/RW4	
4'-0"	2'-3"	0'-5"	1'-6"	0'-5"	0'-8"	FULLY MORTARED	1'-10"	SEE A/RW4	SEE A/RW4	SEE A/RW4	
5'-0"	2'-5"	0'-5"	1'-9"	0'-6"	0'-10"	FULLY MORTARED	2'-0"	1'-6"	3'-11"	3'-0"	
6'-0"	2'-9"	0'-6"	2'-0"	0'-6"	1'-0"	0'-10"	2'-3"	1'-8"	4'-7"	3'-9"	

WALL DESIGN CRITERIA

BEARING Q _u	SLOPE TOP β	SLOPE BOT β ₁	ACTIVE PRESSURE WALLS <4' H	ACTIVE PRESSURE WALLS >4' H	PASSIVE PRESSURE P _o	FRICTION ANGLE BASE α	SLOPE OF BACK OF WALL φ	SURCHARGE q	WINDLOAD WL
1500PSF	5.71 deg	18.4 deg	26 deg	35 deg	26 deg	17 deg	99.46 deg	0 psf	15 psf

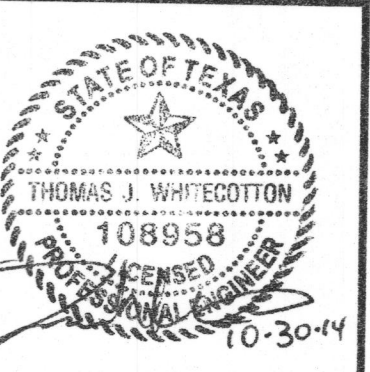
USE THIS SCHEDULE FOR 1/RW4

1
RW4
TYPICAL WALL SECTION - 1V:10H MAX SLOPE ABOVE WALL BEARING IN CLAYEY SOILS - WITH 6'-0" WOOD FENCE IN CAP OF WALL

FALKOFSKE ENGINEERING, INC.
Structural Engineering Consultants
Texas Registered Engineering Firm: # F-4038
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(817) 261-8300

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MASONRY RETAINING WALLS
STONE CREEK PHASE 6
DALTON ROAD NEAR BORDEAUX DRIVE
ROCKWALL, TEXAS
RPM xCONSTRUCTION, LLC
PLANO, TEXAS



JOB NO. 285.14
RW4

RELEASED FOR CONSTRUCTION
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DATE	BY	NO.	DATE	REVISION	BY
10-30-14	TJW				
10-30-14	TJW				
10-30-14	AMB				