



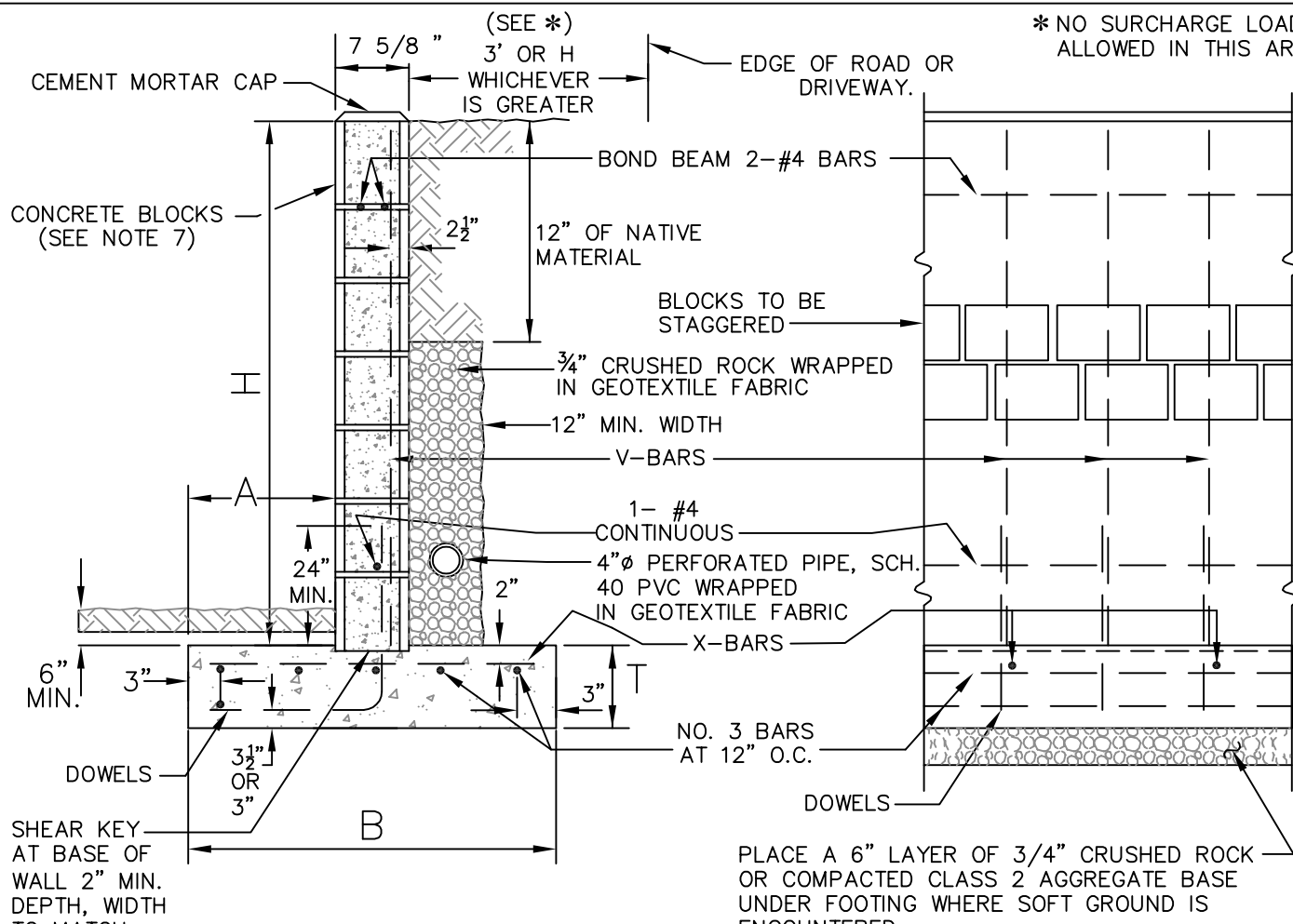
Retaining Walls Information

For retaining walls that measure taller than 4ft from the base of the footing to the top of the wall, or if they are supporting a surcharge, the following are required with your permit application:

1. A Site Plan, fully dimensioned, showing the location, extent, and height of the retaining wall in relation to any building, structure, pool, property lines and public utility easements.
2. Detail(s) showing complete construction details with dimensions of the retaining wall. Detail(s) are to be wet stamped and signed by a California registered civil or structural engineer. For segmental gravity retaining walls, the detail(s) must clearly identify the block manufacturer, block type, drainage requirements, and maximum wall height.
3. Structural Calculations wet stamped and signed by a California registered civil or structural engineer (or standardized engineering calculations and ICC ES Evaluation Report for applicable segmental gravity retaining walls).
4. Town of San Anselmo Plan Submittal Checklist

If your proposed retaining wall is 4ft tall or less, your permit must be built per the attached Marin County Uniform Construction Standards.

* NO SURCHARGE LOAD IS ALLOWED IN THIS AREA



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"

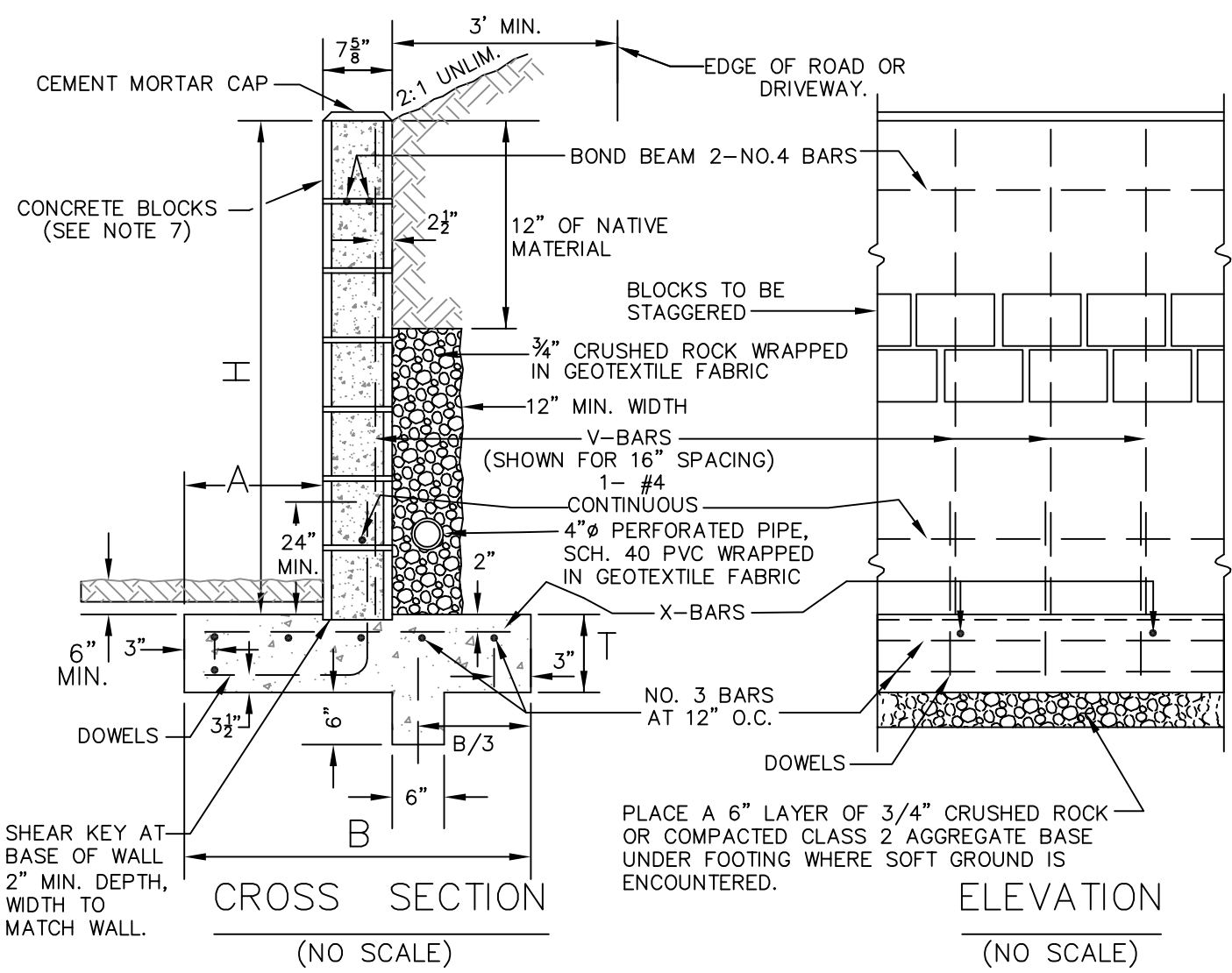
NOTES:

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 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'm=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.
10. CEMENT MORTAR MUST MEET A MINIMUM COMPRESSIVE STRENGTH OF 1,800 psi IN 28 DAYS. THE USE OF PLASTIC CEMENT IS NOT PERMITTED FOR MORTAR.
11. MATERIALS FOR BRICKS SHALL BE CEMENT BLOCK CONSTRUCTION.

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UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	RETAINING WALL TYPE "A" LEVEL BACKFILL			JULY 2018
	REV.	DATE	BY	DWG. NO.
				150

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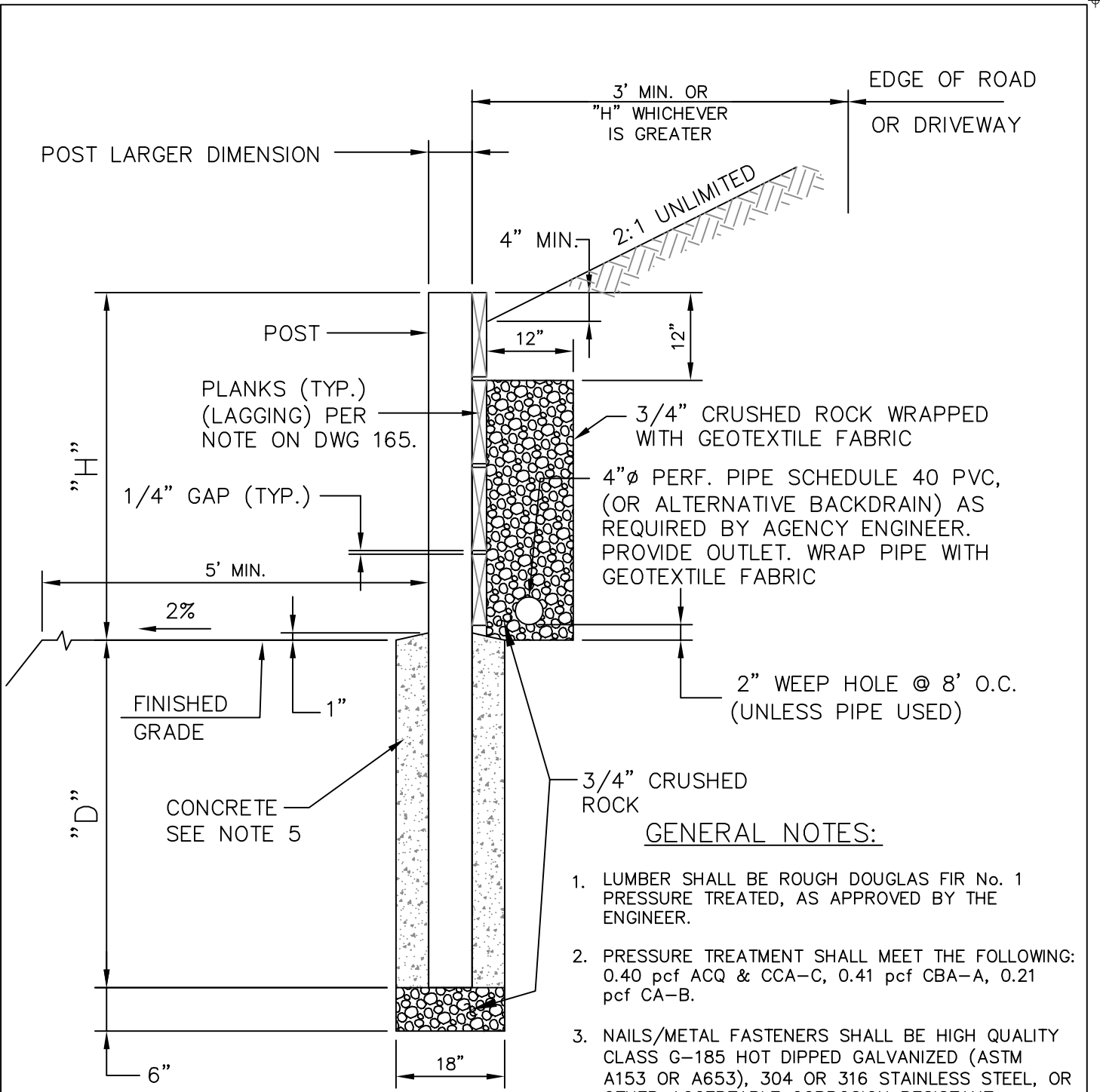
H	A	B	T	V-BARS	X-BARS
FT.-IN.	IN.	FT.-IN.	IN.		
3'-4"	8"	2'-4"	9"	NO. 3 AT 32"	NO. 3 AT 24"
4'-0"	10"	2'-9"	9"	NO. 4 AT 32"	NO. 3 AT 24"

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 ($f'_m=1,500$ 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.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	RETAINING WALL TYPE "B" SLOPING BACKFILL			JULY 2018
				DWG. NO.
				155
	REV.	DATE	BY	

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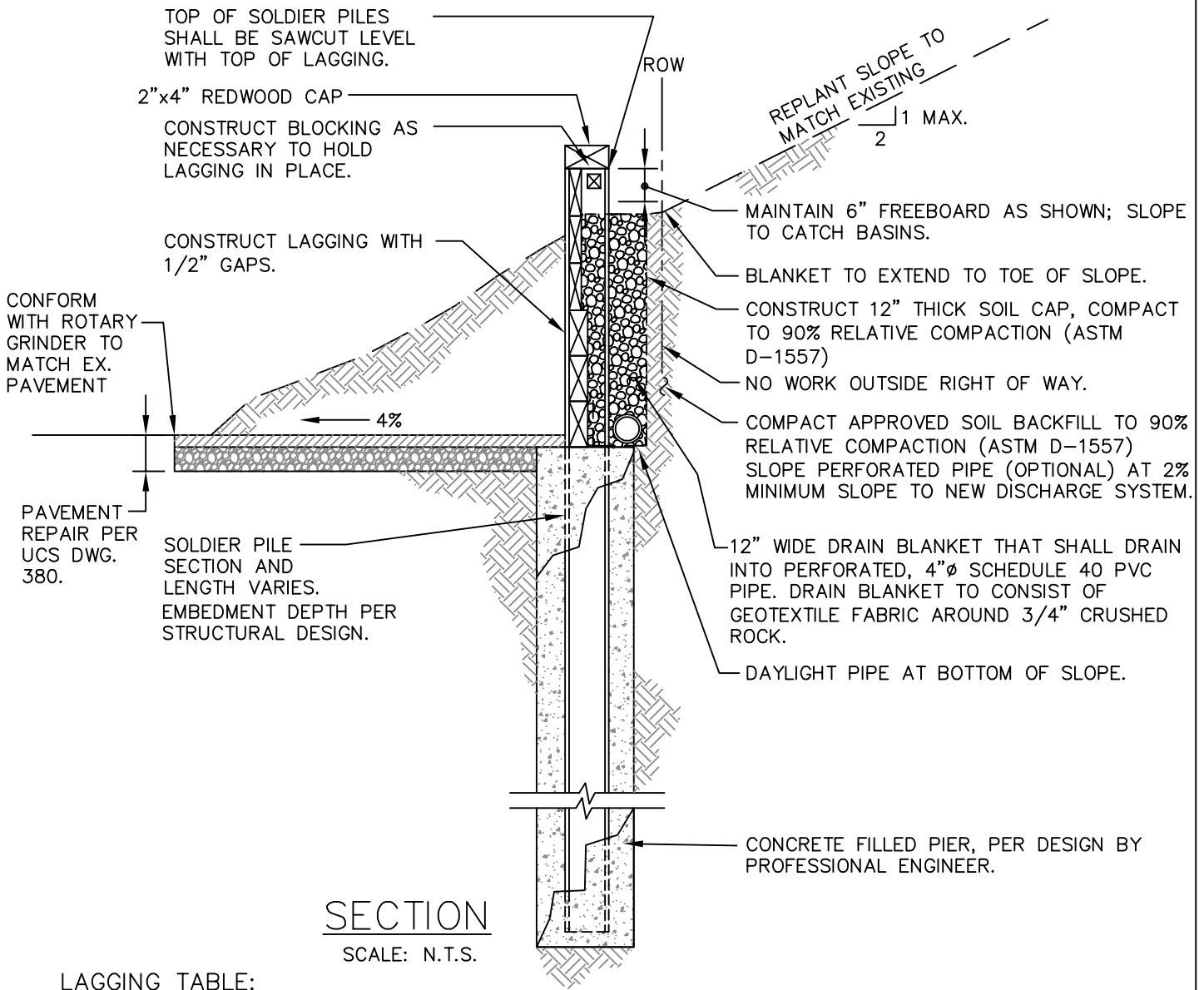
H	D	POST SPACING	POST SIZE
2'	3.5'	4'	4"x4"
3'	5'	4'	4"x6"
4'	6'	4'	4"x6"

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 AWWA STANDARD M4.
5. CONCRETE FOR POST SUPPORT SHALL BE CLASS C (4 SACK MIX) WITH 1" MAX. AGGREGATE.
6. ALL SIZES AND DEPTHS ARE MINIMUM.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	RETAINING WALL TYPE "C"			JULY 2018
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				160
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LAGGING TABLE:

FOR 3' DEPTH & LESS USE 2"x12" PRESSURE TREATED DOUGLAS FIR (PTDF).
 FOR 3' TO 4' DEPTH USE 3"x12" PRESSURE TREATED DOUGLAS FIR (PTDF).
 PRESSURE TREATMENT SHALL MEET THE FOLLOWING: 0.40 pcf ACQ & CCA-C,
 0.41 pcf CBA-A, 0.21 pcf CA-B.

WALL HT.	PIER DEPTH (EMBEDMENT)	I-BEAM (GRADE 50)	LAGGING
4'	5'	W5 x 16	3" x 12"

NOTE:

THE AGENCY ENGINEER MAY MODIFY THE ABOVE SCHEDULE.

CORROSION PROTECTION:

ALL I-BEAMS SHALL BE COATED WITH COAL TAR EPOXY OR APPROVED EQUAL PER MFG. SPECIFICATIONS.

- ① PER CALTRANS SPEC. 19-3.03 (E) (3) PLACE AND COMPACT BACKFILL BEHIND THE LAGGING AT LEAST 5 FEET ABOVE THE LEVEL OF GROUND ANCHORS BEFORE DRILLING FOR THE ANCHORS. PLACE AND COMPACT THE REMAINING BACKFILL BEHIND THE LAGGING AFTER THE ANCHORS ARE DRILLED, STRESSED, AND GROUTED.

UNIFORM STANDARDS
 ALL CITIES AND
 COUNTY OF MARIN

TYPICAL SOLDIER
 PILE WALL

				JULY 2018
				DWG. NO.
				165
REV.	DATE	BY		