City of Bristol Building Department

Deck Information

Whether the deck is to be attached to the dwelling or freestanding, certain zoning regulations apply. The regulations differ for each zoning district. The Zoning Enforcement Officer can answer your questions pertaining to these regulations. If the deck is to be attached to a swimming pool, please speak with a building inspector regarding the requirements.

See Deck Construction Guide

Deck building codes and requirements:

Requirements for Decks:

1. Building Permit Application
2. Zoning Permit (issued by Zoning Enforcement Officer with permit)
3. The proposed location of the deck may be drawn by the applicant on a plot plan form supplied by the Building Department, or it may be drawn to scale by the applicant on an existing plot plan. A plot plan is a drawing prepared by a licensed surveyor showing property lines and building locations. The Building Department has many plot plans on file, please call us at 860-584-6215 to check our files.
4. Two (2) sets of construction plans or complete Building Department Open deck form

   The construction plan must show:

   - framing detail
   - Pier location and depth
   - railing height
   - Spacing between balusters
   - rise and run of the stair.

5. Payment in Cash or Check made payable to the City of Bristol

Inspections will be required for:

- Piers
- Framing
- Final – Certificate of Use and Occupancy

Refer to Swimming Pool section for information regarding pool decks.

City of Bristol Building Department

Deck Construction Guide

Deck Construction Guide

According to the 2003 IRC with the 2005 & 2009 CT amendments
To construct an attached deck in to a **residential** home in the City of Bristol, you must provide the following:

1. Completed permit application providing the location, applicant's name, address, contact phone number(s) and any applicable license numbers.
2. Deck construction plans (see below).
3. Location of deck on property in relation to home/building.
4. If applicable-wetlands approval and/or zoning variance.

Code Specifications

Stairs:

Stair Riser Height – 8-1/4" maximum.

- The minimum riser height shall be 4 inches. The greatest riser height within any flight of stairs shall not exceed the smallest by more than **3/8".**

Stair Tread Depth – 9" minimum.

- The greatest tread depth within any flight of stairs shall not exceed the smallest by more than **3/8".**
  Stair Landing – There shall be a floor landing a minimum of 3 feet in the direction of travel and 3 feet in width, or a width equal to the width of any adjacent stair, which ever is greater.
  Stairway Width – Stairways shall not be less than 36 inches in clear width at all points above the permitted handrail height.

Guard Rails:

Decks located more than 30 inches above the ground shall have guards not less than 36 inches in height. The open sides of **STAIRS** with a total rise of more than 30 inches above the (floor or) grade shall have guards not less than 34 inches in height measured vertically from the nosing of the treads. **"Guards" and "Handrails" are not the same element of the deck** (see "handrails")**.**

Guard rail baluster spaces – The maximum space between balusters must not allow the passage of a 4" sphere or more in diameter. The use of #2 pressure treated wood will allow for

substantial shrinkage, increasing the space between the balusters. Use a 3 ½" space when laying out baluster location to compensate for shrinkage.

Opening Exceptions – 1) The triangular openings formed by the riser, tread and bottom rail of a guard at the open side of a stairway are permitted to be of such size that a sphere 6 inches cannot pass through. 2) Openings for required guards on the sides of stair threads shall not allow a sphere 4 3/8 inches to pass through.

Handrails:

Handrails are required- Handrails shall be provided on at least one side of each continuous run of treads or flight with **four or more** risers.

Handrail Height – Handrail height shall be not less than 34 inches and not more than 38 inches measured vertically from the nosing of the tread.

Handrail Grip Size – Circular handrails can be 1 ¼"-2" in diameter, non-circular cannot exceed 2 ¼ "in cross section width-see attached diagram.

Continuity – Handrails for stairways shall be **continuous** for the full length of each flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends **shall be returned** to a wall or shall terminate in newel posts or safety terminations. Handrails adjacent to a wall shall have a space not less than 1 ½ inches between the wall and the handrail.

Deck Construction:

Decks must be designed to resist a 40 pound per square foot loads.
All wood used for exterior decks must be decay resistant-either pressure treated or naturally resistant. All wood in contact with the ground must be rated for ground contact.
All exterior deck fasteners used for pressure treated wood shall be stainless steel, silicon bronze, copper, G185 galvanized steel or shall be hot dipped galvanized. The exception is for one-half-inch diameter or greater steel bolts in normally dry locations.
The frost line in Connecticut is 42" below the top of grade. The bottom of all pier support foundations must be at that level.
Piers shall be a minimum of 2,500 PSI concrete.

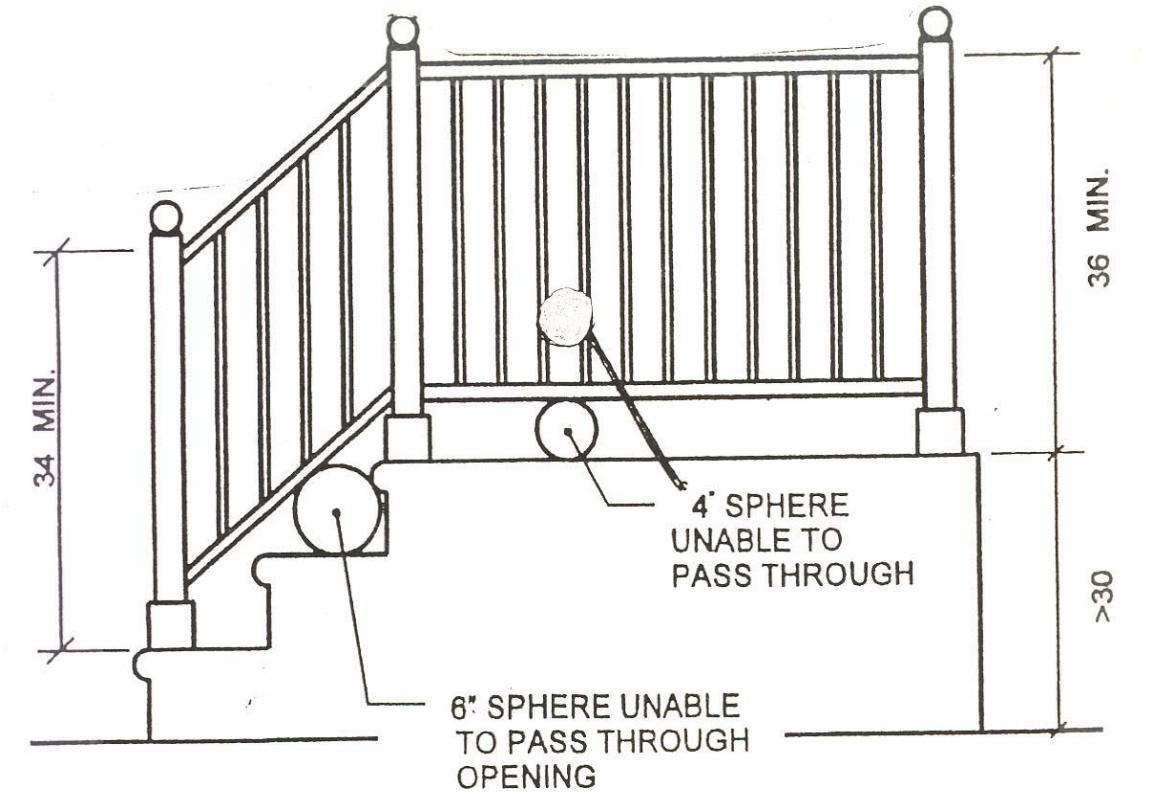
Galvanized concrete anchors and post base connectors shall be required at each support pier and installed per the manufacturer's instructions.
Galvanized joist hangers and structural member connectors must be attached with the manufacturer's specified fasteners (nails). Sheet rock or decking screws, untreated nails or any other deviation from the required fasteners will not be allowed.

Helpful Web Sites

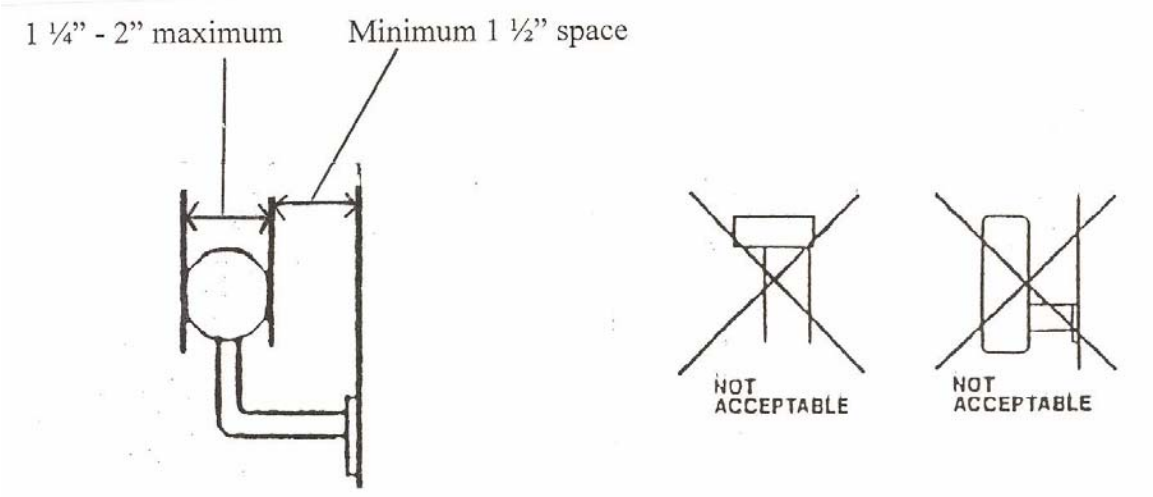
The following web sites maybe helpful when designing your deck bear in mind that the State of Connecticut has amendments to the building codes *not* used in these web sites which may affect the design.

- **www.decks.com**
- ***www.awc.org/publications/DCA/DCA6/DCA6-09.pdf***

Guard Diagram

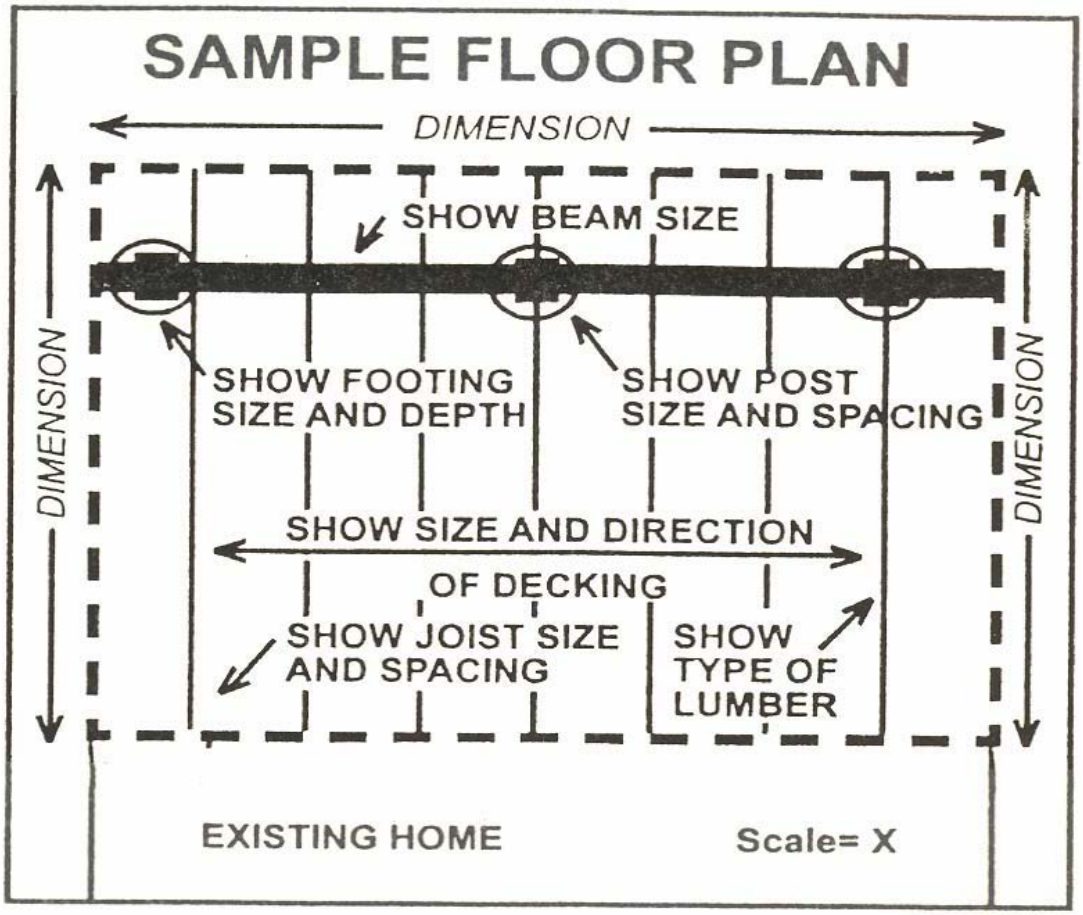


Hand Rail Diagram



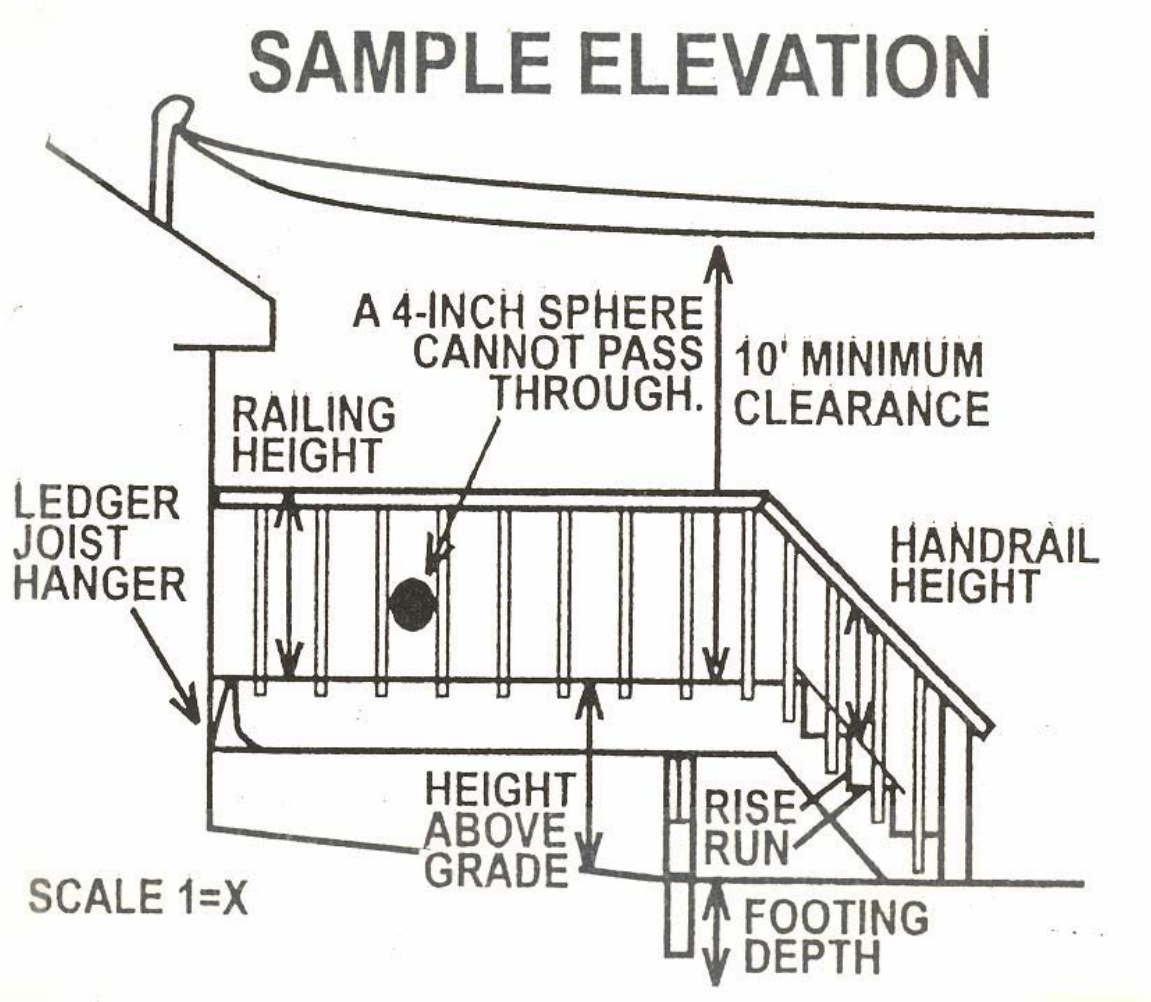
Floor Plan

1. Proposed deck size.
2. Size and spacing of floor joists.
3. Size and type of decking material.
4. Size, type, location, and spacing of posts.
5. Size and type of beam.



Elevation Plan

1. Height of structure from grade.
2. Size and depth of footings.
3. Guard height and spacing (if any).
4. Stairway rise/run and handrail height (if any).
5. Clearance of over-head wires (if applicable)
6. Ledger attachment details and flashing information.



Southern Pine Span Tables
(The complete book of tables is available in PDF at www.southernpine.com)

Maximum spans given in feet and inches inside to inside of bearings

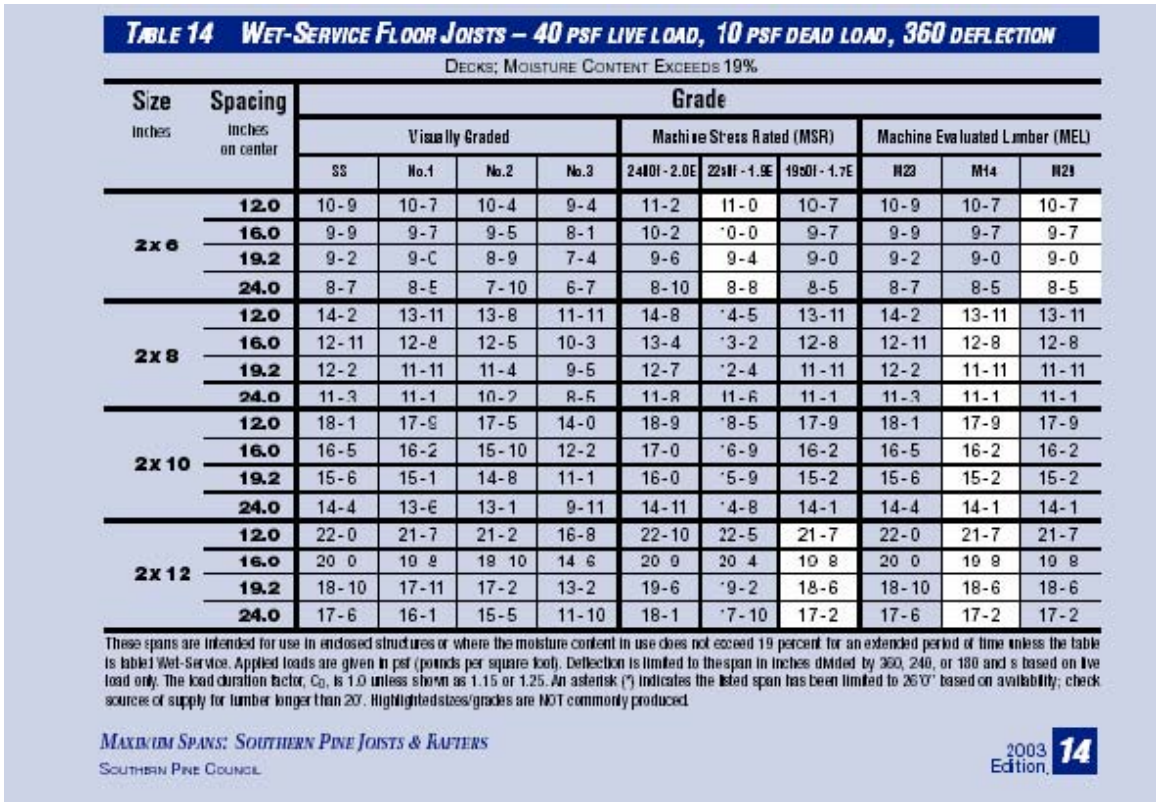


TABLE 14 WET-SERVICE FLOOR JOISTS – 40 PSF LIVE LOAD, 10 PSF DEAD LOAD, 360 DEFLECTION

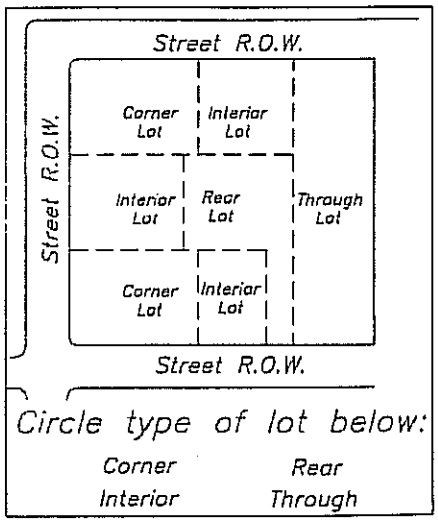
DECKS; MOISTURE CONTENT EXCEEDS 19%

Size (inches)	Spacing (inches on center)	Grade									
		Visually Graded				Machine Stress Rated (MSR)			Machine Evaluated Lumber (MEL)		
		SS	No.1	No.2	No.3	2400f-2.0E	2250f-1.9E	1950f-1.7E	M23	M14	M29
2x6	12.0	10-9	10-7	10-4	9-4	11-2	11-0	10-7	10-9	10-7	10-7
	16.0	9-9	9-7	9-5	8-1	10-2	10-0	9-7	9-9	9-7	9-7
	19.2	9-2	9-0	8-9	7-4	9-6	9-4	9-0	9-2	9-0	9-0
	24.0	8-7	8-5	7-10	6-7	8-10	8-8	8-5	8-7	8-5	8-5
2x8	12.0	14-2	13-11	13-8	11-11	14-8	14-5	13-11	14-2	13-11	13-11
	16.0	12-11	12-8	12-5	10-3	13-4	13-2	12-8	12-11	12-8	12-8
	19.2	12-2	11-11	11-4	9-5	12-7	12-4	11-11	12-2	11-11	11-11
	24.0	11-3	11-1	10-2	8-5	11-8	11-6	11-1	11-3	11-1	11-1
2x10	12.0	18-1	17-9	17-5	14-0	18-9	18-5	17-9	18-1	17-9	17-9
	16.0	16-5	16-2	15-10	12-2	17-0	16-9	16-2	16-5	16-2	16-2
	19.2	15-6	15-1	14-8	11-1	16-0	15-9	15-2	15-6	15-2	15-2
	24.0	14-4	13-6	13-1	9-11	14-11	14-8	14-1	14-4	14-1	14-1
2x12	12.0	22-0	21-7	21-2	16-8	22-10	22-5	21-7	22-0	21-7	21-7
	16.0	20-0	19-8	19-10	14-6	20-9	20-4	19-8	20-0	19-8	19-8
	19.2	18-10	17-11	17-2	13-2	19-6	19-2	18-6	18-10	18-6	18-6
	24.0	17-6	16-1	15-5	11-10	18-1	17-10	17-2	17-6	17-2	17-2

These spans are intended for use in enclosed structures or where the moisture content in use does not exceed 19 percent for an extended period of time unless the table is labeled Wet-Service. Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360, 240, or 180 and is based on live load only. The load duration factor, C_D, is 1.0 unless shown as 1.15 or 1.25. An asterisk (*) indicates the listed span has been limited to 26'0" based on availability; check sources of supply for lumber longer than 20'. Highlighted sizes/grades are NOT commonly produced.

OPEN DECK

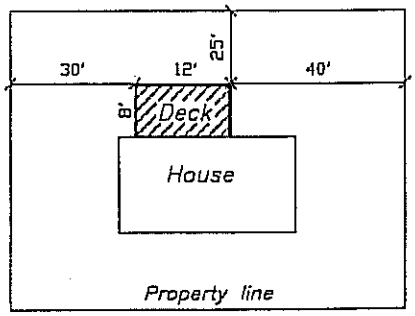
Bristol Bldg. Dept.
Plot Plan Form



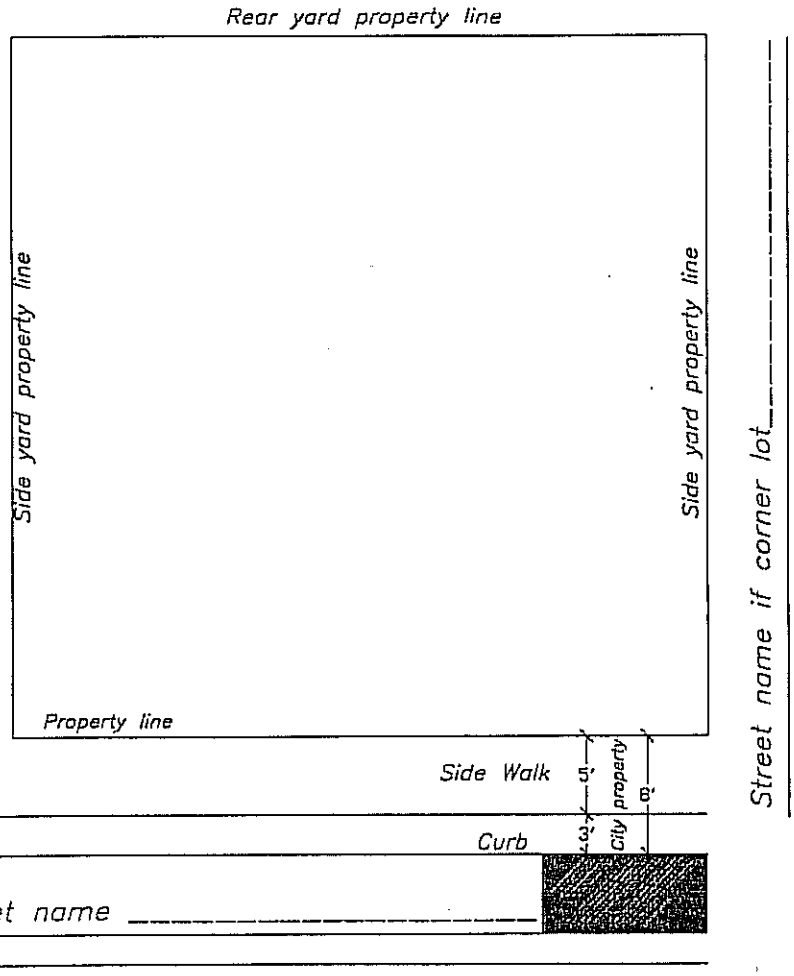
Circle type of lot below:

Corner Rear
Interior Through

Sample Drawing Below



Draw Below:
Location of existing house and proposed deck.
Setback distances from deck to property lines.
Size of deck.
Name of streets.



open decks shall comply with all yard setback regulations of the zoning district in which they are located.

The owner of the premises hereby confirms that the plot plan as submitted is correct to the best of his/her knowledge and conforms to the Zoning Regulations of the City of Bristol. If it is found that the deck location is not in conformity with the plot plan, it will be the owner's responsibility to move the deck to its proper location.

THIS FORM MUST ACCOMPANY THE BUILDING PERMIT APPLICATION FORM

Date _____ Signature _____

ADDRESS _____

TYPICAL WOOD DECK

NOT FOR POOL DECKS

City of Bristol

BUILDING DEPARTMENT

1 Width: _____ ft. _____ in.

2 Length: _____ ft. _____ in.

3 Distance between piers:

_____ ft. _____ in.

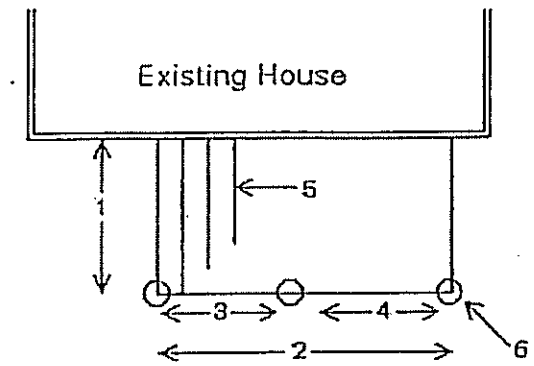
4 Distance between piers:

_____ ft. _____ in.

5 Floor Joists:

2 X _____ @ _____ in. on center

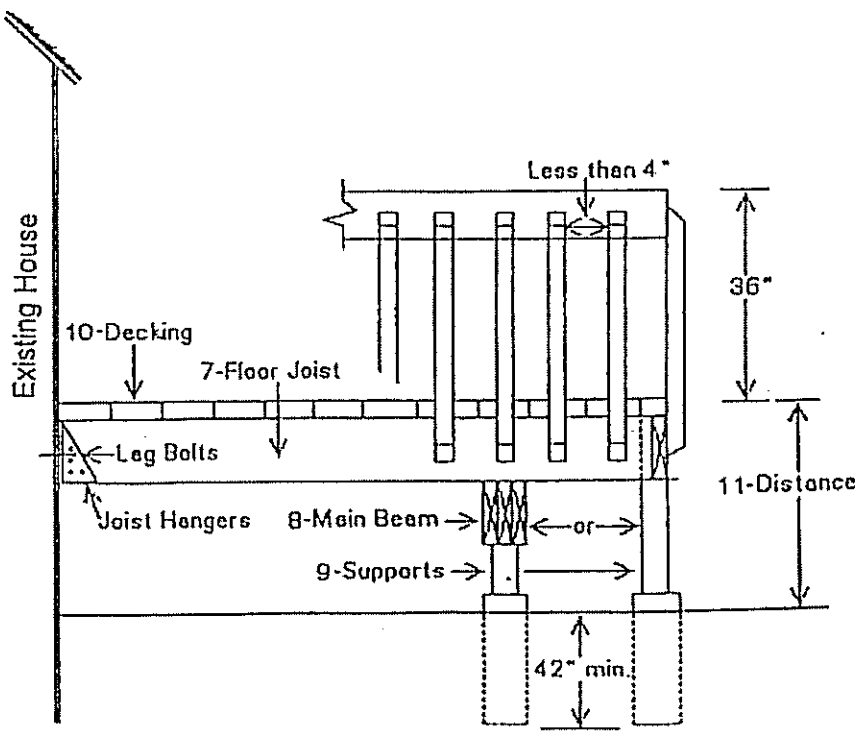
6 Diameter concrete piers: _____ in.



	Size	Spacing	Species
7			
8	Size		Species
9	Size		Species
10	Size		Species

11 _____ ft. _____ in.

_____
Signature



_____
Date

ADDRESS _____