



# *Charter Township of Harrison*

BUILDING, ORDINANCE, PLANNING & ZONING

Phone: (586)466-1430

Fax: (586)465-2618

## **DECK PLAN REVIEW** **SUBMITTAL REQUIREMENTS**

For quicker plan review turn-around, please be sure to review and submit the following items. Please note: incomplete information may delay permit issuances,

1. Completed building permit application & applicant's photo I.D
2. Completed contractor's registration form and required documents, if applicable.
3. 3 copies of proposed site plan.
4. 3 copies of proposed deck plans.

Please note that 3 sets of plans are required for submittal. One set of the approved plans will be required on the jobsite for inspections.

When planning your project, please review the 2015 Residential Building Code and Township Ordinance requirements. Please see the following pages for an example of a site plan and building plan. On the examples, you will find code and ordinance references. Additional codes or ordinances may apply to your particular project.

If you have any questions, please feel free to contact us at (586) 466-1400 ext. 5 or email us at [buildingdept@harrison-township.org](mailto:buildingdept@harrison-township.org).

Thank you,  
Building Department Staff



# Charter Township of Harrison

BUILDING, ORDINANCE, PLANNING & ZONING

harrison-township.org

Phone: (586) 466-1434

Fax: (586) 465-2618

Email: buildingdept@harrison-township.org

## DECK & PORCH PLAN REVIEW CHECKLIST

DATE RECEIVED: \_\_\_\_\_ DATE REVIEWED: \_\_\_\_\_

PROJECT ADDRESS: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_ REVISIONS: \_\_\_\_\_ PERMIT NO: \_\_\_\_\_

ZONING (SITE PLAN)		INFORMATION COMPLIANT?	
Please visit <a href="https://www.municode.com/library/mi/harrison_charter_township/codes/code_of_ordinances">https://www.municode.com/library/mi/harrison_charter_township/codes/code_of_ordinances</a>		YES	NO
ZONING DISTRICT	SECTION 14.02		
SETBACKS TO PROPOSED DECK OR PORCH	SECTIONS 5.04 & 12.07 & 14.02		
DECK OR PORCH ELEVATION FROM GRADE	SECTION 5.04 (a, & d)		
COVERED OR UNCOVERED FRONT PORCH	SECTION 5.04 (b)		

FOUNDATION		YES	NO
MINIMUM FOOTING SIZE	R403.1.1 & R507.8.1		
FOOTING DEPTH	R403.1.4		
FOUNDATION WALL SIZE AND TYPE (PORCHES)	R404.1		
COMPRESSIVE STRENGTH OF ALL CONCRETE	R402.2		

DECK OR PORCH DETAILS		YES	NO
POST TO FOOTING DETAILS	Figure R507.8.1		
POST SIZE AND HEIGHT	R507.8		
POST TO BEAM CONNECTION DETAIL	R507.7.1		
LEDGER DETAILS	R507.2		
BEAM SPECIES, SIZE AND MAXIMUM SPAN	R507.6		
JOIST SPECIES, SIZE AND MAXIMUM SPAN	R507.5		
DECKING TYPE	R507.3 & R507.4		
FLOOR ELEVATION AT EXTERIOR DOOR	R311.3.2		
CONCRETE SLAB INFORMATION	R506.1		
BACKFILL INFORMATION	R506.2.1, R506.2.2		
STAIR DETAILS	R311.7		
HANDRAIL DETAILS	R311.7.8		
GUARDRAIL DETAILS	R312		
RAFTER SPECIES, GRADE AND MAXIMUM SPAN	R802.3		
ROOF SHEATHING TYPE AND SIZE	R803.1		
ROOF COVERING DETAILS	R905		
PROTECTION AGAINST DECAY	R317		
FASTENER INFORMATION	R317.3		



**SITE PLAN FOR 12345**  
**PARCEL ID# 12-34-567-890**

**DECKS - AS DEFINED ON PAGE 21-B**  
**OF THE ZONING ORDINANCE**

**AT-GRADE PATIOS/BOARDWALKS**  
**ZONING SECTIONS**  
**5.01**

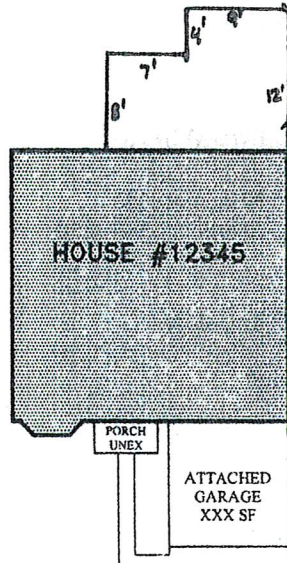
**REAR YARD SET BACKS**  
**ZONING SECTIONS**  
**5.04, 12.07, 12.08**

**SIDE YARD SET BACKS**  
**ZONING SECTIONS**  
**5.04, 12.07, 12.08**

**EX. HSE.**  
**#12343**

**EX. HSE.**  
**#12347**

**NOTE:**  
 DECK ELEVATIONS MAY RESTRICT  
 THE PLACEMENT OF THE DECK  
 ON YOUR LOT. PLEASE READ ALL  
 APPLICABLE ZONING ORDINANCES.



**ROAD NAME**  
**R.O.W.**

**NONCONFORMING LOTS, USES AND STRUCTURES**  
**SECTION 16.01 (N)**

HOUSE NUMBER	F.Y.S.	R.Y.S.
12347 EXAMPLE DR.	27'	22'
12349 EXAMPLE DR.	31'	28'
12343 EXAMPLE DR.	28'	30'
12341 EXAMPLE DR.	25'	25'
SUBJECT PROP. AVE.	27.75'	26.25'

**LOT COVERAGE & IMPERVIOUS SURFACE CALCULATIONS**

**SECTION 14.02**

LOT SIZE = X.XX ACRE (X,XXX SF)

PERCENTAGE OF LOT COVERED BY BUILDING = X.XX% (X,XXX SF)

PERCENTAGE OF LOT COVERED BY IMPERVIOUS SURFACE = X.XX% (X,XXX SF)

**NOTE:**

PRIOR TO BACKFILL, A PRELIMINARY GRADE SURVEY IS REQUIRED TO BE  
 SUBMITTED/SEALED BY LICENSED SURVEYOR. AT THIS PHASE IN THE  
 PROJECT, THE GARAGE IS TYPICALLY NOT BUILT, THUS THE REQUEST FOR  
 BOTH GARAGE AND HOUSE SETBACK DIMENSIONS AT PLOT PLAN SUBMITTAL.

**NOTES:**

- \* ALL SITE PLANS FOR NEW HOMES AND ADDITIONS GREATER THAN 50% OF EXISTING HOUSE REQUIRE A LEGAL SURVEY.
- \* SITE PLANS WILL BE REVIEWED UNDER 2013 MRC AND CURRENT TOWNSHIP REGULATORY AND ZONING ORDINANCES.
- PLEASE VISIT:  
[HTTPS://MUNICODE.COM/LIBRARY/MI/HARRISON\\_CHARTER\\_TOWNSHIP/CODES/CODE\\_OF\\_ORDINANCES](https://municode.com/library/mi/harrison_charter_township/codes/code_of_ordinances)
- \* THIS SITE PLAN IS FOR REFERENCE ONLY, CERTAIN PLANS MAY REQUIRE ADDITIONAL INFORMATION
- \* SUBMIT ALL PLANS IN MULTIPLETS OF 3, ONE OFFICE COPY, ONE CUSTOMER COPY AND ONE INSPECTOR'S COPY.

**LEGAL DESCRIPTION:**

(INCLUDE SUBDIVISION NAME AND LOT NUMBER)

**LEGEND (COLOR CODED):**

MECHANICAL EQUIPMENT	A/C	GEN
DRAINAGE PLAN		
LOT LINE		
LOT COVERAGE		
IMPERVIOUS SURFACE		
BUILDING ENVELOPE		
STORM SEWER		
SANITARY SEWER		
WATER LEAD		
GRADE ELEVATION AT PROPERTY LINES	XXX.XX	
GRADE ELEVATION AT BUILDING	B.L. XXX.XX	



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 OFFICE (586) 786-5533 FAX (586) 786-5575

**TABLE R507.5**  
**DECK JOIST SPANS FOR COMMON LUMBER SPECIES<sup>f</sup> (ft. - in.)**

SPECIES <sup>a</sup>	SIZE	SPACING OF DECK JOISTS WITH NO CANTILEVER <sup>b</sup> (inches)			SPACING OF DECK JOISTS WITH CANTILEVERS <sup>c</sup> (inches)		
		12	16	24	12	16	24
Southern pine	2 × 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 × 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 × 10	16-2	14-0	11-5	14-6	14-0	11-5
	2 × 12	18-0	16-6	13-6	18-0	16-6	13-6
Douglas fir-larch <sup>d</sup> , hem-fir <sup>d</sup> , spruce-pine-fir <sup>d</sup>	2 × 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 × 8	12-6	11-1	9-1	9-5	9-5	9-1
	2 × 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 × 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood, western cedars, ponderosa pine <sup>e</sup> , red pine <sup>e</sup>	2 × 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 × 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 × 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 × 12	17-5	15-1	12-4	16-5	15-1	12-4

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. No. 2 grade with wet service factor.

b. Ground snow load, live load = 40 psf, dead load = 10 psf,  $L/\Delta = 360$ .

c. Ground snow load, live load = 40 psf, dead load = 10 psf,  $L/\Delta = 360$  at main span,  $L/\Delta = 180$  at cantilever with a 220-pound point load applied to end.

d. Includes incising factor.

e. Northern species with no incising factor

f. Cantilevered spans not exceeding the nominal depth of the joist are permitted.

**TABLE R507.6**  
**DECK BEAM SPAN LENGTHS<sup>a, b</sup> (ft. - in.)**

SPECIES <sup>c</sup>	SIZE <sup>d</sup>	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)						
		6	8	10	12	14	16	18
Southern pine	2 - 2 × 6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	2 - 2 × 8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	2 - 2 × 10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	2 - 2 × 12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	3 - 2 × 6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	3 - 2 × 8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	3 - 2 × 10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	3 - 2 × 12	15-3	13-3	11-10	10-9	10-0	9-4	8-10
Douglas fir-larch <sup>e</sup> , hem-fir <sup>e</sup> , spruce-pine-fir <sup>e</sup> , redwood, western cedars, ponderosa pine <sup>f</sup> , red pine <sup>f</sup>	3 × 6 or 2 - 2 × 6	5-5	4-8	4-2	3-10	3-6	3-1	2-9
	3 × 8 or 2 - 2 × 8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
	3 × 10 or 2 - 2 × 10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
	3 × 12 or 2 - 2 × 12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	4 × 6	6-5	5-6	4-11	4-6	4-2	3-11	3-8
	4 × 8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	4 × 10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	4 × 12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	3 - 2 × 6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
	3 - 2 × 8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
	3 - 2 × 10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	3 - 2 × 12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. Ground snow load, live load = 40 psf, dead load = 10 psf,  $L/\Delta = 360$  at main span,  $L/\Delta = 180$  at cantilever with a 220-pound point load applied at the end.

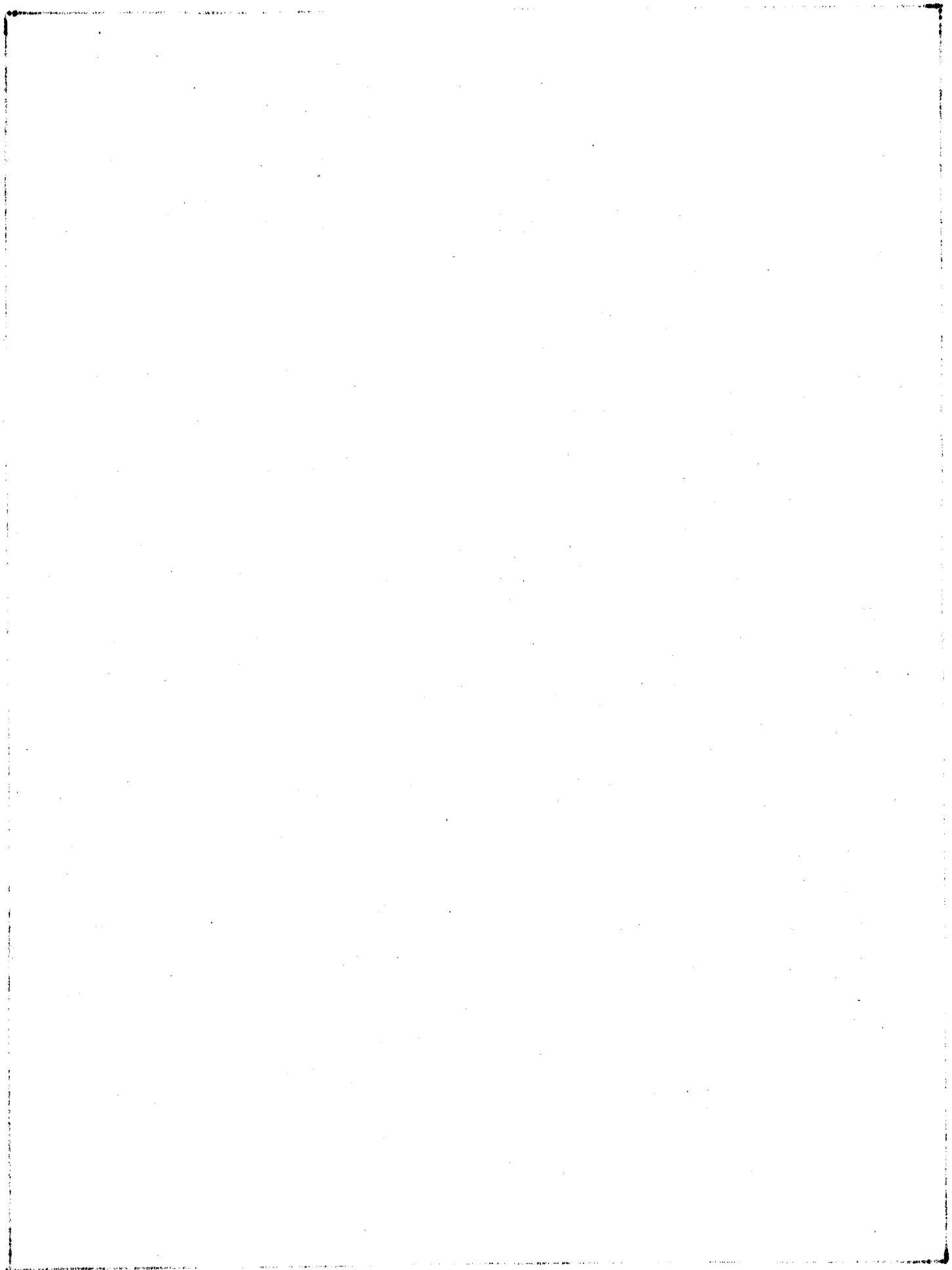
b. Beams supporting deck joists from one side only.

c. No. 2 grade, wet service factor.

d. Beam depth shall be greater than or equal to depth of joists with a flush beam condition.

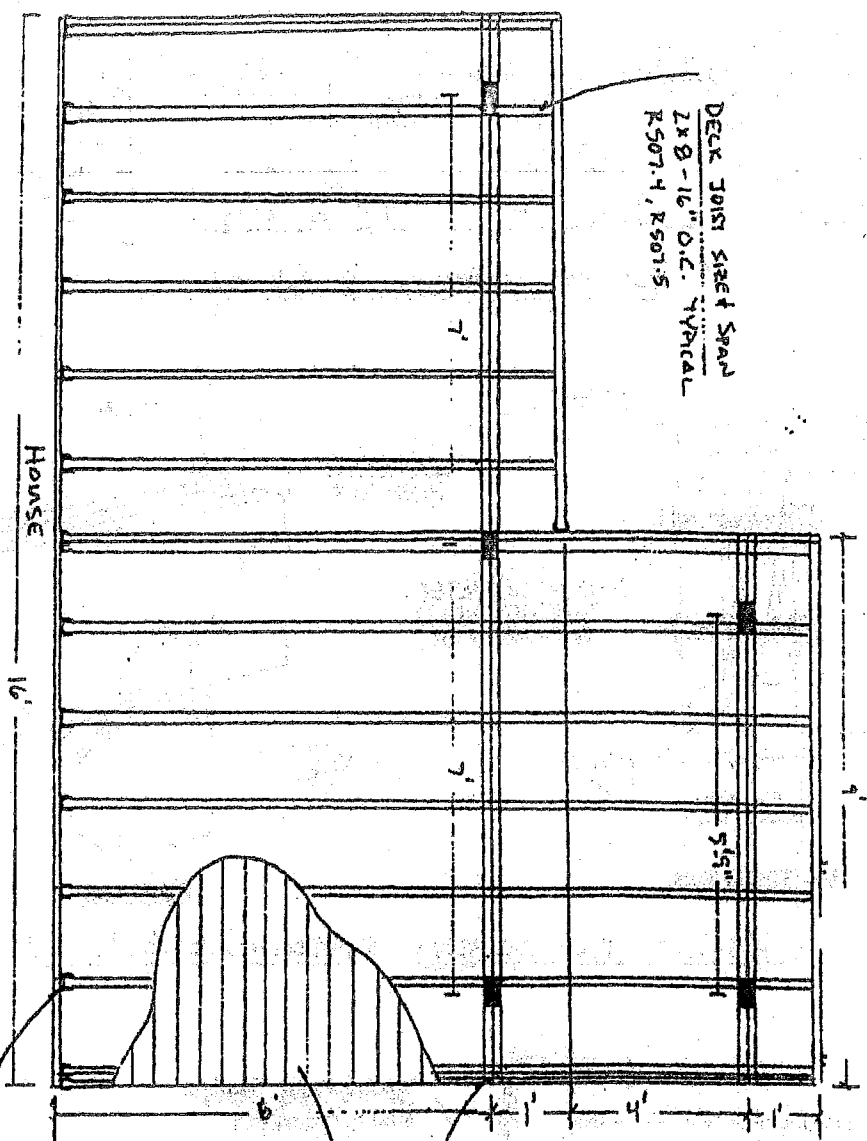
e. Includes incising factor.

f. Northern species. Incising factor not included.





FRAMING PLAN VIEW - ALL FRAMING MEMBERS TO BE (SPECIES OF MATERIAL)  
 SCALE - 3/8" = 1'



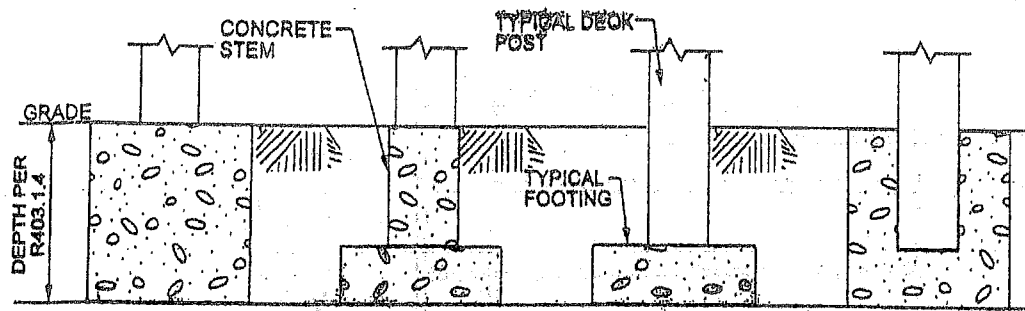
DECK JOIST SPAN  
 2x8-16" O.C. TYPICAL  
 RS07.4, RS07.5

CANTILEVER'S  
 RS07.6

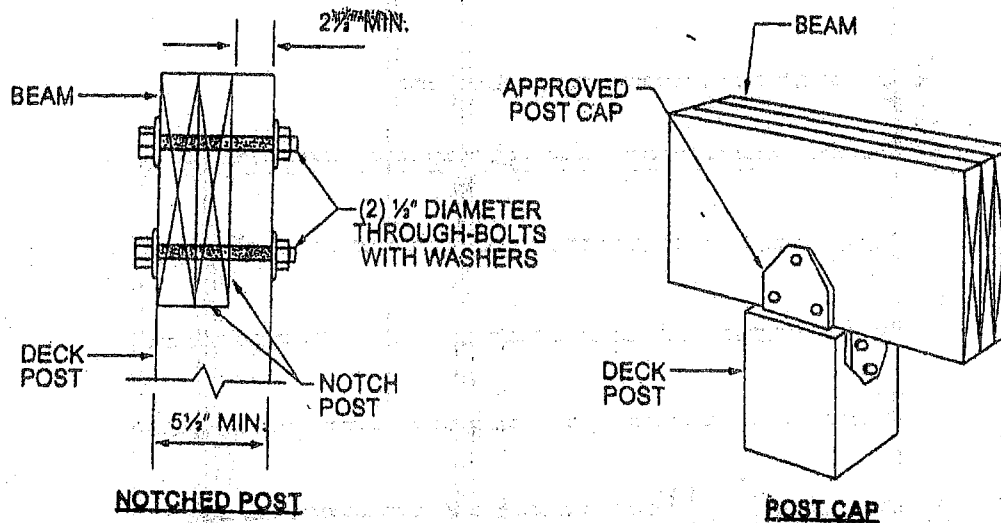
DECK BEAM SPAN  
 2-12x10  
 RS07.6

DECKING TYPE 4 SPANS  
 6x4 DECKING  
 RS07.4

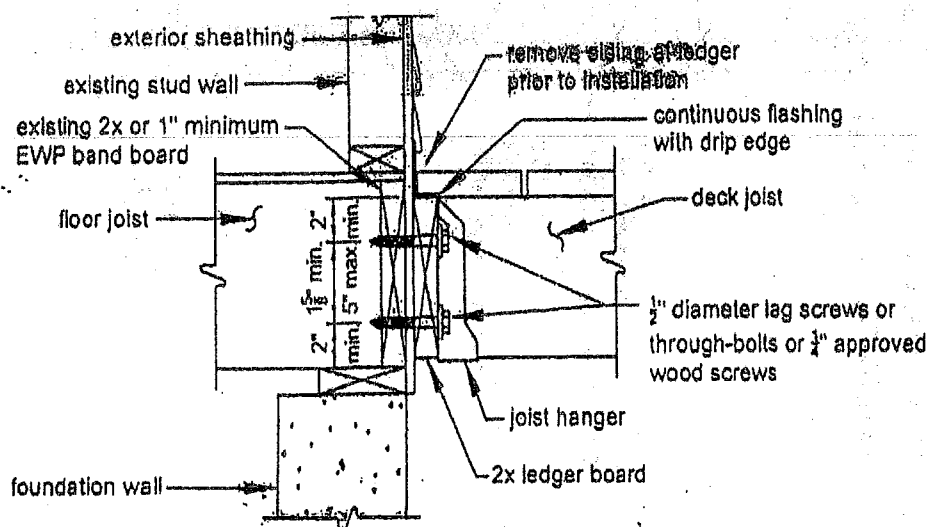
LEDGER & LEDGER CONNECTION  
 2x8  
 RS07.2, RS07.2, RS07.2.1(i)  
 ATTACHED JOIST HANGER  
 RS02.6



FOOTING DETAILS R-507.8.1

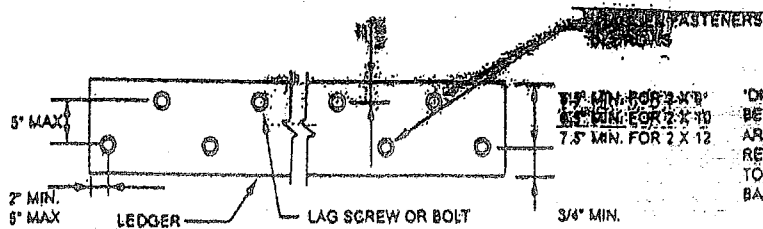


APPROVED POST TO BEAM CONNECTIONS R-507.7.1



LEDGER TO BAND JOIST DETAIL R-507.2

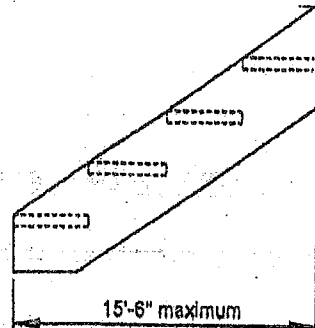
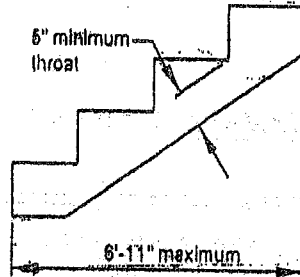
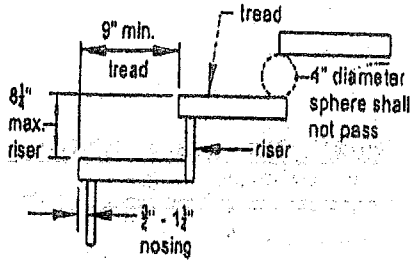




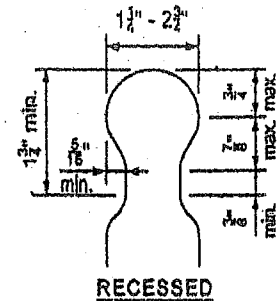
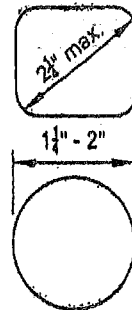
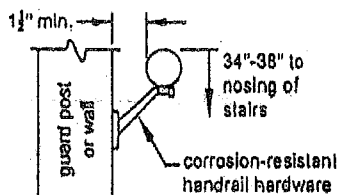
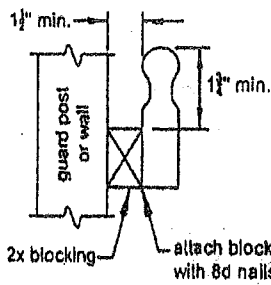
DISTANCE SHALL BE PERMITTED TO BE REDUCED TO 4.8\"/>

For SI: 1 inch = 25.4 mm.

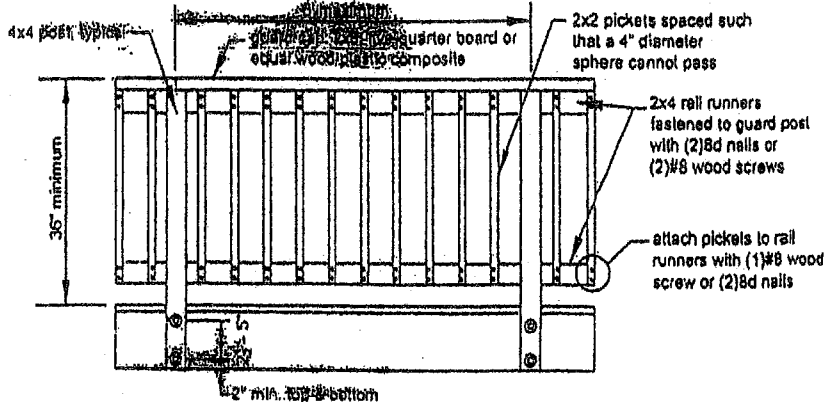
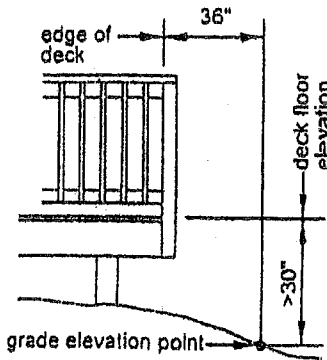
### PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS R-507.7.1 (1)

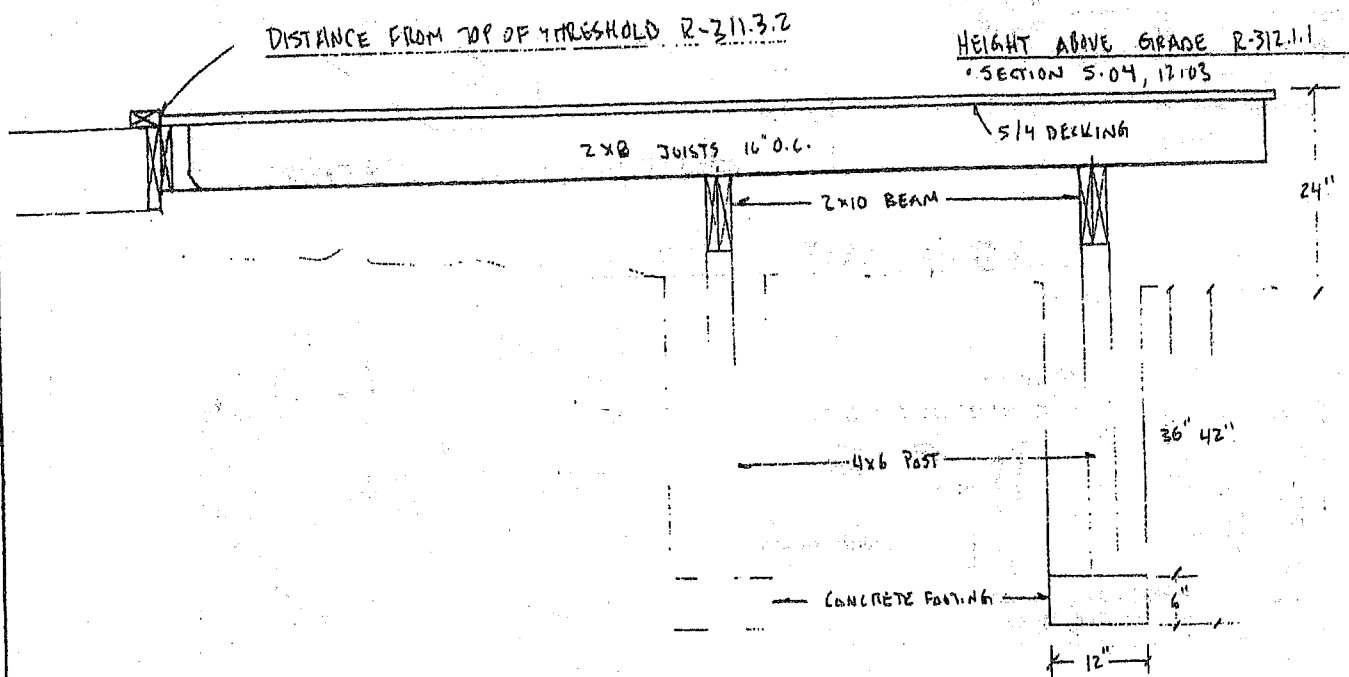


### STAIR DETAIL R-311.7



### HANDRAILS AND GUARDS R-312, R-311.7.8





CROSS SECTION 1/2" = 1'-0"

Section 5.04. - Decks and patios.

A.

At-grade patios. At-grade patios may be constructed within required side and rear yards, but not in a required yard facing upon a street.

B.

Unenclosed, uncovered access porches. Unenclosed and uncovered access porches (i.e., one which is not roofed over) or paved terraces may project into a required front or rear yard for a distance not exceeding eight feet. Patio and porches covered or partially covered by permanent construction (awnings excepted) shall not project into any required yard space, but this shall not be interpreted to include or permit fixed canopies or awnings.

C.

Unenclosed porch, step, stairs. An unenclosed porch, steps or stairs may project into a required street-facing front yard for a distance not exceeding eight feet.

D.

Decks. Decks may be allowed to project not more than 15 feet into the required rear yard provided that the following conditions are met:

1.

The deck does not encroach into any easement.

2.

The deck is not located facing any street.

3.

The deck conforms with applicable side yard setback requirements.

4.

The deck is located not less than ten feet from any detached accessory building. This separation shall not apply to any accessory structure.

5.

The deck elevation shall be no greater than eight inches over the first floor grade elevation of the main structure. However, a deck around a pool may match the height of the pool.

6.

Any additional structures attached to the deck, such as a gazebo or pool, shall be located at least ten feet from any structure.

(Ord. No. 308, § 2, 2-13-2017)

Section 5.05. - Mechanical equipment and central air conditioning.

The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations

which are subject to the boundary conditions

where  $\mathbf{A}$  and  $\mathbf{B}$  are given matrices and  $\mathbf{C}$  is a given vector.

The second part of the paper is devoted to a detailed study of the case in which the matrices  $\mathbf{A}$  and  $\mathbf{B}$  are symmetric and positive definite.

In this case it is shown that the system of equations has a unique solution which can be expressed in terms of the eigenvalues and eigenvectors of the matrices  $\mathbf{A}$  and  $\mathbf{B}$ .

The third part of the paper is devoted to a study of the case in which the matrices  $\mathbf{A}$  and  $\mathbf{B}$  are not symmetric or positive definite.

In this case it is shown that the system of equations may have no solution or may have infinitely many solutions.

The fourth part of the paper is devoted to a study of the case in which the matrices  $\mathbf{A}$  and  $\mathbf{B}$  are singular.

In this case it is shown that the system of equations may have no solution or may have infinitely many solutions.