LAKE HAVASU CITY – DEVELOPMENT SERVICES DEPARTMENT

RESIDENTIAL MASONRY RETAINING WALL DESIGN

Applicant_____ Date_____

Adress_____

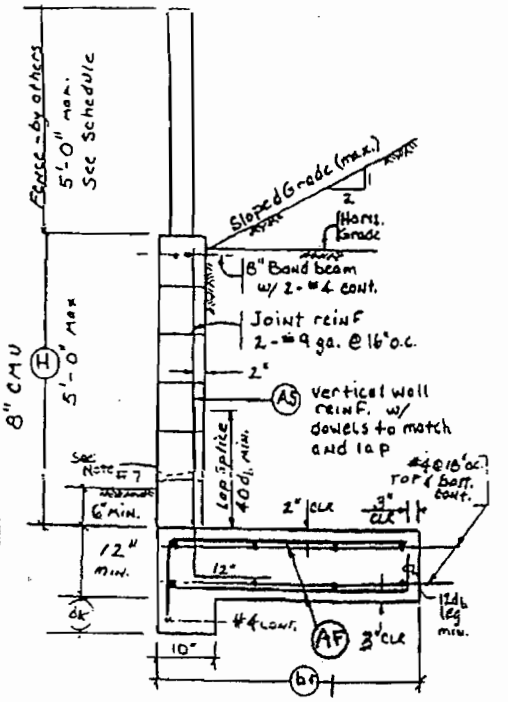
Legal: Tract_____ Block_____ Lot_____

Retaining Wall: Length_____ Height_____

Slope: None_____ 5:1_____ 4:1_____ 3:1_____ 2:1_____

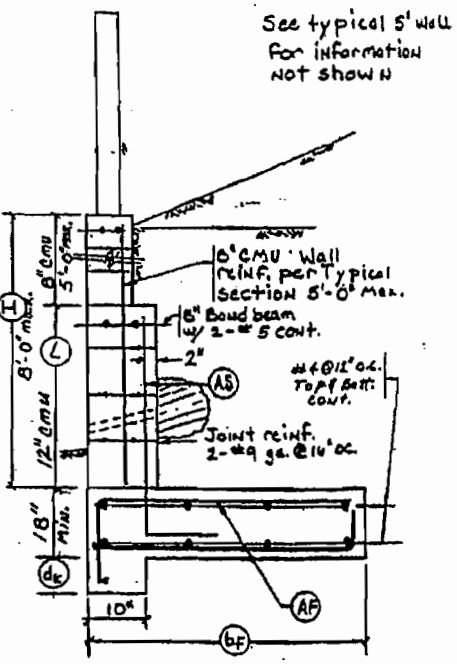
Located in Easement: No_____ Yes, utility approvals attached_____

SUBMIT WITH A FULLY DIMENSIONED SITE PLAN AND UTILITY APPROVALS WHEN APPLICABLE



Typical Section 5'-0" Max.

H	L	Slope	≤ 5' Fence HORIZ.	≤ 5' Fence ≤ 2:1	≤ 3' Fence HORIZ.	≤ 3' Fence ≤ 2:1	No Fence HORIZ.	No Fence ≤ 2:1
8'	40"	As	#5 @ 8"	#6 @ 8"	#4 @ 8"	#6 @ 8"	#4 @ 8"	#6 @ 8"
		bf	6'-6"	8'-0"	6'-6"	8'-0"	6'-6"	8'-0"
		dk	0	2'-6"	0	2'-6"	0	2'-6"
		AF	#7 @ 12"	#7 @ 6"	#7 @ 12"	#7 @ 6"	#7 @ 12"	#7 @ 6
7'	24"	As	#4 @ 16"	#4 @ 8"	#4 @ 16"	#4 @ 8"	#4 @ 16"	#4 @ 8"
		bf	5'-0"	7'-0"	5'-0"	7'-0"	5'-0"	7'-0"
		dk	0	2'-0"	0	2'-0"	0	2'-0"
		AF	#5 @ 10"	#7 @ 8"	#5 @ 10"	#7 @ 8"	#5 @ 10"	#7 @ 8"
6'	24"	As	#4 @ 16"	#4 @ 16"	#4 @ 24"	#4 @ 16"	#4 @ 24"	#4 @ 16"
		bf	4'-0"	5'-0"	4'-0"	5'-0"	4'-0"	5'-0"
		dk	0	1'-6"	0	1'-6"	0	1'-6"
		AF	#5 @ 12"	#5 @ 10"	#5 @ 12"	#5 @ 10"	#5 @ 12"	#5 @ 10"
5'	NA	As	#4 @ 16"	#4 @ 16"	#4 @ 16"	#4 @ 16"	#4 @ 24"	#4 @ 16"
		bf	3'-6"	4'-0"	3'-6"	4'-0"	3'-0"	4'-0"
		dk	6"	2'-0"	6"	1'-6"	6"	1'-6"
		AF	#4 @ 12"	#5 @ 8"	#4 @ 12"	#5 @ 8"	#4 @ 12"	#5 @ 8"
4'	NA	As	#4 @ 24"	#4 @ 24"	#4 @ 32"	#4 @ 32"	#4 @ 48"	#4 @ 48"
		bf	3'-0"	3'-0"	3'-0"	3'-0"	2'-6"	3'-0"
		dk	0	1'-6"	0	1'-0"	0	1'-0"
		AF	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"
3'	NA	As	#4 @ 32"	#4 @32"	#4 @ 48"	#4 @ 48"	#4 @ 48"	#4 @ 48"
		bf	2'-6"	2'-6"	2'-6"	2'-6"	2'-0"	2'-0"
		dk	0	1'-0"	0	1'-0"	0	1'-0"
		AF	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"



Typical Section over 5'-0"

SYMBOL LEGEND

H: TOP OF FOOTING TO TOP OF WALL HEIGHT

L: HEIGHT OF 12 INCH BLOCK ABOVE FOOTING

As: SIZE AND SPACING OF WALL REINFORCING

AF: SIZE AND SPACING OF FOOTING REINFORCING

dk: DEPTH OF FOOTING KEY

bf: WIDTH OF FOOTING

NOTE: SEE REVERSE SIDE FOR MATERIAL STANDARDS AND CONSTRUCTION REQUIREMENTS

Revised June 9, 2008

NOTES

1. Concrete: Conform to ASTM C 94; Minimum compressive strength f'c = 2500 psi at 28 days.

2. Reinforcing: Conform to ASTM A 615, grade 40, deformed; Dowels to have standard hook, match and lap with vertical wall reinforcing; Vertical wall reinforcing to be secured in place prior to grouting by bar positioners spaced at 200 bar diameters (db) o.c. max.; Lap splice length in concrete to be 32 db and 40 db in masonry; Wall horizontal joint reinforcing a 16 inches o.c., ladder or truss type, minimum yield strength Fy = 60 ksi, consisting of two deformed #9 ga. longitudinal wires with welded #9 ga. cross wires.

3. Masonry: Specified compressive strength of masonry f'm = 1500 psi; Concrete block conforming to ASTM C 90, normal weight, type 1, 1900 psi block unit compressive strength; Mortar conforming to ASTM C 270, type S, 28 day compressive strength f'c = 1800 psi; Grout conforming to ASTM C 476, compressive strength f'c = 2000 psi; Constructed with running bond, all cells filled solid with grout; Quality, prior to or at the time of delivery to the job site, letters of certification from the block manufacture and grout supplier assuring the material conform to these requirements shall be forwarded to the Building Department.

4. Backfill Material: Clean, granular, non-expansive fines; Brace wall prior to compacting backfill adjacent to wall.

5. Bearing Soil: Class 4, 2000 psf allowable foundation pressure.

6. No surcharge loads over backfill material.

7. Drainage: 1 inch diameter PVC weep pipe at base, 48 inches o.c., screen with 1 cubic foot of 1 inch diameter rock.

8. Key depth "dk" may be reduced 1 inch for each 1 inch increase in soil cover over footing toe. Depth of soil fill to be maintained for a distance "H" measured horizontally from wall face.

9. Fence shall not obstruct drainage from sloped backfill. Grade backfill to provide positive drainage without ponding.