



CITY OF RANCHO MIRAGE

DEVELOPMENT SERVICES

BUILDING AND SAFETY DIVISION

69-825 Highway 111, Rancho Mirage, CA 92270

General: 760.202.9253 Inspections: 760.202.9852

Block Wall Detail Handout

Block Wall Detail Handouts

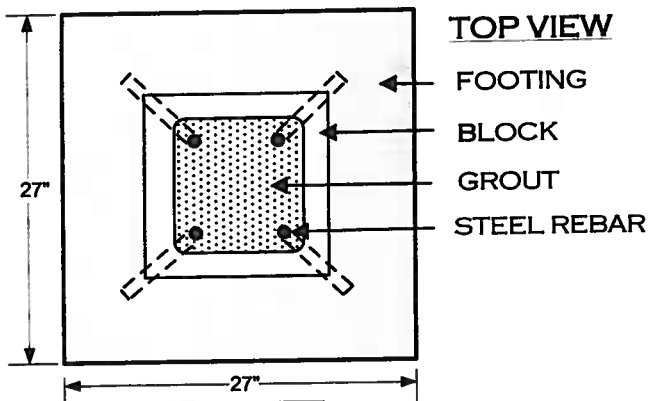
See attachments to obtain details on the following:

- Pilaster Detail
- Garden Wall Detail
- Combination Retaining/ Garden Wall Detail
- Retaining Wall Detail

Special Instruction

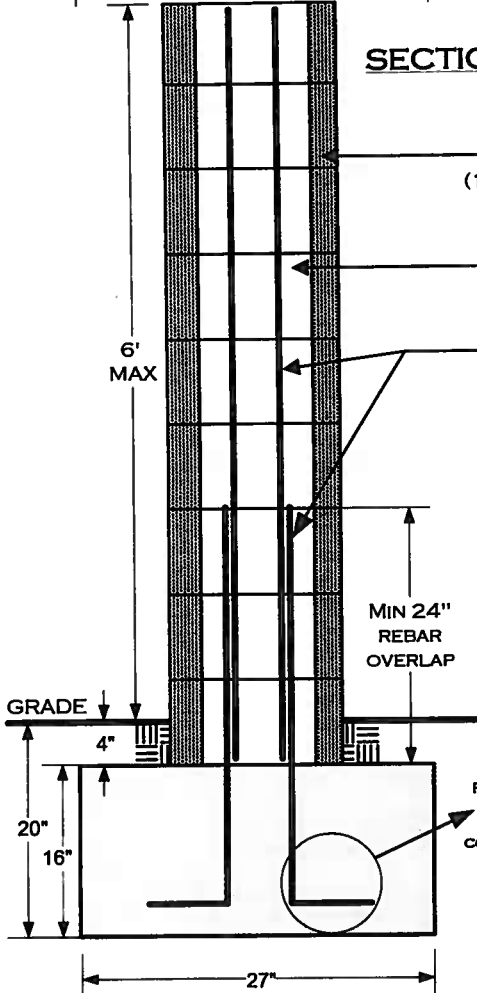
For 6" Slumpstone block walls a mid-height bond beam inspection is required, instructions:

1. Build the wall to half height and grout all cells with steel, holding grout minimum 1" below the surface.
2. Call for the mid-height inspection.
3. Complete wall to full height. do not grout
4. Call for final bond beam steel inspection.



TOP VIEW

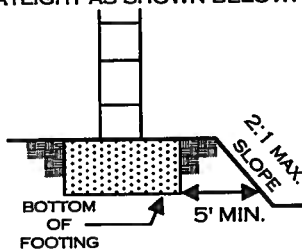
FOOTING
BLOCK
GROUT
STEEL REBAR



SECTION VIEW

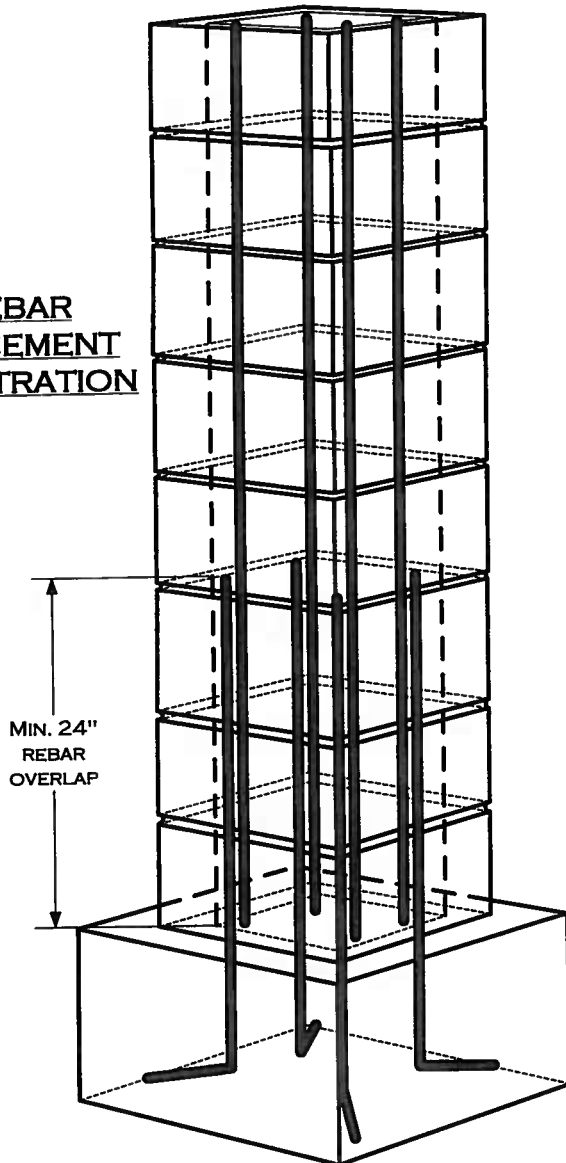
BLOCK
(12" X 12" OR 16" X 16")
SOLID GROUT
(4) - # 4 REBAR
(ONE AT EACH CORNER)

ALL FOOTINGS ADJACENT TO SLOPES TO BE AT LEAST 5' TO DAYLIGHT AS SHOWN BELOW.



FOOTING REBAR SHALL HAVE A MIN. 6" LONG HOOK AND A MIN. CONCRETE COVER OF 3".

REBAR PLACEMENT ILLUSTRATION



MIN. 24" REBAR OVERLAP

LIMITATIONS:

1. PILASTER SPACING SHALL NOT EXCEED 20 FT. WHEN OTHER INFILL FENCING IS ATTACHED.
2. ONLY OPEN TYPE FENCING (SUCH AS WROUGHT IRON) MAY BE ATTACHED TO PILASTERS. SOLID TYPE FENCING MAY NOT BE ATTACHED TO PILASTER.
3. GATES AND DOORS ATTACHED TO PILASTER ARE LIMITED TO 200# MAX. WEIGHT AND 4 FT. MAX. WIDTH PER PILASTER.
4. THIS PILASTER DESIGN IS INTENDED TO BE USED ONLY AS A FENCING FEATURE AND IS NOT INTENDED TO SUPPORT ANY OTHER LOADS.
5. FENCE HEIGHTS ARE REGULATED — CONSULT ZONING REGULATIONS BEFORE BEGINNING CONSTRUCTION.
6. INSTALLATION OF ELECTRIC CIRCUITS, CONDUITS, OR LIGHTING FIXTURES REQUIRE ELECTRICAL PERMITS AND INSPECTION.
7. FOOTINGS TO BE PLACED IN UNDISTURBED SOIL OR PROPERLY COMPACTED AND ENGINEERED FILL.
8. FOR DESIGN PARAMETERS, SEE FREESTANDING BLOCK WALL STANDARD.

CHECK WITH THE BUILDING DEPARTMENT TO VERIFY IF A BUILDING PERMIT IS REQUIRED.

WHEN A BUILDING PERMIT IS REQUIRED, THE FOLLOWING INSPECTIONS ARE ALSO REQUIRED:

- 1) **FOOTING:** EXCAVATION TRENCH CLEAN WITH STEEL IN PLACE AND SUPPORTED 3" ABOVE AND AWAY FROM THE SURROUNDING THE EARTH/DIRT.
- 2) **REBAR/PRE-GROUT:** VERTICAL REBAR IN PLACE - INSPECTION PRIOR TO PLACING GROUT.
- 3) **FINAL:** AFTER GROUT IS PLACED - PRIOR TO ANY DECORATIVE CAP PLACEMENT.

DISCLAIMER:

ALTERNATE DESIGNS MAY BE POSSIBLE WHEN PROVIDED WITH AN ENGINEERED ANALYSIS. USE OF THIS STANDARD DESIGN IS AT THE USER'S RISK AND CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS.

WESTERN RIVERSIDE COUNTY CODE UNIFORMITY PROGRAM



**CITY OF RANCHO MIRAGE
BUILDING & SAFETY**

MASONRY PILASTER

PHONE (760) 202-9253 69-825 HIGHWAY 111, RANCHO MIRAGE, CA 92270

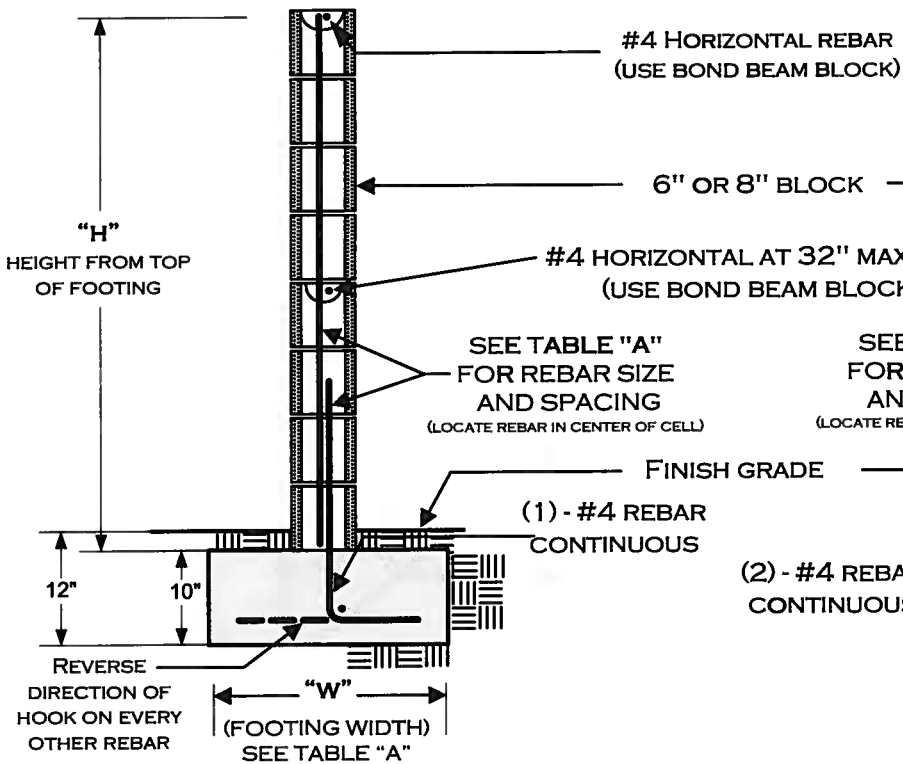
FAX (760) 324-8169

1/1/2008

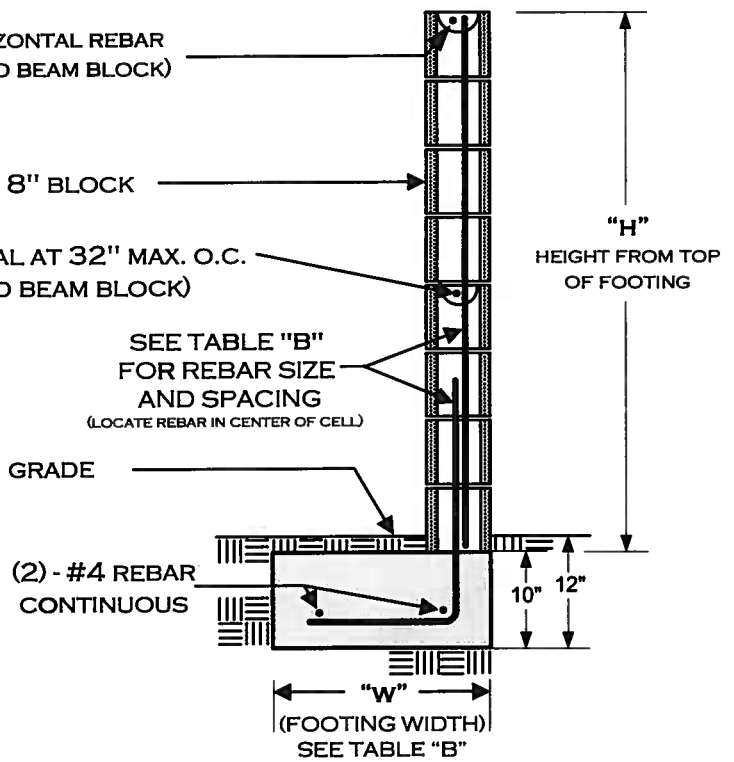
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FOOTING OPTION "A"

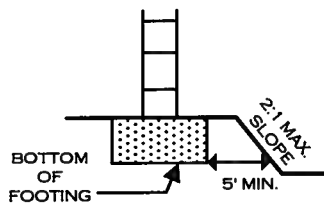


FOOTING OPTION "B"



"H"	"W"	VERTICAL REINFORCEMENT
3'	17"	#4 @ 48" O.C.
4'	20"	#4 @ 48" O.C.
5'	23"	#4 @ 48" O.C.
6'	29"	#4 @ 24" O.C.

ALL FOOTINGS ADJACENT TO SLOPES TO BE AT LEAST 5' TO DAYLIGHT AS SHOWN BELOW.



"H"	"W"	VERTICAL REINFORCEMENT
3'	19"	#4 @ 48" O.C.
4'	22"	#4 @ 48" O.C.
5'	29"	#4 @ 48" O.C.
6'	34"	#4 @ 24" O.C.

NOTES:

- 1) THIS DESIGN DOES **NOT** ALLOW GRADE DIFFERENTIALS OF MORE THAN 6" ON OPPOSING SIDES OF THE WALL. THIS IS **NOT** A RETAINING WALL.
- 2) FENCE HEIGHTS ARE REGULATED — CONSULT ZONING REGULATIONS BEFORE BEGINNING CONSTRUCTION.
- 3) NO WATER COURSE OR NATURAL DRAINAGE SHALL BE OBSTRUCTED.
- 4) GROUT **ONLY** THE CELLS CONTAINING REBAR. THIS WALL IS **NOT** DESIGNED FOR ALL CELLS TO BE GROUTED.
- 5) ALL REBAR TO BE ASTM SPEC. A615, GRADE 40 MINIMUM.
- 6) ALL REBAR LAP SPLICES TO BE 24" MINIMUM.
- 7) ALL MASONRY UNITS TO BE ASTM C-90 GRADE N.
- 8) REBAR TO BE CENTERED IN MASONRY CELLS.

SEE PAGE 2 FOR ADDITIONAL INFORMATION

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CHECK WITH THE BUILDING DEPARTMENT TO VERIFY IF A BUILDING PERMIT IS REQUIRED.

WHEN A PERMIT IS REQUIRED, THE FOLLOWING INSPECTIONS ARE REQUIRED:

- 1) **FOOTING**; EXCAVATION TRENCH CLEAN WITH STEEL IN PLACE AND SUPPORTED 3" ABOVE AND AWAY FROM THE SURROUNDING EARTH/DIRT.
- 2) **REBAR/PRE-GROUT**; BOND BEAM REBAR AND VERTICAL REBAR IN PLACE - INSPECTION PRIOR TO PLACING GROUT.
- 3) **FINAL**; AFTER GROUT IS PLACED - PRIOR TO ANY DECORATIVE CAP PLACEMENT.

WESTERN RIVERSIDE COUNTY CODE UNIFORMITY PROGRAM



**CITY OF RANCHO MIRAGE
BUILDING & SAFETY**

FREESTANDING BLOCK WALL

PHONE (760) 202-9253

69-825 HIGHWAY 111, RANCHO MIRAGE, CA 92270

FAX (760) 324-8169

1/1/2008

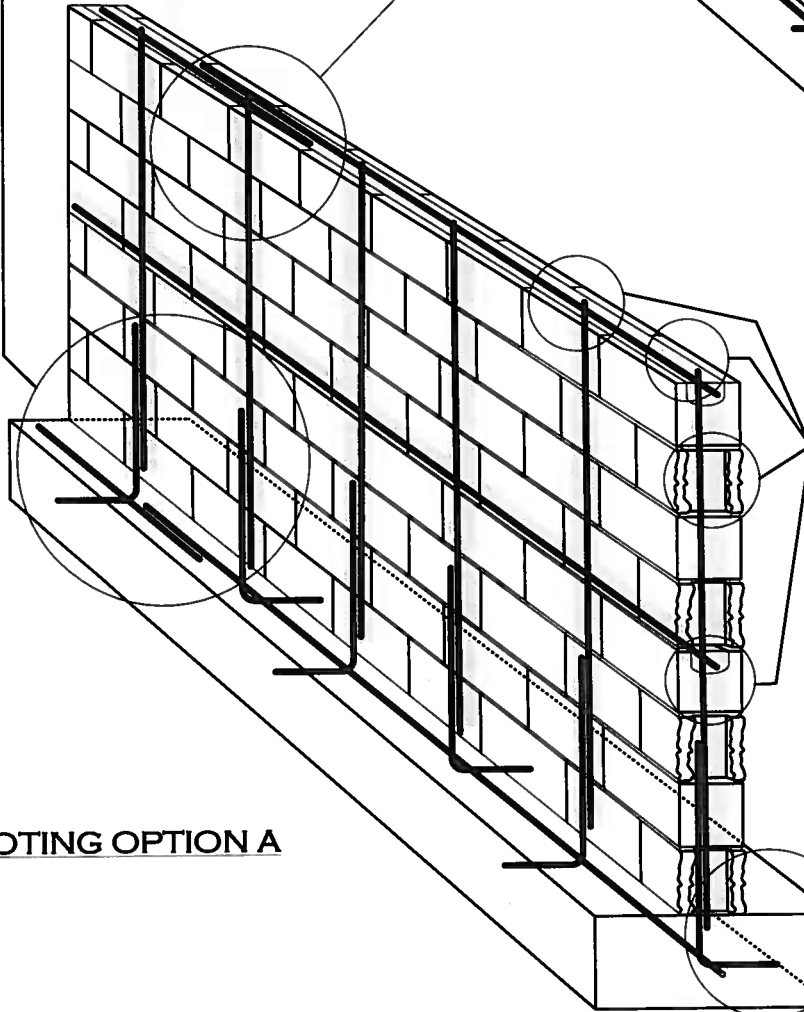
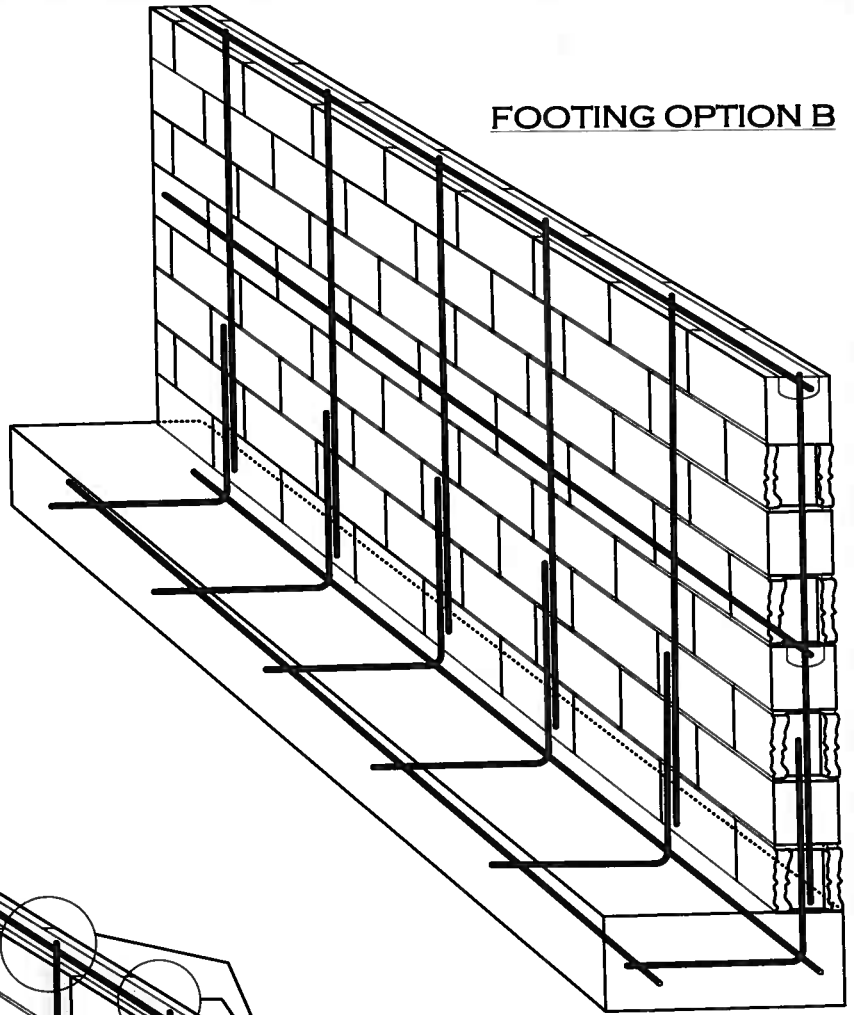
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REBAR PLACEMENT ILLUSTRATION

FOOTING OPTION B

(TYPICAL)
ALL REBAR SPLICES
24" MIN. OVERLAP



(TYPICAL)
ONLY CELLS AND BOND BEAM
COURSES WITH REBAR TO BE
GROUTED
(DO NOT SOLID GROUT ENTIRE WALL - USE
GROUT STOP MESH AS APPROPRIATE)


FOOTING OPTION A

(TYPICAL)
ALL REBAR SHALL HAVE A
MINIMUM OF 3" CONCRETE
COVER AT FOOTINGS

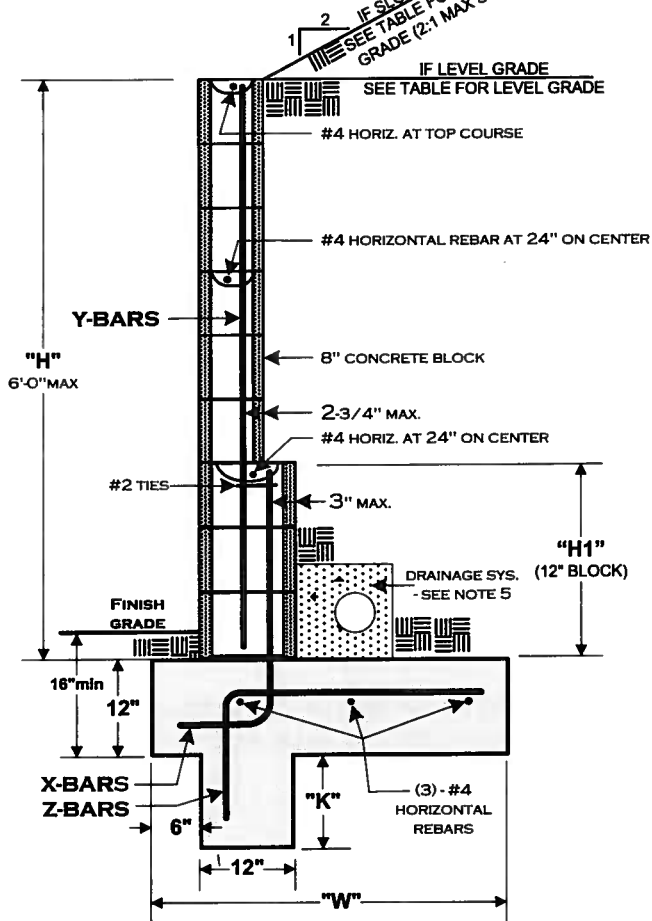
DESIGN PARAMETERS:

- ACTIVE SOIL PRESSURE (PSF) = 30
- PASSIVE SOIL BEARING (PSF) = 150
- COEFFICIENT OF FRICTION = 0.25
- ALLOWABLE SOIL BEARING (PSF) = 1500
- WIND = 85 MPH, EXPOSURE C
- SEISMIC DESIGN CATEGORY 'E', SITE CLASS 'D'

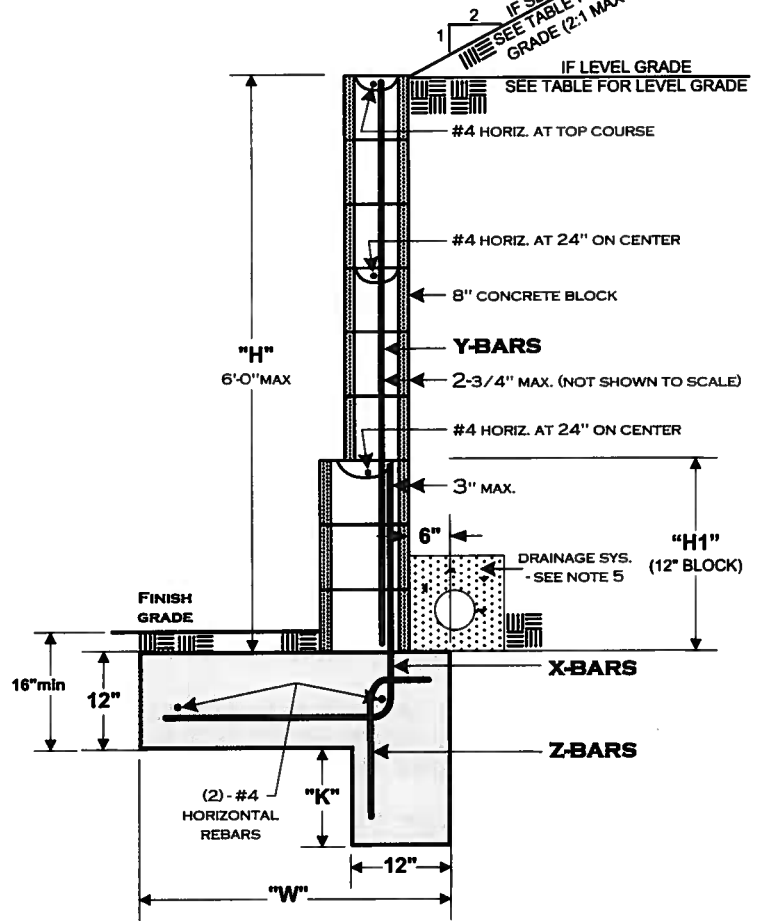


WESTERN RIVERSIDE COUNTY CODE UNIFORMITY PROGRAM	
	CITY OF RANCHO MIRAGE BUILDING & SAFETY
	FREESTANDING BLOCK WALL
PHONE (760) 202-9253	69-825 HIGHWAY 111, RANCHO MIRAGE, CA 92270
FAX (760) 324-8169	1/1/2008
	GARDENWALLFINAL2008RANCH O MIRAGE.VSD
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TYPE 1: 6" TOE



TYPE 2: 6" HEEL



TYPE 1: 6" TOE

GRADE CONDITION	"H" (WALL HEIGHT)	"H1" (12" BLOCK)	"W" (FOOTING WIDTH)	X BARS	Y BARS	ZBARS	"K" (KEY DEPTH)
SLOPING GRADE AT TOP OF WALL (2:1 MAX)	5'- 1" to 6'- 0"	24"	69"	#4 @ 16"	#4 @ 32"	#4 @ 11"	30"
	4'- 1" to 5'- 0"	N/R	48"	#4 @ 16"	#4 @ 16"	#4 @ 12"	25"
	3'- 1" to 4'- 0"	N/R	30"	#4 @ 32"	#4 @ 32"	#4 @ 32"	16"
	Up to 3'- 0"	N/R	18"	#4 @ 32"	#4 @ 32"	#4 @ 32"	8"
LEVEL GRADE AT TOP OF WALL	5'- 1" to 6'- 0"	24"	45"	#4 @ 24"	#4 @ 32"	#4 @ 24"	8"
	4'- 1" to 5'- 0"	N/R	36"	#4 @ 24"	#4 @ 24"	#4 @ 24"	7"
	3'- 1" to 4'- 0"	N/R	24"	#4 @ 32"	#4 @ 32"	#4 @ 32"	5"
	Up to 3'- 0"	N/R	21"	#4 @ 32"	#4 @ 32"	#4 @ 32"	N/R

TYPE 2: 6" HEEL

GRADE CONDITION	"H" (WALL HEIGHT)	"H1" (12" BLOCK)	"W" (FOOTING WIDTH)	X BARS	Y BARS	ZBARS	"K" (KEY DEPTH)
SLOPING GRADE AT TOP OF WALL (2:1 MAX)	5'- 1" to 6'- 0"	24"	39"	#4 @ 16"	#4 @ 32"	#4 @ 12"	28"
	4'- 1" to 5'- 0"	N/R	29"	#4 @ 16"	#4 @ 16"	#4 @ 12"	22"
	3'- 1" to 4'- 0"	N/R	24"	#4 @ 32"	#4 @ 32"	#4 @ 32"	15"
	Up to 3'- 0"	N/R	18"	#4 @ 32"	#4 @ 32"	#4 @ 32"	8"
LEVEL GRADE AT TOP OF WALL	5'- 1" to 6'- 0"	24"	33"	#4 @ 24"	#4 @ 32"	#4 @ 24"	18"
	4'- 1" to 5'- 0"	N/R	26"	#4 @ 24"	#4 @ 24"	#4 @ 24"	13"
	3'- 1" to 4'- 0"	N/R	20"	#4 @ 32"	#4 @ 32"	#4 @ 32"	7"
	Up to 3'- 0"	N/R	20"	#4 @ 32"	#4 @ 32"	#4 @ 32"	N/R

N/R = NOT REQUIRED

SEE PAGE 2 FOR ADDITIONAL INFORMATION

DISCLAIMER:

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WESTERN RIVERSIDE COUNTY CODE UNIFORMITY PROGRAM



CITY OF RANCHO MIRAGE BUILDING & SAFETY

RETAINING WALLS

PHONE (760) 202-9253

69-825 Highway 111, RANCHO MIRAGE, CA 92270

FAX (760) 324-8169

12/26/2006

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GENERAL NOTES:

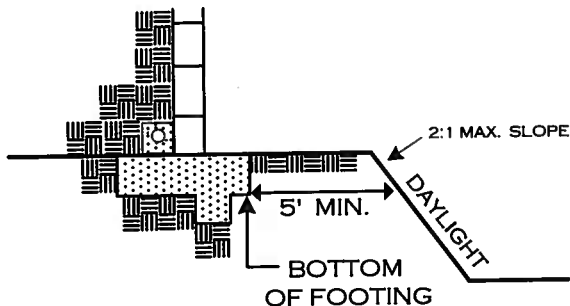
- 1) ALL WORK SHALL CONFORM TO THE ADOPTED CODES AND ZONING REGULATIONS.
- 2) CONCRETE BLOCK MASONRY SHALL COMPLY WITH THE FOLLOWING:
 - A. CONCRETE MASONRY SHALL CONFORM TO ASTM C-90, GRADE - N.
 - B. MORTAR: TYPE M OR S.
 - C. GROUT ALL CELLS W/2000 PSI PORTLAND CEMENT GROUT.
- 3) THE ULTIMATE COMPRESSIVE STRENGTH REQUIRED FOR FOUNDATION CONCRETE SHALL BE 2500 PSI.
- 4) ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE ASTM A615-40 AND OVERLAP SPLICES SHALL BE 40 BAR DIAMETERS MINIMUM. ALL REBAR HOOKS SHALL BE A MINIMUM OF 12 TIMES THE REBAR DIAMETER (12bd) IN LENGTH.
- 5) PROVIDE RETAINING WALL DRAINAGE SYSTEM AS FOLLOWS:
PROVIDE 1CF/FT OF CLEAN COARSE GRAVEL WITH 4" DIAMETER PERFORATED PVC DRAINAGE PIPE WITH 1% GRADIENT TO DRAIN - OR OMIT HEAD JOINTS IN FIRST COURSE.
- 6) OPTIONAL: INSTALLATION OF A MOISTURE BARRIER ON THE FILL SIDE OF THE WALL WILL HELP TO PREVENT MOISTURE FROM PENETRATING THE VISIBLE SIDE OF THE WALL, RESULTING IN DISCOLORATION.
- 7) THIS RETAINING WALL STANDARD IS NOT DESIGNED TO SUPPORT SURCHARGE LOADS FROM MOTOR VEHICLES OR OTHER STRUCTURES.
- 8) CLEANOUTS SHALL BE PROVIDED FOR ALL GROUT POURS OVER 5 FEET IN HEIGHT. WHERE REQUIRED, CLEANOUTS SHALL BE PROVIDED IN THE BOTTOM COURSE AT EVERY VERTICAL BAR AND SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING.

REQUIRED INSPECTIONS:

- 1) FOOTING:
EXCAVATION TRENCH CLEAN WITH STEEL IN PLACE AND SUPPORTED 3" ABOVE AND AWAY FROM THE SURROUNDING EARTH/DIRT.
- 2) REBAR/PRE-GROUT AND DRAINAGE SYSTEM:
BOND BEAM REBAR AND VERTICAL REBAR IN PLACE - INSPECTION PRIOR TO PLACING GROUT. DRAINAGE SYSTEM COMPLETE.
- 3) FINAL:
AFTER GROUT IS PLACED AND BACKFILL COMPLETED - PRIOR TO ANY DECORATIVE CAP PLACEMENT.

SETBACK FROM TOP OF SLOPE:

ALL FOOTINGS ADJACENT TO SLOPES TO BE AT LEAST 5' TO DAYLIGHT AS SHOWN BELOW.




DESIGN PARAMETERS:

ACTIVE SOIL PRESSURE (PSF)	= 30
LEVEL BACKFILL	= 43
SLOPING (2:1 MAX)	= 150
PASSIVE SOIL BEARING (PSF)	= 0.25
COEFFICIENT OF FRICTION	= 1500
ALLOWABLE SOIL BEARING PRESSURE (PSF)	= 1500
(NO INCREASES TAKEN FOR DEPTH OR WIDTH OF FOOTING)	

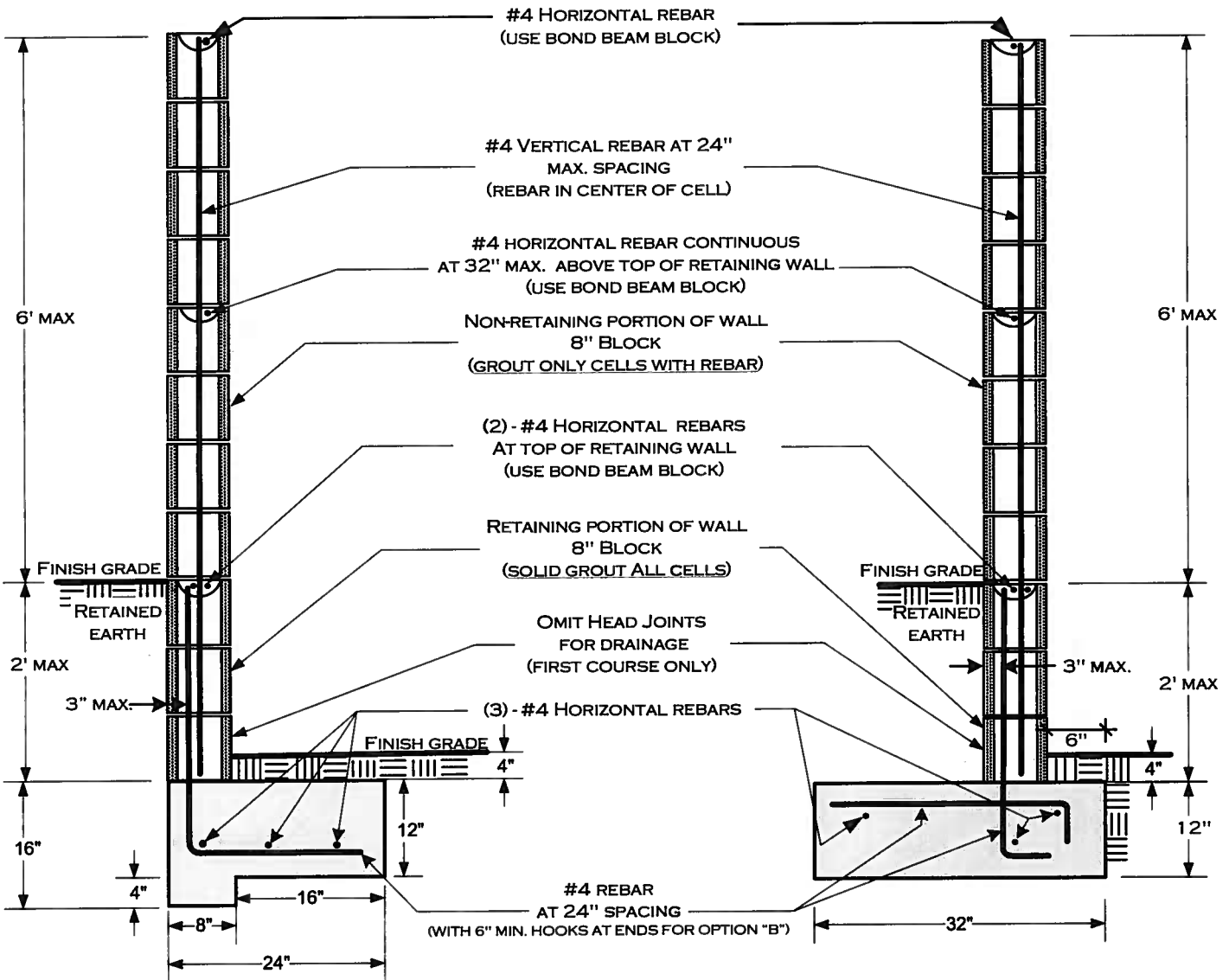
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		CITY OF RANCHO MIRAGE	
		BUILDING & SAFETY	
RETAINING WALLS			
PHONE (760) 202-9253	69-825 HIGHWAY 111, RANCHO MIRAGE, CA 92270		
Fax (760) 324-8169	12/26/2006	RETWALLFINALRANCHO MIRAGE.VSD	PAGE 2 OF 2

FOOTING OPTION "A"

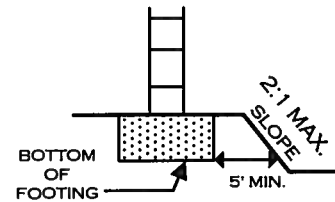
FOOTING OPTION "B"



THE FOLLOWING INSPECTIONS ARE REQUIRED:

- 1) **FOOTING;** EXCAVATION TRENCH CLEAN WITH STEEL IN PLACE AND SUPPORTED 3" ABOVE AND AWAY FROM THE SURROUNDING EARTH/DIRT.
- 2) **REBAR/PRE-GROUT;** BOND BEAM REBAR AND VERTICAL REBAR IN PLACE - INSPECTION PRIOR TO PLACING GROUT.
- 3) **FINAL;** AFTER GROUT IS PLACED - PRIOR TO ANY DECORATIVE CAP PLACEMENT.

ALL FOOTINGS ADJACENT TO SLOPES TO BE AT LEAST 5' TO DAYLIGHT AS SHOWN BELOW.




NOTES:

- 1) FENCE HEIGHTS ARE REGULATED — CONSULT ZONING REGULATIONS BEFORE BEGINNING CONSTRUCTION.
- 2) NO WATER COURSE OR NATURAL DRAINAGE SHALL BE OBSTRUCTED.
- 3) ALL REBAR TO BE ASTM SPEC. A615, GRADE 40 MINIMUM.
- 4) ALL REBAR LAP SPLICES TO BE 24" MINIMUM.
- 5) ALL MASONRY UNITS TO BE ASTM C-90 GRADE N.
- 6) NOT DESIGNED FOR SURCHARGE LOADS FROM VEHICLES OR STRUCTURES.

SEE PAGE 2 FOR ADDITIONAL INFORMATION

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WESTERN RIVERSIDE COUNTY CODE UNIFORMITY PROGRAM			
		CITY OF RANCHO MIRAGE	
BUILDING & SAFETY		BLOCK WALL	
ATOP 2' RETAINING WALL		ATOP 2' RETAINING WALL	
PHONE (760) 202-9253	69-825 HIGHWAY 111, RANCHO MIRAGE, CA 92270		
Fax (760) 324-8169	12/26/2006	COMBOFINARANCHO MIRAGELVSD	PAGE 1 OF 2

REBAR PLACEMENT ILLUSTRATION

(SEE PAGE 1 FOR SPECIFIC REQUIREMENTS)

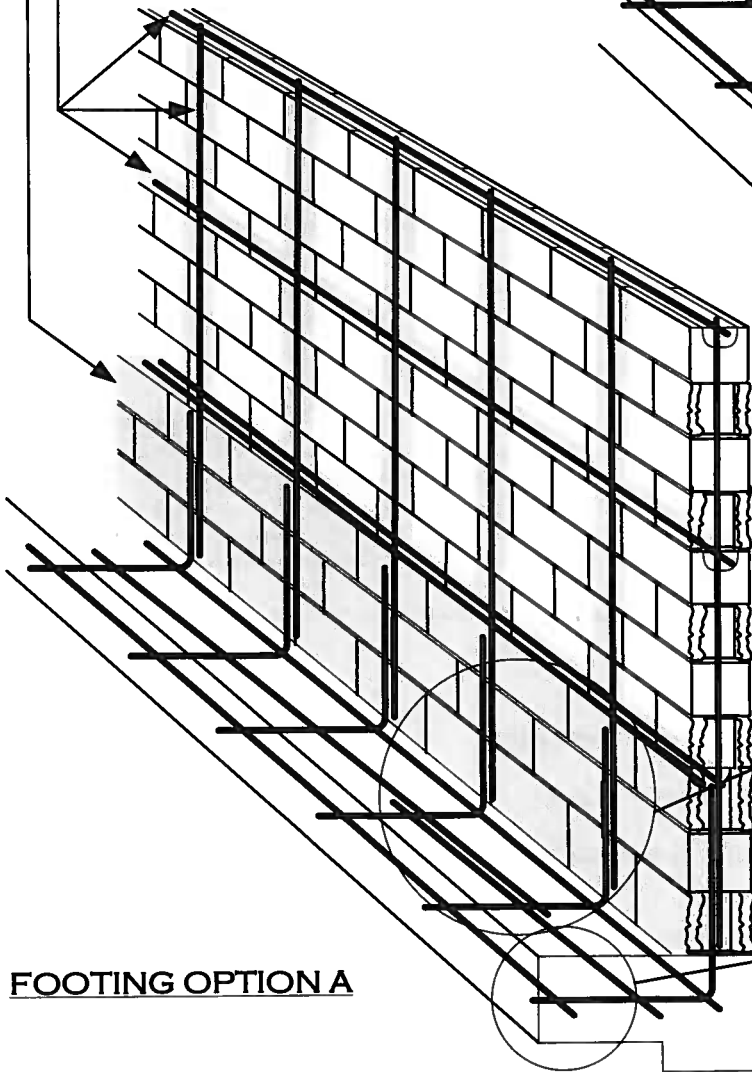
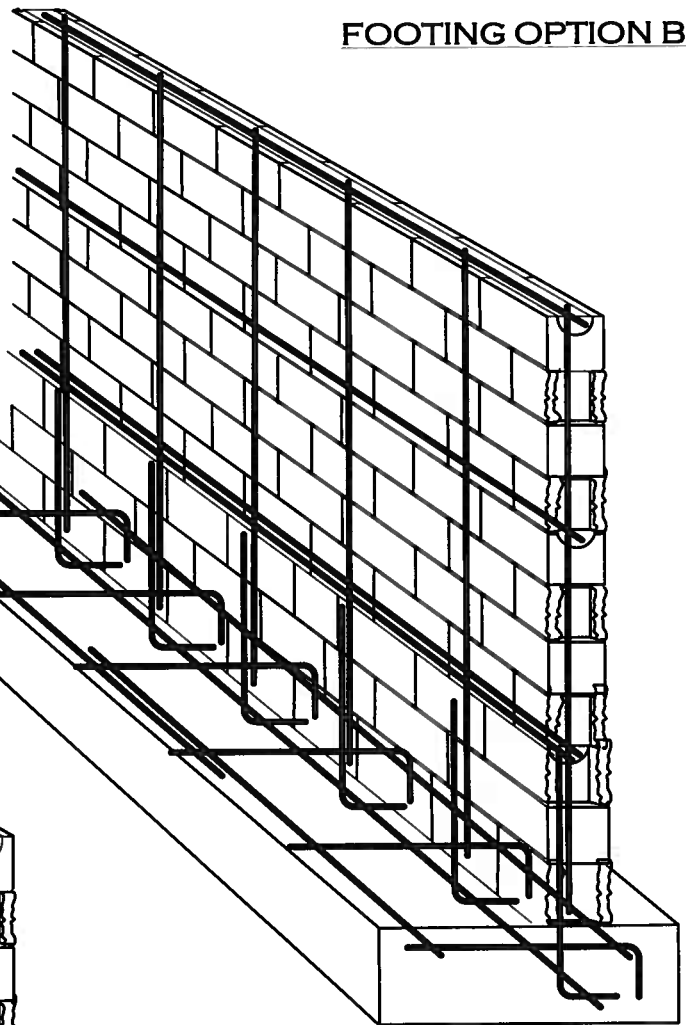
FOOTING OPTION B

(TYPICAL)

FOR THE RETAINING PORTION OF WALL
ALL CELLS TO BE GROUTED

(TYPICAL)

FOR NON-RETAINING PORTION OF WALL
ONLY CELLS AND BOND BEAM COURSES
WITH REBAR TO BE GROUTED
(USE GROUT STOP MESH AS APPROPRIATE)



FOOTING OPTION A

(TYPICAL)


ALL REBAR SPLICES
24" MIN. OVERLAP

(TYPICAL)

ALL REBAR SHALL HAVE A
MINIMUM OF 3" CONCRETE COVER
AT FOOTINGS

DESIGN PARAMETERS:

ACTIVE SOIL PRESSURE (PSF) = 30
 PASSIVE SOIL BEARING (PSF) = 150
 COEFFICIENT OF FRICTION = 0.25
 ALLOWABLE SOIL BEARING (PSF) = 1500
 WIND = 80 MPH, EXPOSURE C
 SEISMIC:
 NA=1.3, NV=1.6, Z=0.4, SOIL PROFILE=SD

WESTERN RIVERSIDE COUNTY CODE UNIFORMITY PROGRAM			
	CITY OF RANCHO MIRAGE		
	BUILDING & SAFETY		
BLOCK WALL			
ATOP 2' RETAINING WALL			
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FAX (760) 324-8169	12/26/2006	COMBOFINARANCHO MIRAGELVSD	PAGE 1 OF 2