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Use the following Tables to determine deck component sizes.

Perform the following steps to size deck components

1. Use Table 1 directly below to determine the required joist size based on the chosen paver thickness and the span (or length "L") of your deck joists - see Figure 1 bottom this sheet.

2. Next determine the maximum support column spacing based on joist length and chosen beam size. Turn to the Table for your chosen paver thickness. The tables are numbered by paver thickness, in 1/8" units, for example: 2-1/2" = 20/8, so Table 20 is for 2-1/2" thick pavers. Similarly, Table 10 would be for 1-1/4" pavers.

3. From the same page used in step 2, using the same Table# with an "A" suffix, determine the required footing pad diameter and thickness.

* For retro-fit applications where you need a ledger attached to each face of existing joists to support the Silca grate, see Sheet 2.

Maximum JOIST spans "L"

when using pavers 3/4" to 3" thickness

Table 1

	Natural stone or manufactured concrete paver thickness				
Joist size	3/4"	1-1/4"	2"	2-1/2"	3"
2x6	8'-9"	8'-5"	7'-10"	7'-5"	7'-2"
2x8	11'-4"	10'-9"	10'-0"	9'-6"	9'-2"
2x10	13'-7"	12'-10"	11'-11"	11'-4"	10'-11"
2x12	16'-0"	15'-2"	14'-1"	13'-4"	12'-10"

1. Joists are 16" o/c spacing.
2. Joists are Southern Pine, No.2 grade, wet service.
3. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
4. Live load = 40psf.
5. Paver or stone dead loads based on material weight of 150 pcf.
6. Deflection criteria: Live Load = L/360, Dead Load = L/240.
7. Joists may be cantilevered up to 12".

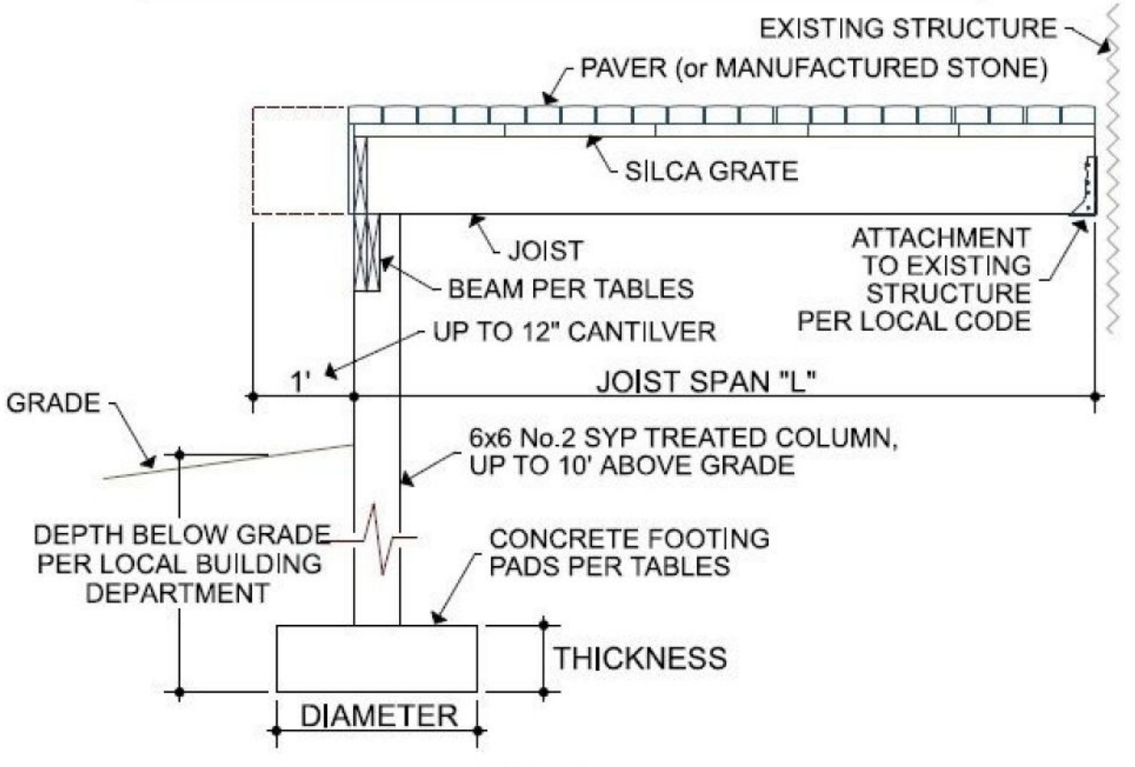

Figure 1

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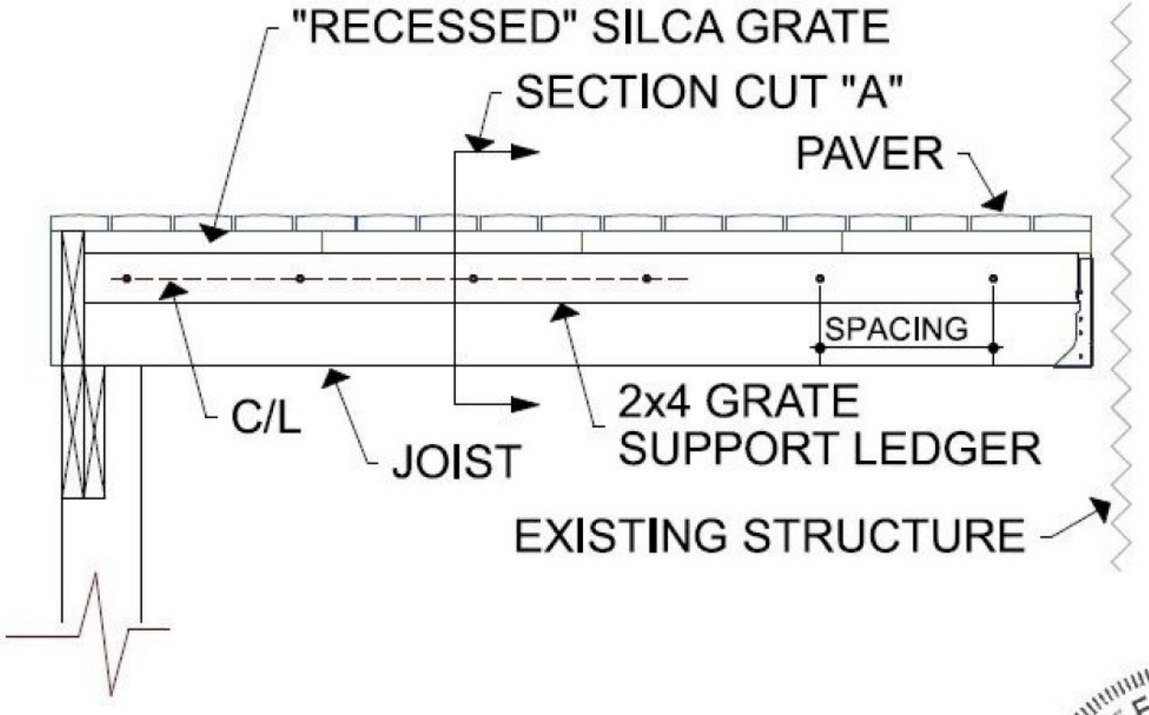
Silca grate support ledger attachment for retro-fit application.

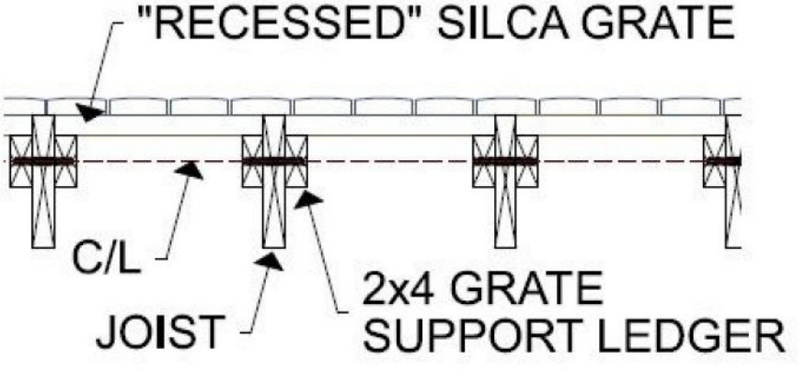
Table lists screw spacing in inches to attach 2x4 ledger to each face of existing joists.

Table 2

	Natural stone or manufactured concrete paver thickness				
	3/4"	1-1/4"	2"	2-1/2"	3"
screw spacing	18"	16"	14"	13"	12"

1. Use exterior wood screws 2-7/8" long with a minimum 0.138" thickness, single row, thru ledger centerline. (C/L) Alternate location of screws when ledgers are back-to-back.
2. Joists are 16" o/c spacing.
3. Joists and ledger are Southern Pine, No.2 grade, wet service.
4. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
5. Live load = 40psf.
6. Paver or stone dead loads based on material weight of 150 pcf.
7. Deflection criteria: Live Load = L/360, Dead Load = L/240.





STATE OF OHIO
ERIC J. FENTON
62920
REGISTERED
PROFESSIONAL ENGINEER

SECTION "A"

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Maximum COLUMN SPACING

3/4" pavers

Table 6

Beam size	Joist span "L" 6'	8'	10'	12'	14'	16'	18'
(2) 2x6	6'-10"	6'-0"	5'-5"	5'-0"	4'-7"	4'-2"	4'-0"
(2) 2x8	8'-9"	7'-7"	6'-10"	6'-2"	5'-10"	5'-6"	5'-1"
(2) 2x10	10'-2"	9'-0"	8'-2"	7'-6"	6'-10"	6'-6"	6'-0"
(2) 2x12	12'-1"	10'-7"	9'-6"	8'-8"	8'-2"	7'-7"	7'-1"
(3) 2x6	8'-11"	7'-10"	7'-1"	6'-7"	6'-0"	5'-8"	5'-4"
(3) 2x8	11'-4"	9'-11"	8'-11"	8'-3"	7'-8"	7'-2"	6'-9"
(3) 2x10	13'-5"	11'-9"	10'-7"	9'-9"	9'-0"	8'-5"	7'-11"
(3) 2x12	15'-7"	13'-9"	12'-4"	11'-4"	10'-6"	9'-11"	9'-3"

1. Beams fully bear on notched 6x6 No.2 SYP posts, maximum column height = 10'. Splices must occur over support centerline.
2. Beams are Southern Pine, No.2 grade, wet service
3. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
4. Live load = 40psf.
5. 3/4" thick paver or stone dead load = 10psf (based on 150 pcf).
6. Deflection criteria: Live Load = L/360, Dead Load = L/240.

Footing Pad size

3/4" pavers

Table 6A

Column spacing	Joist span "L" 6'	8'	10'	12'	14'	16'	18'
4'	11x6	11x6	13x7	14x8	15x8	16x8	17x10
6'	13x7	15x8	16x8	18x10	19x10	20x10	21x12
8'	15x8	17x10	19x10	20x10	22x12	23x12	25x12
10'	17x10	19x10	21x10	23x12	24x12	25x12	27x12
12'	19x10	21x10	23x12	25x12	26x12	28x14	29x14
14'	20x10	23x12	25x12	27x12	28x14	30x14	32x16
16'	22x12	24x12	26x12	28x14	30x14	32x16	34x16

1. Sizes are "Diameter x Thickness", in inches
2. Table based on presumptive allowable soil bearing capacity of 1500 psf.
3. Concrete compressive strength ≥ 2500 psi.
4. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
5. Live load = 40psf.
6. 3/4" thick paver or stone dead load = 10psf (based on 150 pcf).
7. Consult local building department for footing depth requirements.

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Maximum COLUMN SPACING

1-1/4" pavers

Table 10

Beam size	Joist span "L" 6'	8'	10'	12'	14'	16'	18'
(2) 2x6	6'-6"	5'-7"	5'-0"	4'-7"	4'-2"	4'-0"	3'-9"
(2) 2x8	8'-1"	7'-1"	6'-5"	5'-10"	5'-5"	5'-1"	4'-9"
(2) 2x10	9'-7"	8'-4"	7'-6"	6'-11"	6'-6"	6'-0"	5'-9"
(2) 2x12	11'-3"	9'-11"	8'-11"	8'-3"	7'-6"	7'-2"	6'-9"
(3) 2x6	8'-4"	7'-4"	6'-8"	6'-0"	5'-7"	5'-2"	5'-0"
(3) 2x8	10'-6"	9'-2"	8'-4"	7'-8"	7'-2"	6'-8"	6'-4"
(3) 2x10	12'-6"	10'-11"	9'-11"	9'-2"	8'-4"	7'-11"	7'-6"
(3) 2x12	14'-7"	12'-9"	11'-8"	10'-8"	10'-0"	9'-4"	8'-10"

1. Beams fully bear on notched 6x6 No.2 SYP posts, maximum column height = 10'. Splices must occur over support centerline.
2. Beams are Southern Pine, No.2 grade, wet service
3. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
4. Live load = 40psf.
5. 1-1/4" thick paver or stone dead load = 16psf (based on 150 pcf).
6. Deflection criteria: Live Load = L/360, Dead Load = L/240.

Footing Pad size

1-1/4" pavers

Table 10A

Column spacing	Joist span "L" 6'	8'	10'	12'	14'	16'	18'
4'	11x6	13x7	14x8	15x8	16x8	17x10	18x10
6'	14x8	16x8	17x10	19x10	20x10	21x12	22x12
8'	16x8	18x10	20x10	21x10	23x12	24x12	25x12
10'	18x10	20x10	22x12	24x12	25x12	27x12	28x14
12'	20x10	22x10	24x12	26x12	28x14	29x14	31x14
14'	21x10	24x12	26x12	28x14	30x14	32x16	33x16
16'	23x12	25x12	28x14	30x14	32x16	34x16	(7)

1. Sizes are "Diameter x Thickness", in inches
2. Table based on presumptive allowable soil bearing capacity of 1500 psf.
3. Concrete compressive strength ≥ 2500 psi.
4. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
5. Live load = 40psf.
6. 1-1/4" thick paver or stone dead load = 16psf (based on 150 pcf).
7. Footing pad and column requires special engineering.
8. Consult local building department for footing depth requirements.

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Maximum COLUMN SPACING

2" pavers

Table 16

Beam size	Joist span "L" 6'	8'	10'	12'	14'	16'	18'
(2) 2x6	6'-0"	5'-3"	4'-8"	4'-3"	3'-11"	3'-9"	3'-6"
(2) 2x8	7'-6"	6'-6"	5'-11"	5'-5"	5'-0"	4'-8"	4'-5"
(2) 2x10	8'-11"	7'-10"	7'-0"	6'-5"	6'-0"	5'-7"	5'-2"
(2) 2x12	10'-6"	9'-2"	8'-3"	7'-6"	7'-0"	6'-6"	6'-2"
(3) 2x6	7'-9"	6'-10"	5'-10"	5'-7"	5'-3"	4'-11"	4'-7"
(3) 2x8	9'-9"	8'-7"	7'-9"	7'-1"	6'-9"	6'-2"	5'-10"
(3) 2x10	11'-6"	10'-2"	9'-2"	8'-4"	7'-10"	7'-4"	6'-10"
(3) 2x12	13'-6"	12'-0"	10'-9"	10'-0"	9'-2"	8'-8"	8'-2"

1. Beams fully bear on notched 6x6 No.2 SYP posts, maximum column height = 10'. Splices must occur over support centerline.
2. Beams are Southern Pine, No.2 grade, wet service
3. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
4. Live load = 40psf.
5. 2" thick paver or stone dead load = 25psf (based on 150 pcf).
6. Deflection criteria: Live Load = L/360, Dead Load = L/240.

Footing Pad size

2" pavers

Table 16A

Column spacing	Joist span "L" 6'	8'	10'	12'	14'	16'	18'
4'	13x7	14x8	15x8	17x10	18x10	19x10	20x10
6'	15x8	17x10	19x10	20x10	22x12	23x12	24x12
8'	18x10	20x10	22x12	23x12	25x12	26x12	28x14
10'	20x10	22x12	24x12	26x12	28x14	29x14	31x14
12'	22x12	24x12	26x12	28x14	30x14	32x16	34x16
14'	23x12	26x12	28x14	31x14	33x14	(7)	(7)
16'	25x12	28x14	30x14	33x14	(7)	(7)	(7)

1. Sizes are "Diameter x Thickness", in inches
2. Table based on presumptive allowable soil bearing capacity of 1500 psf.
3. Concrete compressive strength ≥ 2500 psi.
4. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
5. Live load = 40psf.
6. 2" thick paver or stone dead load = 25psf (based on 150 pcf).
7. Footing pad and column requires special engineering.
8. Consult local building department for footing depth requirements.

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Maximum COLUMN SPACING

2-1/2" pavers

Table 20

Beam size	Joist span "L" 6'	8'	10'	12'	14'	16'	18'
(2) 2x6	5'-8"	5'-0"	4'-6"	4'-1"	3'-9"	3'-7"	3'-4"
(2) 2x8	7'-3"	6'-3"	5'-8"	5'-2"	4'-10"	4'-6"	4'-3"
(2) 2x10	8'-6"	7'-6"	6'-8"	6'-1"	5'-8"	5'-4"	5'-0"
(2) 2x12	9'-11"	8'-9"	7'-11"	7'-3"	6'-9"	6'-3"	6'-0"
(3) 2x6	7'-5"	6'-6"	5'-9"	5'-4"	5'-0"	4'-8"	4'-4"
(3) 2x8	9'-5"	8'-3"	7'-5"	6'-9"	6'-4"	5'-11"	5'-7"
(3) 2x10	11'-1"	9'-9"	8'-8"	8'-0"	7'-6"	7'-0"	6'-7"
(3) 2x12	12'-11"	11'-3"	10'-3"	9'-6"	8'-9"	8'-3"	7'-9"

1. Beams fully bear on notched 6x6 No.2 SYP posts, maximum column height = 10'. Splices must occur over support centerline.
2. Beams are Southern Pine, No.2 grade, wet service
3. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
4. Live load = 40psf.
5. 2-1/2" thick paver or stone dead load = 32psf (based on 150 pcf).
6. Deflection criteria: Live Load = L/360, Dead Load = L/240.

Footing Pad size

2-1/2" pavers

Table 20A

Column spacing	Joist span "L" 6'	8'	10'	12'	14'	16'	18'
4'	13x7	15x8	16x8	17x10	19x10	20x10	21x10
6'	16x8	18x10	20x10	21x10	23x12	24x12	25x12
8'	19x10	21x10	23x12	25x12	26x12	28x14	29x14
10'	21x10	23x12	25x12	27x12	29x14	31x14	33x14
12'	23x12	25x12	28x14	30x14	32x16	34x16	(7)
14'	25x12	27x12	30x14	32x16	34x16	(7)	(7)
16'	26x12	29x14	32x16	34x16	(7)	(7)	(7)

1. Sizes are "Diameter x Thickness", in inches
2. Table based on presumptive allowable soil bearing capacity of 1500 psf.
3. Concrete compressive strength ≥ 2500 psi.
4. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
5. Live load = 40psf.
6. 2-1/2" thick paver or stone dead load = 32psf (based on 150 pcf).
7. Footing pad and column requires special engineering.
8. Consult local building department for footing depth requirements.

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Maximum COLUMN SPACING

3" pavers

Table 24

Beam size	Joist span "L" 6'	8'	10'	12'	14'	16'	18'
(2) 2x6	5'-4"	4'-8"	4'-2"	3'-9"	3'-7"	3'-4"	3'-2"
(2) 2x8	6'-9"	6'-0"	5'-4"	4'-10"	4'-6"	4'-2"	4'-0"
(2) 2x10	8'-0"	7'-0"	6'-3"	5'-9"	5'-4"	5'-0"	4'-8"
(2) 2x12	9'-5"	8'-2"	7'-4"	6'-9"	6'-4"	5'-11"	5'-7"
(3) 2x6	7'-0"	6'-1"	5'-6"	5'-0"	4'-8"	4'-4"	4'-1"
(3) 2x8	8'-1"	7'-9"	7'-0"	6'-4"	5'-11"	5'-6"	5'-3"
(3) 2x10	10'-4"	9'-2"	8'-3"	7'-6"	7'-0"	6'-8"	6'-2"
(3) 2x12	12'-1"	10'-8"	9'-8"	8'-10"	8'-2"	7'-8"	7'-4"

1. Beams fully bear on notched 6x6 No.2 SYP posts, maximum column height = 10'. Splices must occur over support centerline.
2. Beams are Southern Pine, No.2 grade, wet service
3. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
4. Live load = 40psf.
5. 3" thick paver or stone dead load = 38psf (based on 150 pcf).
6. Deflection criteria: Live Load = L/360, Dead Load = L/240.

Footing Pad size

3" pavers

Table 24A

Column spacing	Joist span "L" 6'	8'	10'	12'	14'	16'	18'
4'	14x8	15x8	17x10	18x10	19x10	21x10	22x12
6'	17x10	19x10	21x10	22x12	24x12	25x12	26x12
8'	19x10	22x12	24x12	26x12	27x12	29x14	30x14
10'	22x12	24x12	26x12	29x14	30x14	32x16	34x16
12'	24x12	26x12	29x14	31x14	33x14	(7)	(7)
14'	26x12	29x14	31x14	34x16	(7)	(7)	(7)
16'	29x14	32x16	(7)	(7)	(7)	(7)	(7)

1. Sizes are "Diameter x Thickness", in inches
2. Table based on presumptive allowable soil bearing capacity of 1500 psf.
3. Concrete compressive strength ≥ 2500 psi.
4. Pavers or stone over Silca grate structural subfloor system, grate figured at 2psf dead load.
5. Live load = 40psf.
6. 3" thick paver or stone dead load = 38psf (based on 150 pcf).
7. Footing pad and column requires special engineering.
8. Consult local building department for footing depth requirements.

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Allowable Load for Silca Grate on Framing (PSF)

For Snow Load, Extra Support, and Increased Stability

Paver Thickness	Joist Spacing O.C.	Joist Size	Joist Span								
			8'	9'	10'	11'	12'	13'	14'	15'	16'
3/4"	16"	2x8	100	80	60	40	-	-	-	-	-
		2x10	180	140	110	90	70	60	-	-	-
		2x12	200	200	160	130	100	80	70	60	50
3/4"	8"	2x8	200	170	130	110	90	70	60	50	-
		2x10	200	200	200	190	160	130	110	90	80
		2x12	200	200	200	200	200	190	160	130	110
1-1/4"	16"	2x8	100	70	50	-	-	-	-	-	-
		2x10	180	130	100	80	60	-	-	-	-
		2x12	200	190	150	120	100	80	60	50	-
1-1/4"	8"	2x8	200	160	130	100	80	60	50	40	-
		2x10	200	200	200	180	150	120	100	90	70
		2x12	200	200	200	200	200	180	150	130	110
2"	16"	2x8	90	60	40	-	-	-	-	-	-
		2x10	170	120	90	70	-	-	-	-	-
		2x12	200	180	140	110	90	70	50	-	-
2"	8"	2x8	200	150	120	90	70	50	40	-	-
		2x10	200	200	200	180	140	110	90	80	60
		2x12	200	200	200	200	200	170	140	120	100
2-1/2"	16"	2x8	80	50	-	-	-	-	-	-	-
		2x10	160	120	90	70	-	-	-	-	-
		2x12	200	180	140	100	80	60	-	-	-
2-1/2"	8"	2x8	200	150	110	80	60	50	-	-	-
		2x10	200	200	200	170	140	110	90	70	60
		2x12	200	200	200	200	200	160	140	110	90
3"	16"	2x8	70	50	-	-	-	-	-	-	-
		2x10	150	110	80	-	-	-	-	-	-
		2x12	20	170	130	100	70	-	-	-	-
3"	8"	2x8	190	140	100	80	60	-	-	-	-
		2x10	200	200	200	160	130	100	80	60	-
		2x12	200	200	200	200	190	160	130	110	90

1. 200 psf assumed as maximum snow load.
2. Dash (-) indicates span is greater than permitted for 40 psf live load.
3. Joists may be cantilevered up to 12".
4. Joists are Southern Pine, No.2 grade, wet service.
5. Paver or stone over Silca grate structural subfloor system, grate figured at 2 psf dead load.
6. Live load = 40 psf (not simultaneous with snow load).
7. Paver or stone dead loads based on material weight of 150 pcf.
8. Deflection criteria: Live Load = L/360. Dead Load = L/240.