



## Height & Setback Requirements

The following may be located within the required front, rear, interior side and/or street side yards:

- Retaining walls not exceeding four feet (4') in visible height, may be located within the front, side, rear or street side yard setback.
- Retaining walls located outside of required setbacks shall otherwise be reviewed subject to the regulations that apply to an accessory structure, in Section 14.16.020. Retaining walls located near a driveway or street intersection shall not conflict with the Fifteen foot (15') vision triangle requirements established to assure adequate sight distance is maintained for vehicles and pedestrians, pursuant to the provisions of [Section 14.16.295](#)

## Retaining walls that require Planning Division Design Review

- Retaining walls on hillside parcels (i.e., property that contains a slope of twenty-five percent (25%) or greater or designated -H Overlay)
- Retaining walls over four feet (4') in height are not permissible within the setbacks of non-hillside lots

*\*\*For additional questions on Design Review requirements contact the Planning Division\*\**

## Retaining walls that require a Building permit

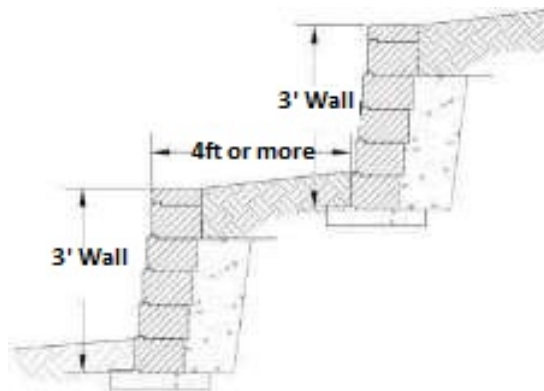
- Retaining walls or rockery/masonry walls that are over four foot (4') in height measured from the bottom of the footing to the top of the wall.
- Walls that support a surcharge regardless of wall height.

## Retaining walls that require a Public Works permit

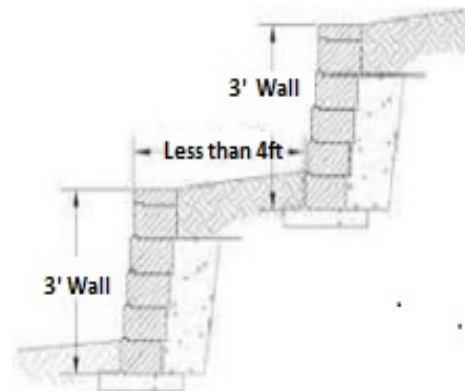
- Retaining walls that are in the Public Right of Way (ROW) requires an Encroachment permit.
- Any project with 50 cubic yards or more of earth work (cut and fill)

## Other permitting requirements and design standards to consider

- For planning purposes, the wall height is measured by the visual portion only this differs from the Building Code which measure the wall height from the bottom of the footing to top of visible wall for determining if a permit is needed. Planning measurement does not take the footing into consideration.
- Any Retaining wall that will be in the City Right of Way (ROW) will also need to obtain an Encroachment Permit from the Department of Public Works.
- Terraced retaining walls that provide a landscaped horizontal separation of at least four feet (4') may be measured separately at the base of each terrace. If the walls will be closer than 4 feet (4') the terraced wall heights will be accumulative.



Measured as two separate 3 ft walls



Measured as a 6 ft wall (3ft + 3ft)

## Plans Needed

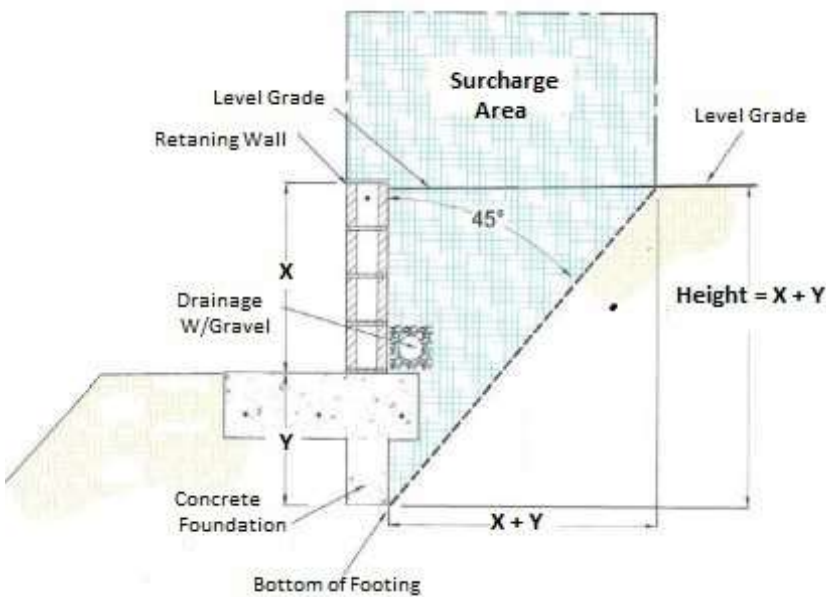
- Project Information: This includes such information as owner's name, plan preparer's name, project address, type of construction, occupancy group, applicable code editions, sheet index, and any other relevant information.
- Site Plan: Fully dimensioned, showing property lines, streets, driveways, setbacks and locations of all structures and easements and any off-street parking. A survey may be required if proposed work is close to setbacks, or existing property lines are not apparent. For commercial projects show; parking for disabled persons, curb ramps, signage and path of travel to primary entrance.
- Foundation/ Wall Cross-section Plan: Providing a detailed construction layout showing size, spacing, anchoring and details of all structural members and materials used.
- Structural Calculation: *(if applicable)* To be provided and wet stamped by a licensed engineer.
- Soils Report: *(if applicable)* A letter or report that a Geotechnical Engineer will provide confirming the project's design compliance with soil conditions.
- Drainage details: *(if applicable)*

*For additional questions or specifications please contact Building and Planning Divisions*

## Is There a "Surcharge" on my wall?

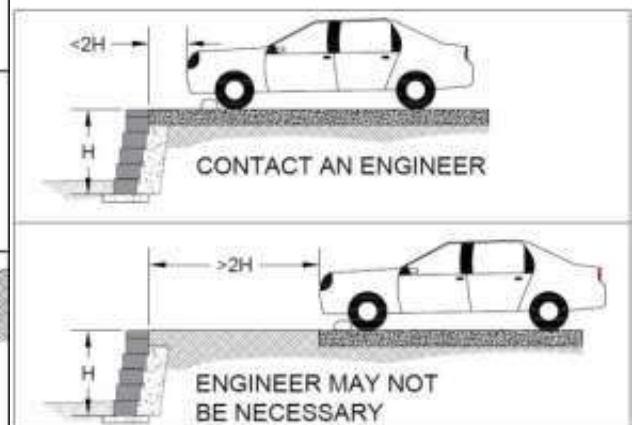
A surcharge is any slope, structure or object that could impose a lateral force on the wall. Any surcharge on the wall will require evaluation by an engineer. This includes vehicles, swimming pool, equipment (such as an air handler or pool pump), footings from a structure (such as your house or porch), or simply a fence on top of the wall. A fence imposes wind load on the wall, even if it is not attached to the wall itself. Trees will also create a surcharge behind the wall as they grow and increase in weight, the roots will push the face of the wall out, and the height of the tree will impose wind loads on the wall. Small shrubs and plants are acceptable behind the wall.

As a general rule, the edge of any surcharge object must be at least 2 times the total wall height away from the back of the retaining wall. This means if you have a total wall height of 4-ft (buried height plus exposed height), the edge of any surcharge should be at least 8-ft away from the back of your wall.



Surcharge Area =  
Wall Height( $X$ ) + Footing Depth ( $Y$ )

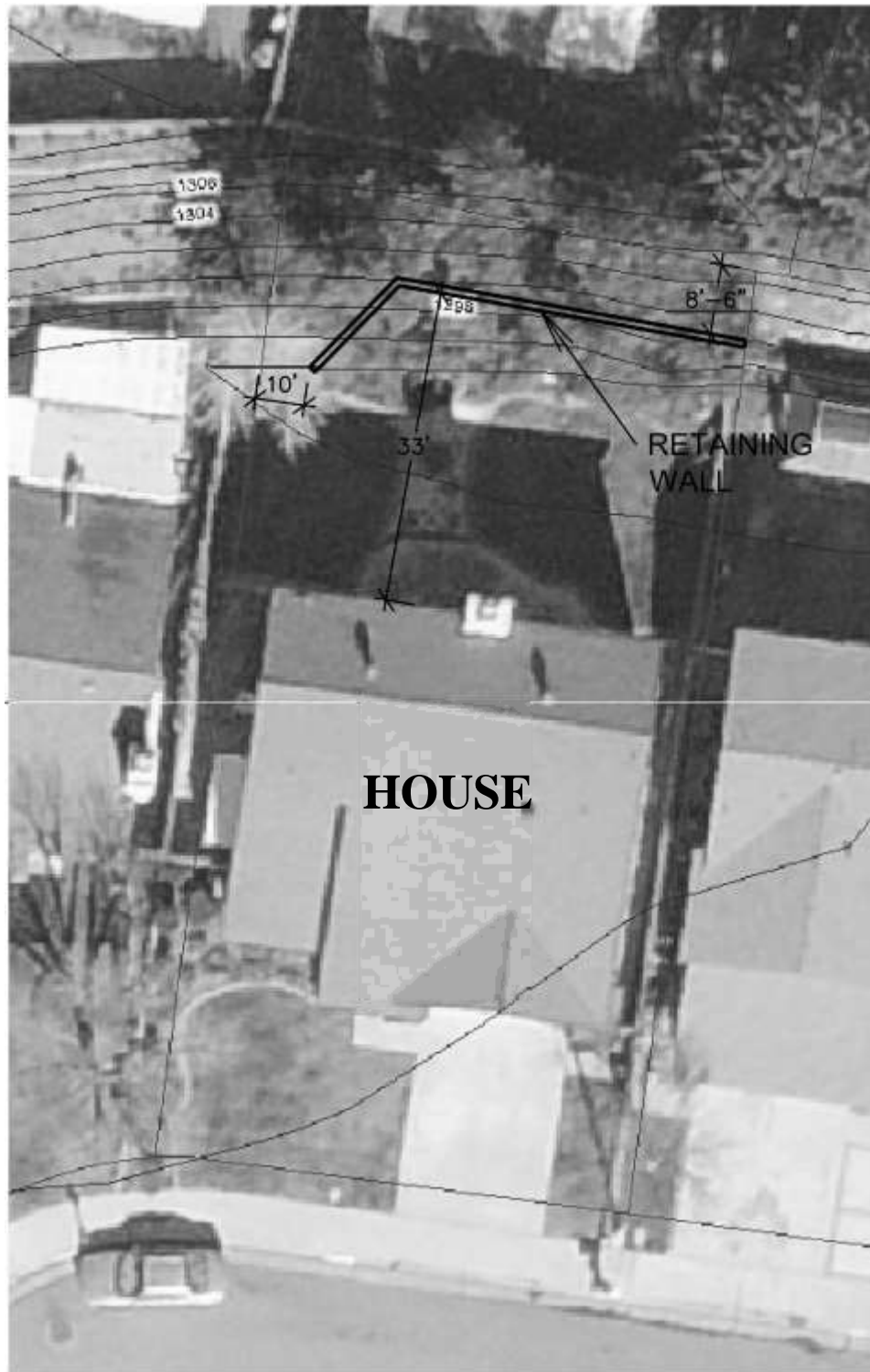
<p>SLOPE &gt;10H:1V FLAT ENGINEER REQUIRED</p>	<p>FLAT SLOPE &gt;10H:1V ENGINEER MAY NOT BE NECESSARY</p>
<p>SLOPE &gt;10H:1V SLOPE &lt;2H:1V ENGINEER REQUIRED</p>	<p>FLAT SLOPE &lt;2H:1V ENGINEER MAY NOT BE NECESSARY</p>
<p>FLAT SLOPE &gt;10H:1V ENGINEER REQUIRED</p>	<p>FLAT SLOPE &lt;2H:1V &gt;2H ENGINEER MAY NOT BE NECESSARY</p>



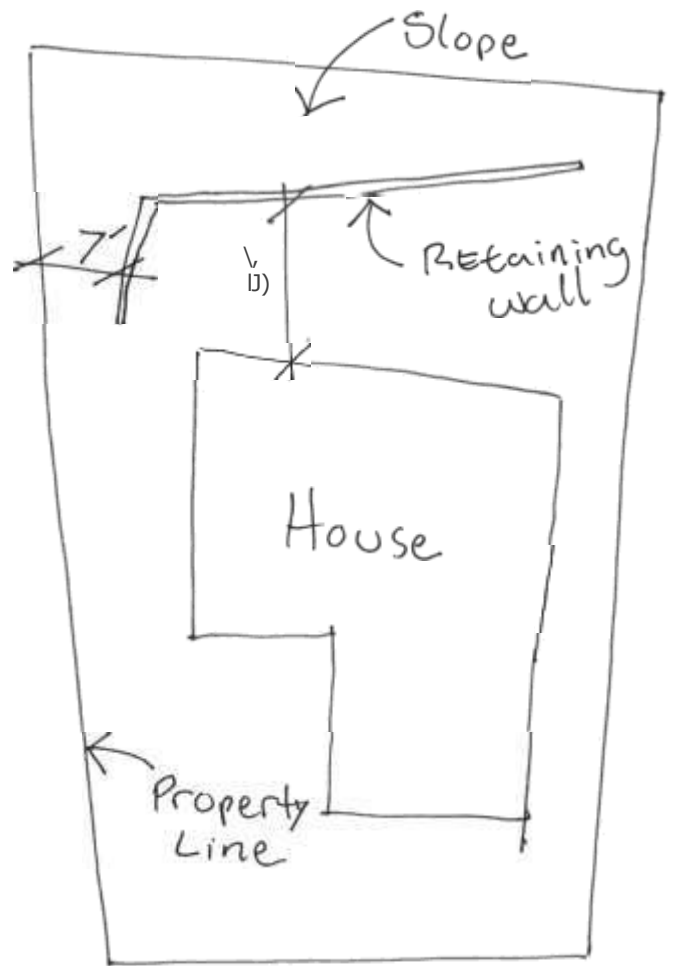
# SITE PLAN EXAMPLE

## (SMALL RESIDENTIAL PROJECTS)

THIS PLAN IS AN EXAMPLE ONLY. DEPENDING ON THE NATURE OF YOUR PROJECT, BUILDING & SAFETY MAY REQUIRE ADDITIONAL PLANS AND/OR CALCULATIONS TO DEMONSTRATE CODE COMPLIANCE.

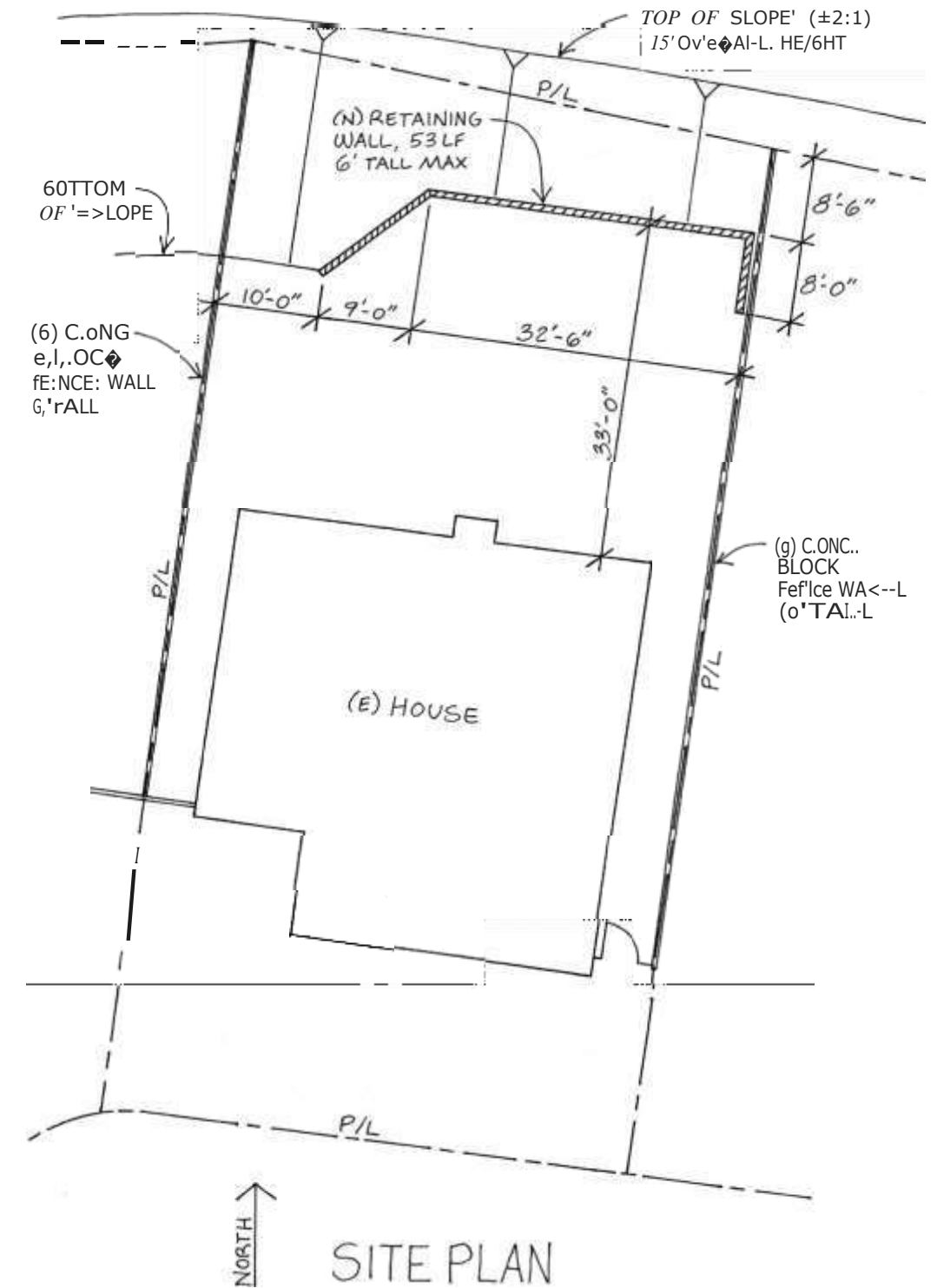


**UNACCEPTABLE**



Site Plan ↑ N

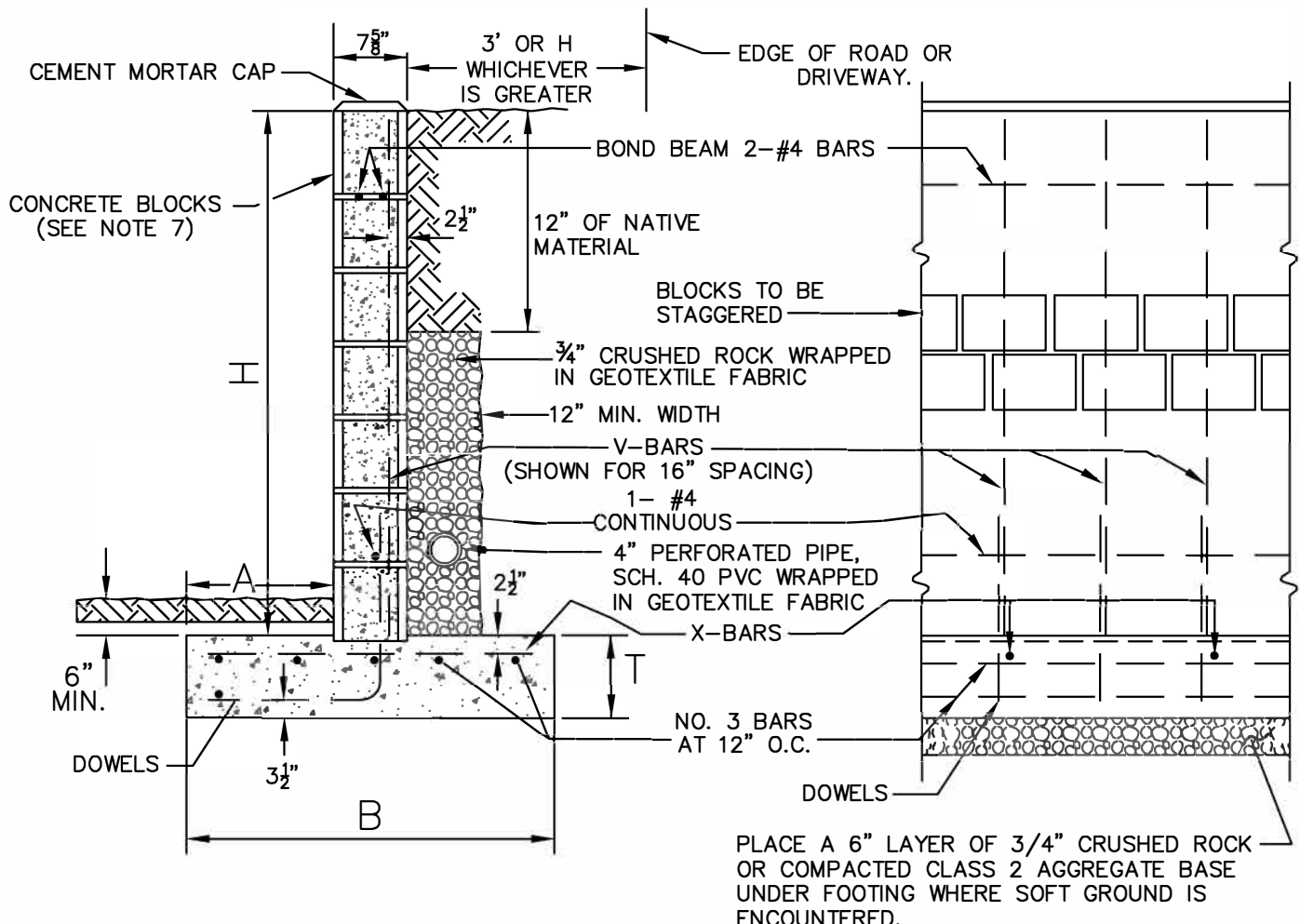
**UNACCEPTABLE**



NORTH ↑

SITE PLAN

**ACCEPTABLE**



CROSS SECTION  
(NO SCALE)

ELEVATION  
(NO SCALE)

PLACE A 6" LAYER OF 3/4" CRUSHED ROCK OR COMPACTED CLASS 2 AGGREGATE BASE UNDER FOOTING WHERE SOFT GROUND IS ENCOUNTERED.

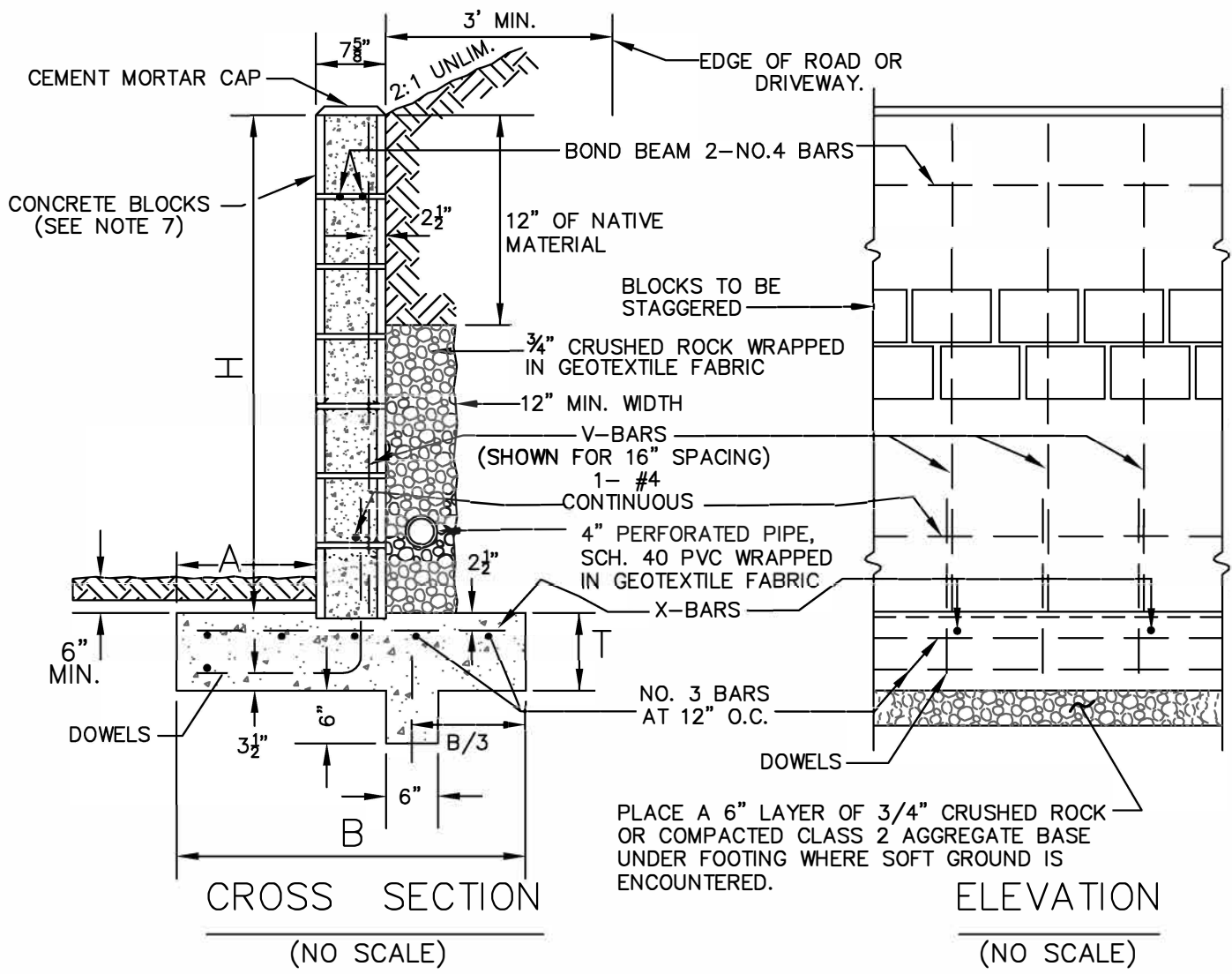
H	A	B	T	V-BARS	X-BARS
FT.-IN.	IN.	FT.-IN.	IN.		
3'-4"	8"	2'-4"	9"	NO. 3 AT 32"	NO. 3 AT 24"
4'-0"	10"	2'-9"	9"	NO. 4 AT 32"	NO. 3 AT 24"

NOTES:

1. CONCRETE FOR FOOTING TO BE CLASS "A" (6 SACK 3000 PSI) WITH 3/4" AGGREGATE AND 4 INCH MAX. SLUMP.
2. FILL ALL CELLS WITH 7 SACK CONCRETE WITH 3/8" AGGREGATE OR 3:1 MORTAR.
3. DOWELS SHALL BE SAME IN SIZE AND SPACING AS V-BARS. THEY SHALL PROJECT 40 BAR DIAMETERS, 24 INCH MIN. INTO THE CELLS AND EXTEND TO THE TOE OF FOOTING. LAPPING BARS SHALL BE TIED.
4. WALLS SHALL NOT BE BACKFILLED UNTIL 7 DAYS AFTER CELLS ARE FILLED.
5. WALLS OVER 100' LONG SHALL HAVE VERTICAL EXPANSION JOINTS. WALLS OVER 50' LONG SHALL HAVE VERTICAL CONTRACTION JOINTS. SEE AGENCY ENGINEER FOR DETAILS.
6. NO CONCRETE SHALL BE PLACED UNTIL FORMS AND STEEL HAVE BEEN INSPECTED AND APPROVED BY THE AGENCY ENGINEER.
7. BLOCKS SHALL BE GRADE N OR BETTER (f'c=1,500 PSI).
8. NO FRONT FACE WEEP HOLES ALLOWED IF SIDEWALK OR PAVEMENT SLOPES AWAY FROM WALL.
9. SUBJECT TO THE APPROVAL OF AGENCY ENGINEER, DESIGN FOR DRAINAGE CONVEYANCE BEHIND WALL MAY BE MODIFIED TO UTILIZE PREFABRICATED DRAINAGE DEVICES.

M:\Standards\County Standards (UCS)\2008 Updated County Standards

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	RETAINING WALL TYPE "A" LEVEL BACKFILL			MAY 2008
				DWG. NO.
				150
	REV.	DATE	BY	



CROSS SECTION  
(NO SCALE)

ELEVATION  
(NO SCALE)

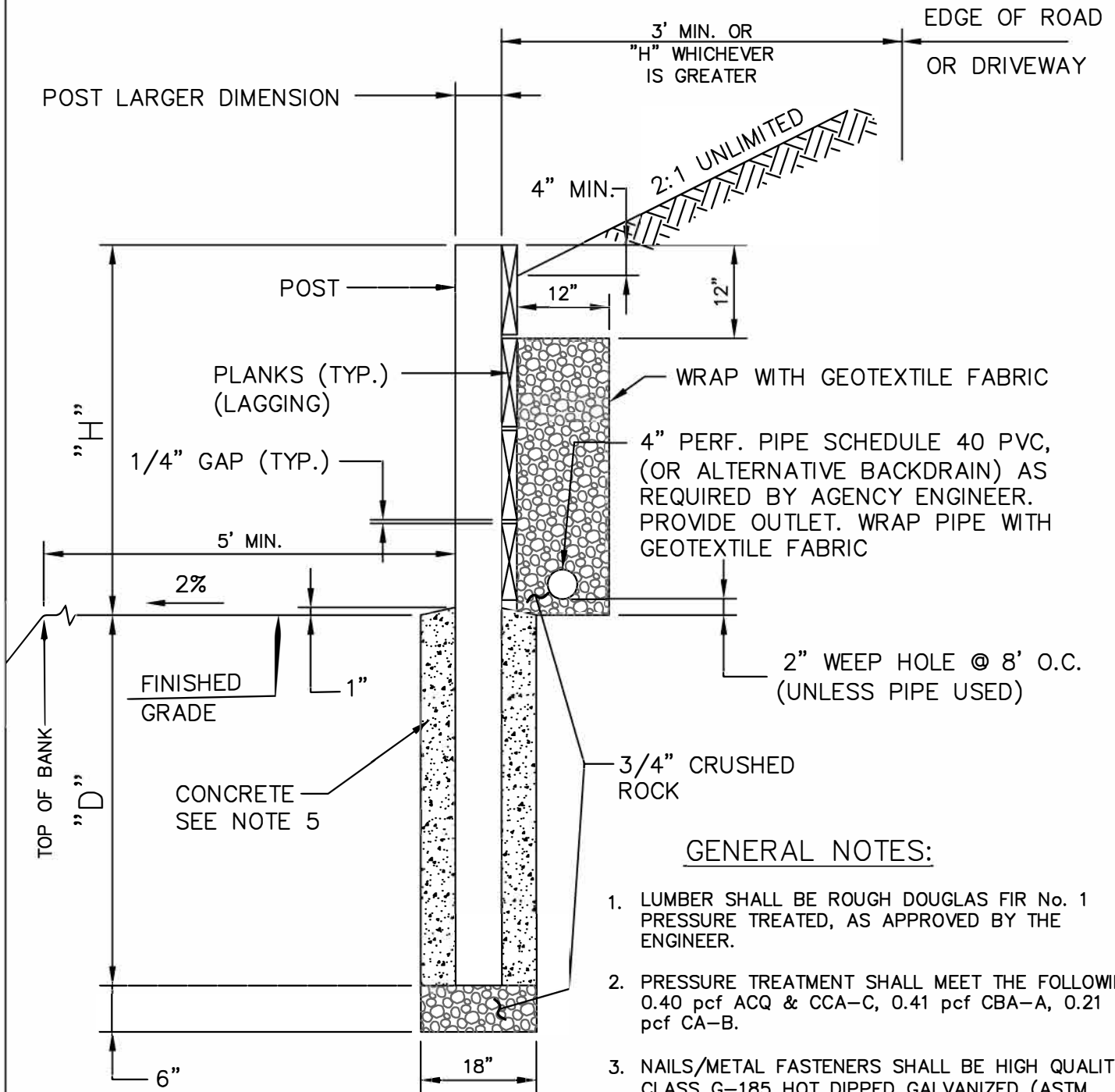
H	A	B	T	V-BARS	X-BARS
FT.-IN.	IN.	FT.-IN.	IN.		
3'-4"	8"	2'-4"	9"	NO. 3 AT 32"	NO. 3 AT 24"
4'-0"	10"	2'-9"	9"	NO. 4 AT 32"	NO. 3 AT 24"

NOTES:

1. CONCRETE FOR FOOTING TO BE CLASS "A" (6 SACK 3000 PSI) WITH 3/4" AGGREGATE AND 4 INCH MAX. SLUMP.
2. FILL ALL CELLS WITH 7 SACK CONCRETE WITH 3/8" AGGREGATE OR 3:1 MORTAR.
3. DOWELS SHALL BE SAME IN SIZE AND SPACING AS V-BARS. THEY SHALL PROJECT 40 BAR DIAMETERS, 24" MIN., INTO THE CELLS AND EXTEND TO THE TOE OF FOOTING.
4. WALLS SHALL NOT BE BACKFILLED UNTIL 7 DAYS AFTER CELLS ARE FILLED.
5. WALLS OVER 100' LONG SHALL HAVE VERTICAL EXPANSION JOINTS. WALLS OVER 50' LONG SHALL HAVE VERTICAL CONTRACTION JOINTS. SEE AGENCY ENGINEER FOR DETAILS.
6. NO CONCRETE SHALL BE PLACED UNTIL FORMS AND STEEL HAVE BEEN INSPECTED AND APPROVED BY THE AGENCY ENGINEER.
7. BLOCKS SHALL BE GRADE N OR BETTER ( $f'_c=1,500$  PSI).
8. NO FRONT FACE WEEP HOLES ALLOWED IF SIDEWALK OR PAVEMENT SLOPES AWAY FROM WALL.
9. SUBJECT TO THE APPROVAL OF AGENCY ENGINEER, DESIGN FOR DRAINAGE CONVEYANCE BEHIND WALL MAY BE MODIFIED TO UTILIZE PREFABRICATED DRAINAGE DEVICES.

M:\Standards\County Standards (UCS)\2008 Updated County Standards

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	RETAINING WALL TYPE "B" SLOPING BACKFILL			MAY 2008
				DWG. NO.
				155
	REV.	DATE	BY	



GENERAL NOTES:

1. LUMBER SHALL BE ROUGH DOUGLAS FIR No. 1 PRESSURE TREATED, AS APPROVED BY THE ENGINEER.
2. PRESSURE TREATMENT SHALL MEET THE FOLLOWING: 0.40 pcf ACQ & CCA-C, 0.41 pcf CBA-A, 0.21 pcf CA-B.
3. NAILS/METAL FASTENERS SHALL BE HIGH QUALITY CLASS G-185 HOT DIPPED GALVANIZED (ASTM A153 OR A653), 304 OR 316 STAINLESS STEEL, OR OTHER ACCEPTABLE CORROSION RESISTANT MATERIAL.
4. ALL CUTS, HOLES AND INJURIES (SUCH AS ABRASIONS AND NAIL HOLES) SHALL BE FIELD TREATED WITH APPLICATIONS OF PRESERVATIVES IN ACCORDANCE WITH AWPAS STANDARD M4.
5. CONCRETE FOR POST SUPPORT SHALL BE CLASS C (4 SACK MIX) WITH 1" MAX. AGGREGATE.

H	D	POST SPACING	POST SIZE
2'	3.5'	4'	4"x4"
3'	5'	4'	4"x6"
4'	6'	4'	4"x6"

UNIFORM STANDARDS  
ALL CITIES AND  
COUNTY OF MARIN

RETAINING WALL  
TYPE "C"

				MAY 2008
				DWG. NO.
				160
REV.	DATE	BY		