Table 1A. Quick Rack Base Mount Maximum Spacing, Modules in ***Landscape*** Orientation

Wind Speed			Ground Snow Load													
			0 - 20 psf			21 - 30 psf			31 - 40 psf			41 - 50 psf			51 - 60 psf		
ASCE 7-05 (Service Level)	ASCE 7-10 (Strength Level)	Roof Pitch	Wind Exposure Category														
			B	C	D	B	C	D	B	C	D	B	C	D	B	C	D
85 mph	110 mph	2:12 to 6:12	72''	72''	72''	72''	72''	72''	64''	64''	72''	48''	48''	48''	48''	48''	48''
		7:12 to 12:12	72''	64''	48''	48''	48''	48''	48''	48''	48''	32''	32''	32''	32''	32''	32''
90 mph	115 mph	2:12 to 6:12	72''	72''	64''	72''	72''	64''	64''	64''	64''	48''	48''	48''	48''	48''	48''
		7:12 to 12:12	72''	64''	48''	48''	48''	48''	48''	48''	48''	32''	32''	32''	32''	32''	32''
95 mph	120 mph	2:12 to 6:12	72''	72''	64''	72''	72''	64''	64''	64''	64''	48''	48''	48''	48''	48''	48''
		7:12 to 12:12	72''	48''	48''	48''	48''	48''	48''	48''	48''	32''	32''	32''	32''	32''	32''
100 mph	130 mph	2:12 to 6:12	72''	64''	48''	72''	64''	48''	64''	64''	48''	48''	48''	48''	48''	48''	48''
		7:12 to 12:12	64''	48''	32''	48''	48''	32''	48''	48''	32''	32''	32''	32''	32''	32''	32''
110 mph	140 mph	2:12 to 6:12	72''	48''	48''	72''	48''	48''	64''	48''	48''	48''	48''	48''	48''	48''	48''
		7:12 to 12:12	48''	32''	32''	48''	32''	32''	48''	32''	32''	32''	32''	32''	32''	32''	32''
120 mph	150 mph	2:12 to 6:12	64''	48''	32''	64''	48''	32''	64''	48''	32''	48''	48''	32''	48''	48''	32''
		7:12 to 12:12	48''	32''	32''	48''	32''	32''	48''	32''	32''	32''	32''	32''	32''	32''	32''

Table Notes:

1. The Quick Rack base mount maximum allowable spacing listed in this table is the spacing between base mount attachment points in the roof cross-slope direction for modules in landscape orientation.
2. This table is based on an assumed PV module size no larger than 40" x 66".
3. See Figure 4 and Tables 1B and 1C for the maximum mount cantilever (clamp bolt to end-of-module) at the nominal east or west edge of array (cross-slope edge of roof).
4. This table is subject to the conditions stated in the attached Code Compliance Letter, and shown in the attached sketches.
5. This table is based on ASCE 7-10. ASCE 7-05 wind speeds are back-calculated from ASCE 7-10 wind speeds to produce the same wind pressures, rounded to nearest 5 mph.
6. Wind load calculations are based on a Risk Category II building with a mean roof height of 35 feet and $I_w = 1.0$.
7. Snow load calculations are based on $C_e = 1.0$, $I_s = 1.0$, $C_t = 1.2$ and ASCE 7-10 Fig.7-2a for unobstructed slippery surface (ref. ASCE 7-10 Commentary C7.8)
8. See Table 3 for regions of high wind or snow load where a staggered base mount layout is recommended.
9. The roof pitch range "2:12 to 6:12" corresponds to 9 to 27 degree roof slopes; the roof pitch range "7:12 to 12:12" corresponds to 27.1 to 45 degree roof slopes.
10. Mount capacities are based on ICC AC-13, and are not increased for load duration factor per the restrictions of AC-13. See Appendix 1 for additional information.
11. For locations with an unusual combination of both high seismic and snow loads, see Appendix 2, Table A2.1.

Table 1B. Quick Rack Base Mount Maximum East and West Cantilevers, Modules in ***Landscape*** Orientation with Typical Backspan from Table 1A

Wind Speed			Typical Span (see Table 1A)			Maximum Mount Cantilever with Backspan = Typical Span											
						Roof Edge Distance = 36"+			Roof Edge Distance = 24"			Roof Edge Distance = 18"			Roof Edge Distance = 12"		
ASCE 7-05 (Service Level)	ASCE 7-10 (Strength Level)	Roof Pitch	Wind Exposure Category			Wind Exposure Category			Wind Exposure Category			Wind Exposure Category			Wind Exposure Category		
			B	C	D	B	C	D	B	C	D	B	C	D	B	C	D
85 mph	110 mph	2:12 to 6:12	72''	72''	72''	24''	24''	24''	24''	24''	24''	21''	21''	21''	18''	18''	18''
		7:12 to 12:12	72''	64''	48''	24''	24''	22''	24''	21''	14''	21''	18''	12''	18''	15''	9''
90 mph	115 mph	2:12 to 6:12	72''	72''	64''	24''	24''	24''	24''	24''	21''	21''	21''	18''	18''	18''	15''
		7:12 to 12:12	72''	64''	48''	24''	24''	22''	24''	21''	14''	21''	18''	12''	18''	15''	9''
95 mph	120 mph	2:12 to 6:12	72''	72''	64''	24''	24''	24''	24''	24''	21''	21''	21''	18''	18''	18''	15''
		7:12 to 12:12	72''	48''	48''	24''	22''	22''	24''	14''	14''	21''	12''	12''	18''	9''	9''
100 mph	130 mph	2:12 to 6:12	72''	64''	48''	24''	24''	22''	24''	21''	14''	21''	18''	12''	18''	15''	9''
		7:12 to 12:12	64''	48''	32''	24''	22''	15''	21''	14''	7''	18''	12''	6''	15''	9''	4''
110 mph	140 mph	2:12 to 6:12	72''	48''	48''	24''	22''	22''	24''	14''	14''	21''	12''	12''	18''	9''	9''
		7:12 to 12:12	48''	32''	32''	22''	15''	15''	14''	7''	7''	12''	6''	6''	9''	4''	4''
120 mph	150 mph	2:12 to 6:12	64''	48''	32''	24''	22''	15''	21''	14''	7''	18''	12''	6''	15''	9''	4''
		7:12 to 12:12	48''	32''	32''	22''	15''	15''	14''	7''	7''	12''	6''	6''	9''	4''	4''

Table Notes:

1. The Quick Rack base mount maximum cantilever listed in this table is the distance from center of clamp bolt (in top slider) to end of module (see Figure 4).
2. The "backspan" is the first span (i.e. mount spacing) inward from the cantilever (see Figure 4). In this table (Table 1B), backspan matches typical span from Table 1A.
3. See Table 1C , notes 3 through 9, which also apply to this table.

Table 1C. Quick Rack Base Mount Maximum East and West Cantilevers, Modules in ***Landscape*** Orientation with Atypical 16" or 24" Backspan

Wind Speed			Typical Span (see Table 1A)			Maximum Mount Cantilever with Atypical Backspan = 16" or 24"											
						Roof Edge Distance = 36"+			Roof Edge Distance = 24"			Roof Edge Distance = 18"			Roof Edge Distance = 12"		
ASCE 7-05 (Service Level)	ASCE 7-10 (Strength Level)	Roof Pitch	Wind Exposure Category			Wind Exposure Category			Wind Exposure Category			Wind Exposure Category			Wind Exposure Category		
			B	C	D	B	C	D	B	C	D	B	C	D	B	C	D
85 mph	110 mph	2:12 to 6:12	72''	72''	72''	24''	24''	24''	24''	24''	24''	24''	24''	24''	24''	24''	24''
		7:12 to 12:12	72''	64''	48''	24''	24''	24''	24''	24''	16''	24''	23''	15''	24''	21''	13''
90 mph	115 mph	2:12 to 6:12	72''	72''	64''	24''	24''	24''	24''	24''	24''	24''	24''	23''	24''	24''	21''
		7:12 to 12:12	72''	64''	48''	24''	24''	24''	24''	24''	16''	24''	23''	15''	24''	21''	13''
95 mph	120 mph	2:12 to 6:12	72''	72''	64''	24''	24''	24''	24''	24''	24''	24''	24''	23''	24''	24''	21''
		7:12 to 12:12	72''	48''	48''	24''	24''	24''	24''	16''	16''	24''	15''	15''	24''	13''	13''
100 mph	130 mph	2:12 to 6:12	72''	64''	48''	24''	24''	24''	24''	24''	16''	24''	23''	15''	24''	21''	13''
		7:12 to 12:12	64''	48''	32''	24''	24''	17''	24''	16''	11''	23''	15''	10''	21''	13''	9''
110 mph	140 mph	2:12 to 6:12	72''	48''	48''	24''	24''	24''	24''	16''	16''	24''	15''	15''	24''	13''	13''
		7:12 to 12:12	48''	32''	32''	24''	17''	17''	16''	11''	11''	15''	10''	10''	13''	9''	9''
120 mph	150 mph	2:12 to 6:12	64''	48''	32''	24''	24''	17''	24''	16''	11''	23''	15''	10''	21''	13''	9''
		7:12 to 12:12	48''	32''	32''	24''	17''	17''	16''	11''	11''	15''	10''	10''	13''	9''	9''

Table Notes:

1. The Quick Rack base mount maximum cantilever listed in this table is the distance from center of clamp bolt (in top slider) to end of module (see Figure 4).
2. The "backspan" is the first span (i.e. mount spacing) inward from the cantilever (see Figure 4). In this table (Table 1C), backspan is one rafter spacing (16" or 24").
3. The "module cantilever" is measured from end of module to closest edge of clamp (see Figure 4). Installer shall verify that module cantilever does not exceed manufacturer recommendations.
4. The "roof edge distance" is the lateral cross-slope distance from gable end, rake, hip or other roof edge, to end of perimeter module (see Figure 4).
5. + For buildings with the narrow side wider than 30 feet, increase 36" to 10% of building least plan (footprint) dimension.
6. This table is based on an assumed PV module size no larger than 40"x66".
7. High snow load regions: above 20 psf ground snow load, the maximum mount cantilever shall be the lesser of:
   (i) the maximum cantilever shown in Tables 1B or 1C above, or (ii) half the maximum mount spacing shown in Table 1A (see previous page).
8. The maximum allowable cantilever shown in these tables ensure that the end mounts & rafters under the array are loaded no more heavily than the interior ones.

Table 2A. Quick Rack Base Mount Maximum Spacing, Modules in ***Portrait*** Orientation

Wind Speed			Ground Snow Load								
			0 - 15 psf			16 - 30 psf			31 - 45 psf		
			Wind Exposure Category								
ASCE 7-05 (Service Level)	ASCE 7-10 (Strength Level)	Roof Pitch	B	C	D	B	C	D	B	C	D
85 mph	110 mph	2:12 to 6:12	48''	48''	32''	48''	48''	32''	32''	32''	32''
		7:12 to 12:12	48''	32''	32''	32''	32''	32''	24''	24''	24''
90 mph	115 mph	2:12 to 6:12	48''	48''	32''	48''	48''	32''	32''	32''	32''
		7:12 to 12:12	48''	32''	32''	32''	32''	32''	24''	24''	24''
95 mph	120 mph	2:12 to 6:12	48''	32''	32''	48''	32''	32''	32''	32''	32''
		7:12 to 12:12	32''	32''	24''	32''	32''	24''	24''	24''	24''
100 mph	130 mph	2:12 to 6:12	48''	32''	32''	48''	32''	32''	32''	32''	32''
		7:12 to 12:12	32''	24''	24''	32''	24''	24''	24''	24''	24''
110 mph	140 mph	2:12 to 6:12	32''	32''	24''	32''	32''	24''	32''	32''	24''
		7:12 to 12:12	32''	24''	24''	32''	24''	24''	24''	24''	24''
120 mph	150 mph	2:12 to 6:12	32''	24''	24''	32''	24''	24''	32''	24''	24''
		7:12 to 12:12	32''	24''	16''	32''	24''	16''	24''	24''	16''

Table Notes:

1. The Quick Rack base mount maximum allowable spacing listed in this table is the spacing between base mount attachment points in the roof cross-slope direction for modules in portrait orientation.
2. This table is based on an assumed PV module size no larger than 40" x 66".
3. See Figure 4 and Tables 2B and 2C for the maximum mount cantilever (clamp bolt to end-of-module) at the nominal east or west edge of array (cross-slope edge of roof).
4. This table is subject to the conditions stated in the attached Code Compliance Letter, and shown in the attached sketches.
5. This table is based on ASCE 7-10. ASCE 7-05 wind speeds are back-calculated from ASCE 7-10 wind speeds to produce the same wind pressures, rounded to nearest 5 mph.
6. Wind load calculations are based on a Risk Category II building with a mean roof height of 35 feet and $I_w = 1.0$.
7. Snow load calculations are based on $C_e = 1.0$, $I_s = 1.0$, $C_t = 1.2$ and ASCE 7-10 Fig.7-2a for unobstructed slippery surface (ref. ASCE 7-10 Commentary C7.8)
8. See Table 3 for regions of high wind or snow load where a staggered base mount layout is recommended.
9. The roof pitch range "2:12 to 6:12" corresponds to 9 to 27 degree roof slopes; the roof pitch range "7:12 to 12:12" corresponds to 27.1 to 45 degree roof slopes.
10. Mount capacities are based on ICC AC-13, and are not increased for load duration factor per the restrictions of AC-13. See Appendix 1 for additional information.
11. For locations with an unusual combination of both high seismic and snow loads, see Appendix 2, Table A2.2.

Table 2B. Quick Rack Base Mount Maximum East and West Cantilevers, Modules in ***Portrait*** Orientation with Typical Backspan from Table 2A

Wind Speed			Typical Span (see Table 2A)			Maximum Mount Cantilever with Backspan = Typical Span											
						Roof Edge Distance = 36"+			Roof Edge Distance = 24"			Roof Edge Distance = 18"			Roof Edge Distance = 12"		
ASCE 7-05 (Service	ASCE 7-10 (Strength		Wind Exposure Category			Wind Exposure Category			Wind Exposure Category			Wind Exposure Category			Wind Exposure Category		
		Roof Pitch	B	C	D	B	C	D	B	C	D	B	C	D	B	C	D
85 mph	110 mph	2:12 to 6:12	48''	48''	32''	22''	22''	15''	14''	14''	7''	12''	12''	6''	9''	9''	4''
		7:12 to 12:12	48''	32''	32''	22''	15''	15''	14''	7''	7''	12''	6''	6''	9''	4''	4''
90 mph	115 mph	2:12 to 6:12	48''	48''	32''	22''	22''	15''	14''	14''	7''	12''	12''	6''	9''	9''	4''
		7:12 to 12:12	48''	32''	32''	22''	15''	15''	14''	7''	7''	12''	6''	6''	9''	4''	4''
95 mph	120 mph	2:12 to 6:12	48''	32''	32''	22''	15''	15''	14''	7''	7''	12''	6''	6''	9''	4''	4''
		7:12 to 12:12	32''	32''	24''	15''	15''	12''	7''	7''	4''	6''	6''	4''	4''	4''	3''
100 mph	130 mph	2:12 to 6:12	48''	32''	32''	22''	15''	15''	14''	7''	7''	12''	6''	6''	9''	4''	4''
		7:12 to 12:12	32''	24''	24''	15''	12''	12''	7''	4''	4''	6''	4''	4''	4''	3''	3''
110 mph	140 mph	2:12 to 6:12	32''	32''	24''	15''	15''	12''	7''	7''	4''	6''	6''	4''	4''	4''	3''
		7:12 to 12:12	32''	24''	24''	15''	12''	12''	7''	4''	4''	6''	4''	4''	4''	3''	3''
120 mph	150 mph	2:12 to 6:12	32''	24''	24''	15''	12''	12''	7''	4''	4''	6''	4''	4''	4''	3''	3''
		7:12 to 12:12	32''	24''	16''	15''	12''	12''	7''	4''	4''	6''	4''	4''	4''	3''	3''

Table Notes:

1. The Quick Rack base mount maximum cantilever listed in this table is the distance from center of clamp bolt (in top slilder) to end of module (see Figure 4).
2. The "backspan" is the first span (i.e. mount spacing) inward from the cantilever (see Figure 4). In this table (Table 2B), backspan matches typical span from Table 2A.
3. See Table 2C , notes 3 through 9, which also apply to this table.

Table 2C. Quick Rack Base Mount Maximum East and West Cantilevers, Modules in ***Portrait*** Orientation with Atypical 16" or 24" Backspan

Wind Speed			Typical Span (see Table 2A)			Maximum Mount Cantilever with Atypical Backspan = 16" or 24"											
						Roof Edge Distance = 36"+			Roof Edge Distance = 24"			Roof Edge Distance = 18"			Roof Edge Distance = 12"		
ASCE 7-05 (Service	ASCE 7-10 (Strength		Wind Exposure Category			Wind Exposure Category			Wind Exposure Category			Wind Exposure Category			Wind Exposure Category		
		Roof Pitch	B	C	D	B	C	D	B	C	D	B	C	D	B	C	D
85 mph	110 mph	2:12 to 6:12	48''	48''	32''	24''	24''	17''	16''	16''	11''	15''	15''	10''	13''	13''	9''
		7:12 to 12:12	48''	32''	32''	24''	17''	17''	16''	11''	11''	15''	10''	10''	13''	9''	9''
90 mph	115 mph	2:12 to 6:12	48''	48''	32''	24''	24''	17''	16''	16''	11''	15''	15''	10''	13''	13''	9''
		7:12 to 12:12	48''	32''	32''	24''	17''	17''	16''	11''	11''	15''	10''	10''	13''	9''	9''
95 mph	120 mph	2:12 to 6:12	48''	32''	32''	24''	17''	17''	16''	11''	11''	15''	10''	10''	13''	9''	9''
		7:12 to 12:12	32''	32''	24''	17''	17''	12''	11''	11''	4''	10''	10''	4''	9''	9''	3''
100 mph	130 mph	2:12 to 6:12	48''	32''	32''	24''	17''	17''	16''	11''	11''	15''	10''	10''	13''	9''	9''
		7:12 to 12:12	32''	24''	24''	17''	12''	12''	11''	4''	4''	10''	4''	4''	9''	3''	3''
110 mph	140 mph	2:12 to 6:12	32''	32''	24''	17''	17''	12''	11''	11''	4''	10''	10''	4''	9''	9''	3''
		7:12 to 12:12	32''	24''	24''	17''	12''	12''	11''	4''	4''	10''	4''	4''	9''	3''	3''
120 mph	150 mph	2:12 to 6:12	32''	24''	24''	17''	12''	12''	11''	4''	4''	10''	4''	4''	9''	3''	3''
		7:12 to 12:12	32''	24''	16''	17''	12''	12''	11''	4''	4''	10''	4''	4''	9''	3''	3''

Table Notes:

1. The Quick Rack base mount maximum cantilever listed in this table is the distance from center of clamp bolt (in top slider) to end of module (see Figure 4).
2. The "backspan" is the first span (i.e. mount spacing) inward from the cantilever (see Figure 4). In this table (Table 2C), backspan is one rafter spacing (16" or 24").
3. The "module cantilever" is measured from end of module to closest edge of clamp (see Figure 4). Installer shall verify that module cantilever does not exceed manufacturer recommendations.
4. The "roof edge distance" is the lateral cross-slope distance from gable end, rake, hip or other roof edge, to end of perimeter module (see Figure 4).
5. + For buildings with the narrow side wider than 30 feet, increase 36" to 10% of building least plan (footprint) dimension
6. This table is based on an assumed PV module size no larger than 40"x66".
7. High snow load regions: above 15 psf ground snow load, the maximum mount cantilever shall be the lesser of:
   (i) the maximum cantilever shown in Tables 2B or 2C above, or (ii) half the maximum mount spacing shown in Table 2A (see previous page).
8. The maximum allowable cantilever shown in these tables ensure that the end mounts & rafters under the array are loaded no more heavily than the interior ones.

Table 3. Rectangular versus Staggered Anchor Patterns (Mount Layouts)

			Wind Exposure Category											
			B				C				D			
			Quick Rack Base Mount Spacing, n = # of Rafter Spaces											
Ground Snow Load	ASCE 7-10 Wind Speed	Roof Pitch	n = 1	n = 2	n = 3	n = 4	n = 1	n = 2	n = 3	n = 4	n = 1	n = 2	n = 3	n = 4
0 psf	110 mph	Flat to 6:12	RAP	RAP	RAP	RAP	RAP	RAP	RAP	RAP	RAP	RAP	RAP	SA
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	115 mph	Flat to 6:12	RAP	RAP	RAP	RAP	RAP	RAP	RAP	SA	RAP	RAP	RAP	SA
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	130 mph	Flat to 6:12	RAP	RAP	RAP	RAP	RAP	RAP	RAP	SA	RAP	RAP	SA	SA
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	140 mph	Flat to 6:12	RAP	RAP	RAP	SA	RAP	RAP	SA	SA	RAP	RAP	SA	SA
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	150 mph	Flat to 6:12	RAP	RAP	RAP	SA	RAP	RAP	SA	SA	RAP	SA	SA*	SA**
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
1 - 10 psf	110 mph	Flat to 6:12	RAP	RAP	SA	SA	RAP	RAP	SA	SA	RAP	RAP	SA	SA
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	115 mph	Flat to 6:12	RAP	RAP	SA	SA	RAP	RAP	SA	SA	RAP	RAP	SA	SA
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	130 mph	Flat to 6:12	RAP	RAP	SA	SA	RAP	RAP	SA	SA	RAP	RAP	SA	SA
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	140 mph	Flat to 6:12	RAP	RAP	SA	SA	RAP	RAP	SA	SA	RAP	RAP	SA	SA
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	150 mph	Flat to 6:12	RAP	RAP	SA	SA	RAP	RAP	SA	SA	RAP	SA	SA*	SA**
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
> 10 psf	110 mph	Flat to 6:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	115 mph	Flat to 6:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	130 mph	Flat to 6:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	140 mph	Flat to 6:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
	150 mph	Flat to 6:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**
		7:12 to 12:12	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**	RAP	SA	SA*	SA**

Table Notes:

RAP = Rectangular Anchor Pattern. If the installer verifies the existing roof is code compliant without the array, it is likely to have sufficient strength to support a PV array without staggering base mounts.

SA = Stagger Anchors. Alternatively, Structurally Assess and Strengthen as Appropriate. See Figures 7 - 10 for acceptable staggered base mount layouts.

* The staggered pattern shown in Figure 8 is NOT acceptable. Instead, reduce the base mount spacing and use the staggered pattern shown in Figure 9.

** The staggered pattern shown in Figure 7 is NOT acceptable. Instead, reduce the base mount spacing and use the staggered pattern shown in Figure 9.

1. This table provides general guidelines for when a base mount layout that is anchored to every second, third or fourth rafter is likely to be acceptable when installed in a ***rectangular*** pattern, and when a ***staggered*** base mount layout (or alternatively, a structural engineering assessment) is required instead.
2. The installer is responsible for verifying that the existing roof can support typical code-required roof loads by:
   (a) checking existing roof rafter spans against the roof rafter span tables of the 2015 International Building Code (Table 2308.10.3()), the 2015 International Residential Code (Table R805.2.1()), or similar superseding state code (available at: *https://law.resource.org/pub/us/code/safety.html*). If lumber grade stamps are not visible, some engineers consider it reasonable to assume Douglas Fir No. 2 in states west of the Rocky Mountains (CA, OR, WA, NV, ID) and Spruce-Pine-Fir No. 2 in the remainder of the continental United States, and
   (b) verifying the existing roof structure is free of damage, decay or unusual sagging. Refer to Figure 1 of Toolkit Document #5 (Structural Criteria for Residential Rooftop Solar Energy Installations) on page 53 of the *2015 California Solar Permitting Guidebook* (available at: *https://energycenter.org/permitting/guidebook* or *http://www.opr.ca.gov/docs/*).
3. Concentrated loads on a rafter from Quick Rack base mounts are assumed to be partially shared with adjacent rafters as described in Section 2.F of the *Structural Technical Appendix for Residential Rooftop Solar Installations* (available at: *http://www.opr.ca.gov/docs/Solar_Structural_Technical_Appendix.pdf*),
4. The roof pitch range "2:12 to 6:12" corresponds to 9 to 27 degree roof slopes; the roof pitch range "7:12 to 12:12" corresponds to 27.1 to 45 degree roof slopes.
5. This table does not apply to wood trusses. Consult with a structural engineer or the original truss manufacturer to verify that existing trusses can carry the specific loading pattern of a new solar array.