

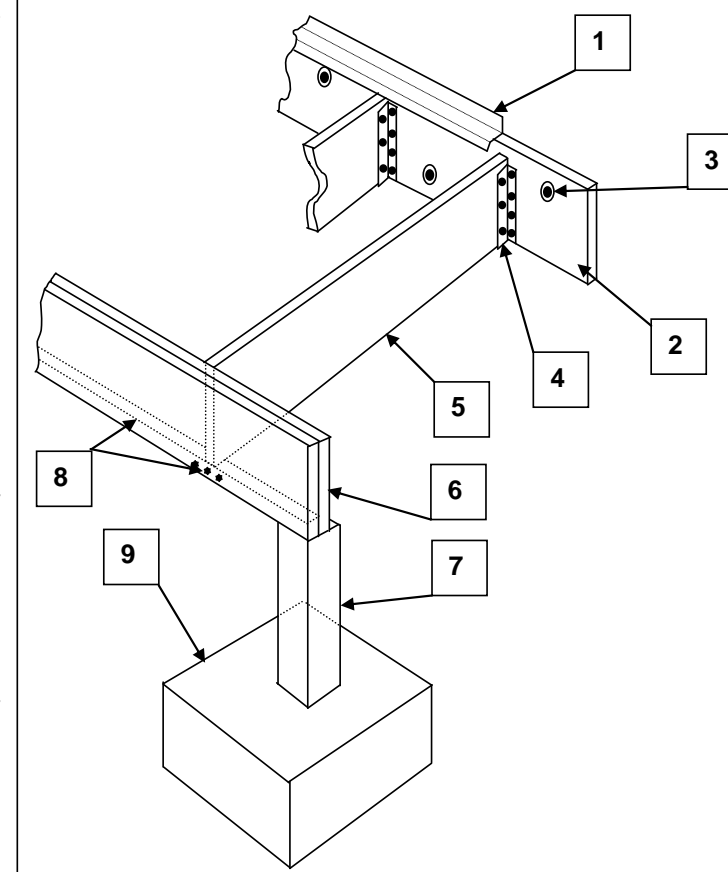
Knox County Code Administration & Inspection
Residential Deck Code Handout

REV. 12/21/12



This handout is a guide and is not all-inclusive and all materials must be installed per the manufacturers' instructions and the 2012 International Residential Code IRC.

- Flashing shall be installed at top of the ledger board and between the house wall. Flashing shall be continuous corrosion resistance type and installed per manufacturers instructions. This is usually stainless, double hot dipped galvanized, vinyl or copper. Aluminum flashing is not allowed.
- The house wall ledger board shall be bolted to the house and be the same size as the floor joists (or larger if installing ledger strips).
- The house ledger board shall be bolted (staggered top to bottom) to the house with 1/2" dia. lag bolts with washers that are long enough to fully penetrate the structural member of the house. Bolt spacing shall be as follows: Joist Span 6' Bolt Spacing 30" oc
 Joist Span 8' Bolt Spacing 23" oc
 Joist Span 10' Bolt Spacing 18" oc
 Joist Span 12' Bolt Spacing 15" oc
 Joist Span 14' Bolt Spacing 13" oc
 Joist Span 16' Bolt Spacing 11" oc
 Joist Span 18' Bolt Spacing 10" oc
 Do not bolt to brick. Center of bolts must be at least 2" from the edge.
- Joist hangers shall be sized and anchored in accordance with the joist size and manufacturer's instructions.
- Joists shall be sized per table 1.
- Deck girders shall be sized and supported in accordance with table 4. Girders must be fully supported by and structurally anchored to posts.
- Posts shall be sized in accordance with table 2. All posts must be structurally anchored to the footing.
- Ledger strips can be used in lieu of hangers or wall bracing. Ledger strips are to be 2" x 2" minimum and anchored with 3 - #16 nails spaced 2' - 3' apart under each joist location.
- Footings shall be sized in accordance with table 3.



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Based on the 2012 International Residential Code. Other materials, configurations, or engineered designs may be utilized that fall within the guidelines of this code.

TABLE 1: Joist Span Chart

Joist Size	12"	16"	19.2"	24"
2" x 6"	10'-0"	9'-2"	8'-6"	8'-6"
2" x 8"	14'-2"	12'-10"	12'-1"	11'-0"
2" x 10"	18'-0"	16'-1"	14'-8"	13'-1"
2" x 12"	21'-9"	18'-10"	17'-2"	15'-5"

Note: Above span length are clear span dimensions between bearing points. (Based on No. 2 pine)

TABLE 2: Deck Post Sizing

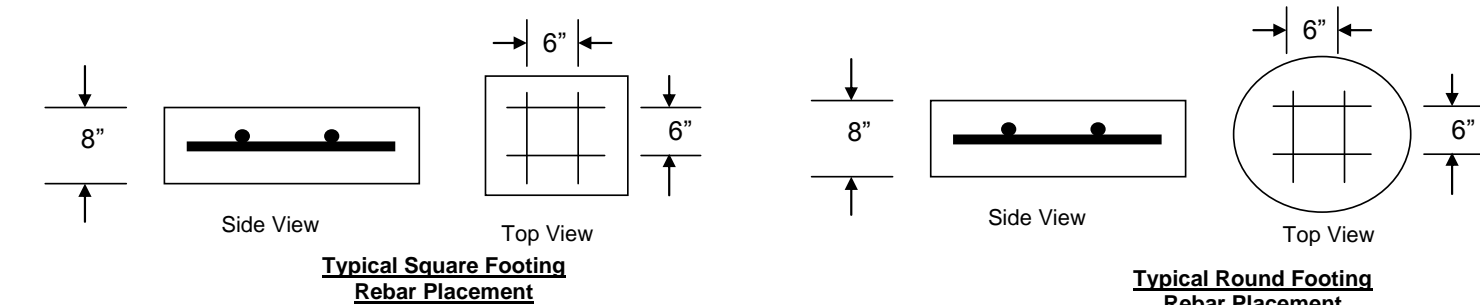
Post Height	Wood Post Size	Round Metal (Sch. 40)
0' to 8'-0"	4" x 4"	3" Dia.
8' to 12'	6" x 6"	3" Dia.

Note: Call the Codes office if your posts are greater than 12 feet in height or provide an engineered design.

TABLE 3: Deck Pier Footing Chart

Header Size	2 @ 2"x6" or a single Member	2 @ 2"x8"	2 @ 2"x10"	2 @ 2"x12"
Square Footing Size	12" x 12"	17" x 17"	20" x 20"	24" x 24"
Round Footing Size	14"	19"	23"	27"

Note: Minimum thickness of concrete = 8"; minimum frost line depth = 12". Install two (2) #4 rebar in each direction spaced 6" on center.



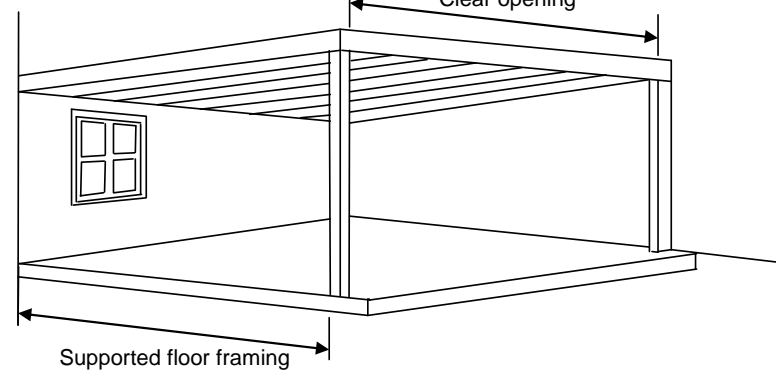
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Table 4: Girder Sizing - 40 psf Live Load, 10 psf Dead Load, 1.00 Load Duration Factor

CLEAR OPENING	Span of Supported Floor Framing										
	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	
4'	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x8	(1) 2x10	(1) 2x12	(1) 2x12	(2) 2x12	
5'	(2) 2x6	(2) 2x6	(2) 2x6	(2) 2x6	(2) 2x6	(2) 2x8	(2) 2x8	(2) 2x10	(2) 2x10	(2) 2x10	
6'	(2) 2x6	(2) 2x6	(2) 2x6	(2) 2x6	(2) 2x6	(2) 2x8	(2) 2x8	(2) 2x10	(2) 2x10	(2) 2x10	
7'	(2) 2x8	(2) 2x8	(2) 2x8	(2) 2x8	(2) 2x10	(2) 2x10	(2) 2x10	(2) 2x12	(2) 2x12	(2) 2x12	
8'	(2) 2x8	(2) 2x8	(2) 2x8	(2) 2x8	(2) 2x10	(2) 2x10	(2) 2x10	(2) 2x12	(2) 2x12	(2) 2x12	
9'	(2) 2x8	(2) 2x8	(2) 2x10	(2) 2x10	(2) 2x10	(2) 2x12	(2) 2x12	(2) 2x12	(2) 2x12	(3) 2x12	
10'	(2) 2x8	(2) 2x8	(2) 2x10	(2) 2x10	(2) 2x12	(3) 2x10	(3) 2x10	(3) 2x12	(3) 2x12	(3) 2x12	
11'	(2) 2x10	(2) 2x10	(2) 2x12	(2) 2x12	(2) 2x12	(3) 2x10	(3) 2x10	(3) 2x12	(3) 2x12	(3) 2x12	
12'	(2) 2x10	(2) 2x10	(2) 2x12	(2) 2x12	(2) 2x12	(3) 2x10	(3) 2x12	(3) 2x12	(4) 2x12	(4) 2x12	
13'	(2) 2x12	(2) 2x12	(3) 2x10	(3) 2x10	(3) 2x12	(3) 2x12	(3) 2x12	(4) 2x12	(4) 2x12	3-1/2 x 11	
14'	(2) 2x12	(2) 2x12	(3) 2x10	(3) 2x10	(3) 2x12	(4) 2x12	(4) 2x12	(4) 2x12	3-1/2 x 12-3/8	3-1/2 x 12-3/8	
15'	(2) 2x12	(3) 2x10	(3) 2x12	(3) 2x12	(3) 2x12	(4) 2x12	(4) 2x12	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	
16'	(3) 2x10	(3) 2x10	(3) 2x12	(3) 2x12	(4) 2x12	(4) 2x12	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	
17'	(3) 2x12	(3) 2x12	(3) 2x12	(4) 2x12	(4) 2x12	(4) 2x12	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	
18'	(3) 2x12	(3) 2x12	(4) 2x12	(4) 2x12	(4) 2x12	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	
19'	(3) 2x12	(4) 2x12	(4) 2x12	(4) 2x12	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	
20'	(4) 2x12	(4) 2x12	(4) 2x12	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	3-1/2 x 12-3/8	

Southern Pine lumber sizes for No. 2 grade are shown in regular type, with number of plies given in parentheses. Southern Pine glued laminated timber sizes for 24F-1.8E combination are shown in italics, when (4) 2x12's no longer meet design conditions. A 3'0" bearing length is assumed on girder ends.

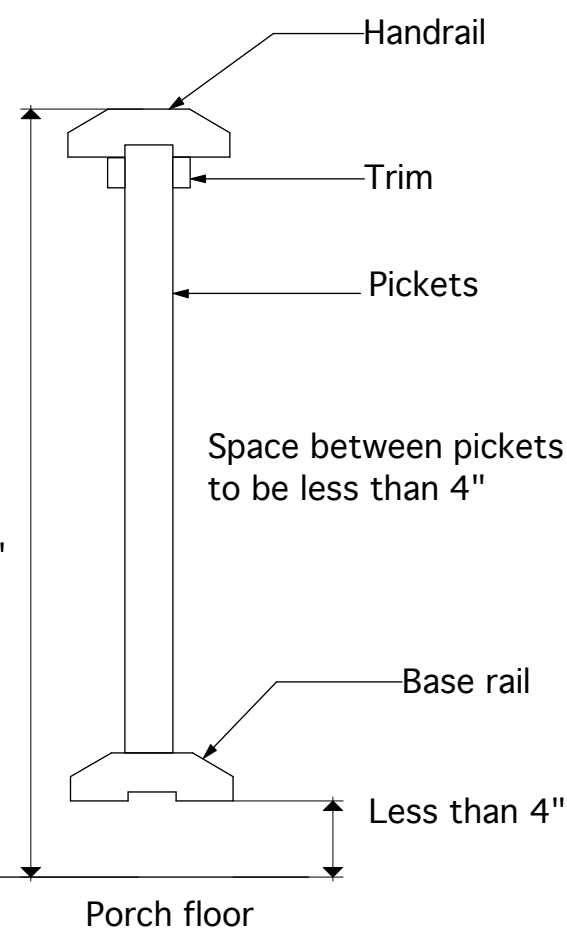
- Steps in Using this Table:**
- Verify the applicability of this table's design loads in pounds per square foot (psf) and corresponding load duration factor.
 - Find the span of supported floor framing. (i.e. span of joists or trusses that frame into the beam).
 - Find the clear opening required in feet.
 - Select the number of plies and size of the Southern Pine 24F-1.8E glued laminated timber.
 - Beams supporting face mounted joists cannot be smaller than joist and top flange hangers are required.
 - Member sizes were designed assuming beams were braced continuously to prevent lateral compression buckling.



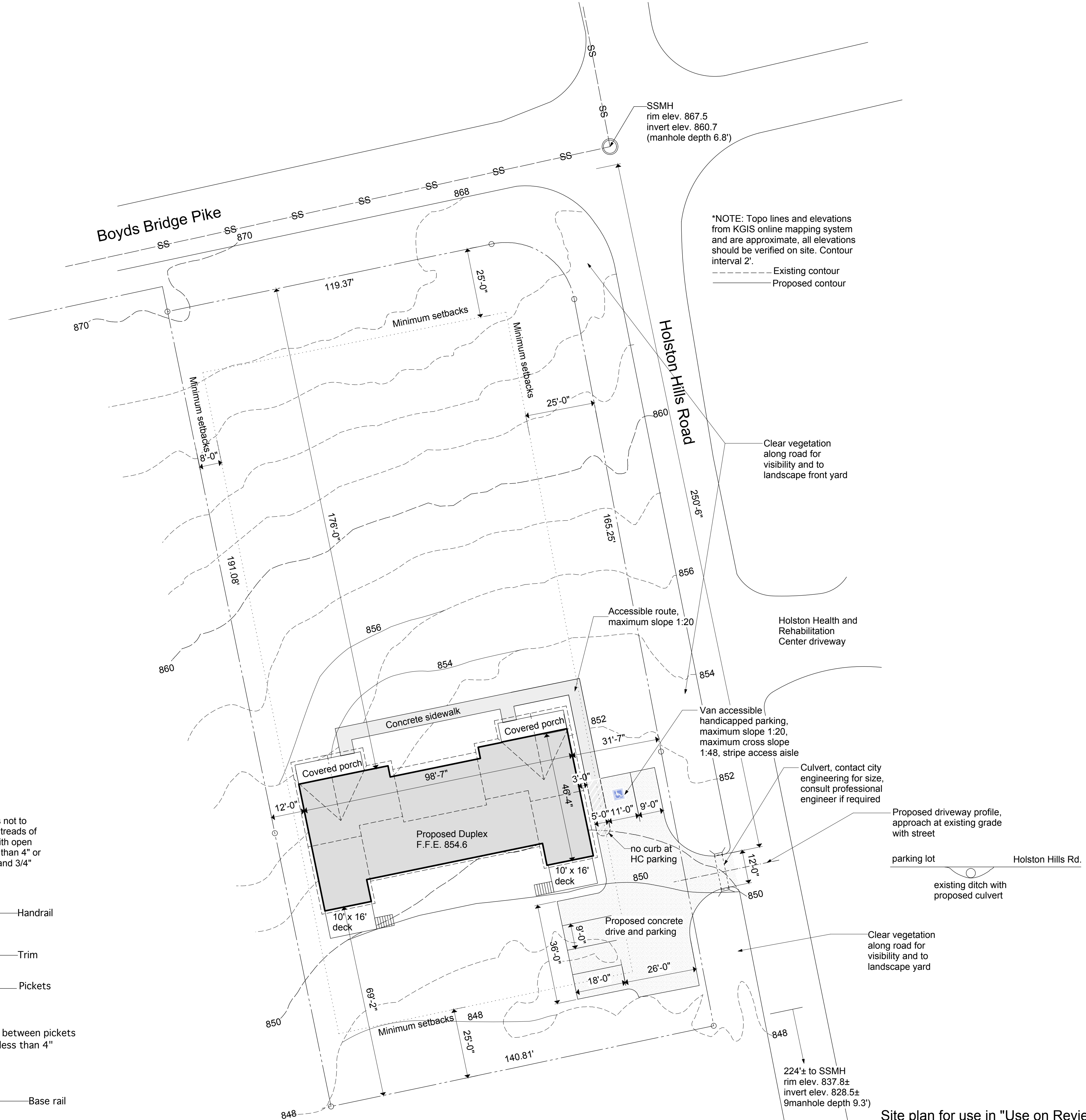
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DECK DETAILS
Not to Scale

DECK STAIRS
Stair to have risers not to exceed 7 3/4" and treads of no less than 10" with open riser space of less than 4" or with closed risers and 3/4" nosings on treads



Rail Detail
(not to scale)



*NOTE: Topo lines and elevations from KGIS online mapping system and are approximate, all elevations should be verified on site. Contour interval 2'.
 --- Existing contour
 --- Proposed contour

Clear vegetation along road for visibility and to landscape front yard

Holston Health and Rehabilitation Center driveway

Van accessible handicapped parking, maximum slope 1:20, maximum cross slope 1:48, stripe access aisle

Culvert, contact city engineering for size, consult professional engineer if required

Proposed driveway profile, approach at existing grade with street

parking lot
existing ditch with proposed culvert

Clear vegetation along road for visibility and to landscape yard

224'± to SSMH rim elev. 837.8± invert elev. 828.5± (manhole depth 9.3')

Site plan for use in "Use on Review" process, additional licensed professional services may be required prior to construction

1-B-19-UR
Revised: 1/7/2019

SITE PLAN
Scale: 1" = 20'-0"

DRWAN BY:
J. Perry Childress
1821 Maryville Pike
Knoxville, TN 37920
(865) 803-2545

Sertoma Duplex Site Plan
4865 Boyds Bridge Pike, Knoxville, TN 37917

DATE:
1-4-19

SHEET
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