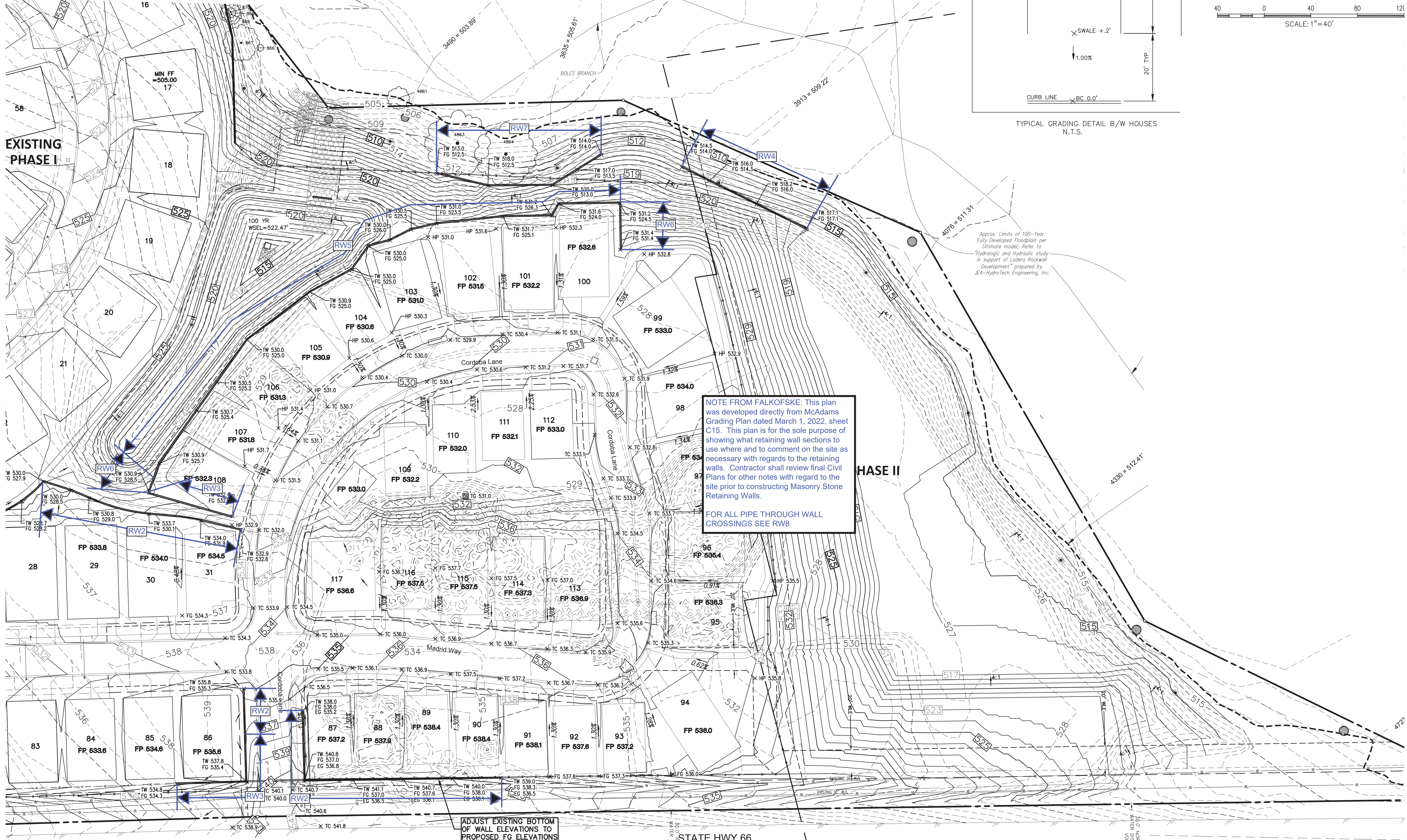
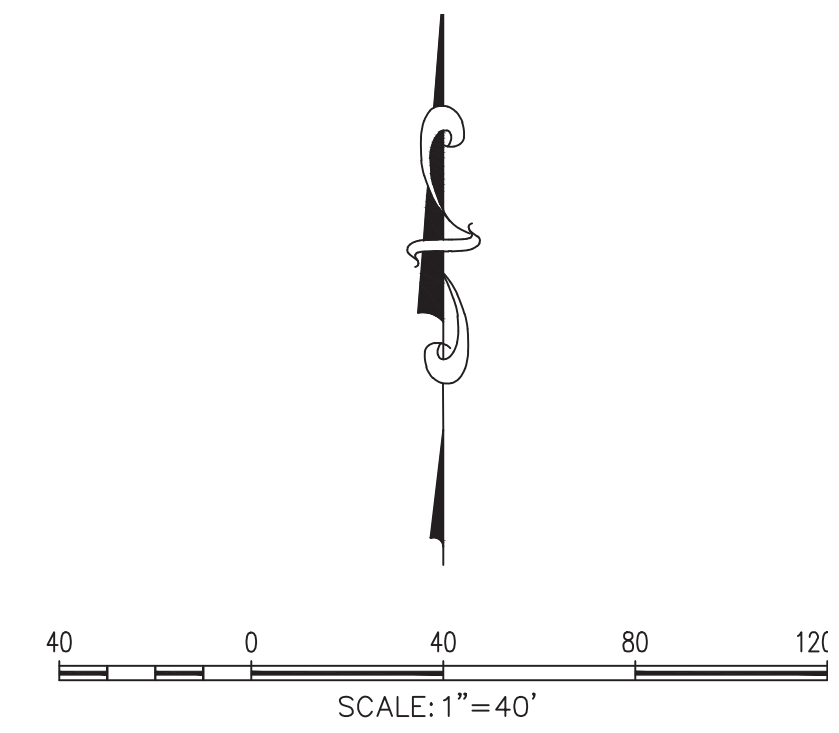
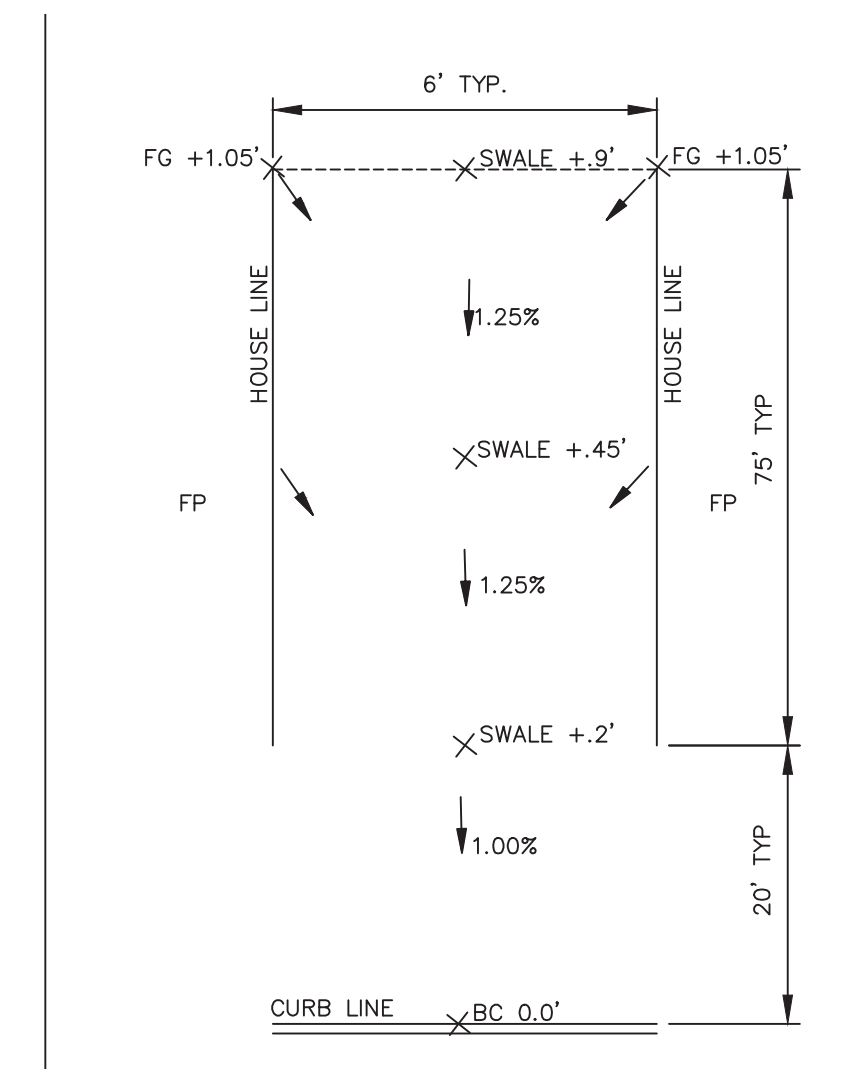


TYPICAL FINISHED CROSS SECTION BETWEEN PADS
N.T.S.

NOTE:
 1) SUBSURFACE DRAIN TO BE CONNECTED TO POPUP EMITTER AT THE BACK OF CURB WHEN HOUSE IS BEING CONSTRUCTED.
 2) IF THE 16" OF MAX EXPOSED BEAM CANNOT BE ACHIEVED, A DROPPED BEAM OR ADDITIONAL SIDEYARD DRAINAGE COORDINATION MUST BE NOTED ON THE PLOT PLAN.



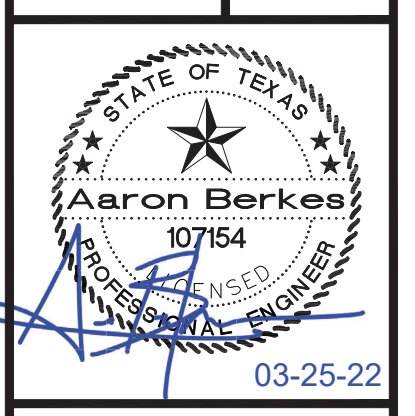
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03-25-22	AMB							
03-25-22	EG							
03-25-22	AMB							

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 Structural Engineering Consultants
 TX Reg. Engineering Firm F-4038
 722 North Fielder Road
 Arlington, Texas 76012
 (817) 261-8300

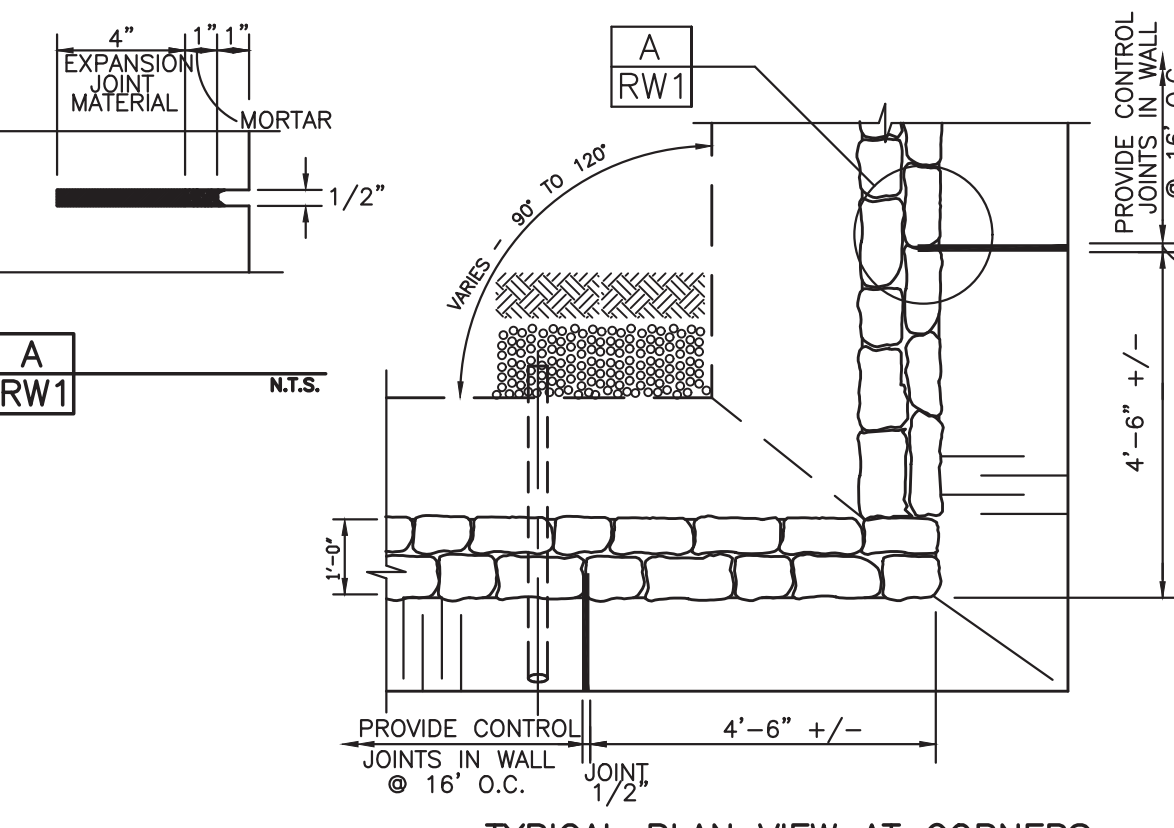
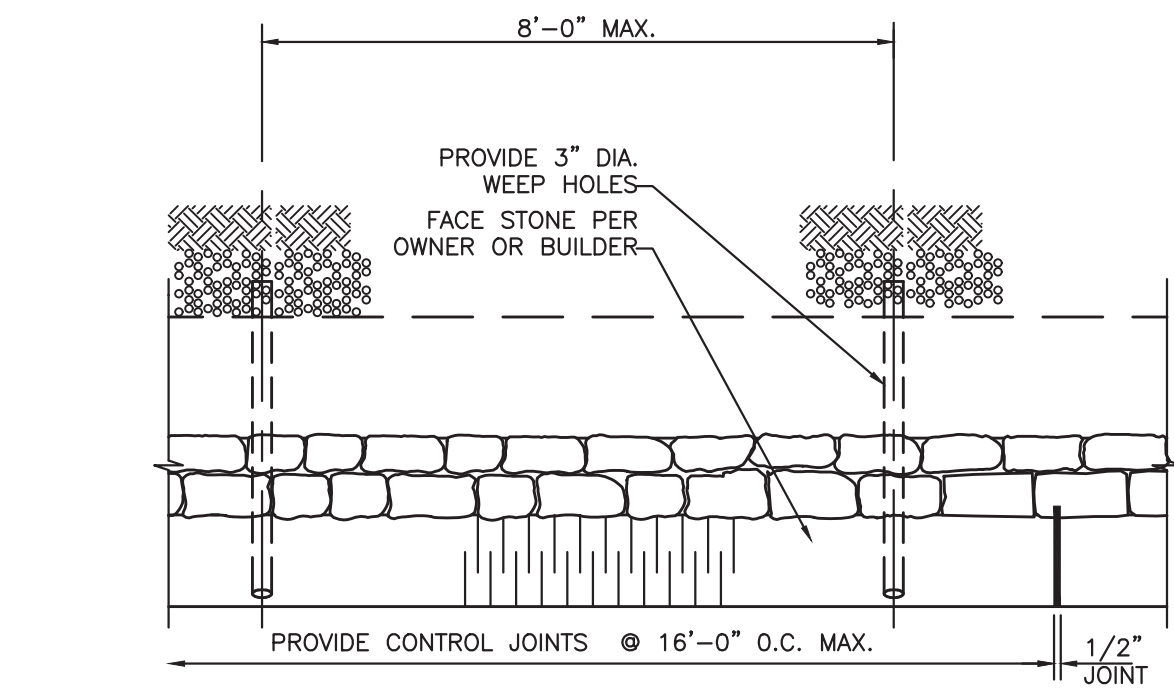
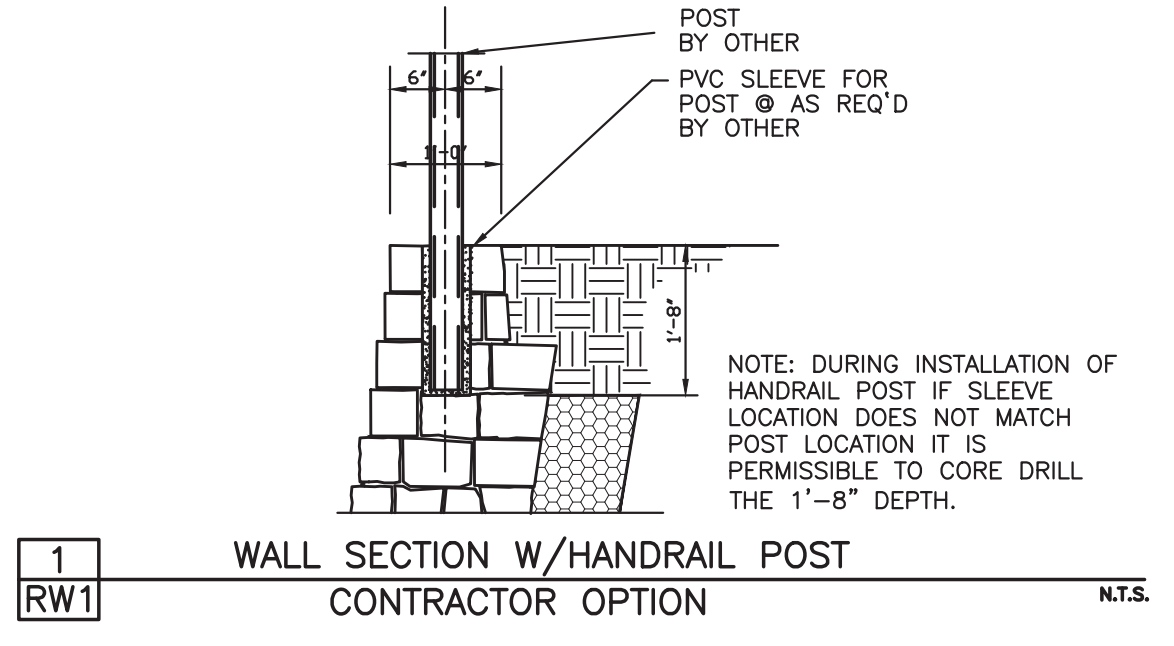
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MASONRY RETAINING WALLS - SITE PLAN
 LADERA ROCKWALL PHASE 2
 STATE HIGHWAY 66
 ROCKWALL, TEXAS

INTEGRITY GROUP, LLC
 361 W BYRON NELSON BLVD., STE 104
 ROANOKE, TEXAS 76262



JOB NO. 39.22
 SP1



GENERAL NOTES

1. Design

1.1. Design Codes

International Building Code, 2015 Edition

1.2. Geotechnical Report

Firm: Ellerbe-Walczak, Inc.
 Report No. IG216072R Dated: July 14, 2021
 Allowable Bearing Capacity 1500 psf, 2500 psf (Remediated Base) & 4000 psf

1.3. Design Parameters

Soil Type*	Friction Angle	Cohesion (psf)	Unit Weight (pcf)
Retained Backfill (On site clay)	26 deg	0 psf	120 pcf
Foundation Soils (1500 psf)	26 deg	0 psf	120 pcf
Remediated Base (2500 psf)	35 deg	0 psf	135 pcf
Foundation Soils (4000 psf)	35 deg	0 psf	135 pcf

*See materials below for a description of each Soil Type.

Factors of Safety:

- External Stability
- Minimum Factor of Safety Against Base Sliding (Static Condition) 1.5
 - Minimum Factor of Safety Against Overturning 2.0
 - Minimum Factor of Safety Against Global Stability 1.5
 - Minimum Factor of Safety for Bearing Capacity 3.0

Design Loading:

Lateral earth pressures are calculated using Coulombs Lateral Earth Pressure Theory. Designs have been performed to accept loading per the proposed loading conditions based on the Civil Grading Plans. A live loading of 250 psf has been used for all walls supporting areas subject to firelane loading.

Retaining walls should not have solid fence (such as wood 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.

2. Materials

2.1. Soil Types

- Retained Backfill
 - On site clayey soils
 - Properly compacted on-site fill soils, verification by others.
 - Free draining granular backfill, clean, non-plastic, relatively well-graded.
- Foundation Soils (Allowable Bearing = 1500 psf min)
 - Bearing on Stiff Natural Undisturbed Clayey or Sandy Soils or Compacted and Tested Fill Soils
 - Friction Angle between Base of Wall and Soil - 17 deg
 - Bearing in fill soils. Fill soils supporting the retaining walls shall be placed in accordance with the recommendations for the fill placement per the geotechnical report.
- Foundation Soils (Allowable Bearing = 2500 psf min)
 - Bearing on Remediated Bases
 - Friction Angle between Base of Wall and Soil - 28 deg
 - Material per dimension stone, section 2.2
- Foundation Soils (Allowable Bearing = 4000 psf min)
 - Bearing on Bedrock
 - Friction Angle between Base of Wall and Soil - 23 deg
 - Bedrock Passive Pressure at toe = 400 psf
- Drainage Material
 - Free draining granular backfill, clean, non-plastic, relatively well-graded.

2.2. Dimension Stone

- Average Density of masonry wall varies from 135pcf to 145pcf.
- Stone size varies from 4" to 18".
- Face stone shall be coordinated between contractor and owner/developer.
- Recycled concrete 4" to 18" may be used in place of dimension stone, contractors option.

2.3. Rebar/Welded Wire Fabric (If Required)

- All steel reinforcement shall be new billet steel conforming to ASTM A-615, Grade 60 with fy=60ksi.
- All reinforcement shall not have deleterious material on it.
- All welded wire fabric shall have minimum fy=65ksi and be hot dip galvanized.

2.4. Drainage Materials

- Weep pipes shall be PVC or corrugated HDPE pipe.
- Drainage zone shall be separated from retained backfill by mirafi 140N filter fabric or approved equal.

2.5 Portland Cement Mortar for Retaining Wall Construction.

The portland cement mortar used for construction of the masonry stone 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 truck load. The batch tickets shall clearly indicate the amount batched, the date, the project name and shall be provided to Falkofske Engineering, Inc. for review, documentation, and file.

Contents	Amount per cubic yard	Specific Gravity	Volume ft ³
Type 1 Portland cement:	451 lbs	3.15	2.29
Type F Fly Ash	113 lbs	2.93	0.62
Fine Aggregate (sand):	2746 lbs	2.59	16.99
Potable Water	367 lbs	44 Gallons	5.88
Sika Air (or equivalent)	(AS REQ'D) oz	4.5%	1.22
			27.0 Total

Note: the portland cement mortar supplier material weights may vary slightly based on the specific gravity of the materials used.

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 fc = 2500 psi. Falkofske Engineering, Inc. does not require any concrete testing provided the above proportions are verified by way of the "batch tickets".

3. Construction

3.1 Preparation Work

- Prior to grading or excavation of the site, confirm the location of the retaining walls and all underground features, including utility location within the area of construction. Ensure surrounding structures are protected from effects of wall excavation, and construction.
- Coordinate installation of underground utilities and other improvements with wall installation.

3.2 Excavation

- If a mortared footing is over-excavated, then the dimension stone shall be placed mortared. If a dry stone footing is over excavated, then the dimension stone does not need to be mortared.
- Fill over-excavated area in front of the wall footing with compacted on site soils before the wall construction exceeds 4 feet in height.
- In areas where the walls are installed in a cut, the required excavation shall extend horizontally to the extent of the width of the retaining wall. The wall may be built to the cut. If the wall is over cut, then soil shall either be compacted or the drainage zone may be widened.

3.3 Wall Construction

- The wall shall be constructed to the dimensions as shown on these plans. Front leads, back leads, and string lines shall be set for each wall. Care shall be taken to install the mortar zones the correct thickness, and to place drainage behind the wall as required.
- Control joints shall be installed at a maximum of 16'-0" o.c. per these plans.
- Weep pipes shall be placed at 8'-0" o.c. max.
- Face rock type shall be coordinated between the architect, owner, and retaining wall contractor.

3.4 Retained Backfill Placement

- Retained backfill shall be placed per the recommendations of the geotechnical engineer, but should not be less than 93% Standard Proctor Maximum Dry Density (ASTM D698).
- Fill should be placed in maximum 8" thick compacted lifts.
- Large compaction equipment (equipment heavier than 7,500 lb) shall remain a minimum of 1.5x the height of the wall away from the back of the wall for a period of 2 weeks from the time of construction.
- After a period of 2 weeks from the time of construction large compaction equipment may be used behind the wall but shall stay a minimum of 5'-0" away from the back of the wall.
- Soil placed with in 5'-0" of the back of the wall shall be placed using handheld compaction equipment.
- If the wall is in a cut situation the wall may be built up to the cut. If the wall is overcut the drainage zone may be widened to the cut or compacted fill may be placed between the drainage zone and the cut.

3.6 Retaining Wall Performance, Maintenance, and Other Comments

- Control joints are provided in the retaining wall to allow for minor movements due to settlement and shrink swell of the soils. Some cracking may occur in the face of the retaining wall. This cracking, if minor (less than 3/8"), may be cosmetically repaired as desired.
- The retaining walls are designed to allow surface water to flow over the tops of the retaining walls. Care should be taken during and after construction to not allow water to pond behind the retaining walls, as this can have a negative impact on the stability of the retaining walls.
- If downspouts are located near the back of the retaining wall they should either be plumbed through the retaining wall to drain below the wall or collected and tied into the storm sewer system. Perforated subsurface pipes shall not be used behind the retaining walls.
- Positive drainage over the top of the walls shall be maintained throughout the life of the structure. If swales are placed behind the wall they shall remain clean and free draining. If water is found to be ponding in the swale it shall be fixed to allow water to freely drain as soon as possible.
- Any broken sprinklers behind the retaining wall shall be turned off and repaired as soon as possible.

3.7 Cold Weather Construction of Retaining Walls

Construction Requirements for temperatures between 40°F and 32°F:

- Water and aggregates used in mortar shall not be heated above 140°F.
- Mortar sand or mixing water shall be heated to produce mortar temperatures between 40°F and 120°F at the time of mixing.

Construction Requirements for temperatures between 32°F and 25°F:

- The guidelines above for construction requirements for temperatures between 40°F and 32°F and the following shall be met.
- The mortar temperature shall be maintained above freezing until used in masonry stone retaining wall.
- Visible ice and snow shall be removed from the top surface of existing foundations and masonry to receive new construction. These surfaces shall be heated to above freezing, using methods that do not result in damage.
- Newly constructed masonry shall be completely covered with weather-resistive membrane for 48 hours after being completed.

Construction Requirements for temperatures between 25°F and 20°F:

- The guidelines above for construction requirements for temperatures between 40°F and 32°F, the construction guidelines for temperatures between 32°F and 25°F, and the following shall be met.
- Masonry (raw stone) surfaces under construction shall be heated to 40°F.
- Wind breaks or enclosures shall be provided when the wind velocity exceeds 15 miles per hour.
- Newly constructed masonry shall be completely covered with weather-resistive insulating blankets, or equal protection, for 48 hours after being completed.

The above procedures comes from sections 2104.3.2.1, 2104.3.2.2, 2104.3.2.3, 2104.3.3.3, and 2104.3.3.4 of the International Building Code, and is in compliance with Masonry Standards Joint Committee recommendations for cold weather construction of masonry structures.

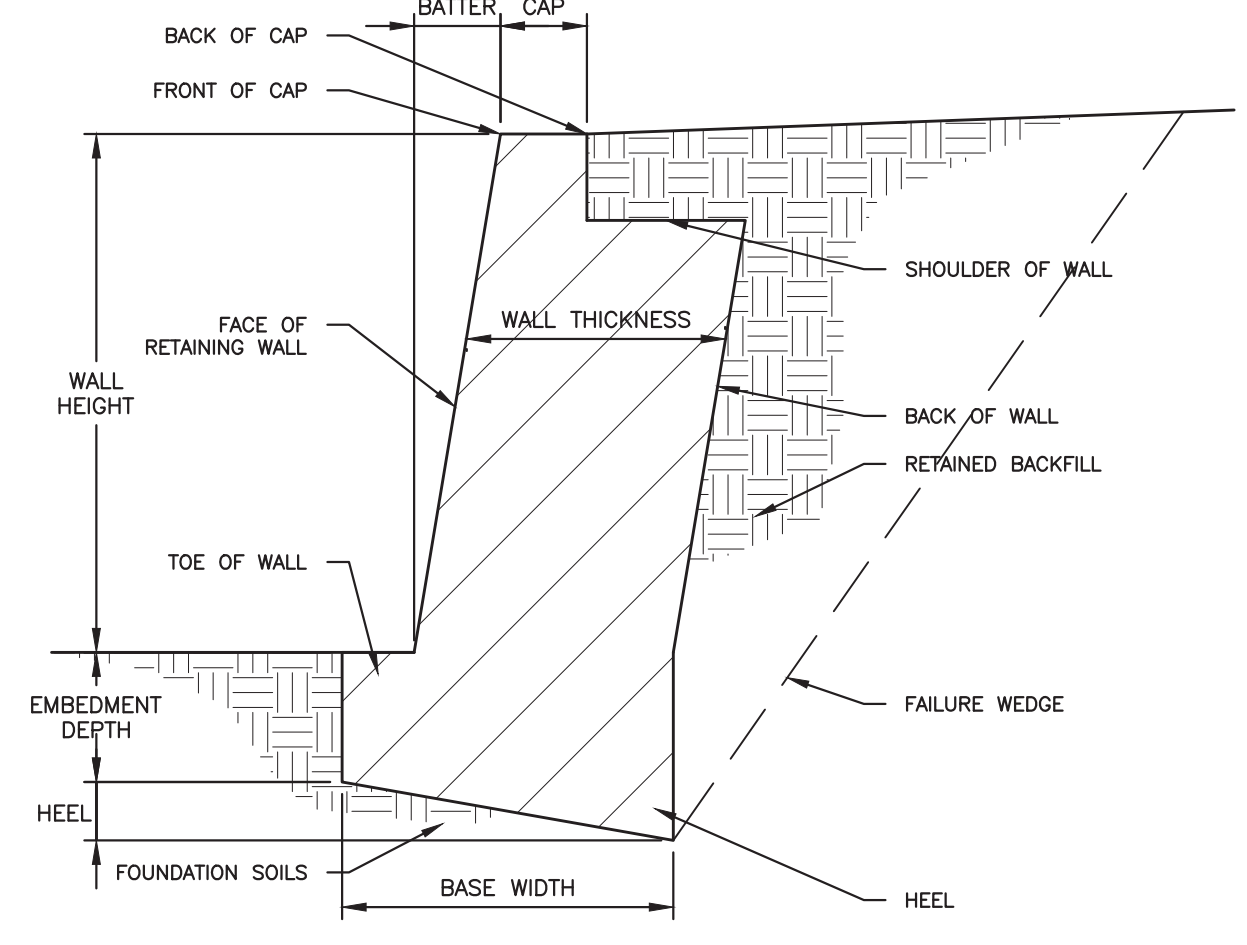
4. Construction Observations

4.1 Construction Observations by Falkofske Engineering, Inc.

- Falkofske Engineering, Inc. will perform construction observation, but only as a means of verification of the contractors quality control performance.
- Falkofske Engineering, Inc. will act as the Special Inspector for this project. Contractor shall contact Falkofske Engineering to set up inspections, at least 1 day before construction starts.
- All required materials testing shall be performed by an approved materials testing laboratory.
- Falkofske Engineering, inc. is not responsible for means, methods, and material furnished by the retaining wall contractor.

4.2 Construction Observations by Others

- Construction observations as required by the city shall be coordinated by the contractor.



LEGEND

DATE	BY	DES.	DRN.	CHK.	NO.	DATE	REVISION	BY
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03-25-22								
03-25-22								

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 Structural Engineering Consultants
 TX Reg. Engineering Firm F-4038
 722 North Fielder Road
 Arlington, Texas 76012
 (817) 261-8300

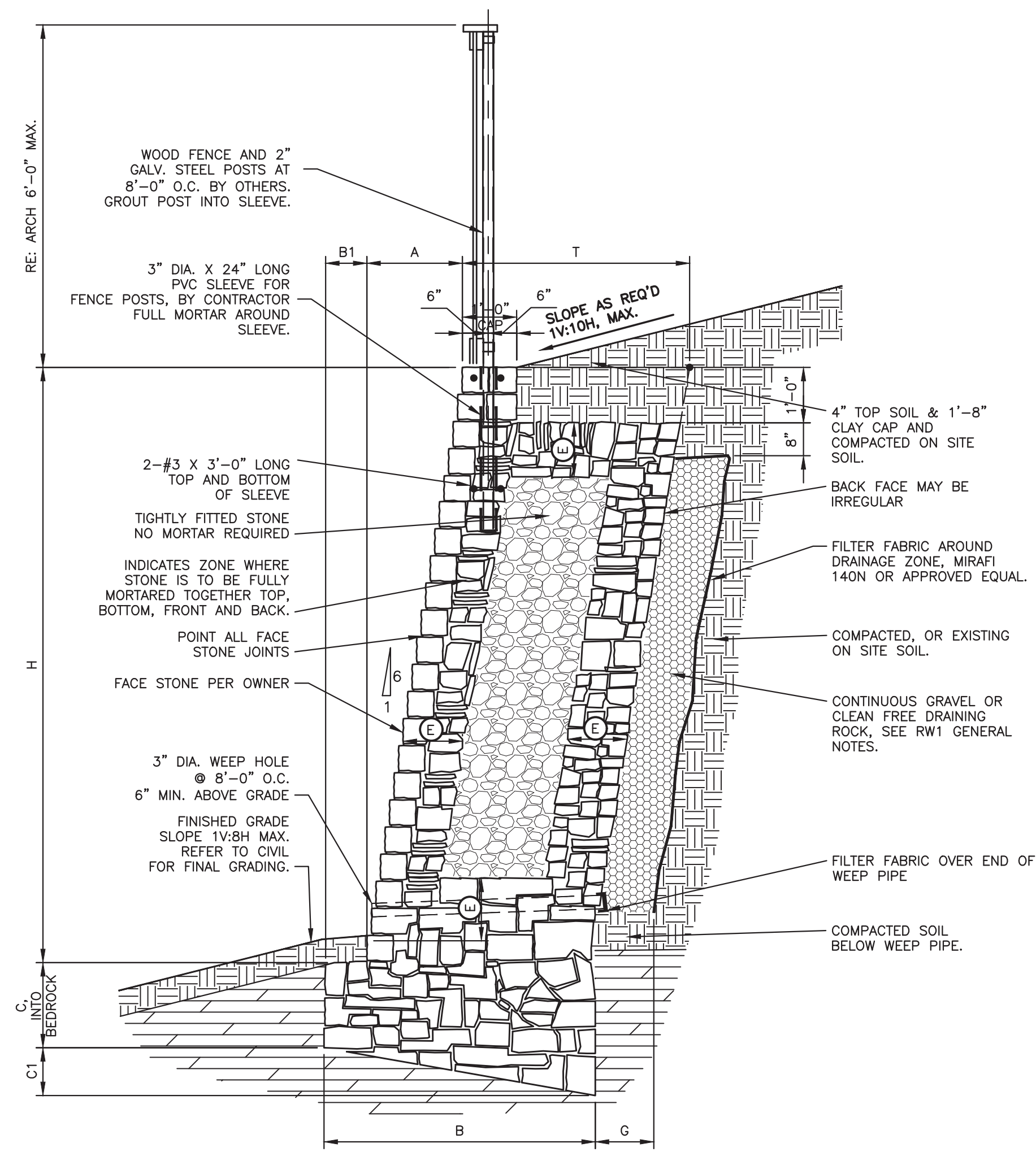
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MASONRY RETAINING WALLS - NOTES & STANDARD DETAILS
 LADERA ROCKWALL PHASE 2
 STATE HIGHWAY 66
 ROCKWALL, TEXAS

INTEGRITY GROUP, LLC
 361 W BYRON NELSON BLVD., STE 104
 ROANOKE, TEXAS 76262

JOB NO. 39.22

RW1



MASONRY WALL SCHEDULE
4000 psf - BEARING CAPACITY (BEARING ON BEDROCK 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	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY
1'-0"	2'-2"	0'-6"	0'-6"	0'-5"	0'-2"	FULLY MORTARED	1'-8"	1'-0"	4000 psf
2'-0"	2'-2"	0'-6"	0'-6"	0'-5"	0'-4"	FULLY MORTARED	1'-8"	1'-0"	
3'-0"	2'-2"	0'-6"	0'-9"	0'-5"	0'-6"	FULLY MORTARED	1'-8"	1'-0"	
4'-0"	2'-2"	0'-6"	0'-9"	0'-5"	0'-8"	FULLY MORTARED	1'-8"	1'-0"	
5'-0"	2'-8"	0'-6"	1'-0"	0'-6"	0'-10"	FULLY MORTARED	2'-2"	1'-0"	

WALL DESIGN CRITERIA

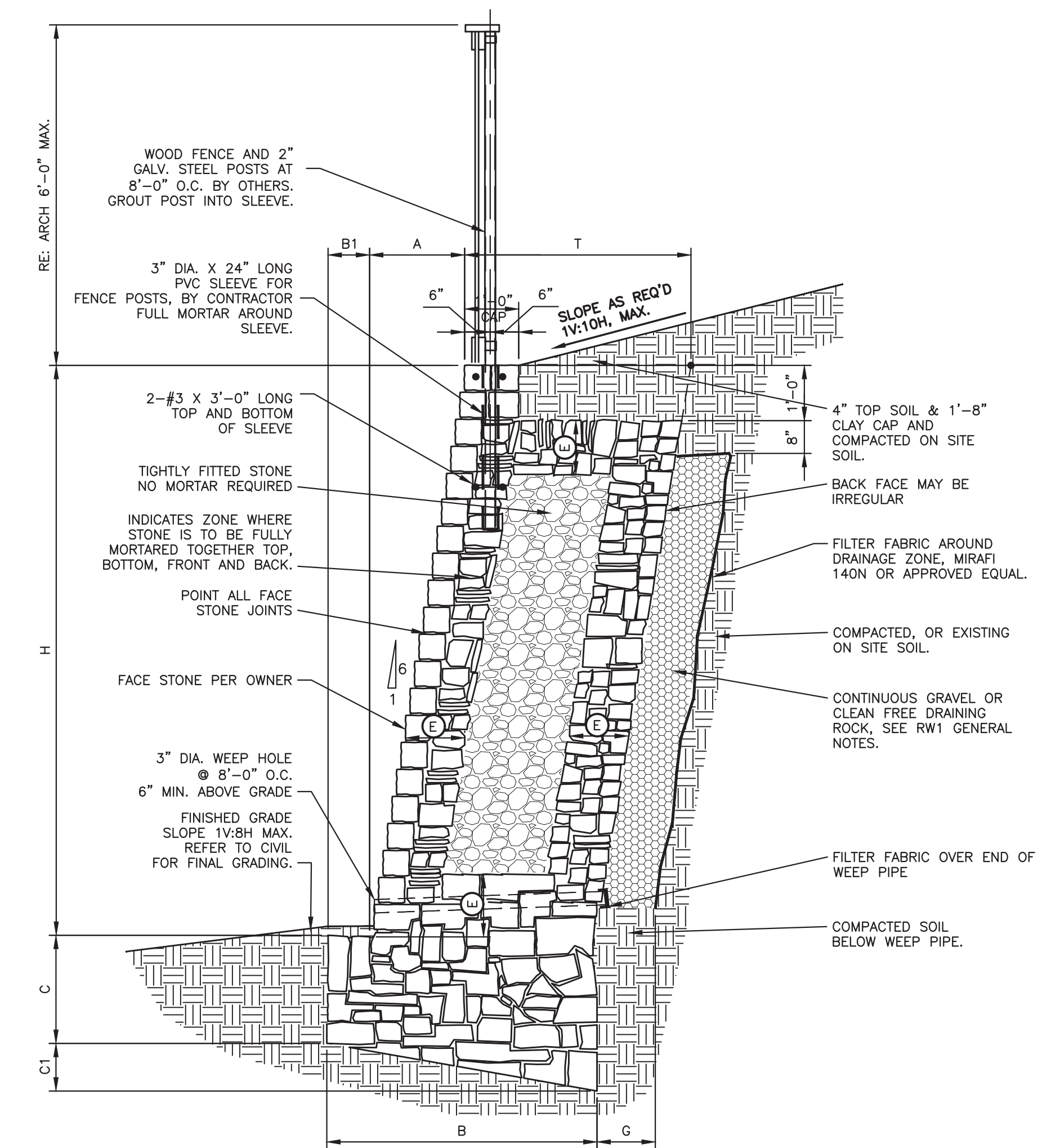
BEARING Qa	SLOPE TOP β	SLOPE BOT β1	ACTIVE PRESSURE Qa	PASSIVE PRESSURE Qp	FRICTION ANGLE δ	SLOPE OF BACK OF WALL α	SURCHARGE q	WIND LOAD W
4000PSF	5.71 deg	7.13 deg	26 deg	400 PSF	23 deg	99.46 deg	0 psf	15 psf

USE THIS SCHEDULE FOR 2/RW2

2
RW2

TYPICAL WALL SECTION
BEARING IN BEDROCK
MAX SLOPE ABOVE WALL 1V:10H
MAX SLOPE BELOW WALL 1V:8H

1/8" = 1'-0"



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	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY
1'-0"	2'-2"	0'-6"	0'-9"	0'-5"	0'-2"	FULLY MORTARED	1'-8"	1'-0"	1500 psf
2'-0"	2'-2"	0'-6"	0'-9"	0'-5"	0'-4"	FULLY MORTARED	1'-8"	1'-0"	
3'-0"	2'-2"	0'-6"	0'-9"	0'-5"	0'-6"	FULLY MORTARED	1'-8"	1'-0"	
4'-0"	2'-4"	0'-6"	1'-0"	0'-5"	0'-8"	FULLY MORTARED	1'-10"	1'-0"	
5'-0"	2'-10"	0'-6"	1'-3"	0'-6"	0'-10"	FULLY MORTARED	2'-4"	1'-0"	

WALL DESIGN CRITERIA

BEARING Qa	SLOPE TOP β	SLOPE BOT β1	ACTIVE PRESSURE Qa	PASSIVE PRESSURE Qp	FRICTION ANGLE δ	SLOPE OF BACK OF WALL α	SURCHARGE q	WIND LOAD W
1500PSF	5.71 deg	7.13 deg	26 deg	26 deg	17 deg	99.46 deg	0 psf	15 psf

USE THIS SCHEDULE FOR 1/RW2

1
RW2

TYPICAL WALL SECTION
1V:10H MAX SLOPE ABOVE WALL
1V:8H MAX SLOPE BELOW WALL
BEARING IN CLAYEY SOILS

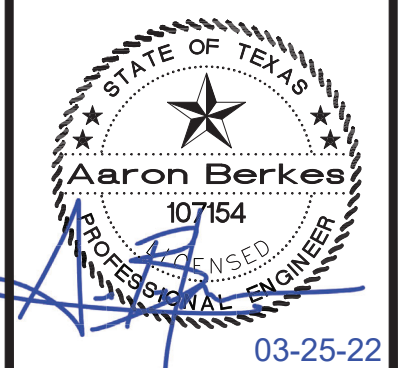
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722 North Fielder Road
Arlington, Texas 76012
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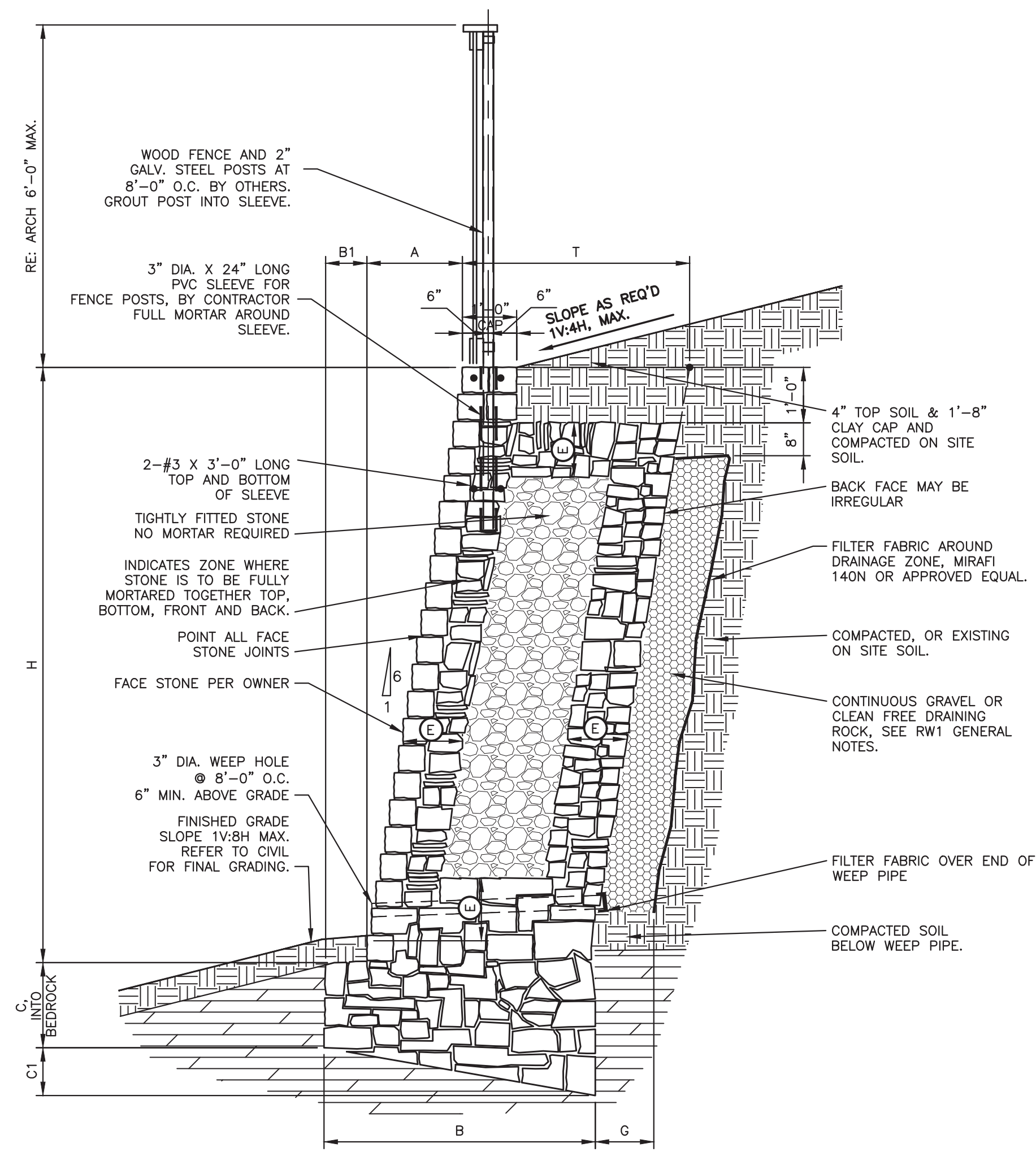
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MASONRY RETAINING WALLS
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STATE HIGHWAY 66
ROCKWALL, TEXAS

INTEGRITY GROUP, LLC
361 W BYRON NELSON BLVD., STE 104
ROANOKE, TEXAS 76262



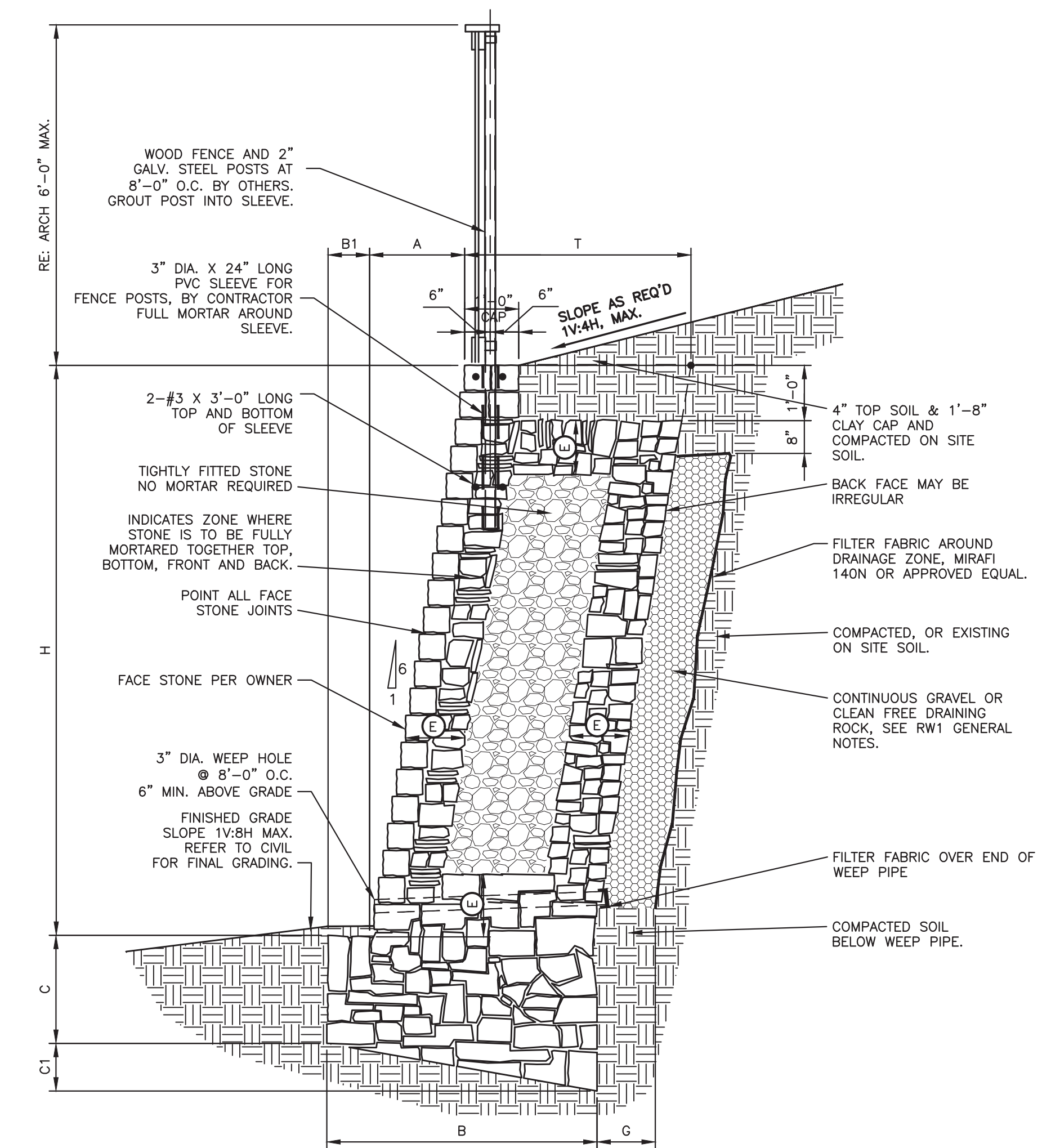
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RW2



2
RW3

TYPICAL WALL SECTION
BEARING IN BEDROCK
MAX SLOPE ABOVE WALL 1V:4H
MAX SLOPE BELOW WALL 1V:8H

1/2" = 1'-0"



1
RW3

TYPICAL WALL SECTION
1V:4H MAX SLOPE ABOVE WALL
1V:8H MAX SLOPE BELOW WALL
BEARING IN CLAYEY SOILS

MASONRY WALL SCHEDULE									
4000 psf - BEARING CAPACITY (BEARING ON BEDROCK SEE GENERAL NOTES SHEET RW1)									
WALL HEIGHT H	BASE WIDTH B	TOE DEPTH B1	BASE DEPTH (TOE) C	BASE DEPTH (HEEL) C1	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY
1'-0"	2'-2"	0'-6"	0'-6"	0'-5"	0'-2"	FULLY MORTARED	1'-8"	1'-0"	4000 psf
2'-0"	2'-2"	0'-6"	0'-6"	0'-5"	0'-4"	FULLY MORTARED	1'-8"	1'-0"	
3'-0"	2'-2"	0'-6"	0'-9"	0'-5"	0'-6"	FULLY MORTARED	1'-8"	1'-0"	
4'-0"	2'-2"	0'-6"	0'-9"	0'-5"	0'-8"	FULLY MORTARED	1'-8"	1'-0"	
5'-0"	3'-0"	0'-6"	1'-0"	0'-7"	0'-10"	FULLY MORTARED	2'-6"	1'-0"	
6'-0"	3'-7"	0'-7"	1'-0"	0'-8"	1'-0"	1'-0"	3'-0"	1'-0"	
7'-0"	4'-2"	0'-8"	1'-0"	0'-9"	1'-2"	1'-0"	3'-6"	1'-0"	
WALL DESIGN CRITERIA									
BEARING Qa	SLOPE TOP β	SLOPE BOT β1	ACTIVE PRESSURE Qa	PASSIVE PRESSURE Qp	FRICTION ANGLE BASE δ	SLOPE OF BACK OF WALL α	SURCHARGE c	WIND LOAD W	
4000PSF	14 deg	7.13 deg	26 deg	400 PSF	23 deg	99.46 deg	0 psf	15 psf	

USE THIS SCHEDULE FOR 2/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 DEPTH B1	BASE DEPTH (TOE) C	BASE DEPTH (HEEL) C1	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY
1'-0"	2'-2"	0'-6"	1'-0"	0'-5"	0'-2"	FULLY MORTARED	1'-8"	1'-0"	1500 psf
2'-0"	2'-2"	0'-6"	1'-0"	0'-5"	0'-4"	FULLY MORTARED	1'-8"	1'-0"	
3'-0"	2'-2"	0'-6"	1'-0"	0'-5"	0'-6"	FULLY MORTARED	1'-8"	1'-0"	
4'-0"	2'-8"	0'-6"	1'-0"	0'-6"	0'-8"	FULLY MORTARED	2'-2"	1'-0"	
5'-0"	3'-4"	0'-6"	1'-3"	0'-8"	0'-10"	0'-9"	2'-10"	1'-0"	
6'-0"	4'-0"	0'-7"	1'-6"	0'-9"	1'-0"	1'-0"	3'-5"	1'-0"	
7'-0"	4'-9"	0'-8"	1'-9"	0'-11"	1'-2"	1'-0"	4'-1"	1'-0"	
WALL DESIGN CRITERIA									
BEARING Qa	SLOPE TOP β	SLOPE BOT β1	ACTIVE PRESSURE Qa	PASSIVE PRESSURE Qp	FRICTION ANGLE BASE δ	SLOPE OF BACK OF WALL α	SURCHARGE c	WIND LOAD W	
1500PSF	14 deg	7.13 deg	26 deg	26 deg	17 deg	99.46 deg	0 psf	15 psf	

USE THIS SCHEDULE FOR 1/RW3

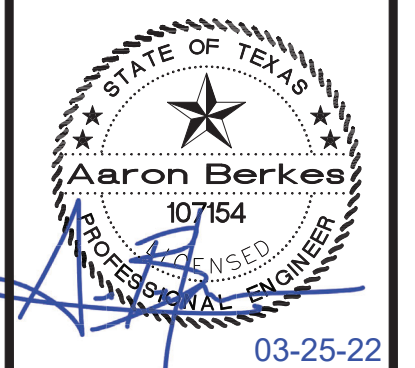
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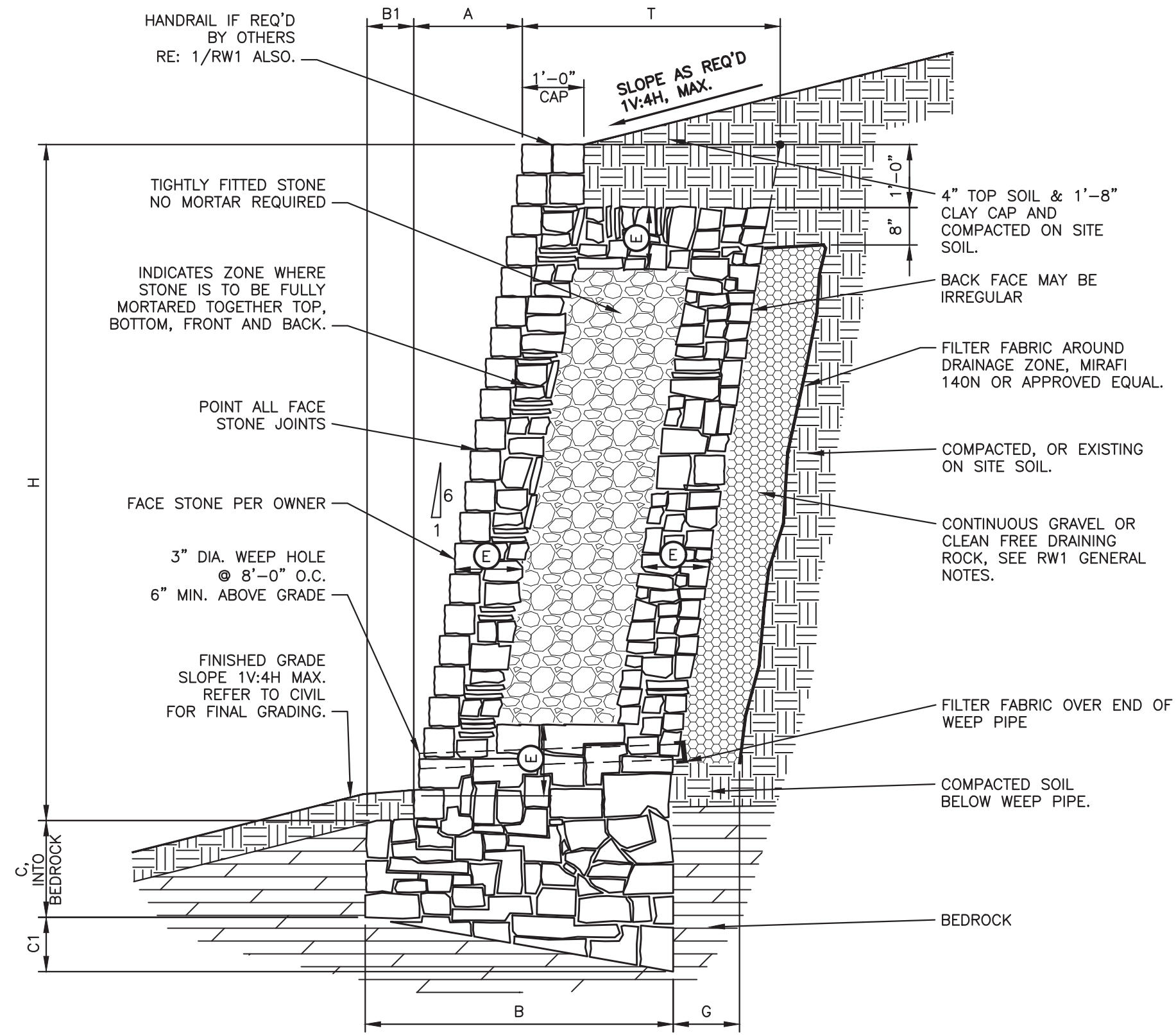
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JOB NO. 39.22

RW3



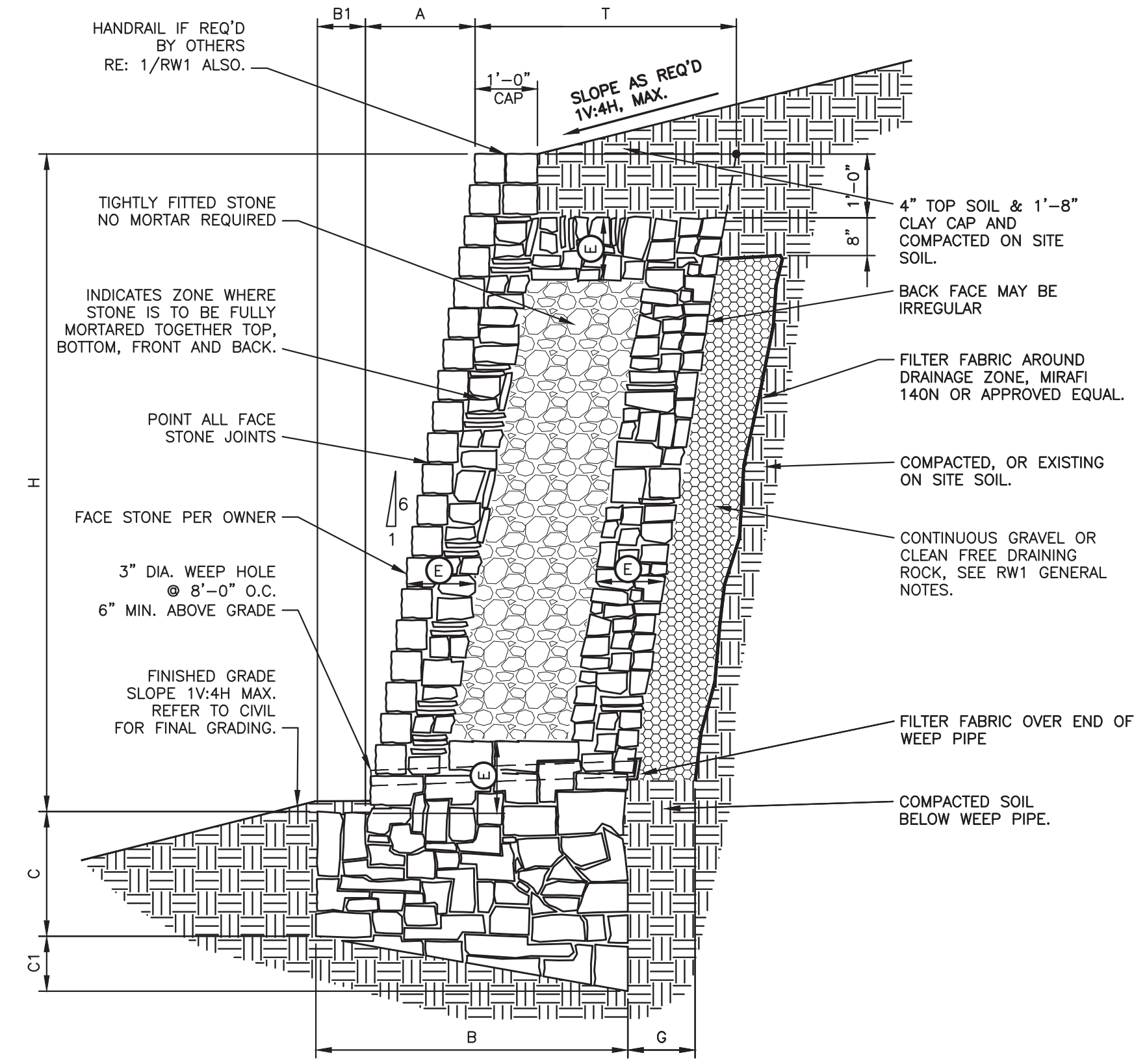
MASONRY WALL SCHEDULE
4000 psf - BEARING CAPACITY (BEARING ON BEDROCK SEE GENERAL NOTES SHEET RW1)

WALL HEIGHT H	BASE WIDTH B	TOE DEPTH C	BASE DEPTH (TOE) C1	BASE DEPTH (HEEL) C1	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY
1'-0"	1'-0"	0'-0"	0'-6"	0'-3"	0'-2"	FULLY MORTARED	1'-0"	1'-0"	4000 psf
2'-0"	1'-0"	0'-0"	0'-6"	0'-3"	0'-4"	FULLY MORTARED	1'-0"	1'-0"	
3'-0"	1'-6"	0'-2"	0'-9"	0'-4"	0'-6"	FULLY MORTARED	1'-4"	1'-0"	

WALL DESIGN CRITERIA

BEARING G_o	SLOPE TOP β	SLOPE BOT β_1	ACTIVE PRESSURE ϕ_a	PASSIVE PRESSURE ϕ_p	FRICTION ANGLE BASE δ	SLOPE OF BACK OF WALL α	SURCHARGE q
4000PSF	14 deg	14 deg	26 deg	400 PSF	23 deg	99.46 deg	0 psf

USE THIS SCHEDULE FOR 2/RW4



MASONRY WALL SCHEDULE
1500 psf - BEARING CAPACITY (STIFF NATURAL UNDISTURBED SOILS SEE GENERAL NOTES SHEET RW4)

WALL HEIGHT H	BASE WIDTH B	TOE DEPTH C	BASE DEPTH (TOE) C1	BASE DEPTH (HEEL) C1	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY
1'-0"	1'-9"	0'-3"	2'-0"	0'-4"	0'-2"	FULLY MORTARED	1'-6"	1'-0"	1500 psf
2'-0"	2'-4"	0'-4"	2'-0"	0'-5"	0'-4"	FULLY MORTARED	2'-0"	1'-0"	
3'-0"	2'-11"	0'-5"	2'-0"	0'-7"	0'-6"	FULLY MORTARED	2'-6"	1'-0"	

WALL DESIGN CRITERIA

BEARING G_o	SLOPE TOP β	SLOPE BOT β_1	ACTIVE PRESSURE ϕ_a	PASSIVE PRESSURE ϕ_p	FRICTION ANGLE BASE δ	SLOPE OF BACK OF WALL α	SURCHARGE q
2500PSF	14 deg	14 deg	26 deg	26 deg	17 deg	99.46 deg	0 psf

USE THIS SCHEDULE FOR 1/RW4

2
RW4

TYPICAL WALL SECTION - 1V:4H MAX SLOPE ABOVE WALL
1V:4H MAX SLOPE BELOW WALL
BEARING IN BEDROCK

1/2" = 1'-0"

1
RW4

TYPICAL WALL SECTION - 1V:4H MAX SLOPE ABOVE WALL
1V:4H MAX SLOPE BELOW WALL
BEARING IN CLAYEY OR SANDY SOILS

1/2" = 1'-0"

DATE	BY	DES.	DRN.	CHK.	NO.	DATE	REVISION	BY
03-25-22	AMB		EG					
03-25-22				AMB				

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TX Reg. Engineering Firm F-4038
722 North Fielder Road
Arlington, Texas 76012
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MASONRY RETAINING WALLS
LADERA ROCKWALL PHASE 2
STATE HIGHWAY 66
ROCKWALL, TEXAS

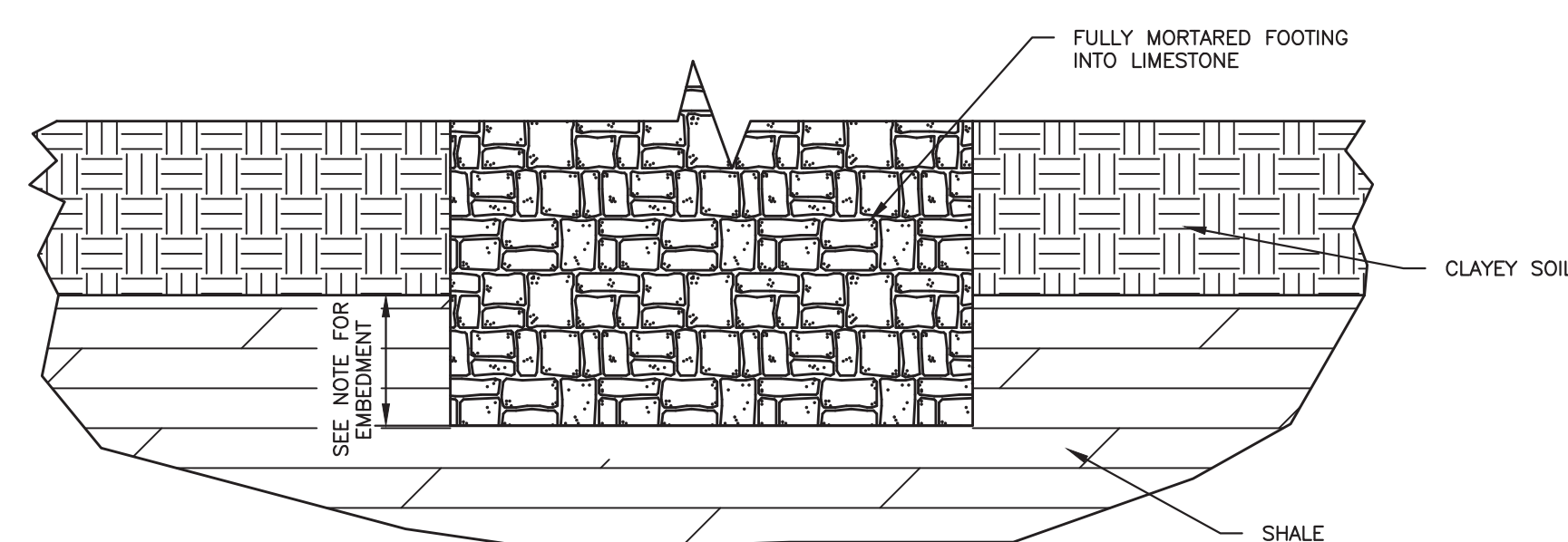
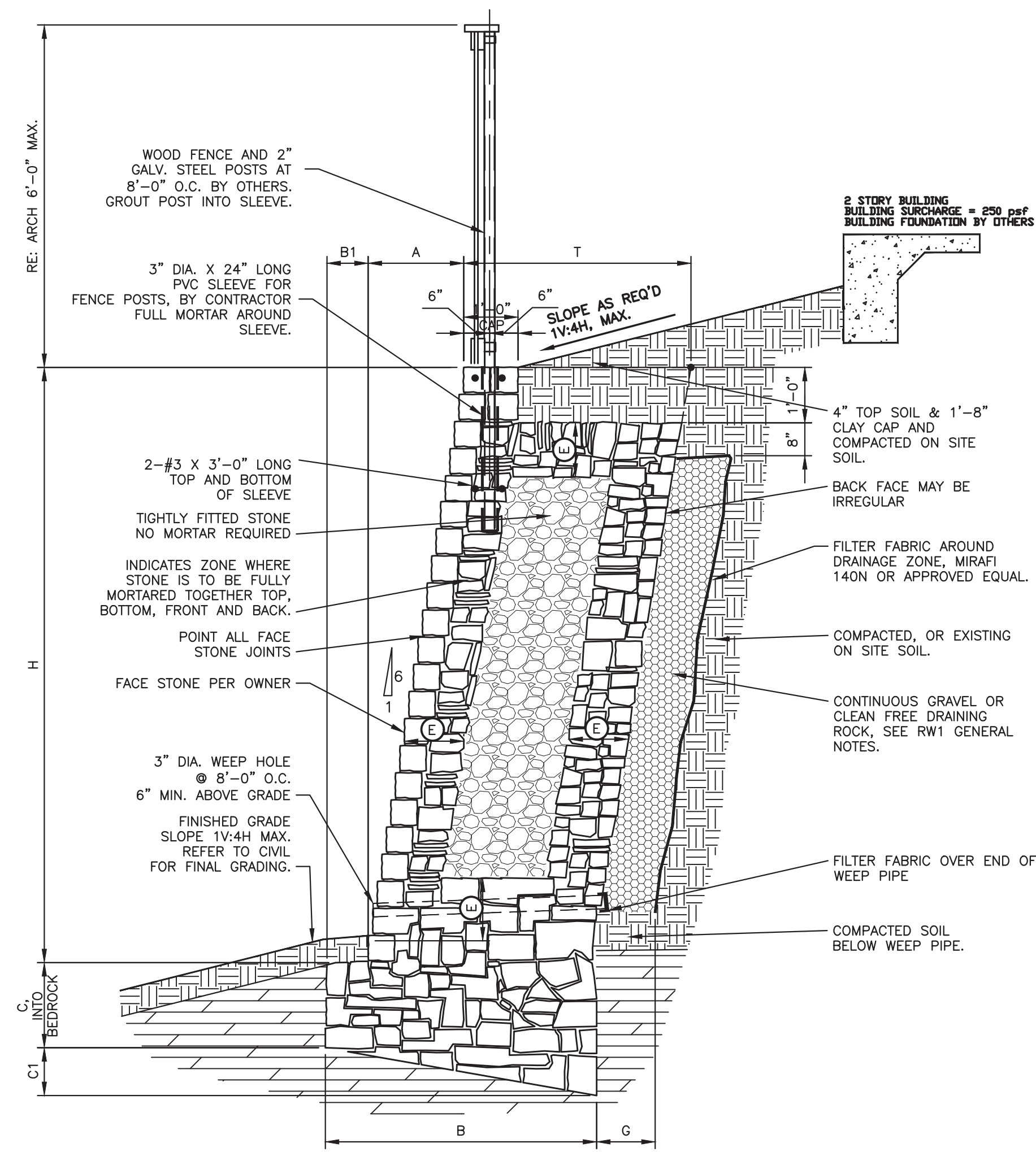
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RW4



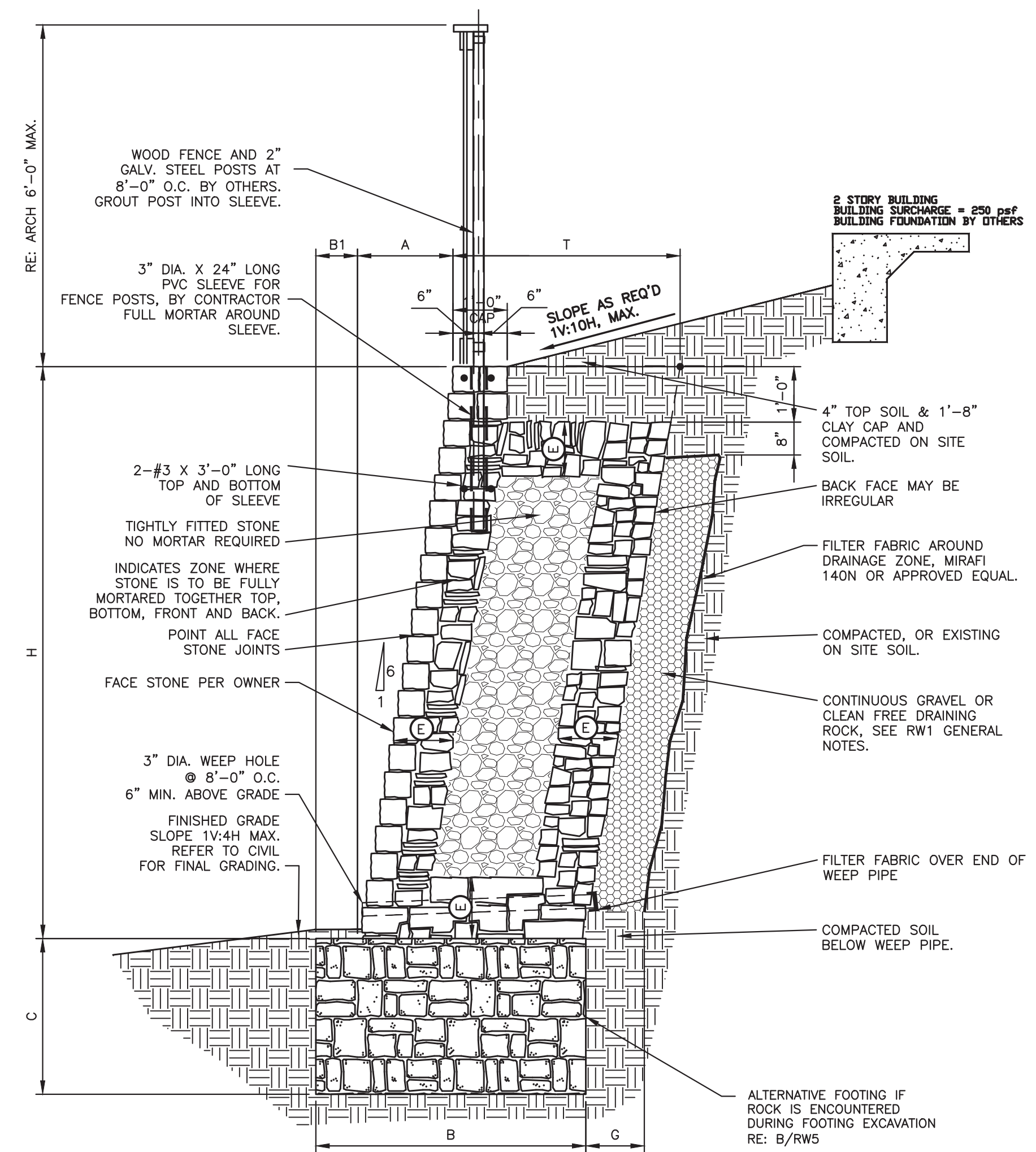
NOTE: IF ROCK IS ENCOUNTERED 2'-6" OR LESS FROM BOTTOM OF WALL ELEVATION SEE 2/RW5. IF ROCK IS ENCOUNTERED MORE THAN 2'-6" BELOW RETAINING WALL THIS ALTERNATE FOOTING DETAIL MAY BE USED. RETAINING WALLS SHALL EXTEND 12" INTO SHALE IF ENCOUNTERED.

B
RW5 WALL SECTION WITH MORTARED BASE IN SHALE 1/2" = 1'-0"

MASONRY WALL SCHEDULE									
4000 psf - BEARING CAPACITY (BEARING ON BEDROCK SEE GENERAL NOTES SHEET RW1)									
WALL HEIGHT H	BASE WIDTH B	TOE DEPTH (TOE) B1	BASE DEPTH (HEEL) C	BASE DEPTH (HEEL) C1	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY
4'-0"	2'-11"	0'-6"	0'-9"	0'-7"	0'-8"	FULLY MORTARED	2'-5"	1'-0"	4000 psf
5'-0"	4'-2"	0'-6"	1'-0"	0'-9"	0'-10"	1'-0"	3'-8"	1'-0"	
6'-0"	4'-7"	0'-6"	1'-0"	0'-10"	1'-0"	1'-3"	4'-1"	1'-0"	
7'-0"	5'-1"	0'-7"	1'-0"	0'-11"	1'-2"	1'-3"	4'-6"	1'-0"	
8'-0"	5'-6"	0'-8"	1'-3"	1'-0"	1'-4"	1'-6"	4'-10"	1'-0"	
WALL DESIGN CRITERIA									
BEARING Qa	SLOPE TOP β	SLOPE BOT β1	ACTIVE PRESSURE φa	PASSIVE PRESSURE φp	FRICTION ANGLE BASE α	SLOPE OF BACK OF WALL α	SURCHARGE q	WIND LOAD W	
4000PSF	0 deg	14 deg	26 deg	400 PSF	23 deg	99.46 deg	250 psf	15 psf	

USE THIS SCHEDULE FOR 2/RW5

2
RW5 TYPICAL WALL SECTION - 250 PSF BUILDING SURCHARGE BEARING IN BEDROCK MAX SLOPE BELOW WALL 1V:4H 1/2" = 1'-0"



MASONRY WALL SCHEDULE									
2500 psf - BEARING CAPACITY (REMEDYATED BASE SEE GENERAL NOTES SHEET RW1)									
WALL HEIGHT H	BASE WIDTH B	TOE DEPTH (TOE) B1	BASE DEPTH (HEEL) C	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY	
4'-0"	3'-11"	0'-6"	5'-0"	0'-8"	FULLY MORTARED	3'-5"	1'-0"	2500 psf	
5'-0"	4'-8"	0'-8"	6'-0"	0'-10"	1'-0"	4'-0"	1'-0"		
6'-0"	5'-3"	0'-10"	7'-0"	1'-0"	1'-3"	4'-5"	1'-0"		
7'-0"	5'-11"	1'-0"	8'-0"	1'-2"	1'-3"	4'-11"	1'-0"		
8'-0"	6'-8"	1'-2"	9'-0"	1'-4"	1'-6"	5'-6"	1'-0"		
WALL DESIGN CRITERIA									
BEARING Qa	SLOPE TOP β	SLOPE BOT β1	ACTIVE PRESSURE φa	PASSIVE PRESSURE φp	FRICTION ANGLE BASE α	SLOPE OF BACK OF WALL α	SURCHARGE q	WIND LOAD W	
2500PSF	0 deg	14 deg	26 deg	26 deg	28 deg	99.46 deg	250 psf	15 psf	

USE THIS SCHEDULE FOR 1/RW5

1
RW5 TYPICAL WALL SECTION - 250 PSF BUILDING SURCHARGE 1V:4H MAX SLOPE BELOW WALL BEARING IN CLAYEY SOILS 1/2" = 1'-0"

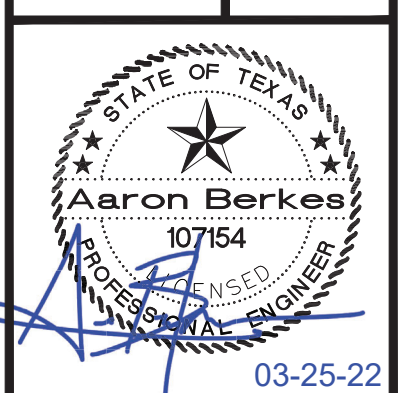
DATE	BY	DES.	CHK.	NO.	DATE	REVISION	BY
03-25-22	AMB						
03-25-22	EG						
03-25-22	AMB						

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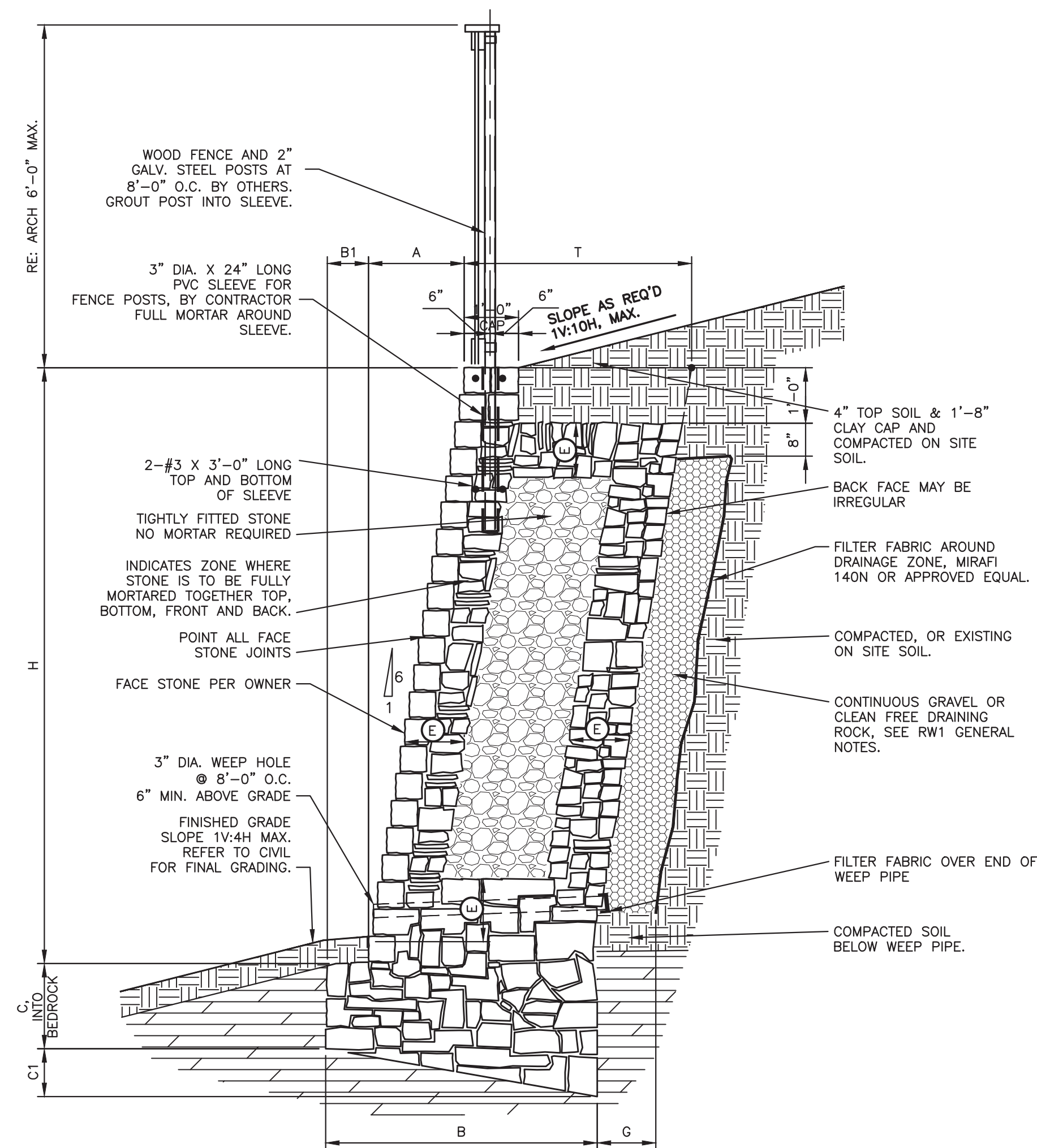
MASONRY RETAINING WALLS
LADERA ROCKWALL PHASE 2
STATE HIGHWAY 66
ROCKWALL, TEXAS

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RW5



MASONRY WALL SCHEDULE
4000 psf - BEARING CAPACITY (BEARING ON BEDROCK 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	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY
1'-0"	2'-2"	0'-6"	0'-6"	0'-5"	0'-2"	FULLY MORTARED	1'-8"	1'-0"	4000 psf
2'-0"	2'-2"	0'-6"	0'-6"	0'-5"	0'-4"	FULLY MORTARED	1'-8"	1'-0"	
3'-0"	2'-2"	0'-6"	0'-9"	0'-5"	0'-6"	FULLY MORTARED	1'-8"	1'-0"	
4'-0"	2'-2"	0'-6"	0'-9"	0'-5"	0'-8"	FULLY MORTARED	1'-8"	1'-0"	
5'-0"	2'-8"	0'-6"	1'-0"	0'-6"	0'-10"	FULLY MORTARED	2'-2"	1'-0"	
6'-0"	3'-1"	0'-6"	1'-0"	0'-7"	1'-0"	0'-10"	2'-7"	1'-0"	
7'-0"	3'-7"	0'-7"	1'-0"	0'-8"	1'-2"	0'-10"	3'-0"	1'-0"	

WALL DESIGN CRITERIA

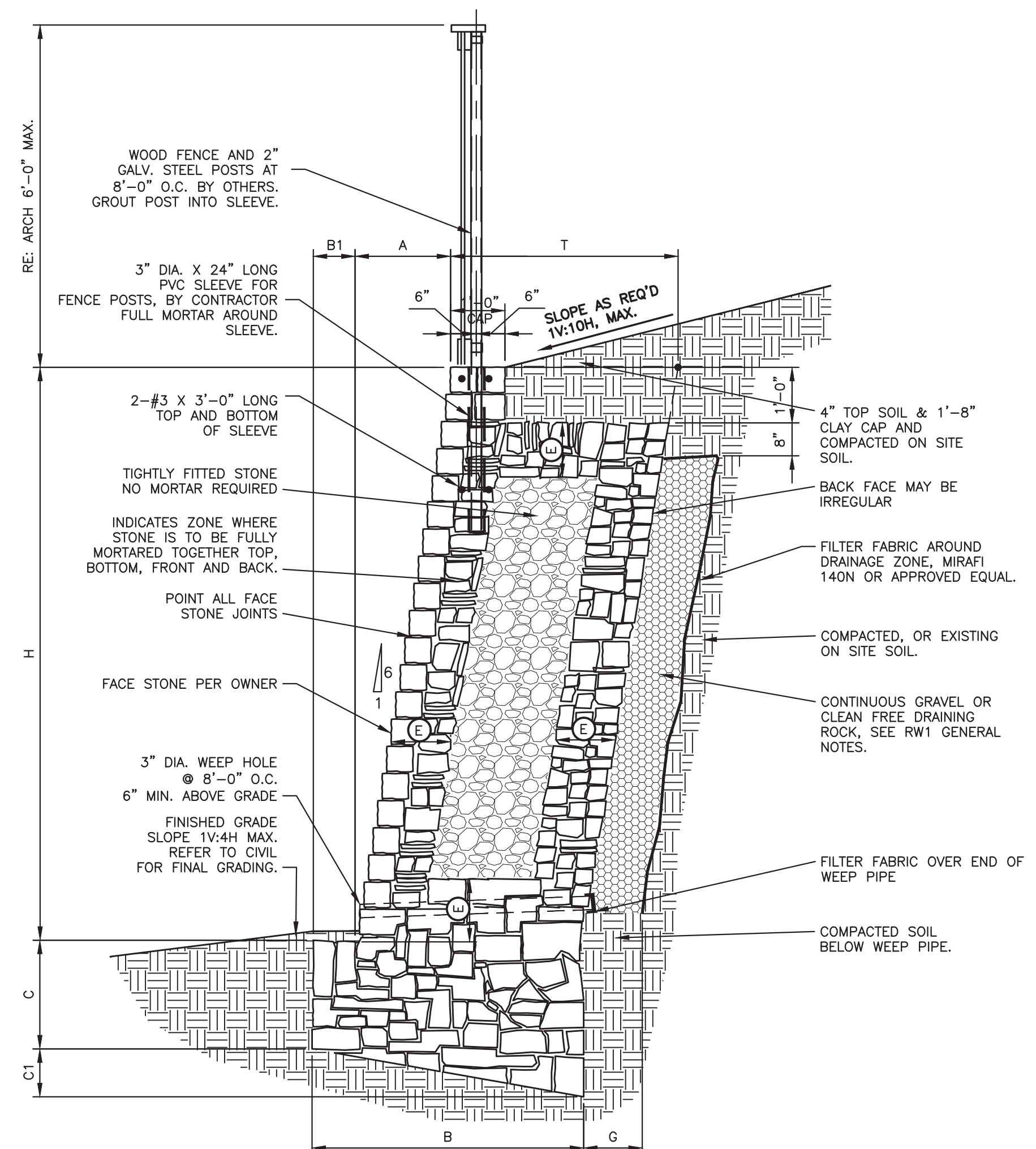
BEARING Q_u	SLOPE TOP β_1	SLOPE BOT β_2	ACTIVE PRESSURE Q_a	PASSIVE PRESSURE Q_p	FRICION ANGLE BASE δ	SLOPE OF BACK OF WALL α	SURCHARGE q	WIND LOAD W
4000PSF	5.71 deg	14 deg	26 deg	400 PSF	23 deg	99.46 deg	0 psf	15 psf

USE THIS SCHEDULE FOR 2/RW6

2
RW6

TYPICAL WALL SECTION
BEARING IN BEDROCK
MAX SLOPE BELOW WALL 1V:10H
MAX SLOPE BELOW WALL 1V:4H

1/2" = 1'-0"



MASONRY WALL SCHEDULE
2500 psf - BEARING CAPACITY (HARD NATURAL UNDISTURBED 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	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY
1'-0"	2'-3"	1'-0"	2'-0"	0'-5"	0'-2"	FULLY MORTARED	1'-3"	1'-0"	2500 psf
2'-0"	2'-9"	1'-4"	2'-0"	0'-6"	0'-4"	FULLY MORTARED	1'-5"	1'-0"	
3'-0"	3'-1"	1'-8"	2'-0"	0'-7"	0'-6"	FULLY MORTARED	1'-5"	1'-0"	
4'-0"	3'-7"	2'-0"	2'-0"	0'-8"	0'-8"	FULLY MORTARED	1'-7"	1'-0"	
5'-0"	4'-5"	2'-3"	2'-6"	0'-10"	0'-10"	FULLY MORTARED	2'-2"	1'-0"	
6'-0"	5'-3"	2'-8"	3'-0"	1'-0"	1'-0"	0'-10"	2'-7"	1'-0"	
7'-0"	6'-0"	3'-0"	3'-6"	1'-1"	1'-2"	0'-10"	3'-0"	1'-0"	

WALL DESIGN CRITERIA

BEARING Q_u	SLOPE TOP β_1	SLOPE BOT β_2	ACTIVE PRESSURE Q_a	PASSIVE PRESSURE Q_p	FRICION ANGLE BASE δ	SLOPE OF BACK OF WALL α	SURCHARGE q	WIND LOAD W
2500PSF	5.71 deg	14 deg	26 deg	26 deg	17 deg	99.46 deg	0 psf	15 psf

USE THIS SCHEDULE FOR 1/RW6

1
RW6

TYPICAL WALL SECTION
1V:10H MAX SLOPE ABOVE WALL
1V:4H MAX SLOPE BELOW WALL
BEARING IN CLAYEY SOILS

DATE	BY	DES.	DRN.	CHK.	NO.	DATE	REVISION	BY
03-25-22	AMB							
03-25-22	EG							
03-25-22	AMB							

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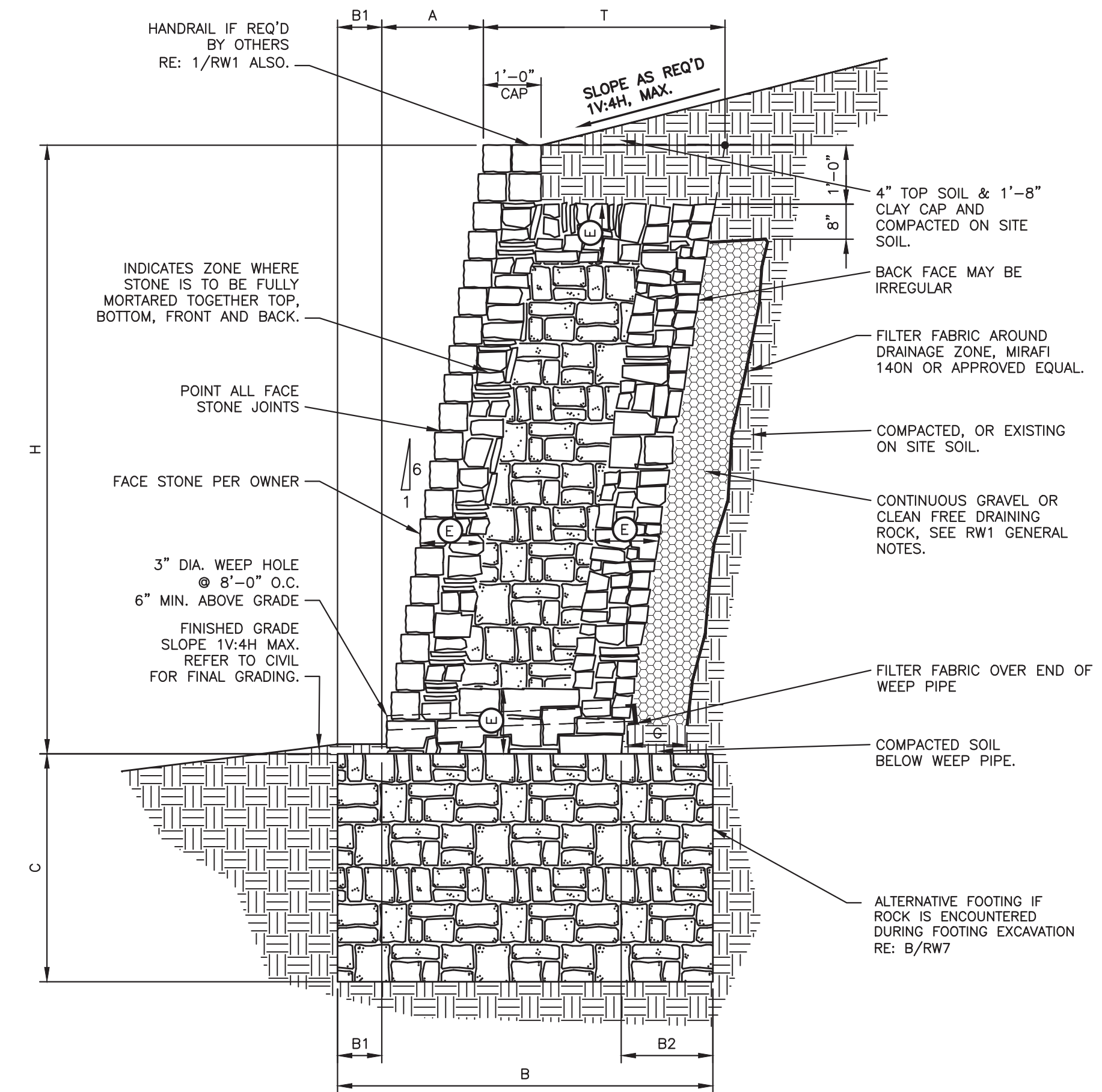
MASONRY RETAINING WALLS
LADERA ROCKWALL PHASE 2
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ROCKWALL, TEXAS

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RW6



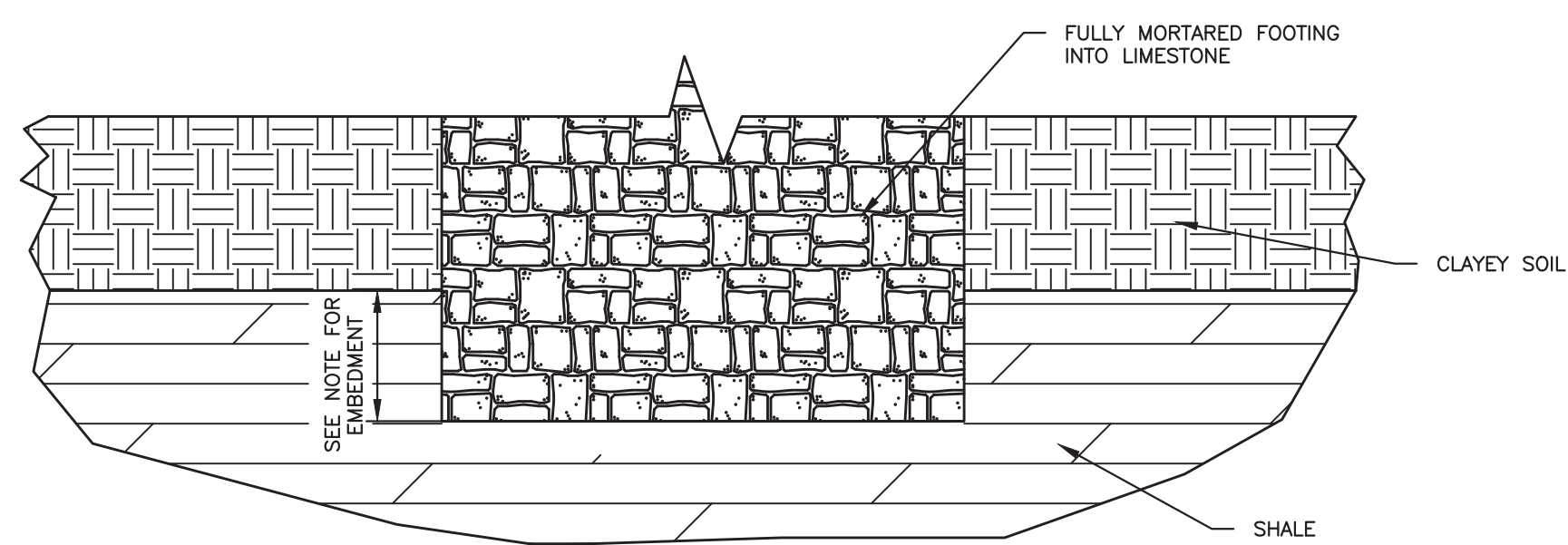
MASONRY WALL SCHEDULE
2500 psf - BEARING CAPACITY (REMEDIATED BASE SEE GENERAL NOTES SHEET RW1)

WALL HEIGHT H	BASE WIDTH B	TOE B1	TOE B2	BASE DEPTH (TOE) C	BATTER A	FULLY MORTARED ZONE E	THICKNESS OF WALL T	DRAINAGE ZONE THICKNESS G	BEARING CAPACITY
1'-0"	3'-8"	1'-0"	0'-8"	6'-0"	0'-2"	FULLY MORTARED	2'-0"	1'-0"	2500 psf
2'-0"	4'-10"	1'-0"	1'-10"	8'-0"	0'-4"	FULLY MORTARED	2'-0"	1'-0"	
3'-0"	6'-0"	1'-0"	3'-0"	10'-0"	0'-6"	FULLY MORTARED	2'-0"	1'-0"	
4'-0"	7'-3"	1'-0"	3'-10"	12'-0"	0'-8"	FULLY MORTARED	2'-5"	1'-0"	
5'-0"	8'-5"	1'-0"	4'-5"	14'-0"	0'-10"	FULLY MORTARED	3'-0"	1'-0"	
6'-0"	8'-5"	1'-0"	3'-9"	14'-0"	1'-0"	FULLY MORTARED	3'-8"	1'-0"	
7'-0"	8'-5"	1'-2"	3'-0"	14'-0"	1'-2"	FULLY MORTARED	4'-3"	1'-0"	
8'-0"	8'-5"	1'-4"	2'-3"	14'-0"	1'-4"	FULLY MORTARED	4'-10"	1'-0"	

WALL DESIGN CRITERIA

BEARING Q_u	SLOPE TOP β	SLOPE BOT β_1	ACTIVE PRESSURE α	PASSIVE PRESSURE α_1	FRICTION ANGLE BASE δ	SLOPE OF BACK OF WALL θ	SURCHARGE q
2500psf	14 deg	14 deg	28 deg	28 deg	28 deg	99.46 deg	0 psf

USE THIS SCHEDULE FOR 1/RW7



NOTE: RETAINING WALLS SHALL EXTEND 18" INTO SHALE IF ENCOUNTERED.

B WALL SECTION WITH MORTARED BASE IN SHALE 1/2" = 1'-0"

1 TYPICAL WALL SECTION - 1V:4H MAX SLOPE ABOVE WALL 1/2" = 1'-0"
1V:4H MAX SLOPE BELOW WALL BEARING IN CLAYEY SOILS

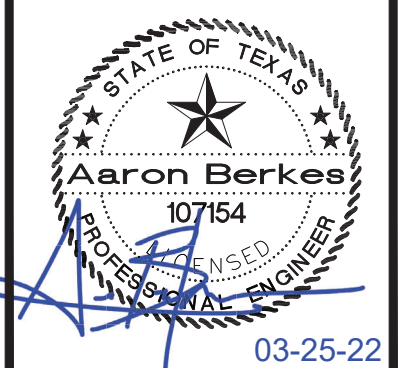
DATE	BY	DES.	DRN.	CHK.	NO.	DATE	REVISION
03-25-22	AMB						
03-25-22	EG						
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MASONRY RETAINING WALLS
LADERA ROCKWALL PHASE 2
STATE HIGHWAY 66
ROCKWALL, TEXAS

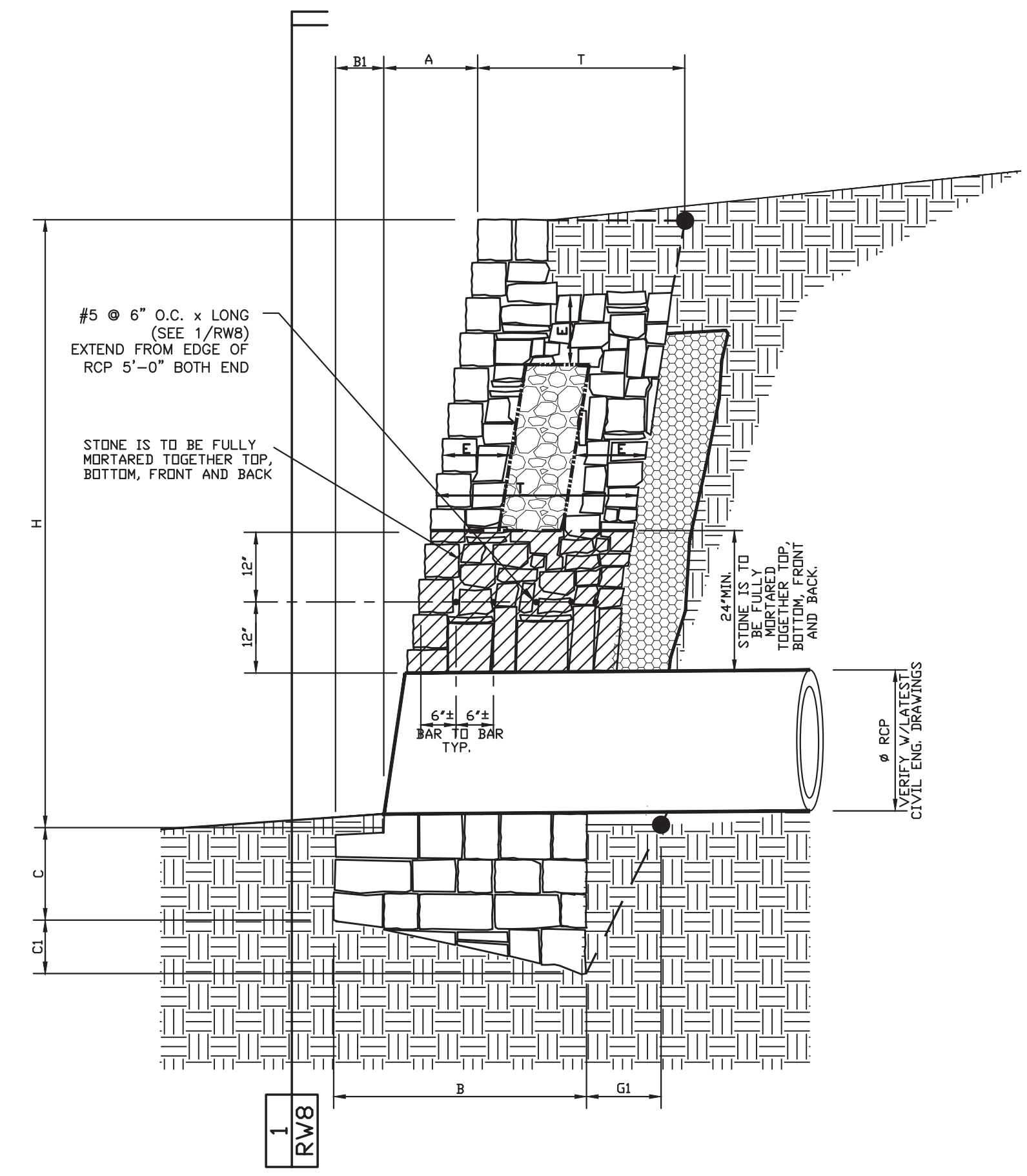
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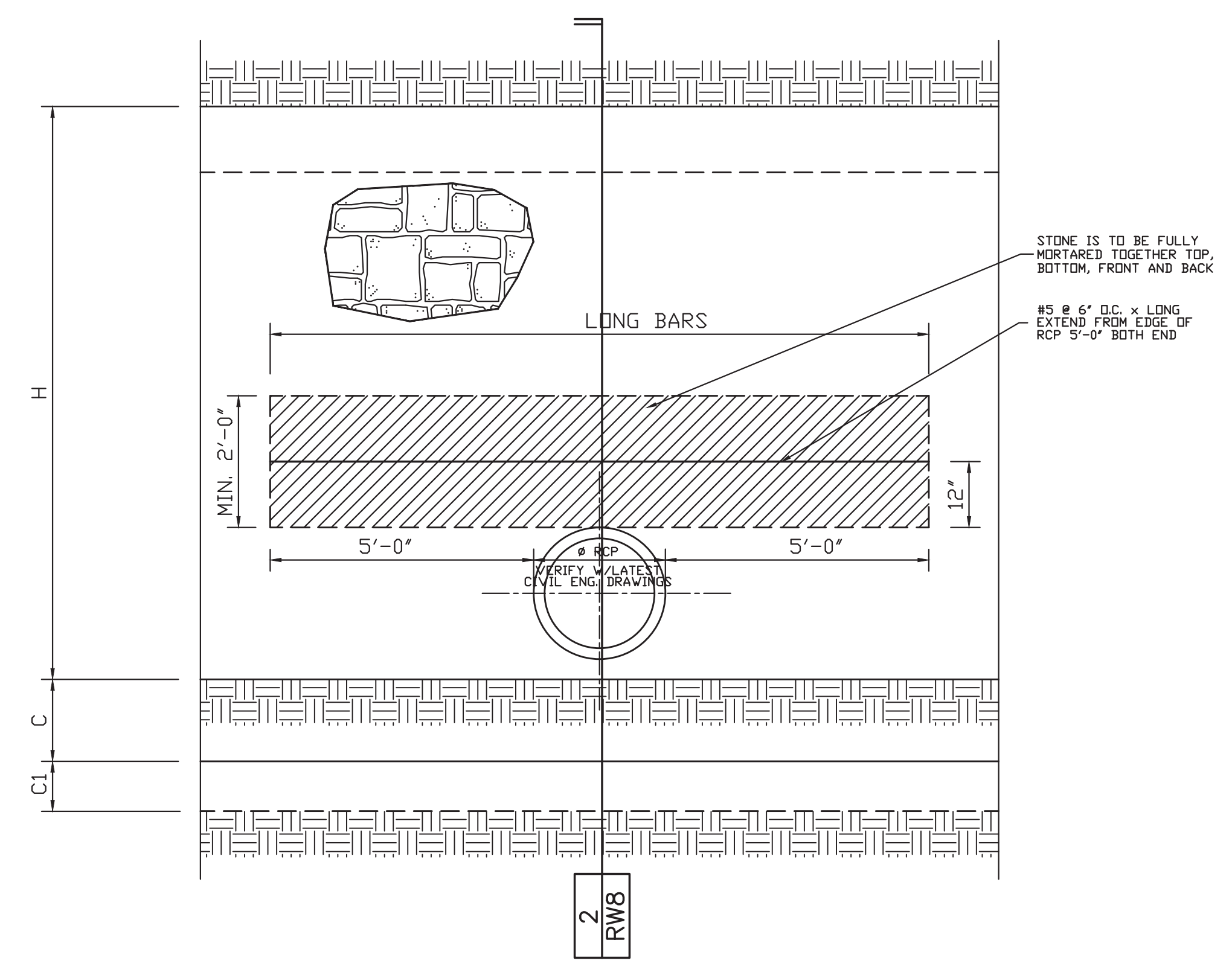
RW7

2
RW8



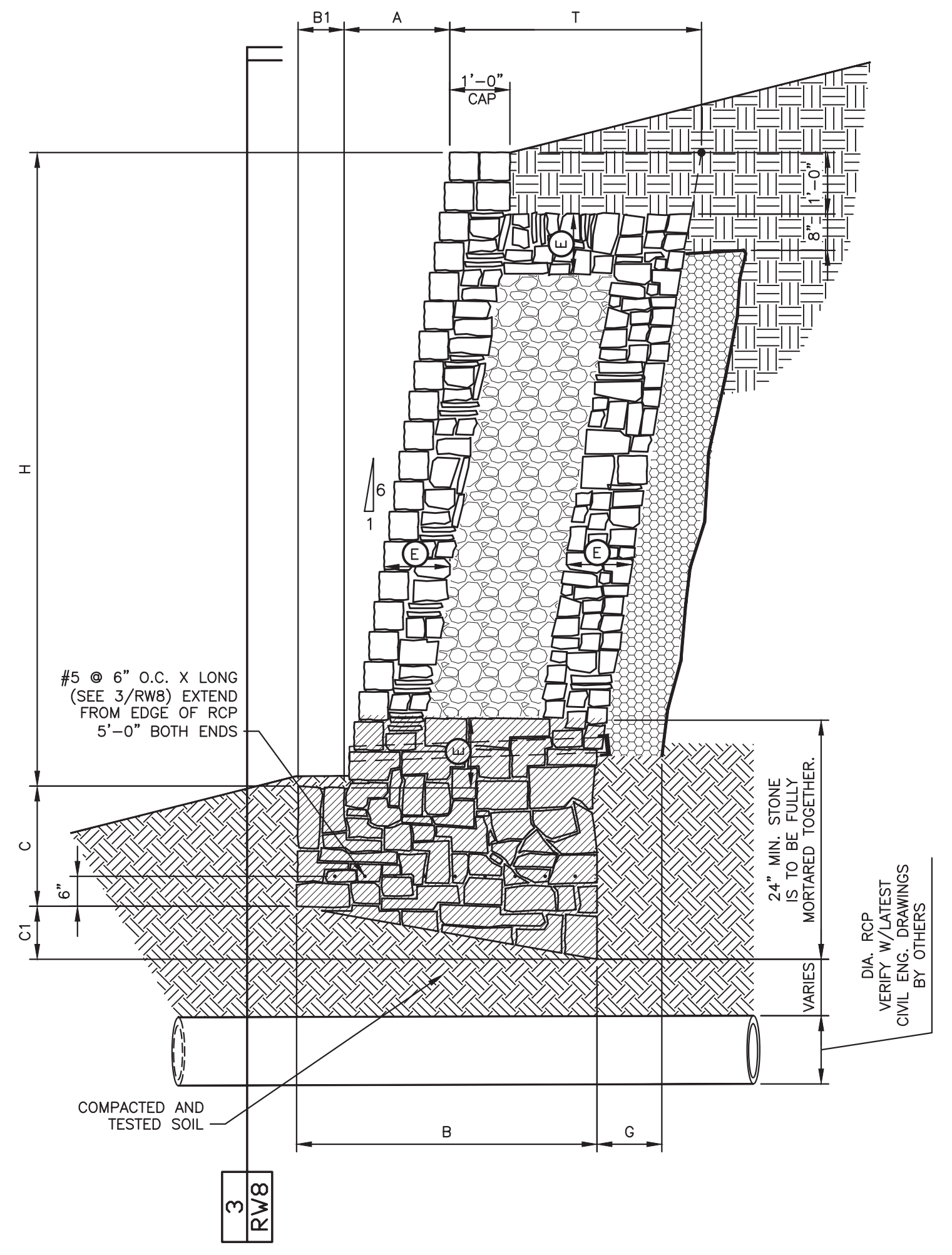
WALL SECTION W/RCP

1
RW8



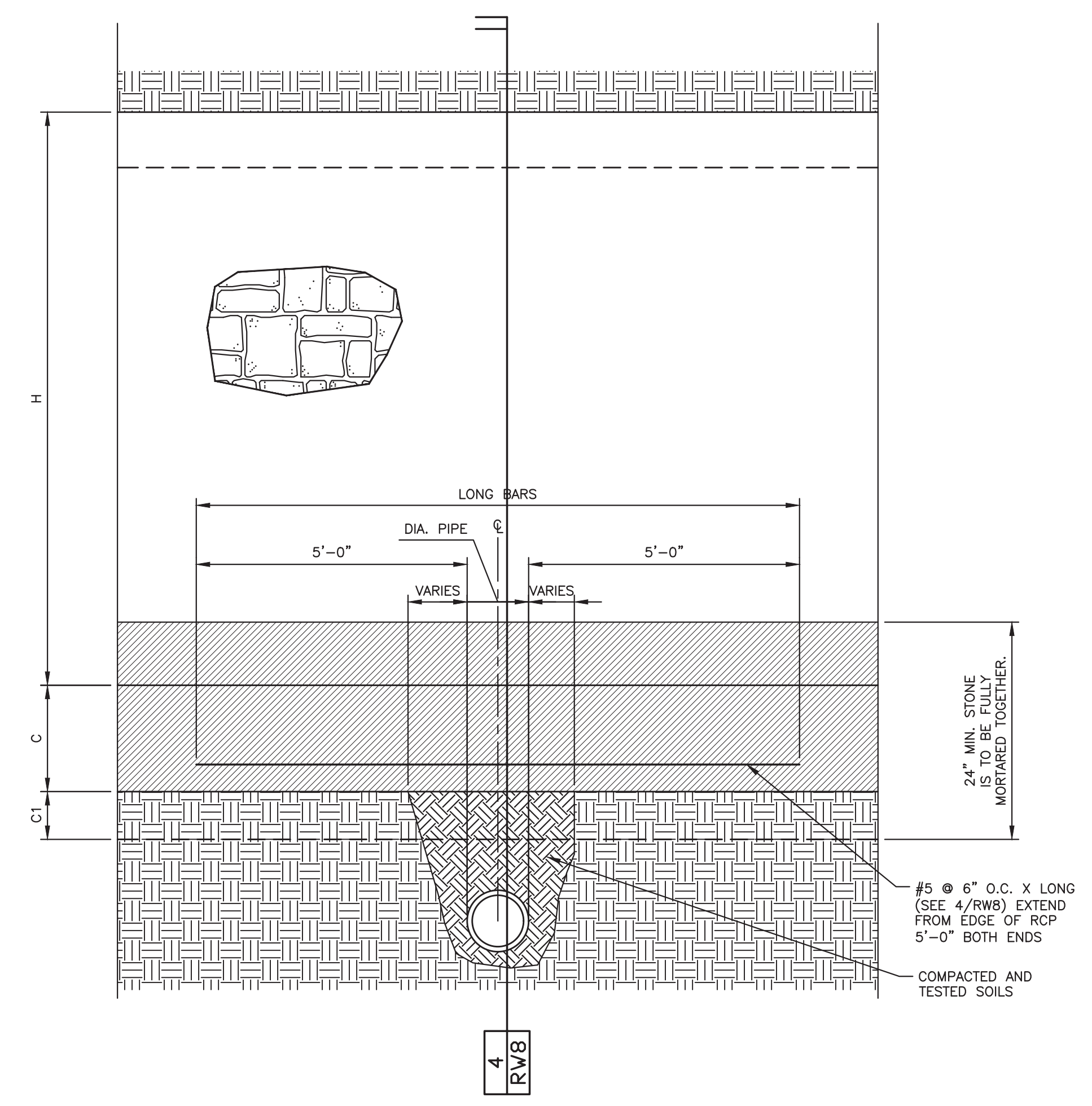
WALL ELEVATION W/RCP

4
RW8



WALL SECTION W/RCP BELOW WALL

3
RW8



WALL ELEVATION W/RCP BELOW WALL

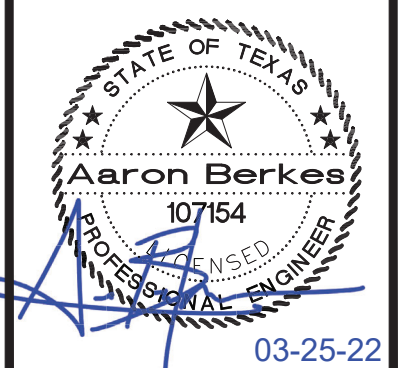
DATE	BY	DES.	DRN.	CHK.	NO.	DATE	REVISION	BY
03-25-22	AMB							
03-25-22	EG							
03-25-22	AMB							

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MASONRY RETAINING WALLS - PIPE THROUGH WALL DETAILS
LADERA ROCKWALL - PHASE 2
STATE HIGHWAY 66
ROCKWALL, TEXAS

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JOB NO. 39.22

RW8