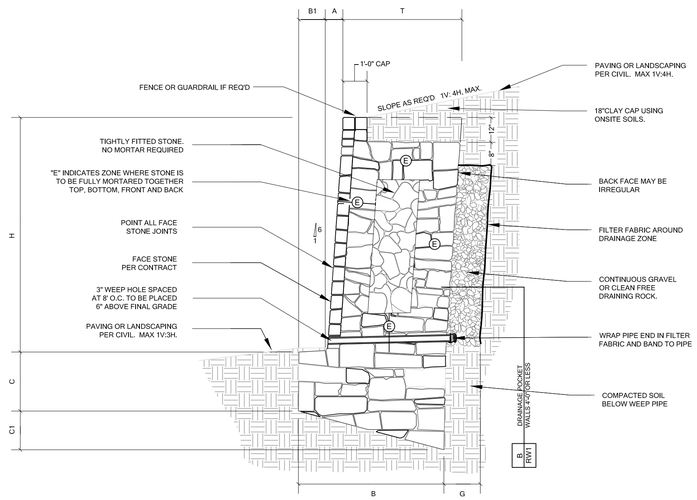
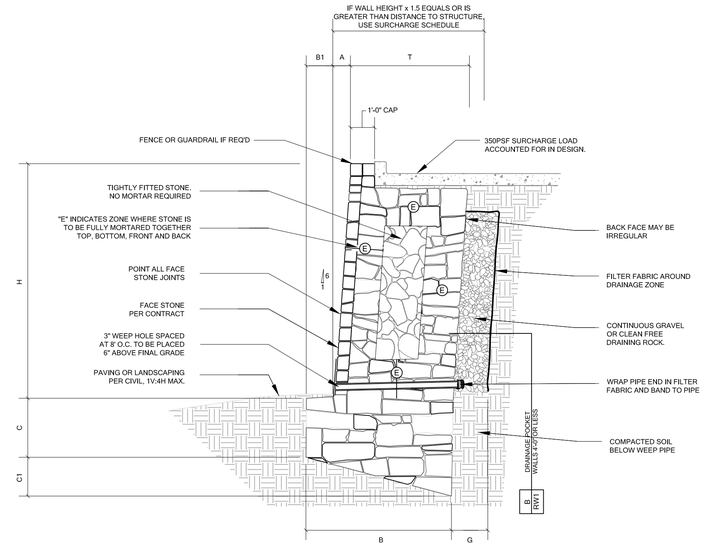


RW1/1 MASONRY WALL SCHEDULE -3000 psf - 6V:1H BATTER									
BEARING CAPACITY ON NATURAL SOIL OR COMPACTED AND TESTED FILLS									
WALL HEIGHT	BASE WIDTH	TOE	BASE DEPTH (TOE)	BASE DEPTH (HEEL)	BATTER	FULLY MORTARED ZONE	THICKNESS OF WALL	DRAINAGE ZONE THICKNESS	BEARING CAPACITY
H	B	B1	C	C1	A	E	T	G	
1' - 0"	1' - 0"	0' - 0"	0' - 9"	0' - 2"	0' - 2"	FULLY	1' - 0"	SEE B/RW1	3000 psf
2' - 0"	1' - 3"	0' - 0"	0' - 10"	0' - 3"	0' - 4"	FULLY	1' - 3"	SEE B/RW1	
3' - 0"	1' - 7"	0' - 0"	0' - 11"	0' - 3"	0' - 6"	FULLY	1' - 7"	SEE B/RW1	
4' - 0"	2' - 0"	0' - 0"	1' - 0"	0' - 4"	0' - 8"	FULLY	2' - 0"	SEE B/RW1	
5' - 0"	2' - 6"	0' - 1"	1' - 3"	0' - 5"	0' - 10"	0' - 11"	2' - 5"	0' - 10"	
6' - 0"	3' - 0"	0' - 1"	1' - 6"	0' - 6"	1' - 0"	1' - 0"	2' - 11"	0' - 10"	
7' - 0"	3' - 9"	0' - 3"	1' - 9"	0' - 8"	1' - 2"	1' - 2"	3' - 6"	1' - 0"	
8' - 0"	4' - 6"	0' - 6"	2' - 0"	0' - 10"	1' - 4"	1' - 4"	4' - 0"	1' - 2"	
9' - 0"	5' - 3"	1' - 0"	2' - 3"	0' - 11"	1' - 6"	1' - 5"	4' - 3"	1' - 4"	
10' - 0"	6' - 2"	1' - 2"	2' - 6"	1' - 1"	1' - 8"	1' - 8"	5' - 0"	1' - 6"	
11' - 0"	7' - 0"	1' - 6"	3' - 0"	1' - 3"	1' - 10"	1' - 10"	5' - 6"	1' - 8"	
12' - 0"	7' - 9"	2' - 0"	3' - 3"	1' - 4"	2' - 0"	1' - 11"	5' - 9"	1' - 10"	
13' - 0"	8' - 6"	2' - 3"	3' - 6"	1' - 6"	2' - 2"	2' - 1"	6' - 3"	2' - 0"	
14' - 0"	9' - 0"	2' - 0"	3' - 9"	1' - 7"	2' - 4"	2' - 4"	7' - 0"	2'- 2"	

WALL DESIGN CRITERIA							
BEARING	SLOPE TOP	SLOPE BOT	ACTIVE PRESSURE	PASSIVE PRESSURE	COEFFICIENT OF FRICTION	SLOPE OF BACK OF WALL	SURCHARGE
Q_a	β	β_1	Φ_a	Φ_p		α	q
3000 psf	14.3 deg	14.3 deg	26 deg	26 deg	0.36	99.5 deg	0 psf

RW1/1 MASONRY WALL W/ 6V:1H BATTER

SCALE: N.T.S.



RW1/2 MASONRY WALL SCHEDULE -3000 psf - 6V:1H BATTER - FIRELANE SURCHARGE									
BEARING CAPACITY ON NATURAL SOIL OR COMPACTED AND TESTED FILLS									
WALL HEIGHT	BASE WIDTH	TOE	BASE DEPTH (TOE)	BASE DEPTH (HEEL)	BATTER	FULLY MORTARED ZONE	THICKNESS OF WALL	DRAINAGE ZONE THICKNESS	BEARING CAPACITY
H	B	B1	C	C1	A	E	T	G	
1' - 0"	1' - 7"	0' - 1"	1' - 0"	0' - 3"	0' - 2"	FULLY	1' - 6"	SEE B/RW1	3000 psf
2' - 0"	2' - 1"	0' - 3"	1' - 0"	0' - 4"	0' - 4"	FULLY	1' - 10"	SEE B/RW1	
3' - 0"	2' - 9"	0' - 3"	1' - 0"	0' - 6"	0' - 6"	FULLY	2' - 6"	SEE B/RW1	
4' - 0"	3' - 1"	0' - 3"	1' - 3"	0' - 7"	0' - 8"	FULLY	2' - 10"	SEE B/RW1	
5' - 0"	3' - 6"	0' - 4"	1' - 6"	0' - 7"	0' - 10"	1' - 1"	3' - 2"	1' - 0"	
6' - 0"	4' - 2"	0' - 6"	2' - 0"	0' - 9"	1' - 0"	1' - 3"	3' - 8"	1' - 2"	
7' - 0"	4' - 9"	0' - 6"	2' - 3"	0' - 10"	1' - 2"	1' - 5"	4' - 3"	1' - 4"	
8' - 0"	5' - 3"	0' - 6"	2' - 6"	0' - 11"	1' - 4"	1' - 7"	4' - 9"	1' - 6"	
9' - 0"	6' - 2"	0' - 9"	2' - 9"	1' - 1"	1' - 6"	1' - 10"	5' - 5"	1' - 8"	
10' - 0"	7' - 0"	1' - 0"	3' - 0"	1' - 3"	1' - 8"	2' - 0"	6' - 0"	2' - 0"	
11' - 0"	8' - 0"	1' - 6"	3' - 3"	1' - 5"	1' - 10"	2' - 2"	6' - 6"	2' - 2"	
12' - 0"	8' - 9"	1' - 9"	3' - 6"	1' - 7"	2' - 0"	2' - 4"	7' - 0"	2' - 4"	
13' - 0"	9' - 3"	2' - 0"	3' - 9"	1' - 8"	2' - 2"	2' - 5"	7' - 3"	2' - 6"	
14' - 0"	9' - 9"	2' - 3"	4' - 0"	1' - 9"	2' - 4"	2' - 6"	7' - 6"	2' - 6"	
15' - 0"	10' - 9"	2' - 6"	4' - 3"	1' - 11"	2' - 6"	2' - 9"	8' - 3"	2' - 6"	

WALL DESIGN CRITERIA								
BEARING	SLOPE TOP	SLOPE BOT	ACTIVE PRESSURE	PASSIVE PRESSURE	COEFFICIENT OF FRICTION	SLOPE OF BACK OF WALL	SURCHARGE	FIRELANE SURCHARGE
Q_a	β	β_1	Φ_a	Φ_p		α	q	
3000 psf	14.3 deg	14.3 deg	26 deg	26 deg	0.36	99.5 deg	350 psf	

RW1/2 MASONRY WALL WITH SURCHARGE LOAD

SCALE: N.T.S.

1. Design Building Code
International Building Code, 2018 Edition

2. Geotechnical Report
Firm: Professional Service Industries, Inc.
Project No: 03421356
Dated: June 23, 2017

3. Geotechnical Criteria
Bearing on Stiff Natural Undisturbed Clayey Soils or Compacted and Tested Soils
Allowable Bearing: 3000psf minimum bearing on native soils or compacted and tested fills
RETAINING WALL PARAMETERS PER GEOTECHNICAL TABLE 3.5

Backfill Soil Parameters:
Backfill Soil - Natural Clays or Fill Soils

Base Soil Parameters:
Soil at Toe - natural, Undisturbed or Fill Soils

Coefficient of Friction = 0.36

The backfill soil angle of internal friction referred to above is a composite angle of internal friction and includes both cohesion and angle of internal friction of the soils.

The use of very wet or very dry backfill soil should be avoided. The use of heavy equipment within 3'-0" of the wall could damage the wall and should be avoided.

Locate base of walls on undisturbed or properly compacted soil.

4. Materials
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 with or without rebar is acceptable to be used in the wall construction.

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 deletrious materials.

Portland Cement Mortar for Retaining Wall Construction.

The Portland cement mortar used for construction of the above grade portion 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 concrete mixer truck load. The batch tickets shall clearly indicate the amount batched, the date, the project name and shall be provided to DirtSavers, LLC. for review, documentation, and file.

Contents	Amount per cubic yard	
Type F Fly Ash:	94	lbs.
Fine Aggregate (sand):	3,250	lbs.
Potable Water:	235	lbs.
Type 1 Portland Cement:	376	lbs.
Admixture Eucon 100:	48	oz. average

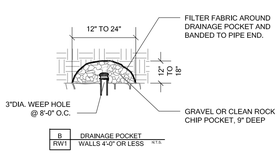
Concrete retarders such as "Eucon 100 Retarder" may be used at the discretion of the masonry wall contractor. A greater amount of retarder (about 64 ounces) is typically used during hot periods and a less amount of retarder (about 32 ounces) is typically used during cool weather.

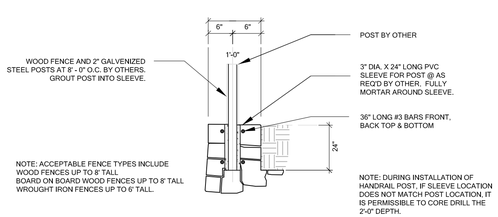
Please note that the above proportions will provide a Portland cement mortar with a compressive strength of about f'c = 2000 psi. DirtSavers, LLC. does not require any concrete testing provided the above proportions are verified by way of the "batch tickets".

5. Construction Reviews
DirtSavers, LLC. 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 the wall other than that shown on these plans.
Retaining walls shall not have slope at base or top of wall that exceeds that which is shown on these plans.
The retaining walls noted above require special design.

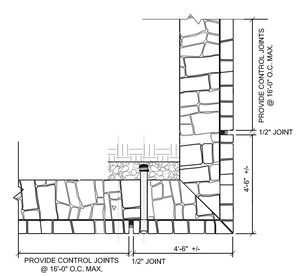
Minor variations in the construction of the retaining walls from these documents may be accepted at the discretion of the design engineer.





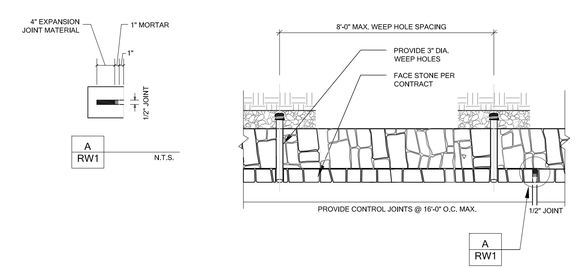
RW1/3 WALL SECTION W/ FENCE POST

SCALE: N.T.S.



RW1/4 TYPICAL PLAN VIEW AT CORNER

SCALE: N.T.S.



RW1/5 TYPICAL PLAN VIEW AT BASE

SCALE: N.T.S.

AS-BUILTS
2/25/2021

DIRTSAVERS
PO BOX 566
ALEDO, TX 76008
PH: 469.834.7446
F-14138

SWBC ROCKWALL
MASONRY RETAINING WALLS
CITY OF ROCKWALL, TEXAS

ERW SITE SOLUTION
FORT WORTH, TEXAS
ERW JOB NO. 18-0480-A

No.	Date	Item

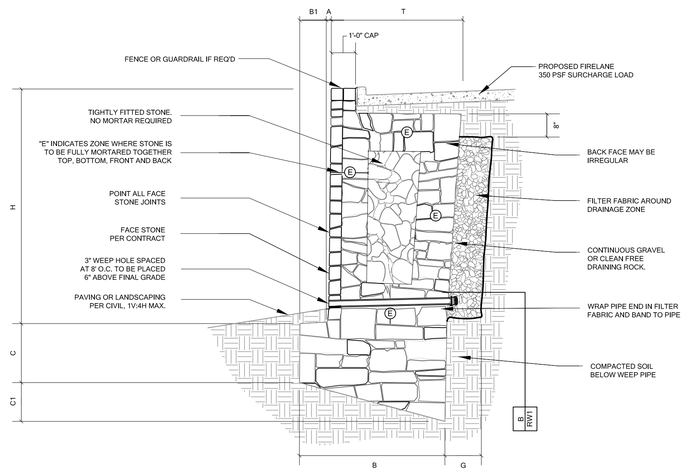
REVISIONS
DB: MAM CHK'D: MAM APP'D: MAM

STATE OF TEXAS
MICHAEL A. MARSHALL
110099
LICENSED
PROFESSIONAL ENGINEER
05.30.2019

RETAINING WALL DETAILS AND NOTES

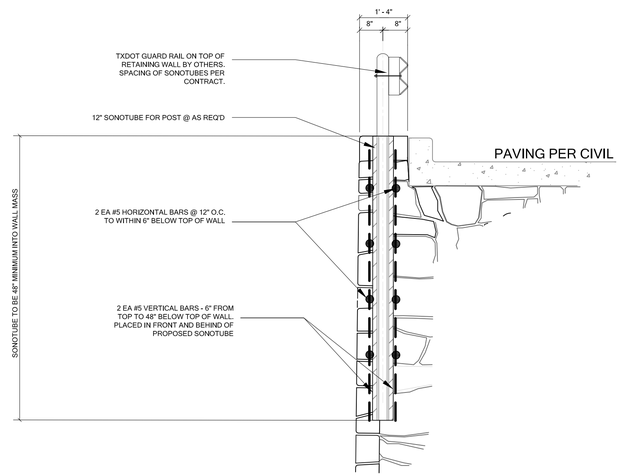
Project No.	RW053019-1
Date	05.30.2019
Last Revision	05.30.2019

RW1



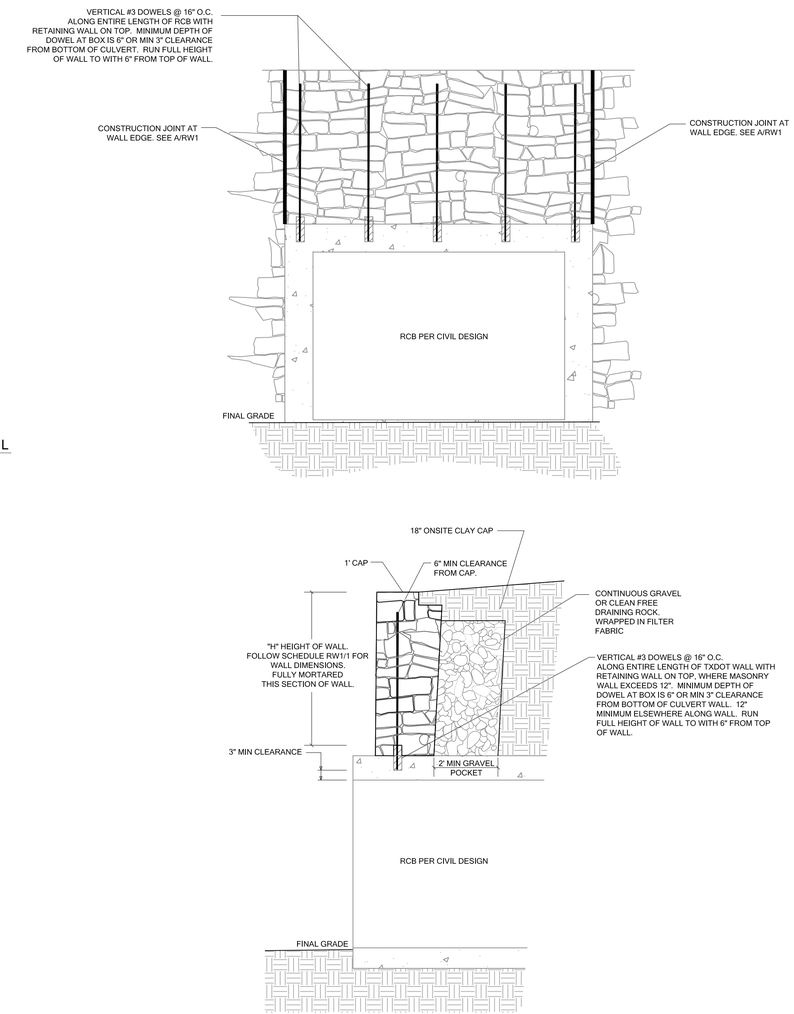
RW2/1 MASONRY RETAINING WALL W/ VERTICAL FACE AND FIRELANE SURCHARGE

SCALE: N.T.S.



RW2/2 12" SONOTUBE FOR GUARD RAIL BY OTHERS

SCALE: N.T.S.



RW2/3 DRILL & DOWEL WALL ATOP PROPOSED RCB

SCALE: N.T.S.

AS-BUILTS
2/25/2021

DIRTSAVERS
PO BOX 566
ALEDO, TX 76008
PH: 469.834.7446
F-14138

SWBC ROCKWALL

MASONRY RETAINING WALLS
CITY OF ROCKWALL, TEXAS

ERW SITE SOLUTION

FORT WORTH, TEXAS
ERW JOB NO. 18-0480-A

No.	Date	Item
1	07.18.19	REVISED GUARD RAIL DETAILS

REVISIONS

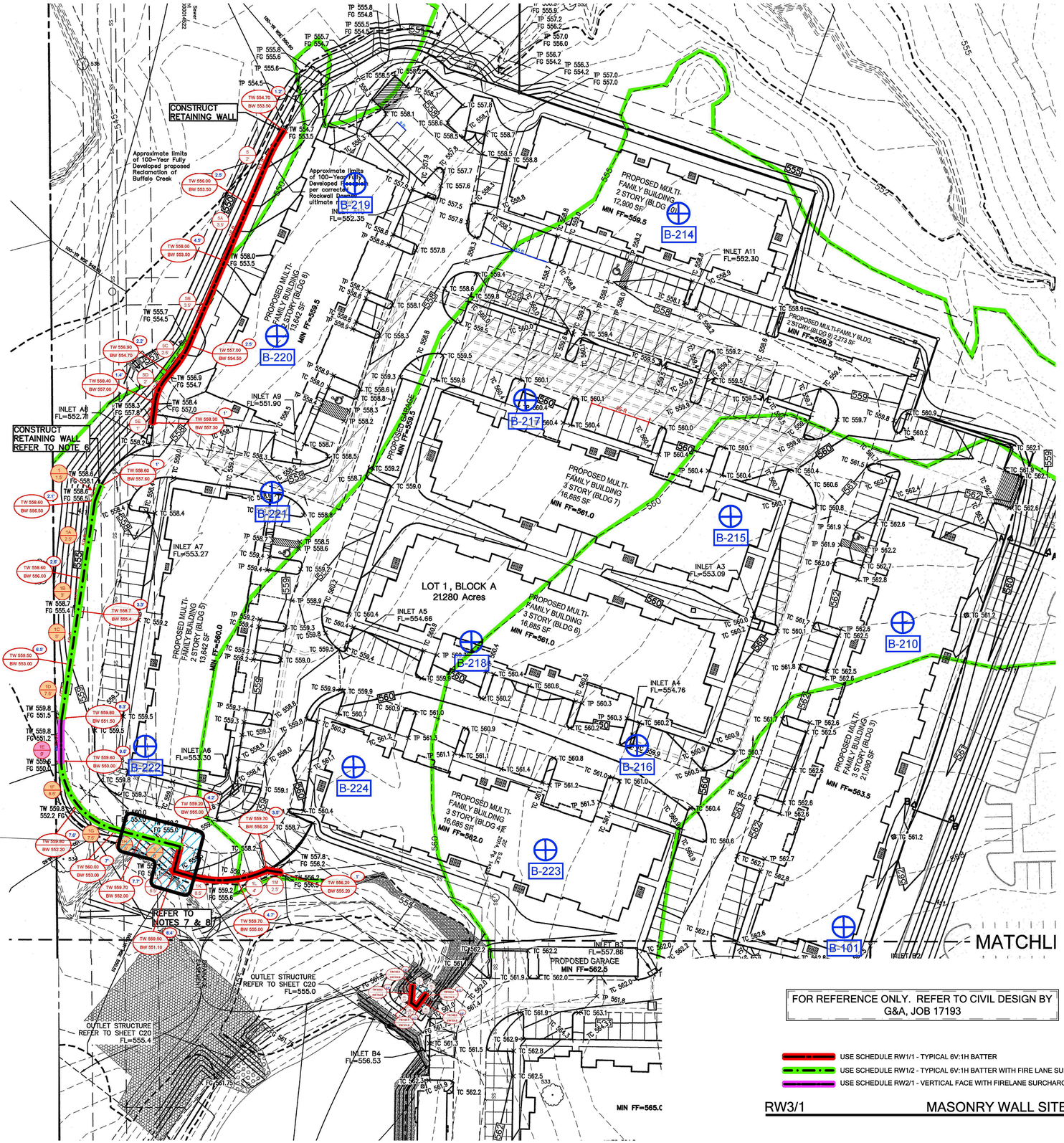
DB: MAM CHK'D: MAM APP'D: MAM

STATE OF TEXAS
MICHAEL A. MARSHALL
110099
LICENSED
PROFESSIONAL ENGINEER
07.17.2019

RETAINING WALL
DETAILS AND NOTES

Project No.	RW053019-1
Date	05.30.2019
Last Revision	07.17.2019

RW2



BOTTOM OF WALL ELEVATION IN THIS AREA TO EXTEND TO ELEVATION 546.00 TO ACCOUNT FOR EXCESSIVE SLOPES. IF HARD COMPETENT SHALE IS ENCOUNTERED BEFORE ELEVATION 546.00, BOTTOM OF WALL ELEVATION TO START AT TOP OF HARD SHALE.

FOR REFERENCE ONLY. REFER TO CIVIL DESIGN BY G&A, JOB 17193

USE SCHEDULE RW1/1 - TYPICAL 6V:1H BATTER

USE SCHEDULE RW1/2 - TYPICAL 6V:1H BATTER WITH FIRE LANE SURCHARGE

USE SCHEDULE RW2/1 - VERTICAL FACE WITH FIRELANE SURCHARGE

RW3/1 MASONRY WALL SITE PLAN

SCALE: N.T.S.

AS-BUILTS
2/25/2021

DIRTSAVERS
PO BOX 566
ALEDO, TX 76008
PH: 469.834.7446
F-14138

SWBC ROCKWALL

MASONRY RETAINING WALLS
CITY OF ROCKWALL, TEXAS

ERW SITE SOLUTION

FORT WORTH, TEXAS
ERW JOB NO. 18-0480-A

No.	Date	Item

REVISIONS

DB: MAM CHK'D: MAM APP'D: MAM

STATE OF TEXAS
MICHAEL A. MARSHALL
110099
LICENSED
PROFESSIONAL ENGINEER
05.30.2019

RETAINING WALL DETAILS AND NOTES

Project No.	RW053019-1
Date	05.30.2019
Last Revision	05.30.2019

RW3