CITY OF COACHELLA, CA

6' to 8' High Site Wall
Concentric Spread Footing
C @ 123mph (ult.)
Risk Category I
6" Wide CMU

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

DESIGN CRITERIA:

1. DESIGN CRITERIA PER 2022 CBC
2. ALLOWABLE SOIL BEARING PRESSURE = 1500psf
3. ALLOWABLE SOIL PASSIVE PRESSURE = 150pcf
4. COEFFICIENT OF FRICTION = 0.25, COHESION = 0psf
5. CANTILEVER ACTIVE = 30pcf
6. MASONRY COMPRESSIVE STRENGTH, f'm = 2000psi. SPECIAL INSPECTION NOT REQUIRED PER CBC SECTION 1704.2, EXCEPTION 2, 'U' OCCUPANCY.
7. USER TO VERIFY APPLICABILITY OF THE DEFINED DESIGN CRITERIA FOR THE PROJECT SPECIFIC SITE
8. THIS DESIGN IS BASED ON SEISMIC PARAMETERS AS FOLLOWS:
   Ss ≤ 2.14g & S_{DS} ≤ 1.40g
   SITE SPECIFIC PARAMETERS ARE TO BE INVESTIGATED PRIOR TO COMMENCEMENT OF WORK. FOR Ss & S_{DS} GREATER THAN WHAT IS SHOWN, THIS DESIGN SHALL REQUIRE FURTHER ENGINEERING.

NOTES:

1. REINFORCING STEEL SHALL BE DEFORMED AND CONFORM TO ASTM A615 GRADE 60. PROVIDE SPLICES (LAPS) OF 48 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER. CENTER VERTICAL BARS IN CELLS.
2. JOINT REINFORCEMENT ("LADDER" TYPE) SHALL BE COLD-DRAWN STEEL WIRE CONFORMING TO ASTM A951. PROVIDE MINIMUM 6 INCH LAP SPLICES.
3. STRENGTH OF CONCRETE FOR FOOTINGS = 4500psi @ 28 DAYS, UNLESS OTHERWISE REQUIRED BY SOILS REPORT.
4. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90. ANGELUS BLOCK PRECISION, SPLIT FACE, BURNISHED, OR SHOTBLAST, WITH OR WITHOUT MORTARLESS HEAD JOINTS (TONGUE-AND-GROOVE), OR ANGELUS BLOCK SLUMPSTONE SHALL BE USED. NO SUBSTITUTIONS.
5. MORTAR SHALL BE SPEC MIX TYPE S PREBLENDED MASONRY MORTAR AS MANUFACTURED BY E-Z MIX INC., CONFORMING TO ASTM C270, OR SPEC MIX IWR MASONRY MORTAR AS MANUFACTURED BY E-Z MIX INC., CONFORMING TO PROPERTY REQUIREMENTS OF ASTM C270. NO SUBSTITUTIONS.
6. GROUT SHALL CONFORM TO ASTM C476, WITH AN 8-11 INCH SLUMP, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 2000psi.
7. FIRST COURSE MAY BE WET-SET 1 1/2 INCHES MAX. WHILE CONCRETE IS PLASTIC.
8. CONCRETE BLOCK SHALL BE LAID IN RUNNING BOND PATTERN WITH VERTICAL CONTINUITY OF THE CELLS.
9. VERTICAL CONTROL JOINTS SHALL BE SPACED AT A MAXIMUM OF 40'-0"o.c., OR 20'-0"o.c. IF WALL IS TO BE STUCCO COATED OR MORTAR WASHED
10. GROUT ALL CELLS WITH REINFORCEMENT.
11. INSPECTIONS: A. AFTER FOOTING IS READY FOR CONCRETE AND ALL FOOTING REINFORCING IS TIED IN PLACE.
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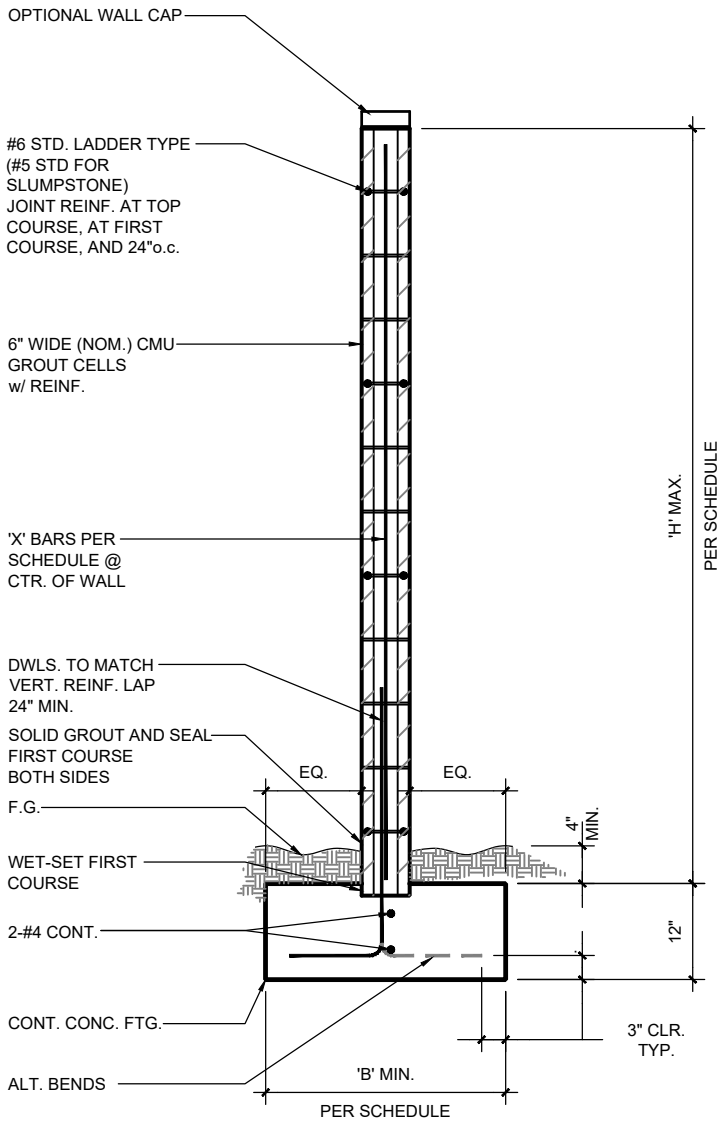

APPROVED
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By: L.Diaz DATE08/01/2023

WIND LOAD CONVERSION TABLE					
V	100	110	120	123	130
V_{asd}	78	85	93	96	101

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8'-0"	C @ 123	#4@24"o.c.	2'-10"

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM NO. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.0

#23-090

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GHANIM STRUCTURAL ENGINEERING
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CITY OF COACHELLA, CA

6' to 8' High Site Wall
Eccentric Spread Footing
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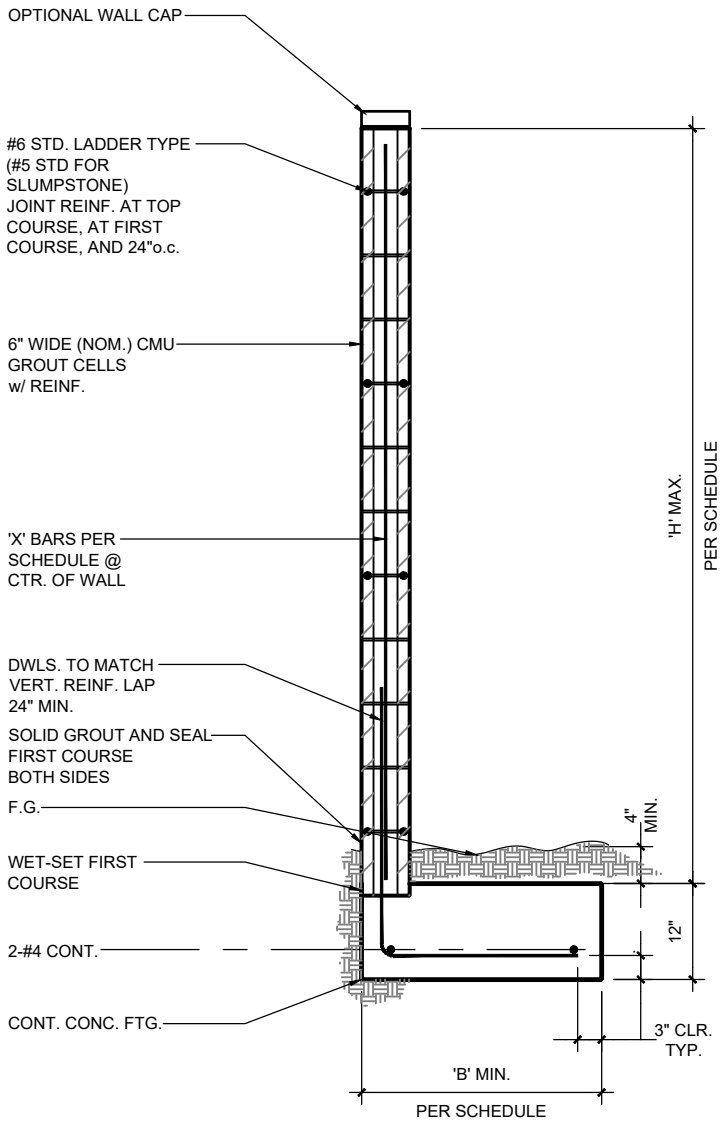

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CITY OF COACHELLA, CA

6' to 8' High Site Wall
Trench Footing
C @ 123mph (ult.)
Risk Category I
6" Wide CMU

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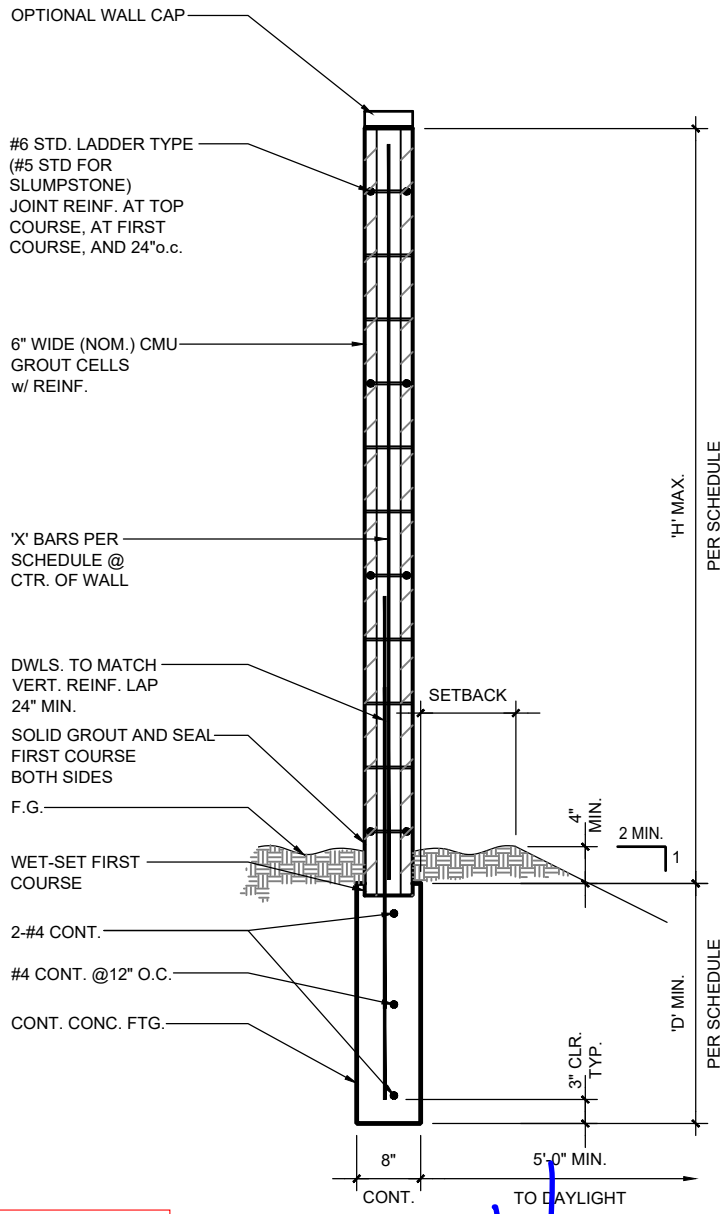

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DESIGN IS ADEQUATE FOR 2:1 MIN. SLOPE WITH NO SETBACK			

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM NO. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.2

#23-090

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CITY OF COACHELLA, CA

6'-8" High Glass View Wall
Trench Footing
C @ 123mph (ult.)
Risk Category I
6" Wide CMU

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

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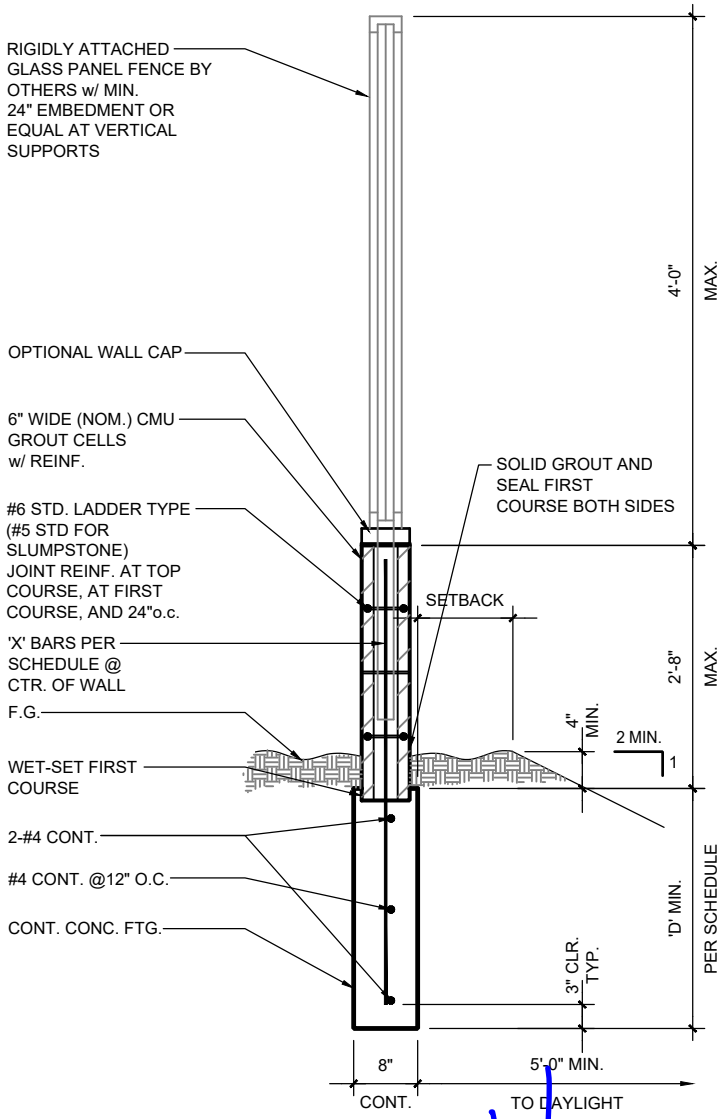

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#23-090

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6'-8" High Iron View Wall
Trench Footing
C @ 123mph (ult.)
Risk Category I
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ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

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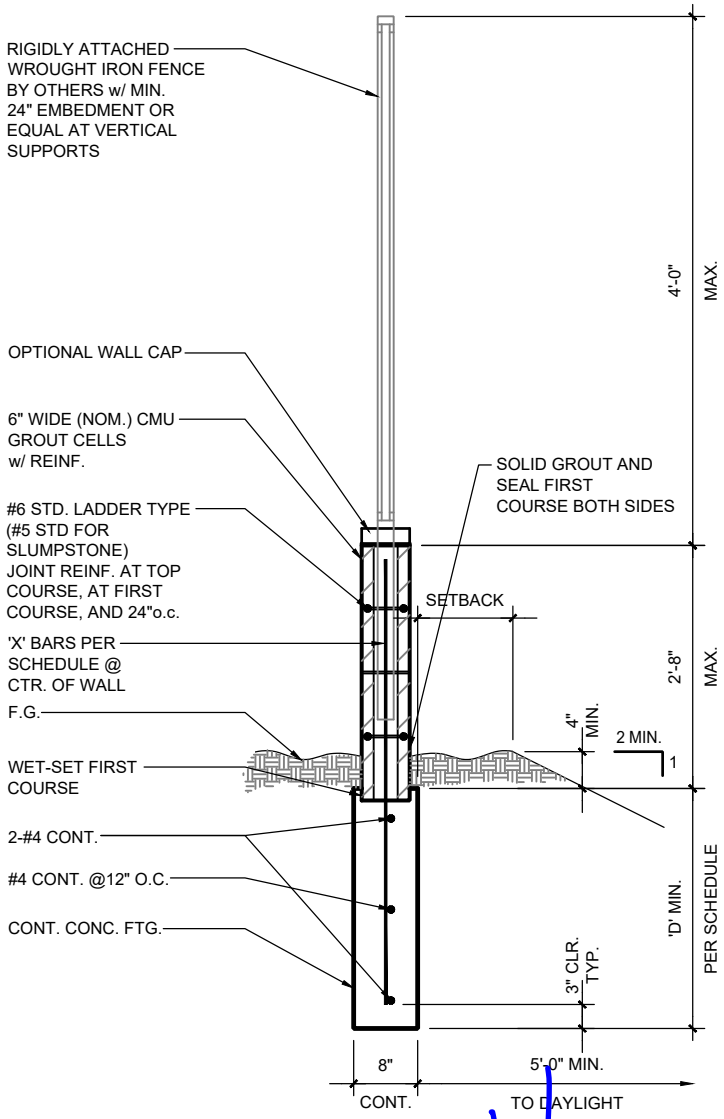

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CITY OF COACHELLA, CA

6' High Wall 2' to 4' Retaining Toe-out Footing C @ 123mph (ult.) Risk Category I 6"/8" Wide CMU

Angelus BLOCK CO., INC. Since 1946

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

DESIGN CRITERIA:

1. DESIGN CRITERIA PER 2022 CBC
2. ALLOWABLE SOIL BEARING PRESSURE = 1500psf
3. ALLOWABLE SOIL PASSIVE PRESSURE = 150pcf
4. COEFFICIENT OF FRICTION = 0.25, COHESION = 0psf
5. CANTILEVER ACTIVE = 30pcf
6. MASONRY COMPRESSIVE STRENGTH, f'm = 2000psi. SPECIAL INSPECTION NOT REQUIRED PER CBC SECTION 1704.2, EXCEPTION 2, 'U' OCCUPANCY.
7. USER TO VERIFY APPLICABILITY OF THE DEFINED DESIGN CRITERIA FOR THE PROJECT SPECIFIC SITE
8. THIS DESIGN IS BASED ON SEISMIC PARAMETERS AS FOLLOWS:
   Ss ≤ 2.14g & S_{DS} ≤ 1.40g
   SITE SPECIFIC PARAMETERS ARE TO BE INVESTIGATED PRIOR TO COMMENCEMENT OF WORK. FOR Ss & S_{DS} GREATER THAN WHAT IS SHOWN, THIS DESIGN SHALL REQUIRE FURTHER ENGINEERING.

NOTES:

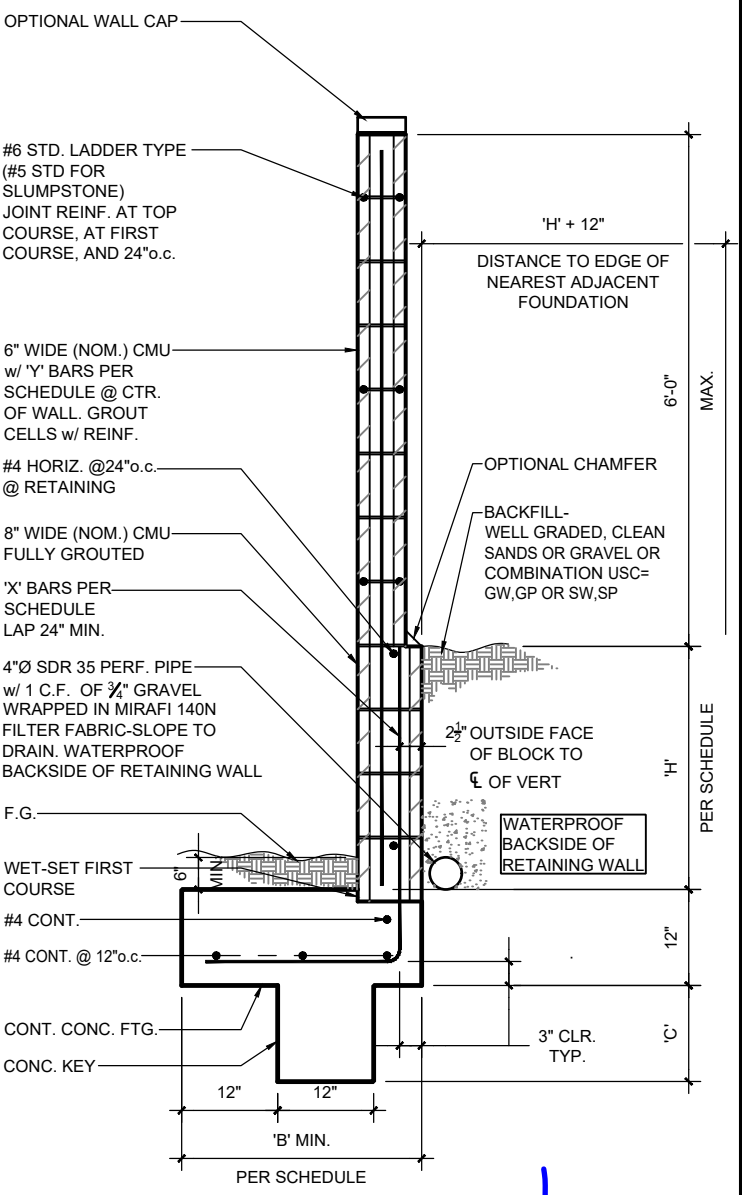
1. REINFORCING STEEL SHALL BE DEFORMED AND CONFORM TO ASTM A615 GRADE 60. PROVIDE SPLICES (LAPS) OF 48 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER. CENTER VERTICAL BARS IN CELLS.
2. JOINT REINFORCEMENT ("LADDER" TYPE) SHALL BE COLD-DRAWN STEEL WIRE CONFORMING TO ASTM A951. PROVIDE MINIMUM 6 INCH LAP SPLICES.
3. STRENGTH OF CONCRETE FOR FOOTINGS = 4500psi @ 28 DAYS, UNLESS OTHERWISE REQUIRED BY SOILS REPORT.
4. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90. ANGELUS BLOCK PRECISION, SPLIT FACE, BURNISHED, OR SHOTBLAST, WITH OR WITHOUT MORTARLESS HEAD JOINTS (TONGUE-AND-GROOVE), OR ANGELUS BLOCK SLUMPSTONE SHALL BE USED. NO SUBSTITUTIONS.
5. MORTAR SHALL BE SPEC MIX TYPE S PREBLENDED MASONRY MORTAR AS MANUFACTURED BY E-Z MIX INC., CONFORMING TO ASTM C270, OR SPEC MIX IWR MASONRY MORTAR AS MANUFACTURED BY E-Z MIX INC., CONFORMING TO PROPERTY REQUIREMENTS OF ASTM C270. NO SUBSTITUTIONS.
6. GROUT SHALL CONFORM TO ASTM C476, WITH AN 8-11 INCH SLUMP, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 2000psi.
7. FIRST COURSE MAY BE WET-SET 1 1/2 INCHES MAX. WHILE CONCRETE IS PLASTIC.
8. CONCRETE BLOCK SHALL BE LAID IN RUNNING BOND PATTERN WITH VERTICAL CONTINUITY OF THE CELLS.
9. VERTICAL CONTROL JOINTS SHALL BE SPACED AT A MAXIMUM OF 40'-0"o.c., OR 20'-0"o.c. IF WALL IS TO BE STUCCO COATED OR MORTAR WASHED
10. GROUT ALL CELLS WITH REINFORCEMENT.
11. INSPECTIONS: A. AFTER FOOTING IS READY FOR CONCRETE AND ALL FOOTING REINFORCING IS TIED IN PLACE.
    B. AFTER VERTICAL REINFORCEMENT IS IN PLACE AND CELLS ARE READY FOR GROUT.
12. FOR TYPICAL FOOTING STEP AND DRAINAGE BLOCK-OUT DETAILS SEE DETAIL SHEET S-5.1.
13. EXCAVATION FOR WALL/FOUNDATION SHALL NOT UNDERMINE ANY ADJACENT STRUCTURES. TEMPORARY SHORING AND STABILIZATION OF ADJACENT STRUCTURES SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.
14. THIS DESIGN IS NOT TO BE USED FOR GATE WALLS.
15. WALL SHALL BE FOUNDED ON PROPERLY COMPACTED SOIL.
16. BACKFILL SHALL BE PROPERLY COMPACTED.

LOADING:

1. SEISMIC, 5% DAMPING @ 1 SECOND ACCELERATION Cs=0.80Wt.
2. FOUNDATION SIZES BASED ON MAXIMUM WIND OR SEISMIC LOADING.

WIND LOAD CONVERSION TABLE					
V	100	110	120	123	130
V_{asd}	78	85	93	96	101

V = BASIC DESIGN WIND SPEEDS
V_{asd} = ALLOWABLE STRESS DESIGN WIND SPEED



APPROVED
Coachella Building Division.
Approval of these plans shall not be construed as a permit for, or approval of, any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job site until completion.

By: L.Diaz DATE08/01/2023

MASONRY FENCE RETAINING WALL SCHEDULE					
'H'	DESIGN WIND EXP / mph	'X' BARS	'Y' BARS	'B' MIN.	'C' MIN.
2'-0"	C @ 123	#4@32"o.c.	#4@48"o.c.	2'-4"	0'-4"
2'-8"	C @ 123	#4@32"o.c.	#4@48"o.c.	2'-6"	0'-7"
3'-4"	C @ 123	#4@32"o.c.	#4@48"o.c.	2'-8"	0'-10"
4'-0"	C @ 123	#4@24"o.c.	#4@48"o.c.	2'-11"	1'-2"

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM NO. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.5

#23-090

GSE GHANIM STRUCTURAL ENGINEERING
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CITY OF COACHELLA, CA

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ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

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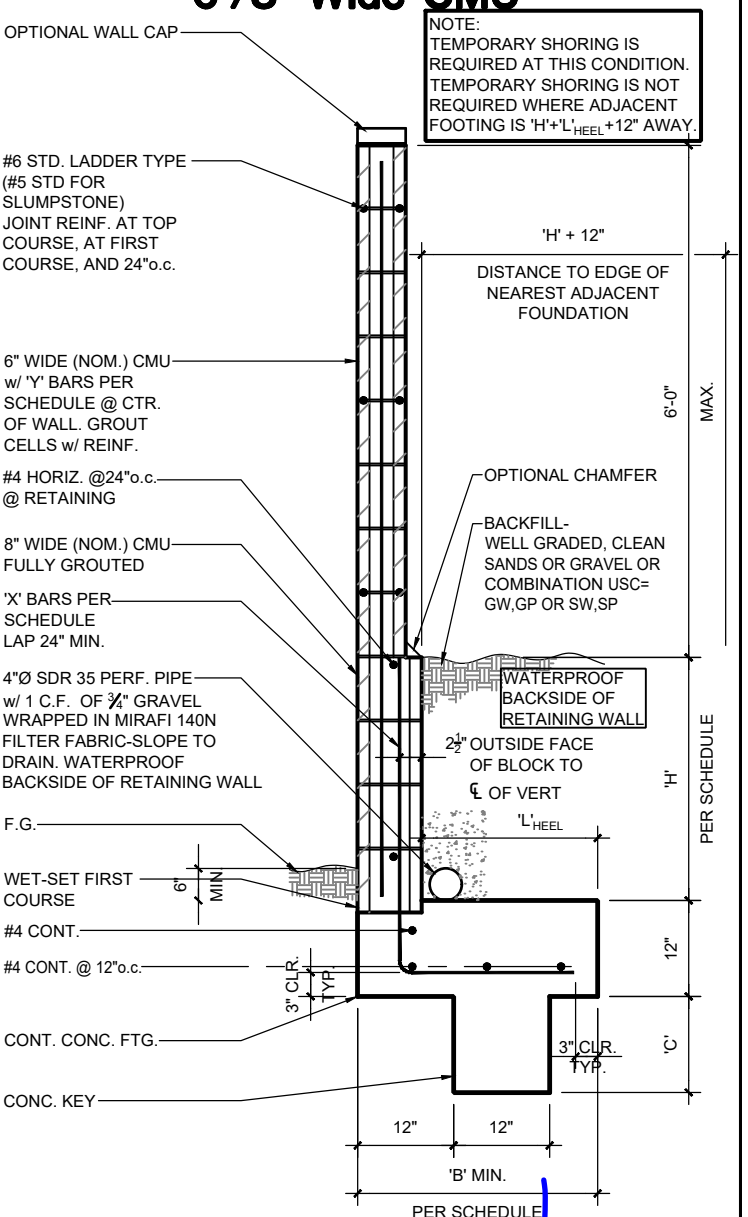

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2'-8"	C @ 123	#4@32"o.c.	#4@48"o.c.	3'-2"	N/A
3'-4"	C @ 123	#4@32"o.c.	#4@48"o.c.	3'-6"	N/A
4'-0"	C @ 123	#4@24"o.c.	#4@48"o.c.	3'-11"	0'-2"

APPROVED
Coachella Building Division.
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By: L.Diaz DATE08/01/2023

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM NO. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.6

#23-090

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T: 626.407.2224 ● www.ghanimSE.com

CITY OF COACHELLA, CA

2' to 6' High Retaining Wall
Level Backfill
8" Wide CMU

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

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3. STRENGTH OF CONCRETE FOR FOOTINGS = 4500psi @ 28 DAYS, UNLESS OTHERWISE REQUIRED BY SOILS REPORT.
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LOADING:

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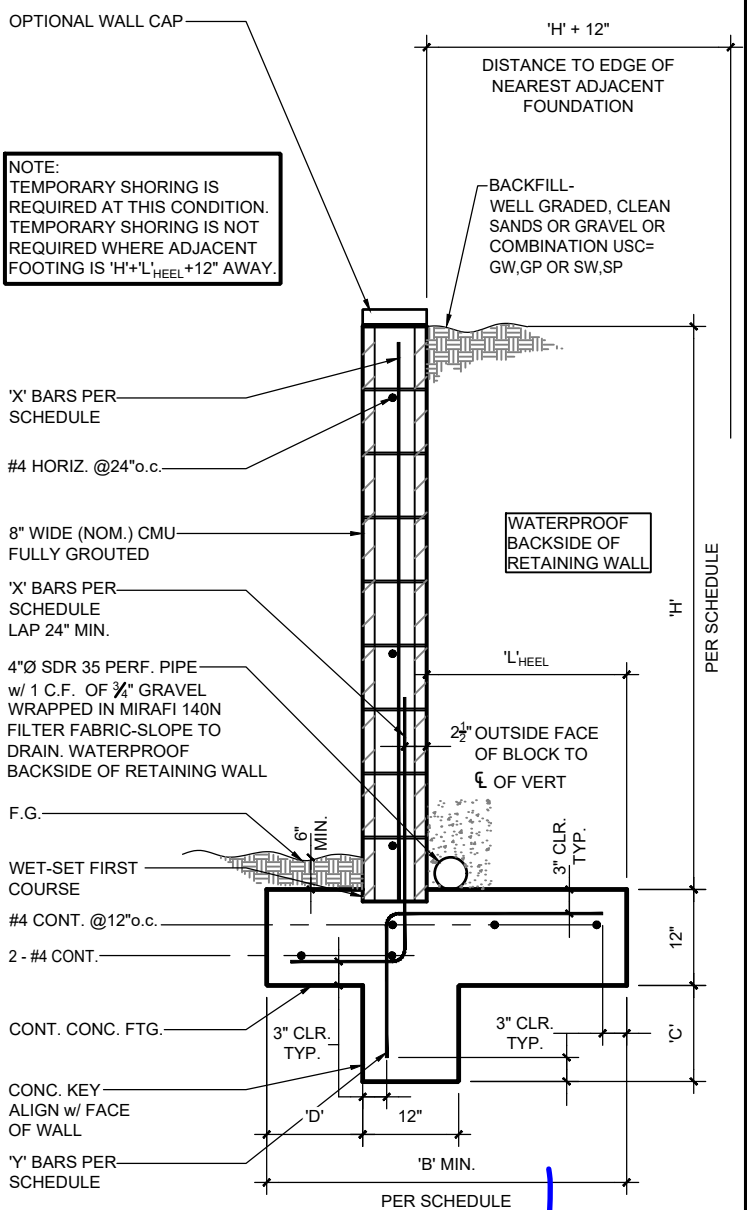

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By: L.Diaz DATE08/01/2023

MASONRY RETAINING WALL SCHEDULE

'H'	'X' BARS	'Y' BARS	'B' MIN.	'C' MIN.	'D'
2'-0"	#4@32"o.c.	N/A	1'-5"	N/A	N/A
2'-8"	#4@32"o.c.	N/A	1'-10"	0'-3"	0'-6"
3'-4"	#4@32"o.c.	N/A	1'-11"	0'-6"	0'-9"
4'-0"	#4@32"o.c.	N/A	2'-5"	0'-8"	0'-9"
4'-8"	#4@32"o.c.	N/A	2'-11"	0'-9"	0'-9"
5'-4"	#4@24"o.c.	N/A	3'-3"	1'-1"	1'-0"
6'-0"	#4@16"o.c.	#4@8"o.c.	4'-0"	1'-3"	1'-0"

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM N0.S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.7

#23-090

GSE
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T: 626.407.2224 ● www.ghanimSE.com

CITY OF COACHELLA, CA

2' to 6' High Retaining Wall
Toe-out Footing
Sloped Backfill
8" Wide CMU

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

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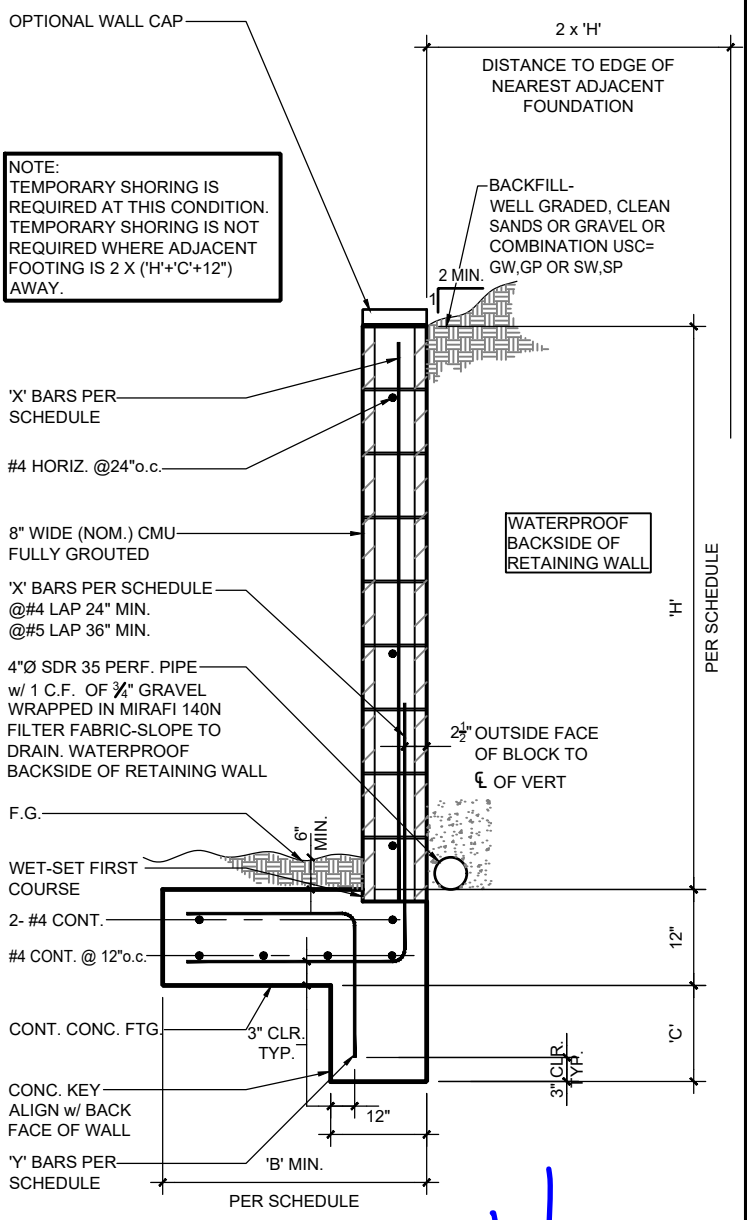

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4'-0"	#4@16"o.c.	#4@8"o.c.	4'-0"	1'-11"
4'-8"	#4@8"o.c.	#4@8"o.c.	4'-3"	2'-6"
5'-4"	#4@8"o.c.	#4@8"o.c.	5'-0"	2'-11"
6'-0"	#5@8"o.c.	#4@8"o.c.	5'-5"	3'-5"

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM No. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

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This detail is designed exclusively for Angelus Block Co., Inc. concrete masonry units and E-Z Mix Inc. products as specified herein. No substitutions allowed.

APPROVED
Coachella Building Division.
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By: L.Diaz DATE08/01/2023

S-1.8

#23-090

CITY OF COACHELLA, CA

6'-8" to 8'-8" High Pilaster Spread Footing

Seismic, 5% @ 1 second

16" or 24" CMU Pilaster

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

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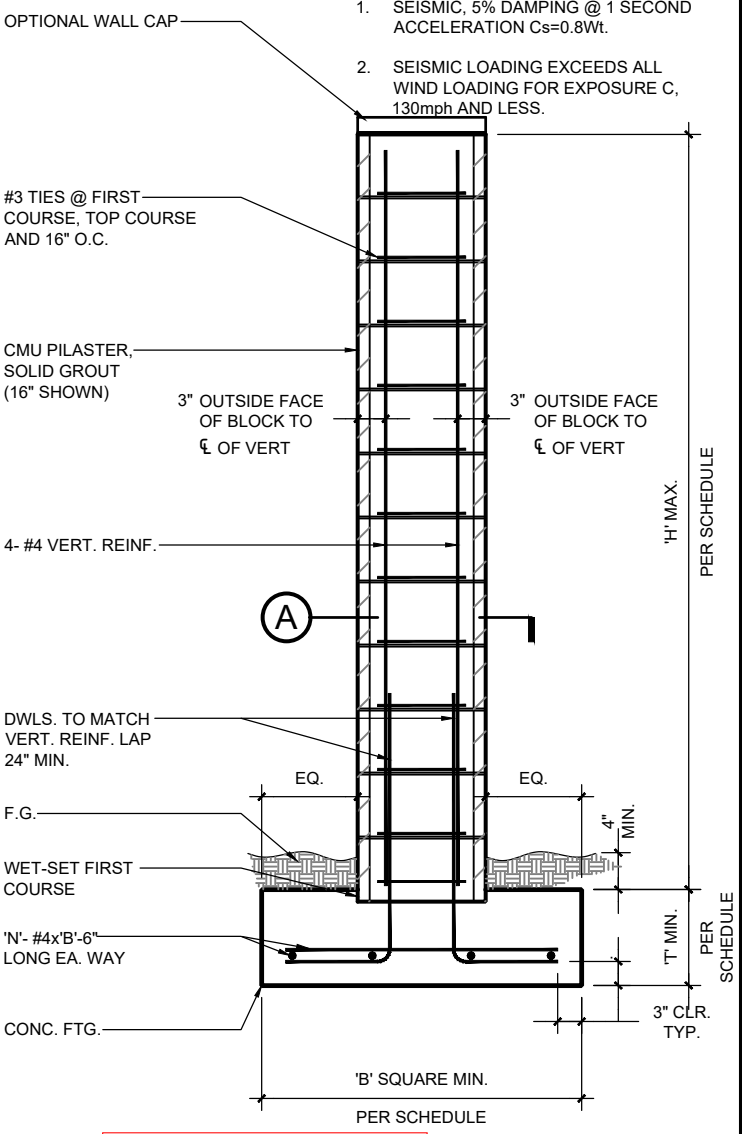
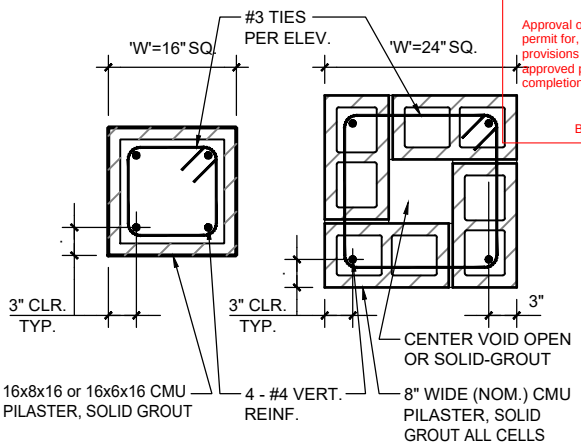


MASONRY PILASTER SCHEDULE				
'H'	'W' MAX.	'B'	'T'	'N'
6'-8"	16"	4'-1"	1'-0"	4
	24"	4'-10"	1'-6"	5
7'-4"	16"	4'-4"	1'-0"	4
	24"	5'-1"	1'-6"	5
8'-8"	16"	4'-9"	1'-0"	5
	24"	5'-7"	1'-6"	6



APPROVED
Coachella Building Division.
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By: L.Diaz DATE08/01/2023

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM NO. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

A PILASTER SECTION

This detail is designed exclusively for Angelus Block Co., Inc. concrete masonry units and E-Z Mix Inc. products as specified herein. No substitutions allowed.

GSE GHANIM STRUCTURAL ENGINEERING
898 N. FAIR OAKS AVE., STE. F, PASADENA, CA 91103
T: 626.407.2224 ● www.ghanimSE.com

S-1.9

#23-090

CITY OF COACHELLA, CA

6'-8" to 8'-8" High Pilaster Pole Footing

Seismic, 5% @ 1 second

16" or 24" CMU Pilaster

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

DESIGN CRITERIA:

1. DESIGN CRITERIA PER 2022 CBC
2. ALLOWABLE SOIL BEARING PRESSURE = 1500psf
3. ALLOWABLE SOIL PASSIVE PRESSURE = 150pcf
4. COEFFICIENT OF FRICTION = 0.25, COHESION = 0psf
5. CANTILEVER ACTIVE = 30pcf
6. MASONRY COMPRESSIVE STRENGTH, f'm = 2000psi. SPECIAL INSPECTION NOT REQUIRED PER CBC SECTION 1704.2, EXCEPTION 2, 'U' OCCUPANCY.
7. USER TO VERIFY APPLICABILITY OF THE DEFINED DESIGN CRITERIA FOR THE PROJECT SPECIFIC SITE
8. THIS DESIGN IS BASED ON SEISMIC PARAMETERS AS FOLLOWS:
   Ss ≤ 2.14g & S_{DS} ≤ 1.40g
   SITE SPECIFIC PARAMETERS ARE TO BE INVESTIGATED PRIOR TO COMMENCEMENT OF WORK. FOR Ss & S_{DS} GREATER THAN WHAT IS SHOWN, THIS DESIGN SHALL REQUIRE FURTHER ENGINEERING.

NOTES:

1. REINFORCING STEEL SHALL BE DEFORMED AND CONFORM TO ASTM A615 GRADE 60. PROVIDE SPLICES (LAPS) OF 48 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER. CENTER VERTICAL BARS IN CELLS.
2. NOT USED
3. STRENGTH OF CONCRETE FOR FOOTINGS = 4500psi @ 28 DAYS, UNLESS OTHERWISE REQUIRED BY SOILS REPORT.
4. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90. ANGELUS BLOCK PRECISION, SPLIT FACE, BURNISHED, OR SHOTBLAST, WITH OR WITHOUT MORTARLESS HEAD JOINTS (TONGUE-AND-GROOVE), OR ANGELUS BLOCK SLUMPSTONE SHALL BE USED. NO SUBSTITUTIONS.
5. MORTAR SHALL BE SPEC MIX TYPE S PREBLENDED MASONRY MORTAR AS MANUFACTURED BY E-Z MIX INC., CONFORMING TO ASTM C270, OR SPEC MIX IWR MASONRY MORTAR AS MANUFACTURED BY E-Z MIX INC., CONFORMING TO PROPERTY REQUIREMENTS OF ASTM C270. NO SUBSTITUTIONS.
6. GROUT SHALL CONFORM TO ASTM C476, WITH AN 8-11 INCH SLUMP, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 2000psi.
7. FIRST COURSE MAY BE WET-SET 1 1/2 INCHES MAX. WHILE CONCRETE IS PLASTIC.
8. NOT USED
9. VERTICAL CONTROL JOINTS SHALL BE SPACED AT A MAXIMUM OF 40'-0"o.c., OR 20'-0"o.c. IF WALL IS TO BE STUCCO COATED OR MORTAR WASHED
10. NOT USED
11. INSPECTIONS: A. AFTER FOOTING IS READY FOR CONCRETE AND ALL FOOTING REINFORCING IS TIED IN PLACE.
    B. AFTER VERTICAL REINFORCEMENT IS IN PLACE AND CELLS ARE READY FOR GROUT.
12. FOR TYPICAL FOOTING STEP AND DRAINAGE BLOCK-OUT DETAILS SEE DETAIL SHEET S-5.1.
13. EXCAVATION FOR WALL/FOUNDATION SHALL NOT UNDERMINE ANY ADJACENT STRUCTURES. TEMPORARY SHORING AND STABILIZATION OF ADJACENT STRUCTURES SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.
14. THIS DESIGN IS NOT TO BE USED FOR GATE WALLS.
15. WALL SHALL BE FOUNDED ON PROPERLY COMPACTED SOIL.
16. BACKFILL SHALL BE PROPERLY COMPACTED.

MASONRY PILASTER SCHEDULE			
'H'	'W' MAX.	'B' MIN.	'D' MIN.
6'-8"	16"	24"	4'-4"
	24"	36"	5'-1"
7'-4"	16"	24"	4'-7"
	24"	36"	5'-4"
8'-8"	16"	24"	5'-2"
	24"	36"	5'-11"

LOADING:

1. SEISMIC, 5% DAMPING @ 1 SECOND ACCELERATION Cs=0.8Wt.
2. SEISMIC LOADING EXCEEDS ALL WIND LOADING FOR EXPOSURE C, 130mph AND LESS.

APPROVED
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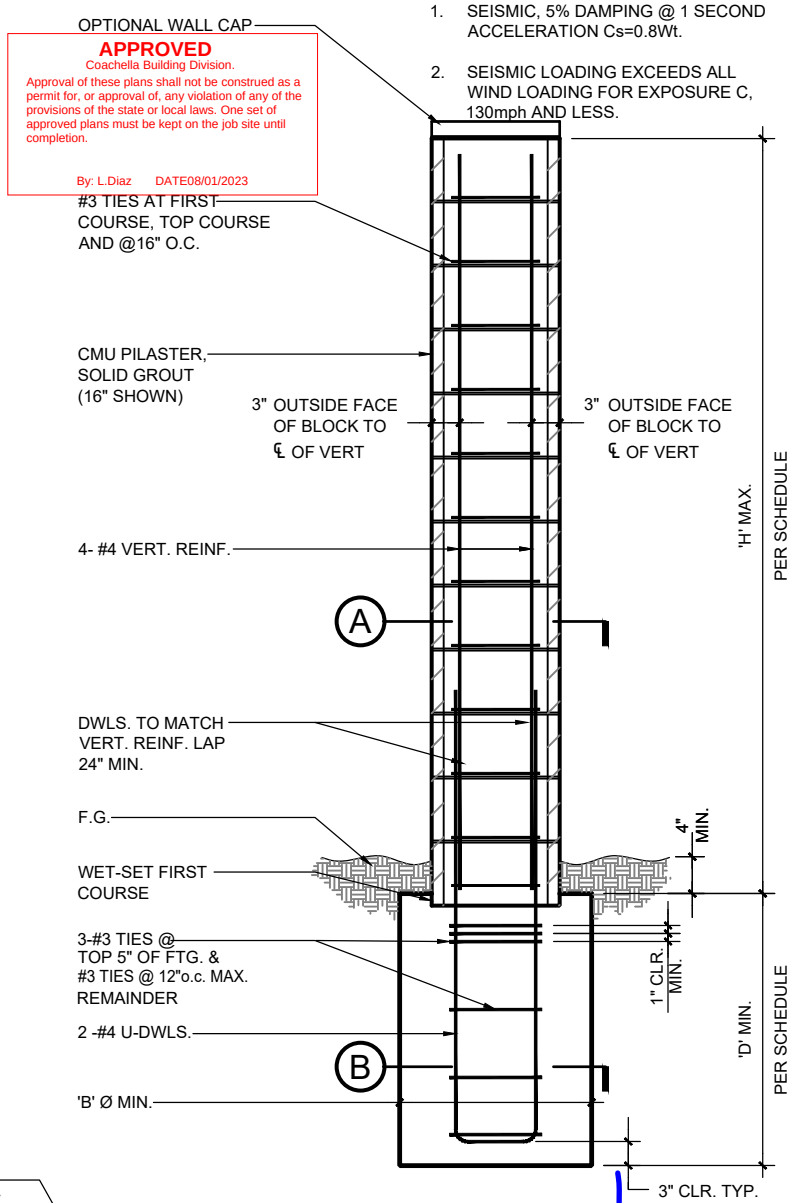
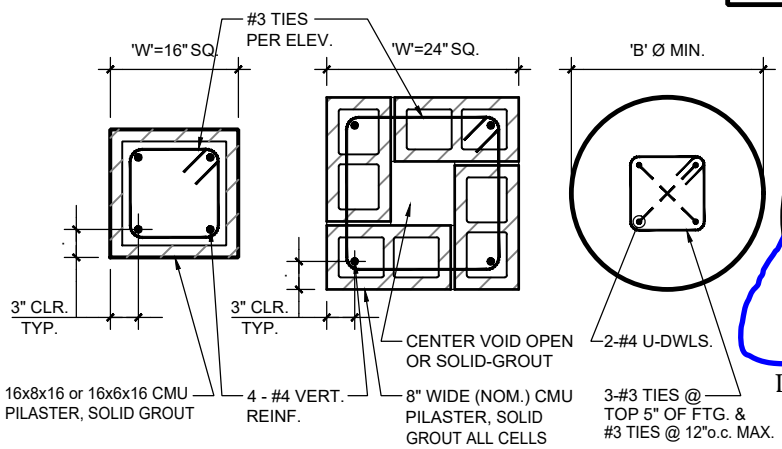
By: L.Diaz DATE08/01/2023





A PILASTER SECTION

B FOOTING SECTION

REGISTERED PROFESSIONAL ENGINEER HUSAM A. GHANIM NO. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.10

#23-090

GSE
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T: 626.407.2224 ● www.ghanimSE.com

CITY OF COACHELLA, CA

6' to 8' High Site Wall
Concentric Spread Footing
C @ 123mph (ult.)
Risk Category I
8" Wide CMU

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

DESIGN CRITERIA:

1. DESIGN CRITERIA PER 2022 CBC
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NOTES:

1. REINFORCING STEEL SHALL BE DEFORMED AND CONFORM TO ASTM A615 GRADE 60. PROVIDE SPLICES (LAPS) OF 48 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER. CENTER VERTICAL BARS IN CELLS.
2. JOINT REINFORCEMENT ("LADDER" TYPE) SHALL BE COLD-DRAWN STEEL WIRE CONFORMING TO ASTM A951. PROVIDE MINIMUM 6 INCH LAP SPLICES.
3. STRENGTH OF CONCRETE FOR FOOTINGS = 4500psi @ 28 DAYS, UNLESS OTHERWISE REQUIRED BY SOILS REPORT.
4. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90. ANGELUS BLOCK PRECISION, SPLIT FACE, BURNISHED, OR SHOTBLAST, WITH OR WITHOUT MORTARLESS HEAD JOINTS (TONGUE-AND-GROOVE), OR ANGELUS BLOCK SLUMPSTONE SHALL BE USED. NO SUBSTITUTIONS.
5. MORTAR SHALL BE SPEC MIX TYPE S PREBLENDED MASONRY MORTAR AS MANUFACTURED BY E-Z MIX INC., CONFORMING TO ASTM C270, OR SPEC MIX IWR MASONRY MORTAR AS MANUFACTURED BY E-Z MIX INC., CONFORMING TO PROPERTY REQUIREMENTS OF ASTM C270. NO SUBSTITUTIONS.
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7. FIRST COURSE MAY BE WET-SET 1 1/2 INCHES MAX. WHILE CONCRETE IS PLASTIC.
8. CONCRETE BLOCK SHALL BE LAID IN RUNNING BOND PATTERN WITH VERTICAL CONTINUITY OF THE CELLS.
9. VERTICAL CONTROL JOINTS SHALL BE SPACED AT A MAXIMUM OF 40'-0"o.c., OR 20'-0"o.c. IF WALL IS TO BE STUCCO COATED OR MORTAR WASHED
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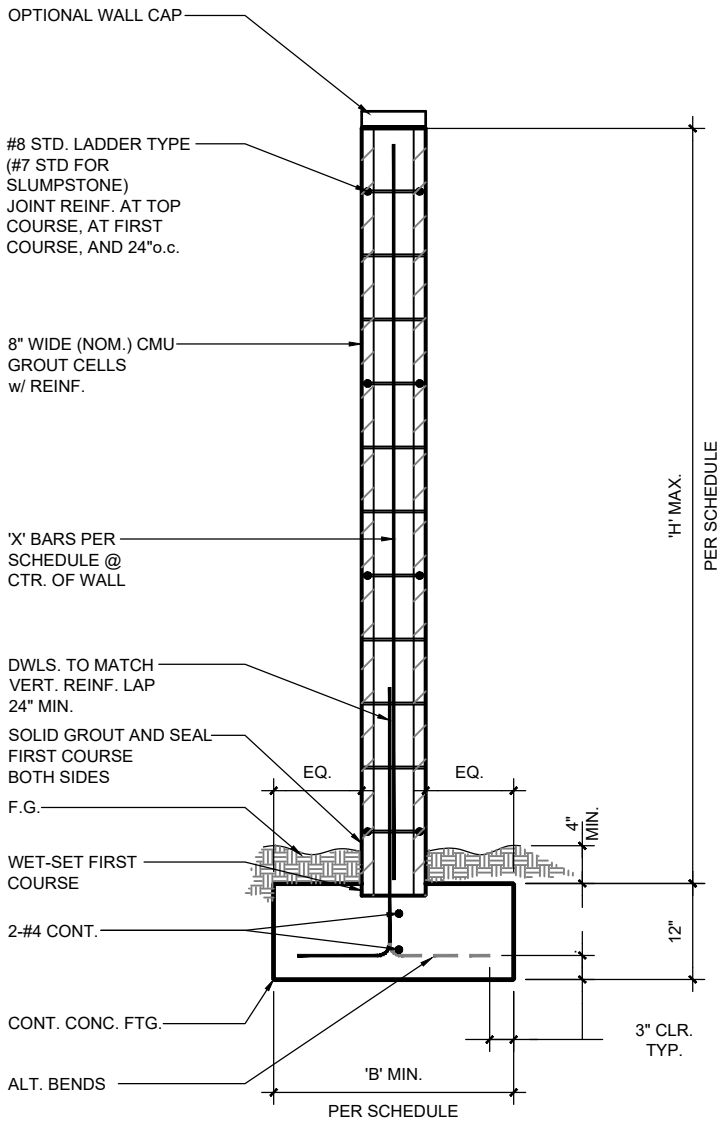

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By: L.Diaz DATE08/01/2023

WIND LOAD CONVERSION TABLE					
V	100	110	120	123	130
V_{asd}	78	85	93	96	101

V = BASIC DESIGN WIND SPEEDS
V_{asd} = ALLOWABLE STRESS DESIGN WIND SPEED

MASONRY FENCE WALL SCHEDULE			
'H' MAX.	DESIGN WIND EXP / mph	'X' BARS	'B' MIN.
6'-0"	C @ 123	#4@48"o.c.	2'-4"
6'-8"	C @ 123	#4@40"o.c.	2'-8"
7'-4"	C @ 123	#4@32"o.c.	2'-11"
8'-0"	C @ 123	#4@24"o.c.	3'-5"

REGISTERED PROFESSIONAL ENGINEER HUSAM M. GHANIM No. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.11

#23-090

GSE GHANIM STRUCTURAL ENGINEERING
898 N. FAIR OAKS AVE., STE. F, PASADENA, CA 91103
T: 626.407.2224 ● www.ghanimSE.com

CITY OF COACHELLA, CA

6' to 8' High Site Wall
Concentric Spread Footing
C @ 123mph (ult.)
Risk Category I
6" Wide Stacked Bond CMU

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

DESIGN CRITERIA:

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6. GROUT SHALL CONFORM TO ASTM C476, WITH AN 8-11 INCH SLUMP, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 2000psi.
7. FIRST COURSE MAY BE WET-SET 1 1/2 INCHES MAX. WHILE CONCRETE IS PLASTIC.
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10. GROUT ALL CELLS WITH REINFORCEMENT.
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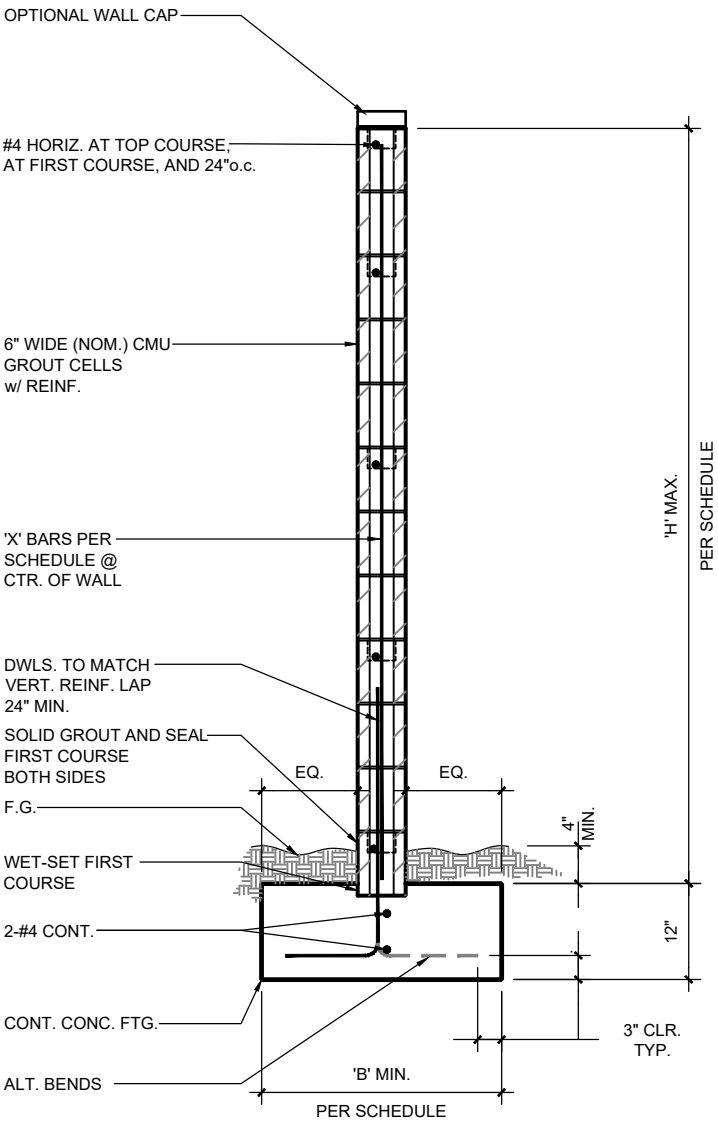

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6'-0"	C @ 123	#4@48"o.c.	2'-2"
6'-8"	C @ 123	#4@32"o.c.	2'-5"
7'-4"	C @ 123	#4@24"o.c.	2'-8"
8'-0"	C @ 123	#4@24"o.c.	2'-10"

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM NO. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.12

#23-090

GSE GHANIM STRUCTURAL ENGINEERING
898 N. FAIR OAKS AVE., STE. F, PASADENA, CA 91103
T: 626.407.2224 ● www.ghanimSE.com

CITY OF COACHELLA, CA

6' to 8' High Site Wall
Concentric Spread Footing
C @ 123mph (ult.)
Risk Category I
8" Wide Stacked Bond CMU

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

DESIGN CRITERIA:

1. DESIGN CRITERIA PER 2022 CBC
2. ALLOWABLE SOIL BEARING PRESSURE = 1500psf
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3. STRENGTH OF CONCRETE FOR FOOTINGS = 4500psi @ 28 DAYS, UNLESS OTHERWISE REQUIRED BY SOILS REPORT.
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6. GROUT SHALL CONFORM TO ASTM C476, WITH AN 8-11 INCH SLUMP, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 2000psi.
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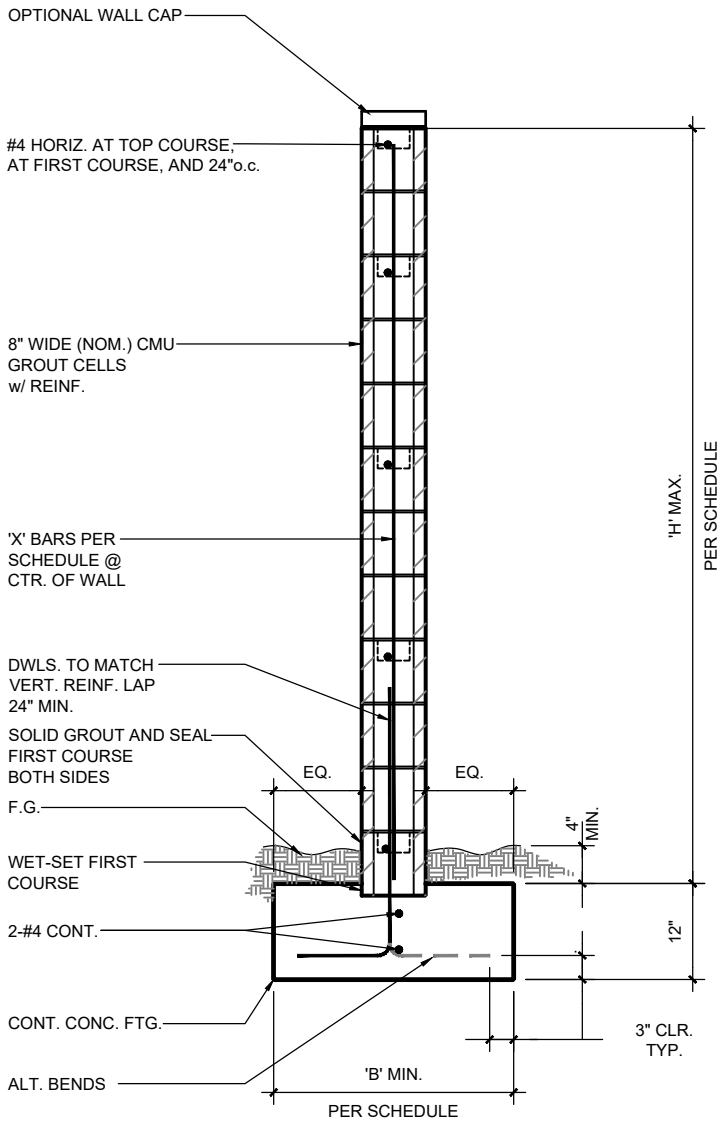

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By: L.Diaz DATE08/01/2023

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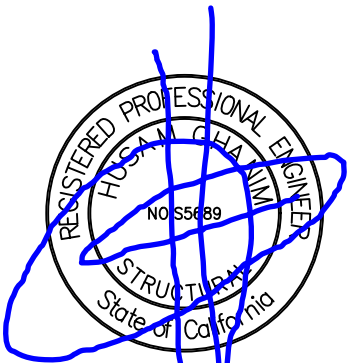
8'-0"	C @ 123	#4@24"o.c.	3'-5"



DATE SIGNED 07-12-2023

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T: 626.407.2224 ● www.ghanimSE.com

S-1.13

#23-090

CITY OF COACHELLA, CA

2' to 6' High Retaining Wall
Sloped Backfill
8" Wide CMU

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

DESIGN CRITERIA:

1. DESIGN CRITERIA PER 2022 CBC
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9. VERTICAL CONTROL JOINTS SHALL BE SPACED AT A MAXIMUM OF 40'-0"o.c., OR 20'-0"o.c. IF WALL IS TO BE STUCCO COATED OR MORTAR WASHED
10. NOT USED
11. INSPECTIONS: A. AFTER FOOTING IS READY FOR CONCRETE AND ALL FOOTING REINFORCING IS TIED IN PLACE.
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16. BACKFILL SHALL BE PROPERLY COMPACTED.

LOADING:

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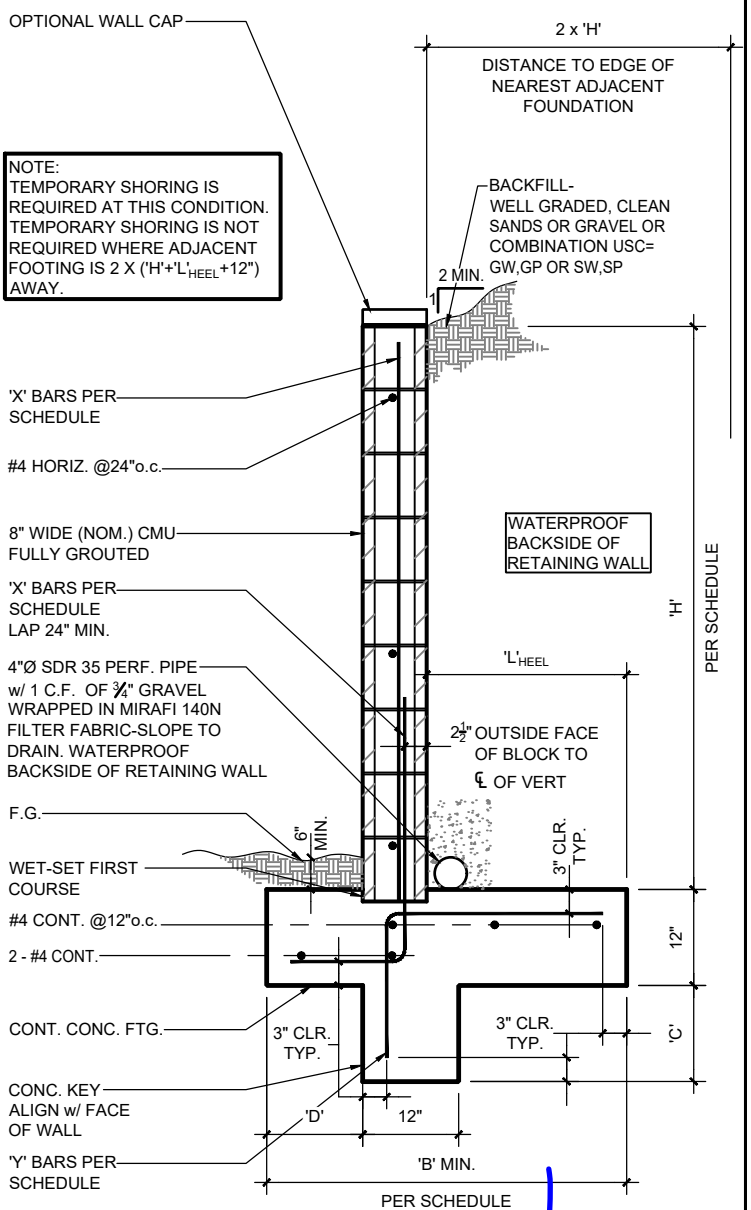

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By: L.Diaz DATE08/01/2023

MASONRY RETAINING WALL SCHEDULE

'H'	'X' BARS	'Y' BARS	'B' MIN.	'C' MIN.	'D'
2'-0"	#4@32"o.c.	N/A	2'-3"	1'-0"	N/A
2'-8"	#4@32"o.c.	N/A	2'-3"	1'-4"	0'-6"
3'-4"	#4@32"o.c.	N/A	2'-6"	1'-7"	1'-0"
4'-0"	#4@16"o.c.	#4@8"o.c.	3'-6"	2'-4"	1'-0"
4'-8"	#4@8"o.c.	#4@8"o.c.	4'-3"	2'-11"	1'-0"
5'-4"	#4@8"o.c.	#4@8"o.c.	4'-3"	3'-0"	1'-0"
6'-0"	#5@8"o.c.	#4@8"o.c.	5'-0"	3'-8"	1'-6"

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM No. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.14

#23-090

GSE
GHANIM STRUCTURAL ENGINEERING
898 N. FAIR OAKS AVE., STE. F, PASADENA, CA 91103
T: 626.407.2224 ● www.ghanimSE.com

CITY OF COACHELLA, CA

2' to 6' High Retaining Wall
Toe-out Footing
Level Backfill
8" Wide CMU

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

DESIGN CRITERIA:

1. DESIGN CRITERIA PER 2022 CBC
2. ALLOWABLE SOIL BEARING PRESSURE = 1500psf
3. ALLOWABLE SOIL PASSIVE PRESSURE = 150pcf
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5. CANTILEVER ACTIVE = 30pcf
6. MASONRY COMPRESSIVE STRENGTH, f'm = 2000psi. SPECIAL INSPECTION NOT REQUIRED PER CBC SECTION 1704.2, EXCEPTION 2, 'U' OCCUPANCY.
7. USER TO VERIFY APPLICABILITY OF THE DEFINED DESIGN CRITERIA FOR THE PROJECT SPECIFIC SITE
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NOTES:

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2. NOT USED
3. STRENGTH OF CONCRETE FOR FOOTINGS = 4500psi @ 28 DAYS, UNLESS OTHERWISE REQUIRED BY SOILS REPORT.
4. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90. ANGELUS BLOCK PRECISION, SPLIT FACE, BURNISHED, OR SHOTBLAST, WITH OR WITHOUT MORTARLESS HEAD JOINTS (TONGUE-AND-GROOVE), OR ANGELUS BLOCK SLUMPSTONE SHALL BE USED. NO SUBSTITUTIONS.
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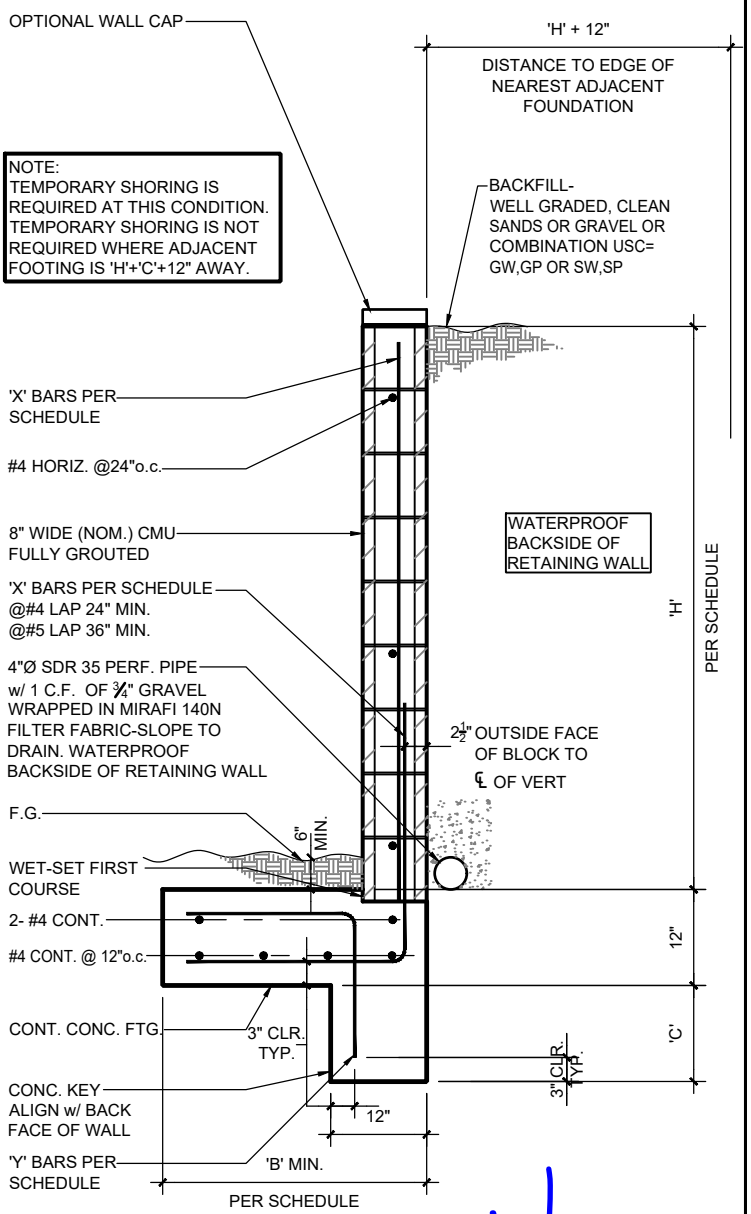

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3'-4"	#4@32"o.c.	N/A	1'-10"	0'-7"
4'-0"	#4@32"o.c.	N/A	2'-2"	1'-2"
4'-8"	#4@32"o.c.	N/A	2'-6"	1'-3"
5'-4"	#4@16"o.c.	#4@16"o.c.	3'-0"	1'-6"
6'-0"	#4@8"o.c.	#4@8"o.c.	3'-4"	1'-10"

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM No. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.15

#23-090

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CITY OF COACHELLA, CA

6' to 8' High Site Wall
Trench Footing
C @ 123mph (ult.)
Risk Category I
8" Wide CMU

ANGELUS BLOCK MASONRY FENCE WALL SYSTEM

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2. JOINT REINFORCEMENT ("LADDER" TYPE) SHALL BE COLD-DRAWN STEEL WIRE CONFORMING TO ASTM A951. PROVIDE MINIMUM 6 INCH LAP SPLICES.
3. STRENGTH OF CONCRETE FOR FOOTINGS = 4500psi @ 28 DAYS, UNLESS OTHERWISE REQUIRED BY SOILS REPORT.
4. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90. ANGELUS BLOCK PRECISION, SPLIT FACE, BURNISHED, OR SHOTBLAST, WITH OR WITHOUT MORTARLESS HEAD JOINTS (TONGUE-AND-GROOVE), OR ANGELUS BLOCK SLUMPSTONE SHALL BE USED. NO SUBSTITUTIONS.
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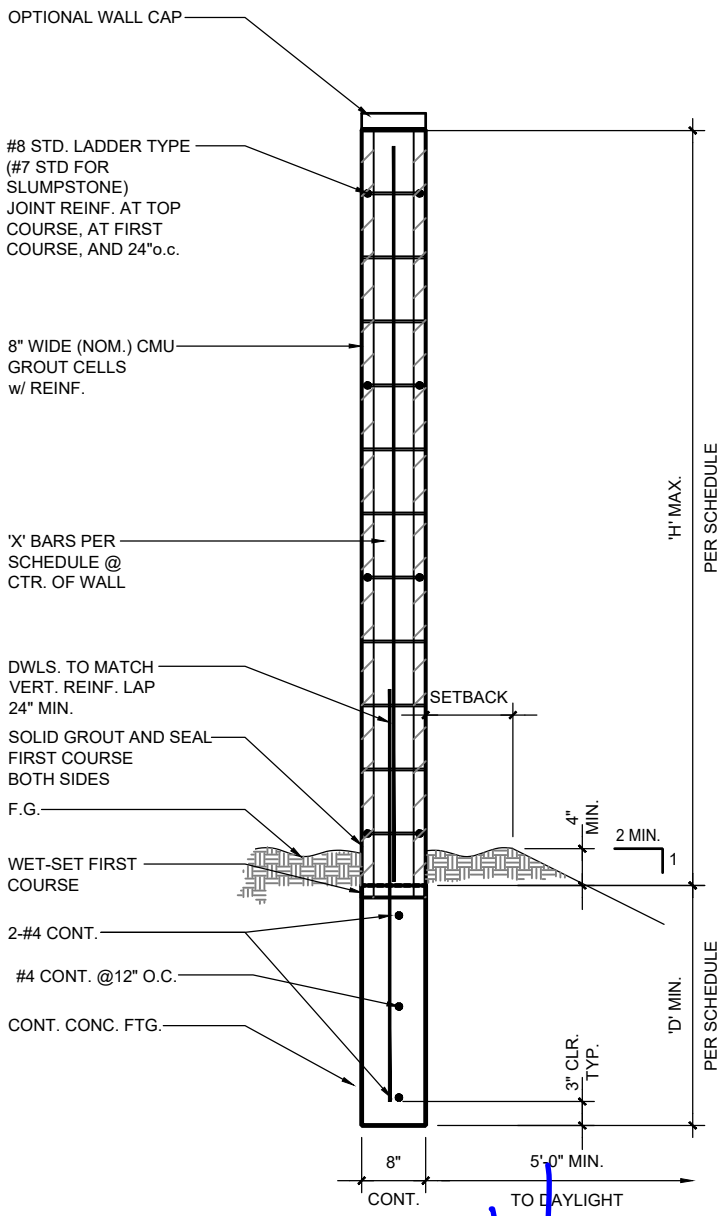

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DESIGN IS ADEQUATE FOR 2:1 MIN. SLOPE WITH NO SETBACK			

REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM No. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.16

#23-090

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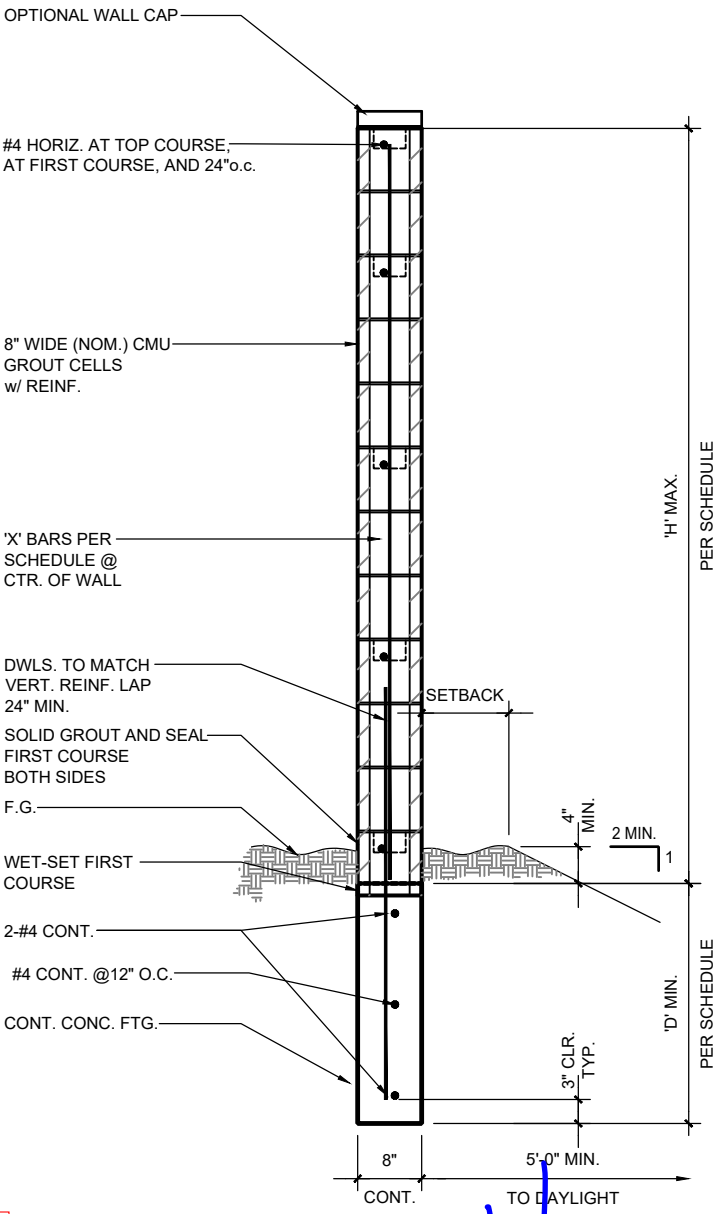

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REGISTERED PROFESSIONAL ENGINEER HUSSAM GHANIM No. S5689 STRUCTURAL State of California

DATE SIGNED 07-12-2023

S-1.17

#23-090

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CITY OF COACHELLA, CA

6' to 8' High Site Wall
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C @ 123mph (ult.)
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6" Wide Stacked Bond CMU

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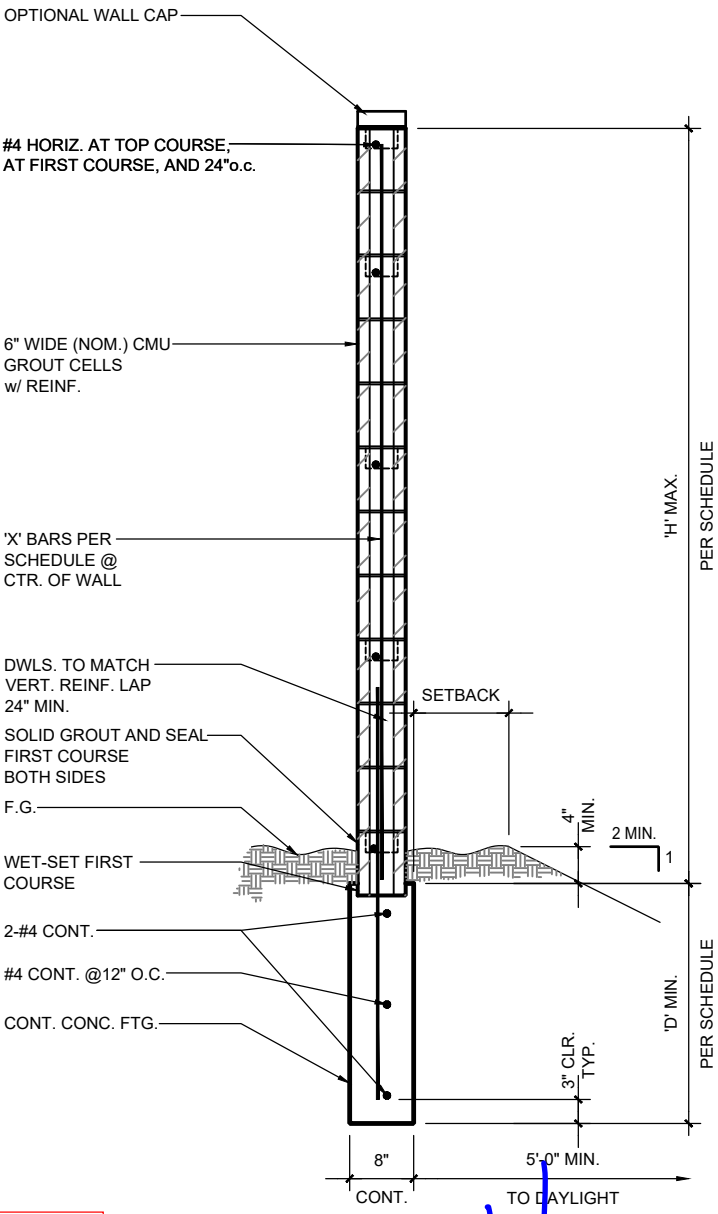

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DATE SIGNED 07-12-2023

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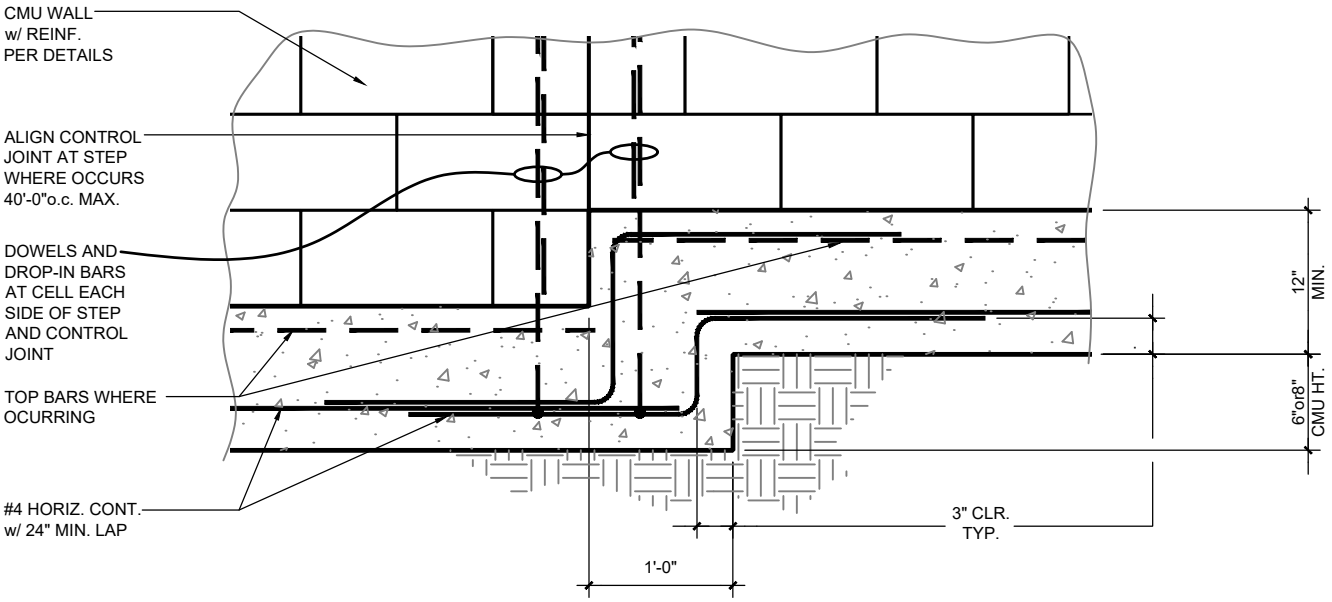
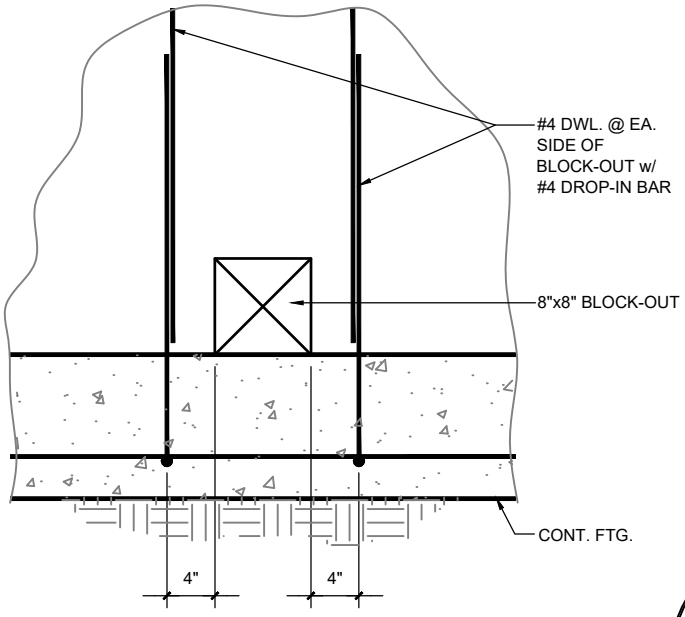
TYPICAL DETAILS



FOOTING STEP DETAIL

NOTE:
FOR SIDEYARD RETURN WALLS WHERE DRAINAGE SWALE OCCURS, A 1/2 BLK. MAY BE LEFT OUT AT SWALE GRADE. PROVDE #4 DWL. &#4 DROP-IN BAR ON EA. SIDE OF THE 1/2 BLK. DRAIN AS SHOWN.



DRAINAGE BLOCK-OUT DETAIL

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