

Appendix D

PARKING LAYOUT AND DESIGN STANDARDS

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APPENDIX D: PARKING LAYOUT AND DESIGN STANDARDS

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D.1. Forward

The design and layout of off-street parking facilities must consider internal movement, maneuvering of cars, and convenience of patrons and security of vehicles. The following standards have been adopted for off-street parking facilities in the City of Grand Prairie, Texas.

In larger lots, placing the parking stalls at right angles to the aisle will be most economical. Acute angle parking will allow fewer parking stalls for a given length of curb or aisle, but will be easier for drivers to enter from a narrower aisle. The first parking stall in acute angle parking must be located a minimum distance from the property line or sidewalk to protect occupants of the sidewalk from vehicles backing out of the parking stall.

Barrier curbs to adjoining property or sidewalks are required for head-in parking. Their placement depends on the angle of parking used.

D.2. Definitions

Stall Width: Distance from one side of the parking stall to the other perpendicular to the stall lines.

Stall Length: Distance from front to back of stall.

Stall Length of Line: Distance of pavement marking line from the front to back of the stall.

Stall Depth: Distance the stall extends into the parking area perpendicular to the barrier at the front of the stall.

Aisle Width: Area used by vehicles to access parking stalls.

Aisle Width (Single Loaded): Area used by vehicles to access parking stalls with all parking stalls on a single side of the aisle.

Offset: Distance the front bumper is away from the wall.

Overhang: Distance the front of the vehicle extends beyond the curb.

Access Aisle: Walkway required by ADA for accessible parking spaces.

Interlock Module: Distance for two interlocked parking sections including the aisle.

Interlock Center to Center: Distance from the middle of one interlocked module to the center of the next interlock module including the aisle.

Setback Parallel to Aisle: Distance along the aisle from the front of the parking stall to the rear of the parking stall.

Stall Width Parallel to Aisle: Distance along the aisle for the width of one parking space.

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Curb to Curb: Distance from one curb to the next to allow for the aisle width and parking on either side.

Wall to Wall: Distance from one wall to the next to allow for the aisle width and parking on either side.

D.3. Features of Accessible Parking

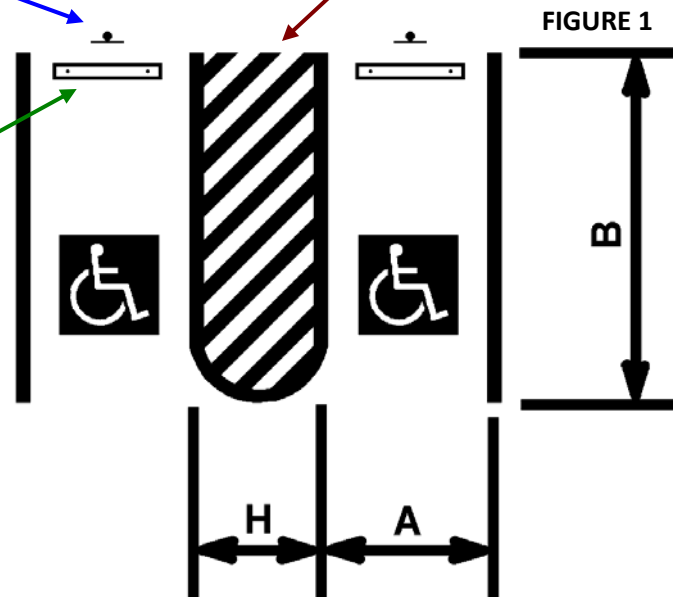
Sign with the international symbol of accessibility mounted high enough so that it can be seen while a vehicle is parked in the space. For van spaces, the sign must have a “van accessible” sign attached to it.

Access aisle must be level (1:50 maximum slope in all directions), be the same length as the adjacent parking space(s) it serves and must connect to an accessible route to the building. Ramps must not extend into the access aisle.

If the accessible route is located in front of the space, install wheel stops to keep the vehicle from reducing width below 36 inches.

Notes:

- ✓ Two parking spaces may share an access aisle.
- ✓ Van-accessible parking spaces require a minimum of 98-inch high clearance.

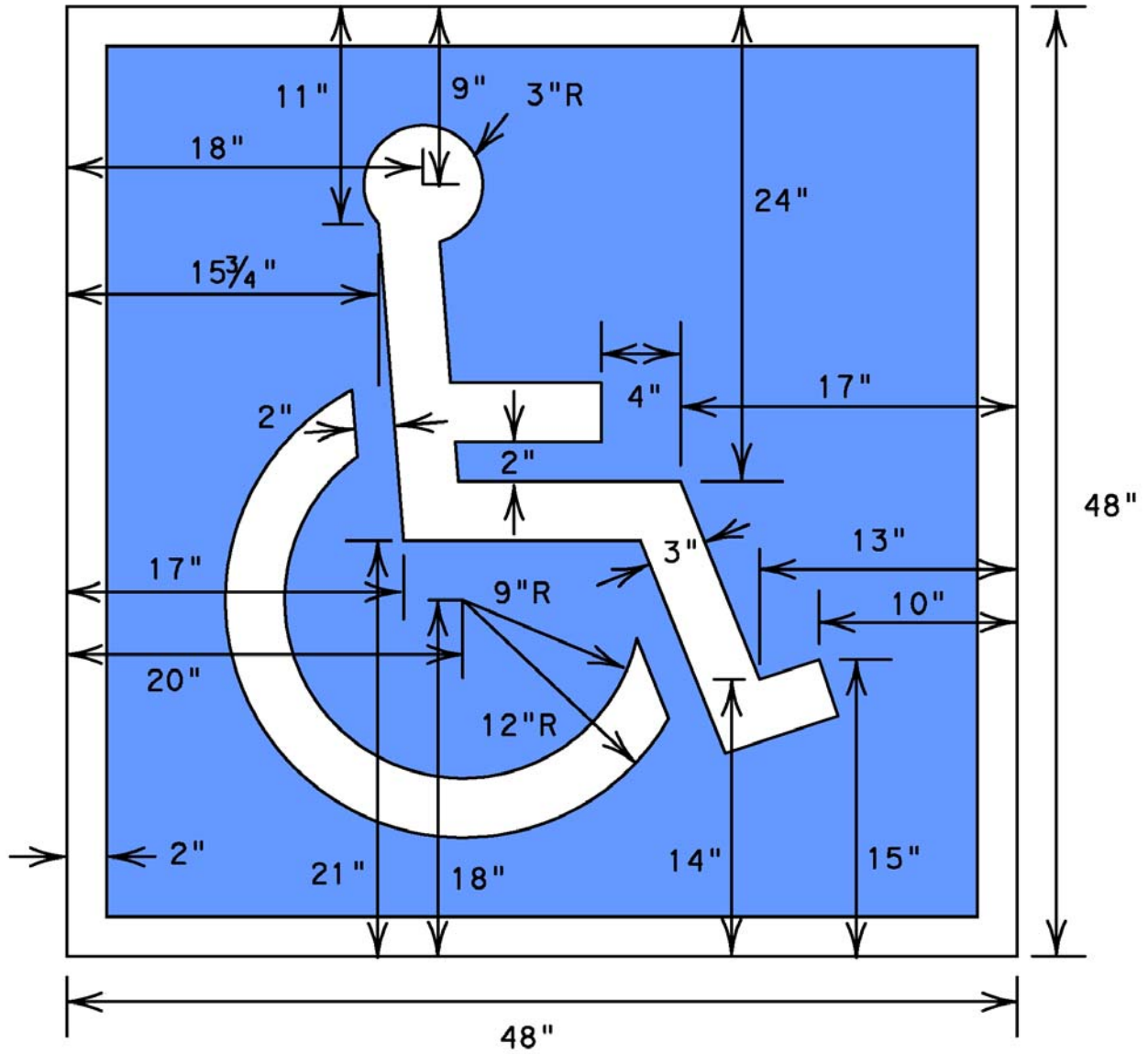


90 ° Parking Angle	Car Accessible	Van Accessible
A. Stall Width	8 Ft. (96")	8 Ft. (96")
B. Stall Length	18 Ft.	18 Ft.
H. Access Aisle	5 Ft. (60")	8 Ft. (96")

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D.4. Parking Stall Pavement Marking

FIGURE 2



Note about the Colors:

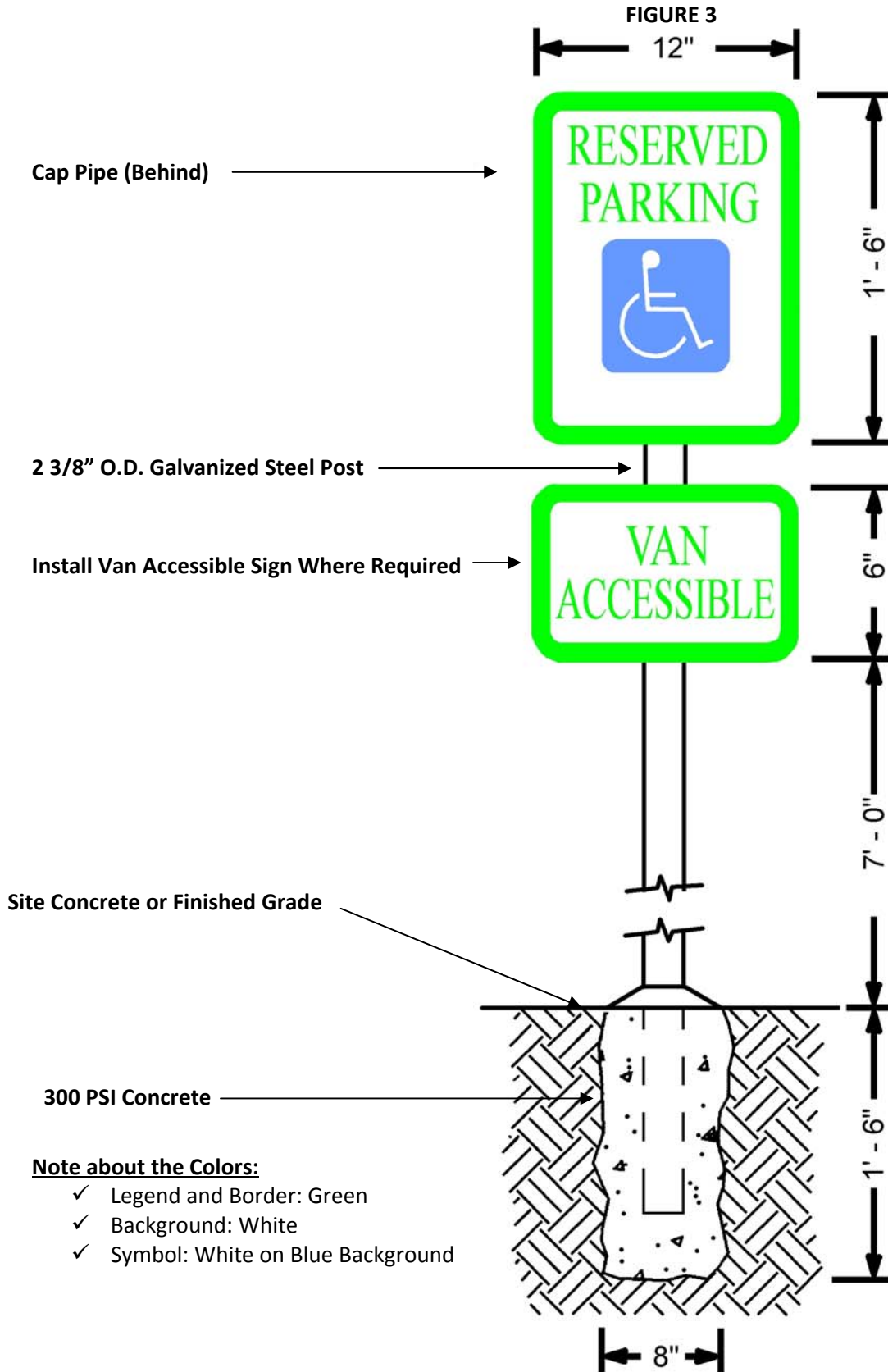
- ✓ Background: Blue
- ✓ Symbol: White

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D.5. Accessible Sign Standard



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D.6. Minimum Number of Accessible Parking Spaces

ADA Standards for Accessible Design 4.1.2(5)

Total Number of Parking Spaces Provided (Per Lot)	Total Minimum Number of Accessible Parking Spaces (60" & 96" Aisles)	Van Accessible Parking Spaces with a Minimum 96" Wide Access Aisle	Accessible Parking Spaces with a Minimum 60" Wide Access Aisle
1 to 25	1	1	0
26 to 50	2	1	1
51 to 75	3	1	2
76 to 100	4	1	3
101 to 150	5	1	4
151 to 200	6	1	5
201 to 300	7	1	6
301 to 400	8	1	7
401 to 500	9	1	7
501 to 1,000	2% of Total Parking Provided in Each Lot	1/8 of Column A*	7/8 of Column A**
1,001 and Over	20 Plus 1 for Each 100 Over 1,000	1/8 of Column A*	7/8 of Column A**

Notes:

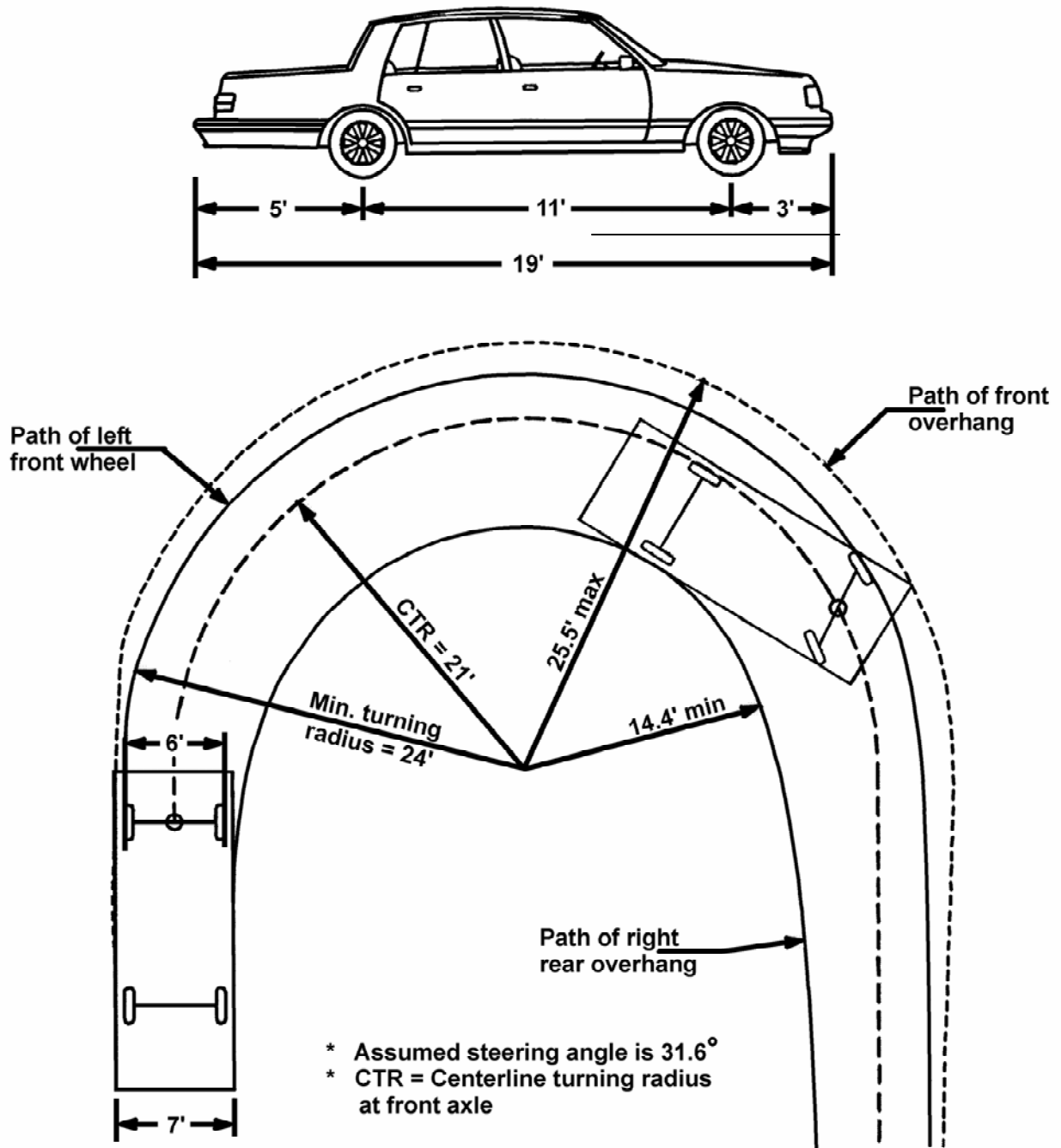
- *: One out of every eight accessible spaces.
- ** : Seven out of every eight accessible parking spaces.

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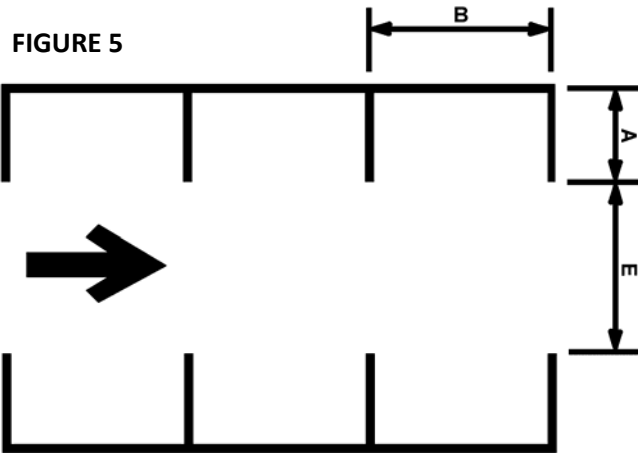
D.7. Design Vehicle (Automotive)

FIGURE 4

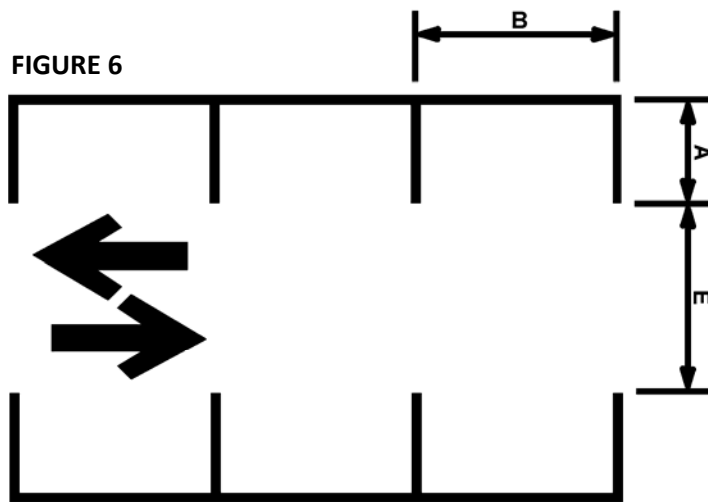


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D.8. Parallel Parking (One Way) Standard



D.9. Parallel Parking (Two Way) Standard



	Parallel One-Way	Parallel Two-Way
A. Stall Width	9 Ft.	9 Ft.
B. Stall Length	24 Ft.	24 Ft.
E. Aisle Width	18 Ft.	24 Ft.
E ₁ . Aisle Width – Single Loaded	18 Ft.	24 Ft.

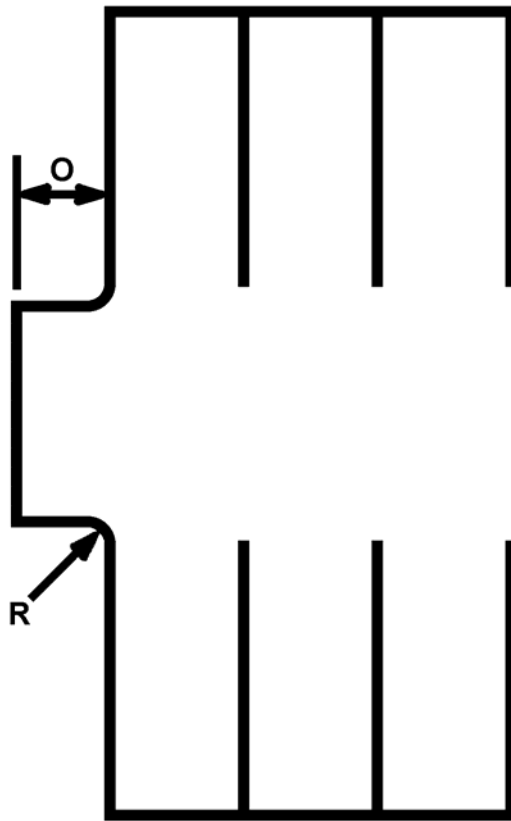
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D.10. 90° Parking End Turnouts Standard

FIGURE 7

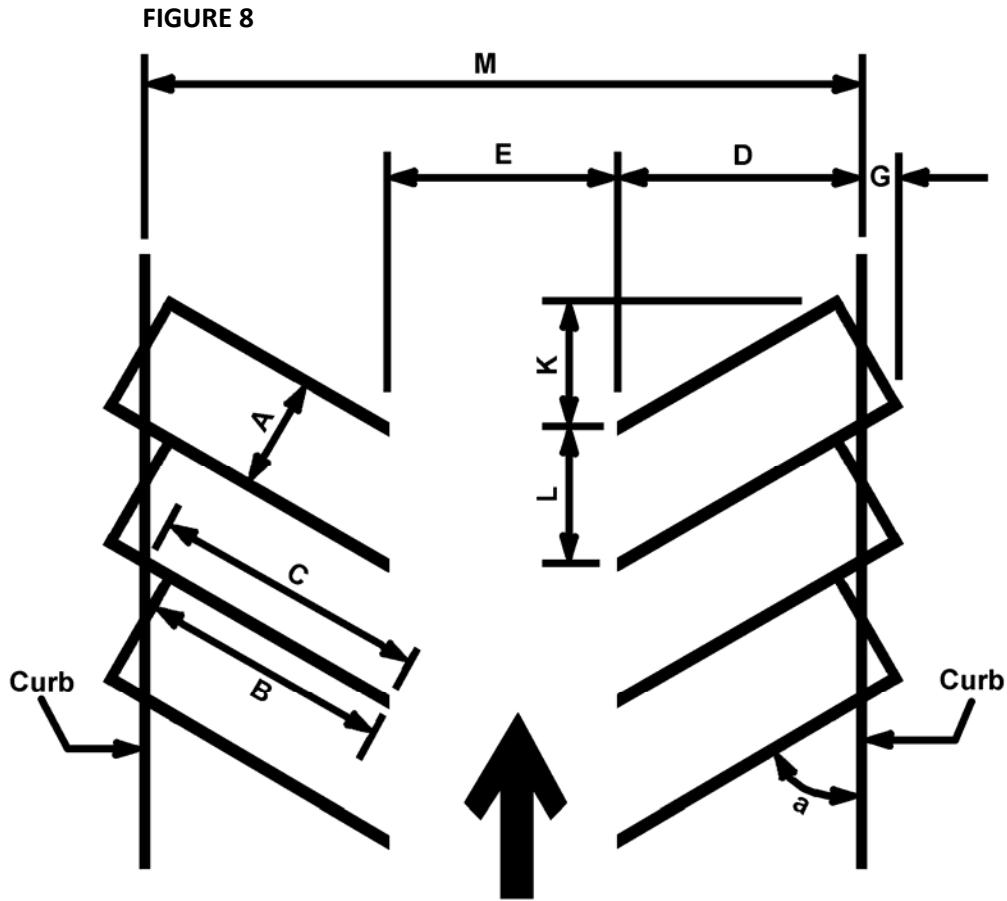


90° Turnout	
O. Turnout Distance	6 Ft.
R. Curb Radius on Turnout	2 Ft.

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D.11. Curb-to-Curb (One Way) Standard



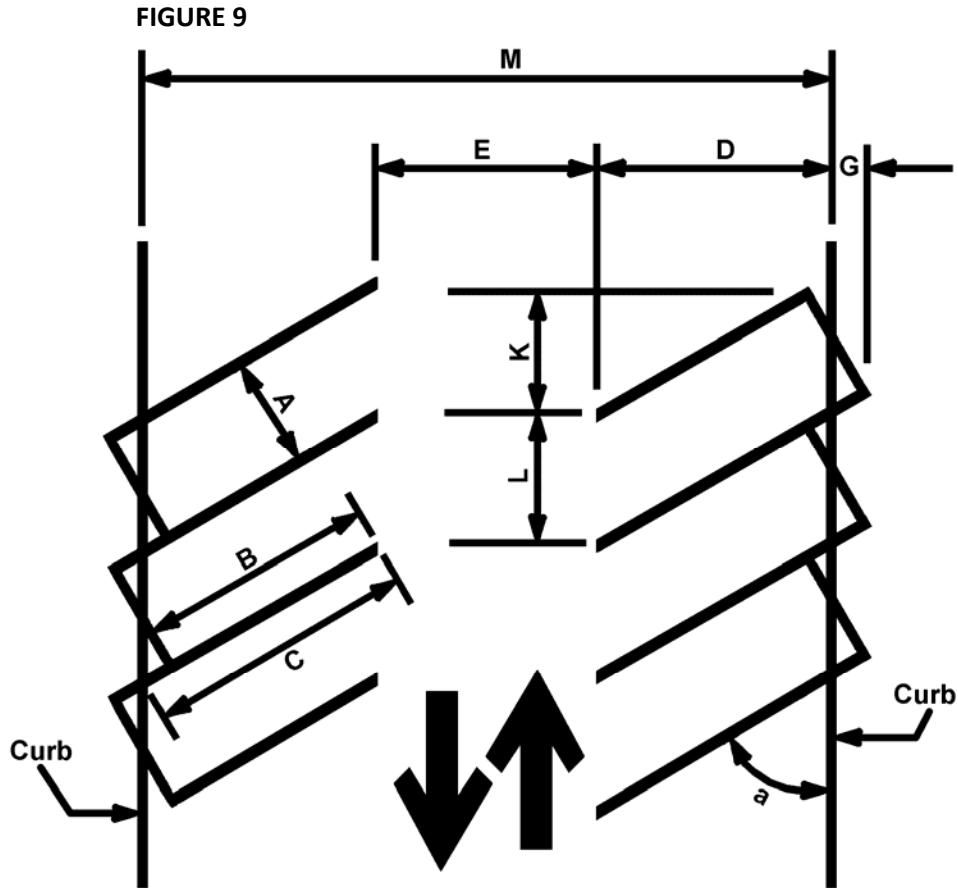
Parking Angle (Degrees)	30°	45°	60°	75°	90°
A. Stall Width	9 Ft.	9 Ft.	9 Ft.	N/A	N/A
B. Stall Length	18 Ft.	18 Ft.	18 Ft.	N/A	N/A
C. Stall Length of Line	31.6 Ft.	25 Ft.	21.2 Ft.	N/A	N/A
D. Stall Depth	15.8 Ft.	17.6 Ft.	18.3 Ft.	N/A	N/A
E. Aisle Width	11 Ft.	13 Ft.	18 Ft.	N/A	N/A
E ₁ . Aisle Width – Single Loaded	11 Ft.	13 Ft.	18 Ft.	N/A	N/A
G. Overhang	1 Ft.	1.4 Ft.	1.7 Ft.	N/A	N/A
K. Setback Parallel to Aisle	15.6 Ft.	12.7 Ft.	5.4 Ft.	N/A	N/A
L. Stall Width Parallel to Aisle	18 Ft.	12.7 Ft.	10.4 Ft.	N/A	N/A
M. Curb to Curb	42.6 Ft.	48.2 Ft.	54.6 Ft.	N/A	N/A

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D.12. Curb-to-Curb (Two Way) Standard



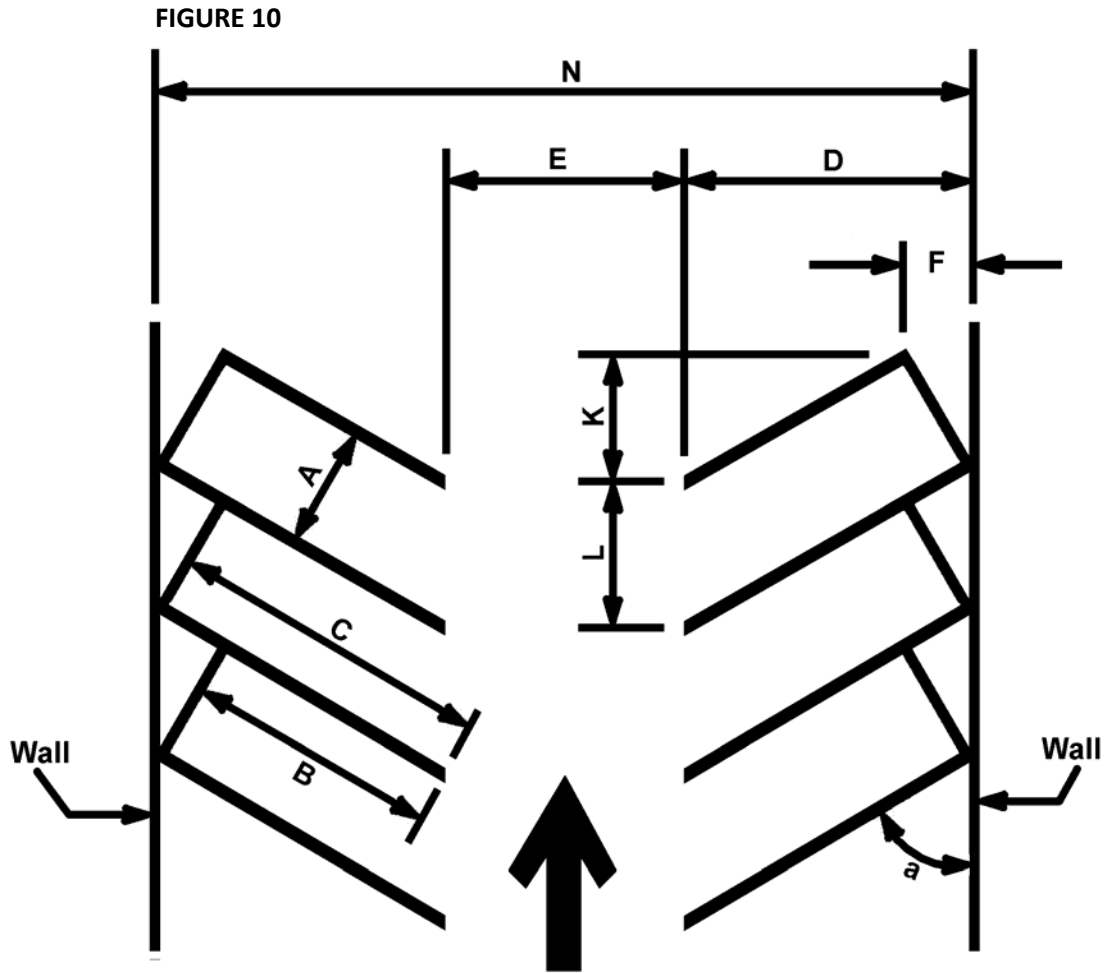
Parking Angle (Degrees)	30°	45°	60°	75°	90°
A. Stall Width	9 Ft.	9 Ft.	9 Ft.	9 Ft.	9 Ft.
B. Stall Length	18 Ft.	18 Ft.	18 Ft.	18 Ft.	18 Ft.
C. Stall Length of Line	31.6 Ft.	25 Ft.	21.2 Ft.	18.4 Ft.	16 Ft.
D. Stall Depth	15.8 Ft.	17.6 Ft.	18.3 Ft.	17.8 Ft.	16 Ft.
E. Aisle Width	24 Ft.	24 Ft.	24 Ft.	24 Ft.	24 Ft.
E ₁ . Aisle Width – Single Loaded	24 Ft.	24 Ft.	24 Ft.	24 Ft.	24 Ft.
G. Overhang	1 Ft.	1.4 Ft.	1.7 Ft.	1.9 Ft.	2 Ft.
K. Setback Parallel to Aisle	15.6 Ft.	12.7 Ft.	5.4 Ft.	4.7 Ft.	0 Ft.
L. Stall Width Parallel to Aisle	18 Ft.	12.7 Ft.	10.4 Ft.	9.3 Ft.	9 Ft.
M. Curb to Curb	55.6 Ft.	59.2 Ft.	60.6 Ft.	59.6 Ft.	56 Ft.

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D.13. Wall-to-Wall (One Way) Standard



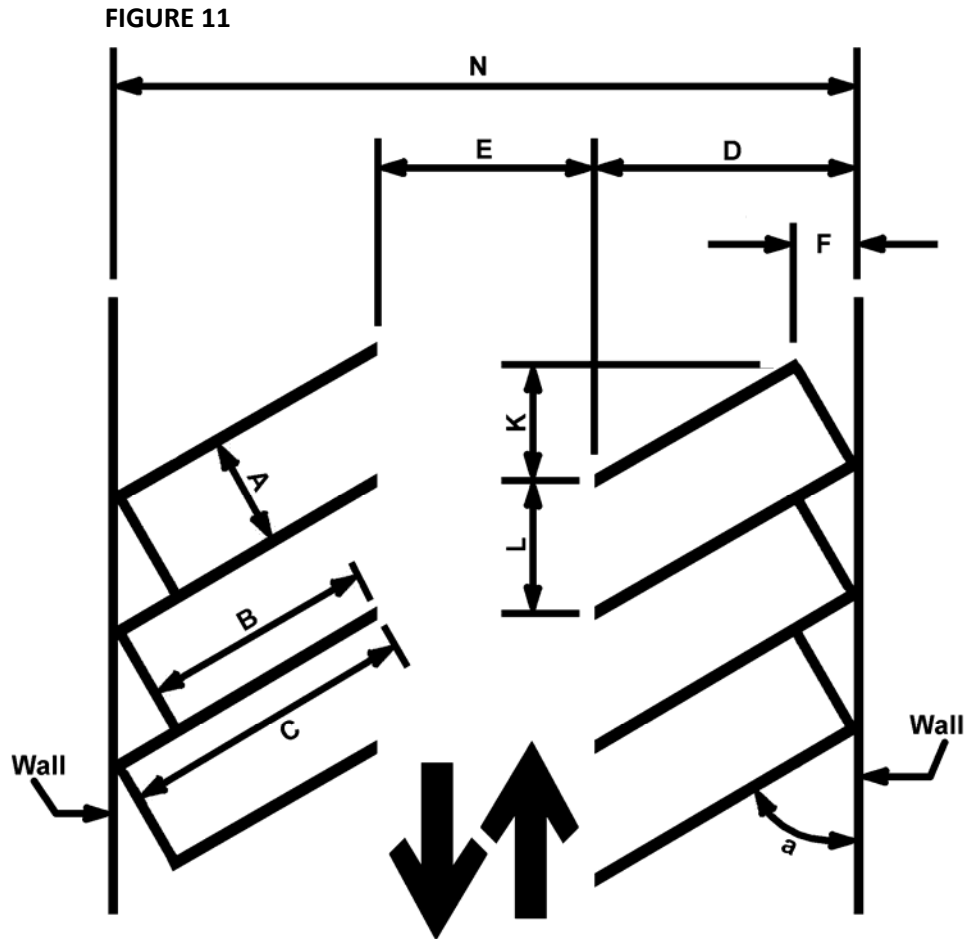
Parking Angle (Degrees)	30°	45°	60°	75°	90°
A. Stall Width	9 Ft.	9 Ft.	9 Ft.	N/A	N/A
B. Stall Length	18 Ft.	18 Ft.	18 Ft.	N/A	N/A
C. Stall Length of Line	33.6 Ft.	27 Ft.	23.2 Ft.	N/A	N/A
D. Stall Depth	16.8 Ft.	19 Ft.	20 Ft.	N/A	N/A
E. Aisle Width	11 Ft.	13 Ft.	18 Ft.	N/A	N/A
E ₁ . Aisle Width – Single Loaded	11 Ft.	13 Ft.	18 Ft.	N/A	N/A
F. Offset	7.8 Ft.	6.4 Ft.	4.5 Ft.	N/A	N/A
K. Setback Parallel to Aisle	15.6 Ft.	12.7 Ft.	5.4 Ft.	N/A	N/A
L. Stall Width Parallel to Aisle	18 Ft.	12.7 Ft.	10.4 Ft.	N/A	N/A
N. Wall to Wall	29 Ft.	51 Ft.	58 Ft.	N/A	N/A

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D.14. Wall-to-Wall (Two Way) Standard

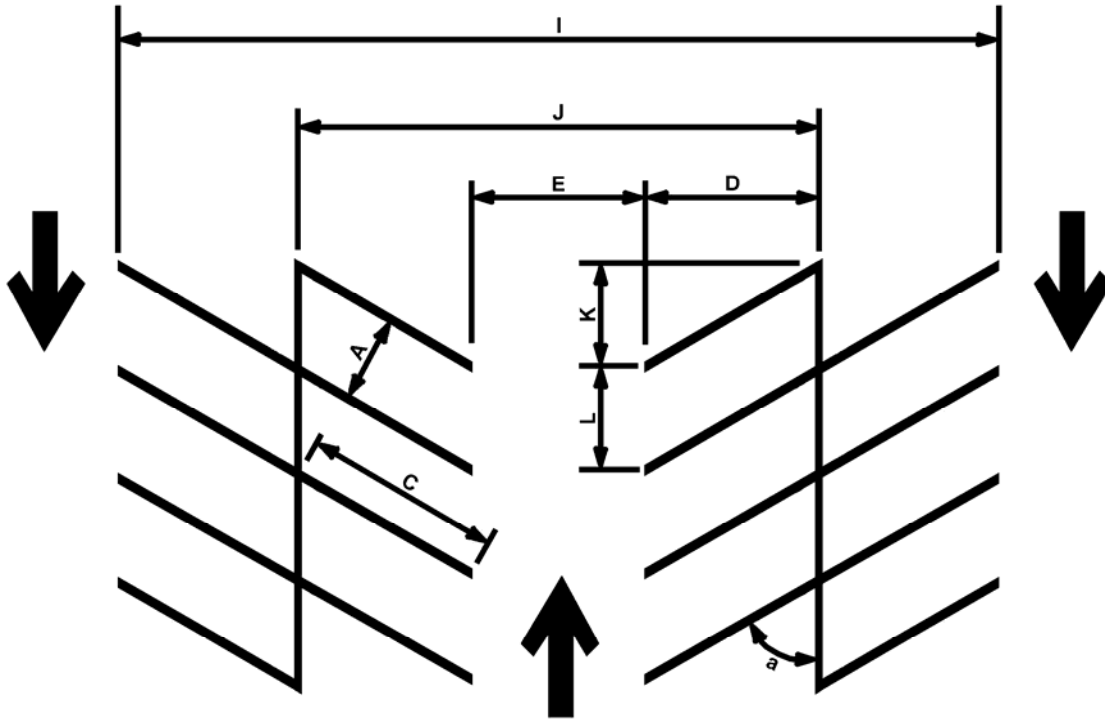


Parking Angle (Degrees)	30°	45°	60°	75°	90°
A. Stall Width	9 Ft.	9 Ft.	9 Ft.	9 Ft.	9 Ft.
B. Stall Length	18 Ft.	18 Ft.	18 Ft.	18 Ft.	18 Ft.
C. Stall Length of Line	33.6 Ft.	27 Ft.	23.2 Ft.	20.4 Ft.	18 Ft.
D. Stall Depth	16.8 Ft.	19 Ft.	20 Ft.	19.7 Ft.	18 Ft.
E. Aisle Width	24 Ft.	24 Ft.	24 Ft.	24 Ft.	24 Ft.
F. Offset	7.8 Ft.	6.4 Ft.	4.5 Ft.	2.3 Ft.	0 Ft.
K. Setback Parallel to Aisle	15.6 Ft.	12.7 Ft.	5.4 Ft.	4.7 Ft.	0 Ft.
L. Stall Width Parallel to Aisle	18 Ft.	12.7 Ft.	10.4 Ft.	9.3 Ft.	9 Ft.
N. Wall to Wall	57.6 Ft.	62 Ft.	64 Ft.	63.4 Ft.	60 Ft.

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D.15. Interlock (One Way) Standard

FIGURE 12

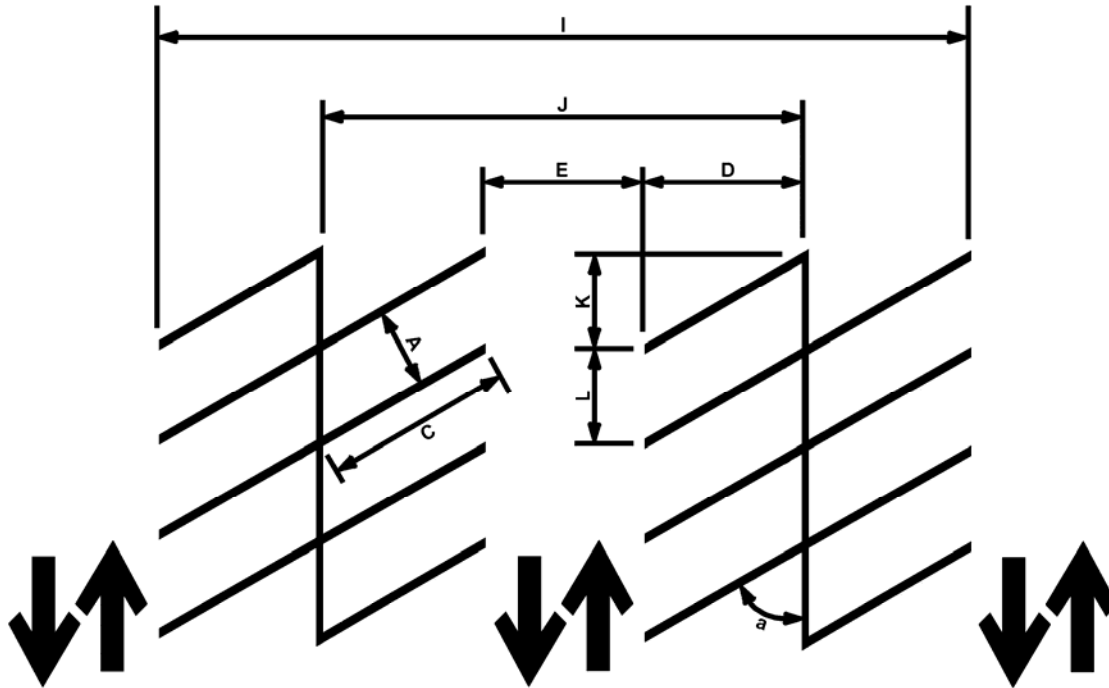


Parking Angle (Degrees)	30°	45°	60°	75°	90°
A. Stall Width	9 Ft.	9 Ft.	9 Ft.	N/A	N/A
C. Stall Length of Line	31.6 Ft.	25 Ft.	21.2 Ft.	N/A	N/A
D. Stall Depth	15.8 Ft.	17.6 Ft.	18.3 Ft.	N/A	N/A
E. Aisle Width	11 Ft.	13 Ft.	18 Ft.	N/A	N/A
E ₁ . Aisle Width – Single Loaded	11 Ft.	13 Ft.	18 Ft.	N/A	N/A
I. Interlock Module	78.2 Ft.	89 Ft.	98 Ft.	N/A	N/A
J. Interlock Center to Center	44.6 Ft.	51 Ft.	58 Ft.	N/A	N/A
K. Setback Parallel to Aisle	15.6 Ft.	12.7 Ft.	5.4 Ft.	N/A	N/A
L. Stall Width Parallel to Aisle	18 Ft.	12.7 Ft.	10.4 Ft.	N/A	N/A

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D.16. Interlock (Two Way) Standard

FIGURE 12



Parking Angle (Degrees)	30°	45°	60°	75°	90°
A. Stall Width	9 Ft.	9 Ft.	9 Ft.	9 Ft.	9 Ft.
C. Stall Length of Line	31.6 Ft.	25 Ft.	21.2 Ft.	18.4 Ft.	18 Ft.
D. Stall Depth	15.8 Ft.	17.6 Ft.	18.3 Ft.	17.8 Ft.	18 Ft.
E. Aisle Width	24 Ft.	24 Ft.	24 Ft.	24 Ft.	24 Ft.
I. Interlock Module	87.2 Ft.	94.4 Ft.	97.2 Ft.	95.2 Ft.	96 Ft.
J. Interlock Center to Center	55.6 Ft.	59.2 Ft.	60.6 Ft.	59.6 Ft.	60 Ft.
K. Setback Parallel to Aisle	15.6 Ft.	12.7 Ft.	5.4 Ft.	4.7 Ft.	0 Ft.
L. Stall Width Parallel to Aisle	18 Ft.	12.7 Ft.	10.4 Ft.	9.3 Ft.	9 Ft.