



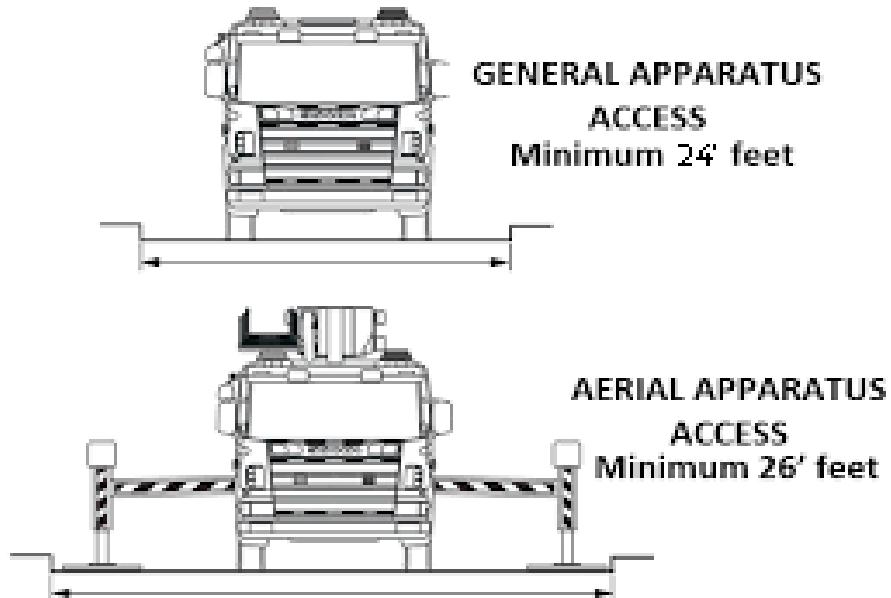
**SAN MARCOS FIRE DEPARTMENT
FIRE PREVENTION DIVISION**

**STANDARD
NO. 1401**
UPDATED 10/6/21

FIRE DEPARTMENT ACCESS REQUIREMENTS

Access road width

The unobstructed width of a fire apparatus roadway shall not be less than 24 feet, with an unobstructed vertical clearance of not less than 13 feet 6 inches. Aerial apparatus roads, as determined by the fire department shall be a minimum of 26 feet in width.





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Driveway for single family dwellings

A fire access roadway providing access to no more than two single family dwellings shall be not less than 16 feet in width, with an unobstructed vertical clearance of not less than 13 feet 6 inches.





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Access roads with center divider

Fire access roadways divided by gated entrance with card reader, guard station, or center median which resulted in separated lanes of one way traffic shall be 12 feet wide per lane with an unobstructed vertical clearance of 13 feet 6 inches.





SAN MARCOS FIRE DEPARTMENT FIRE PREVENTION DIVISION

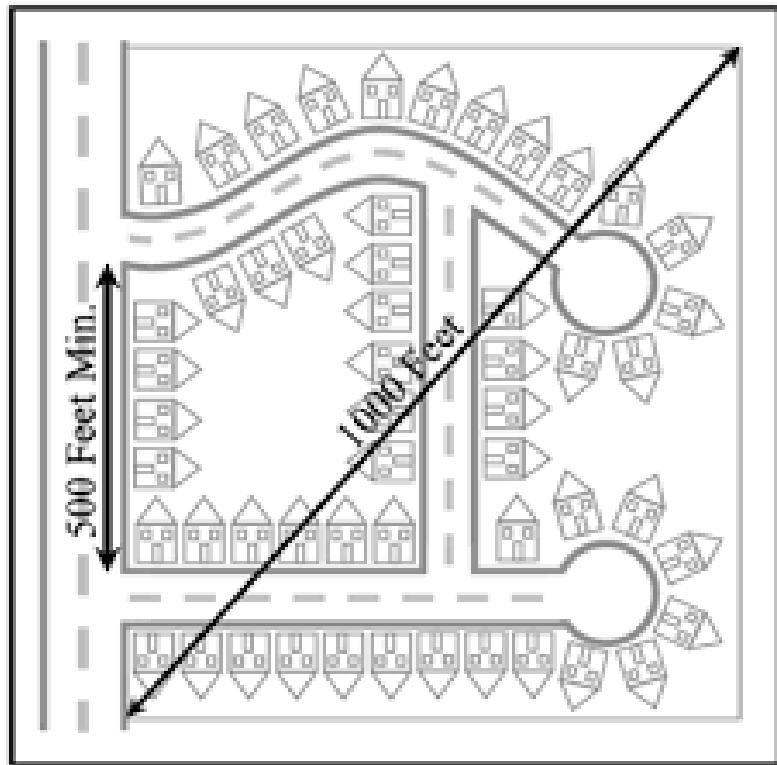
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Secondary Access

Secondary access is required when serving more than 50 single family residences. The two fire access points shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served. Location of access roads shall be approved by the Fire Department.



Access road grade

The maximum grade of any fire apparatus roadway shall not exceed 20%. Grades exceeding 12% (incline or decline) shall be permitted with a surface of Portland cement concrete (PCC), with a deep broom finish perpendicular to the entire direction/length of travel and grade. The angle of departure and approach of fire access roads shall not exceed seven degrees (12 percent).



**SAN MARCOS FIRE DEPARTMENT
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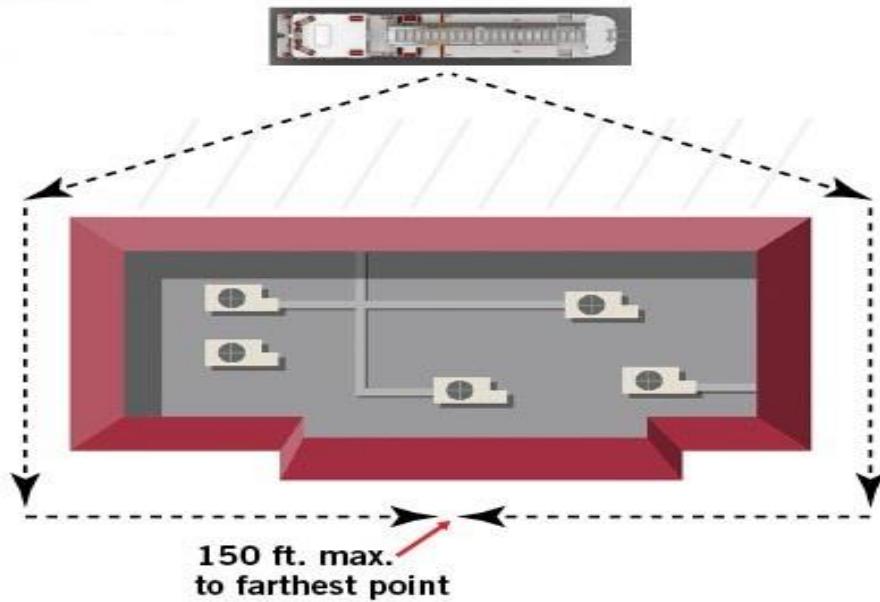
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Access road distance to buildings

All fire access roads shall extend to within 150 feet of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building.



If the distance measured from the fire engine to the farthest point on the building exceeds 150 ft., additional access (fire lanes) is required.



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Fire department turnarounds

All dead end fire apparatus access roadways in excess of 150 feet in length shall be provided with an approved area for turning around a San Marcos Fire Department apparatus.

Refer to the following pages below for access road turnarounds and fire engine and truck tiller details.

[**Hammerhead turnaround for commercial and multifamily developments**](#)

[**Cul-de-sac turnaround**](#)

[**Single family dwelling driveway turnaround**](#)

[**Single family dwelling alternative turnaround**](#)

[**Tiller truck turning radius**](#)

[**Engine pumper turning radius**](#)



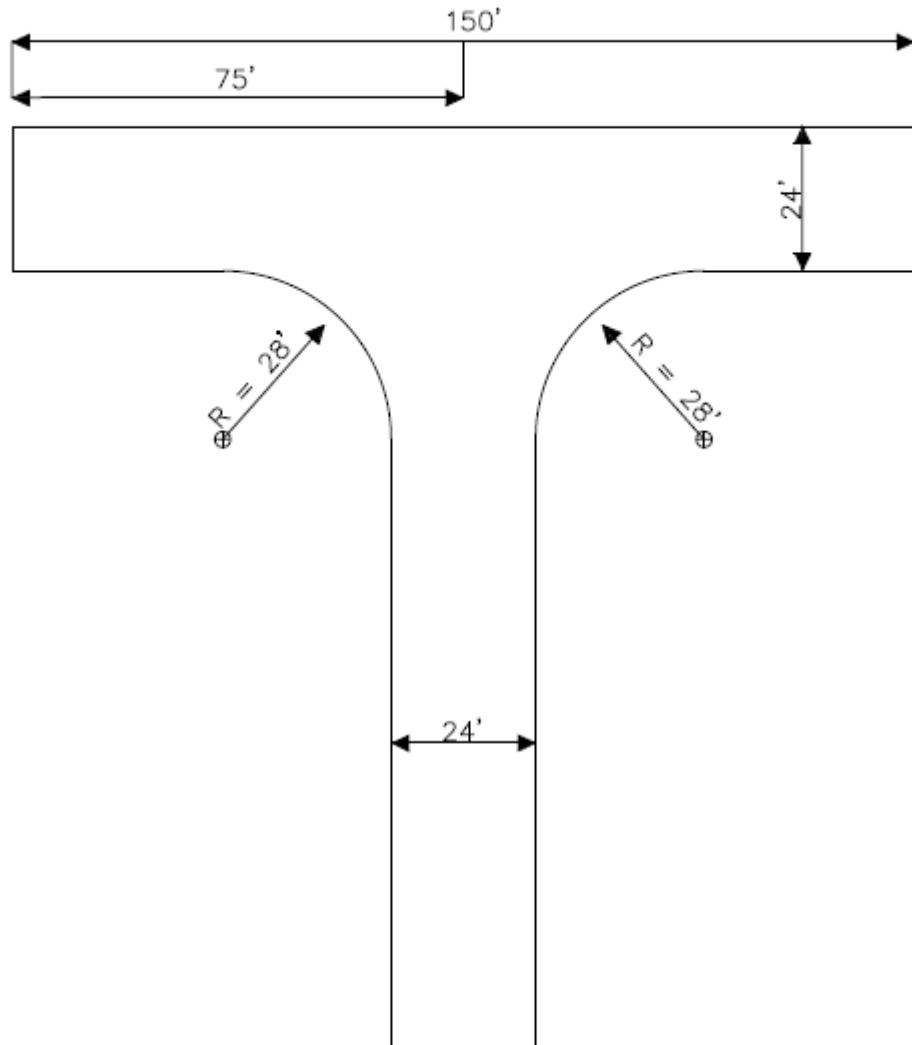
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Hammerhead turnaround for commercial and multifamily



**CITY OF SAN MARCOS
HAMMER HEAD TURN**
BODY OVERHANG
Scale 1" = 30.00'

developments



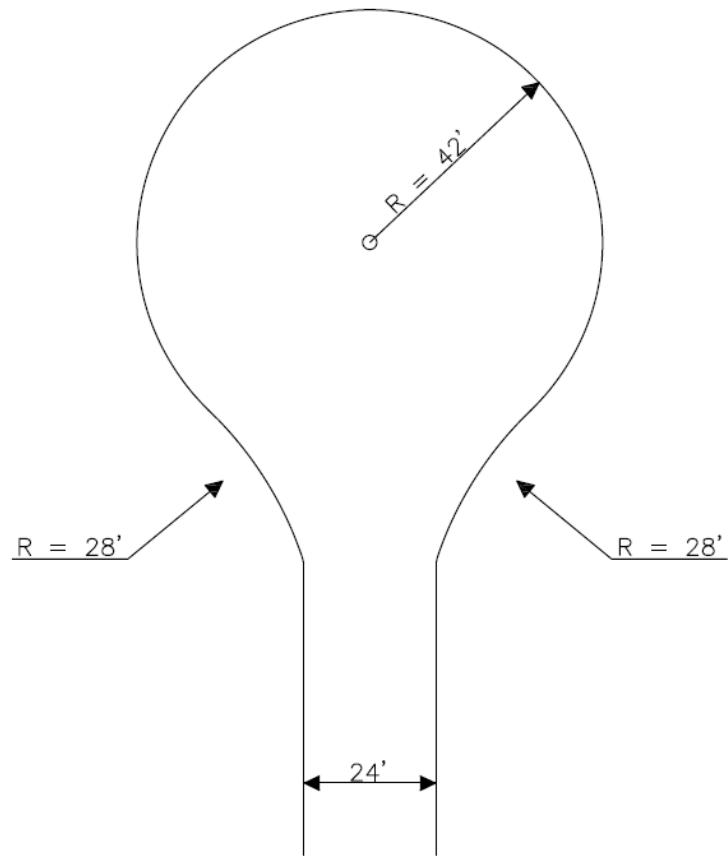
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Cul-de-sac turnaround



**CITY OF SAN MARCOS
CUL-DE-SAC OPTION**

Scale 1" = 30.00'



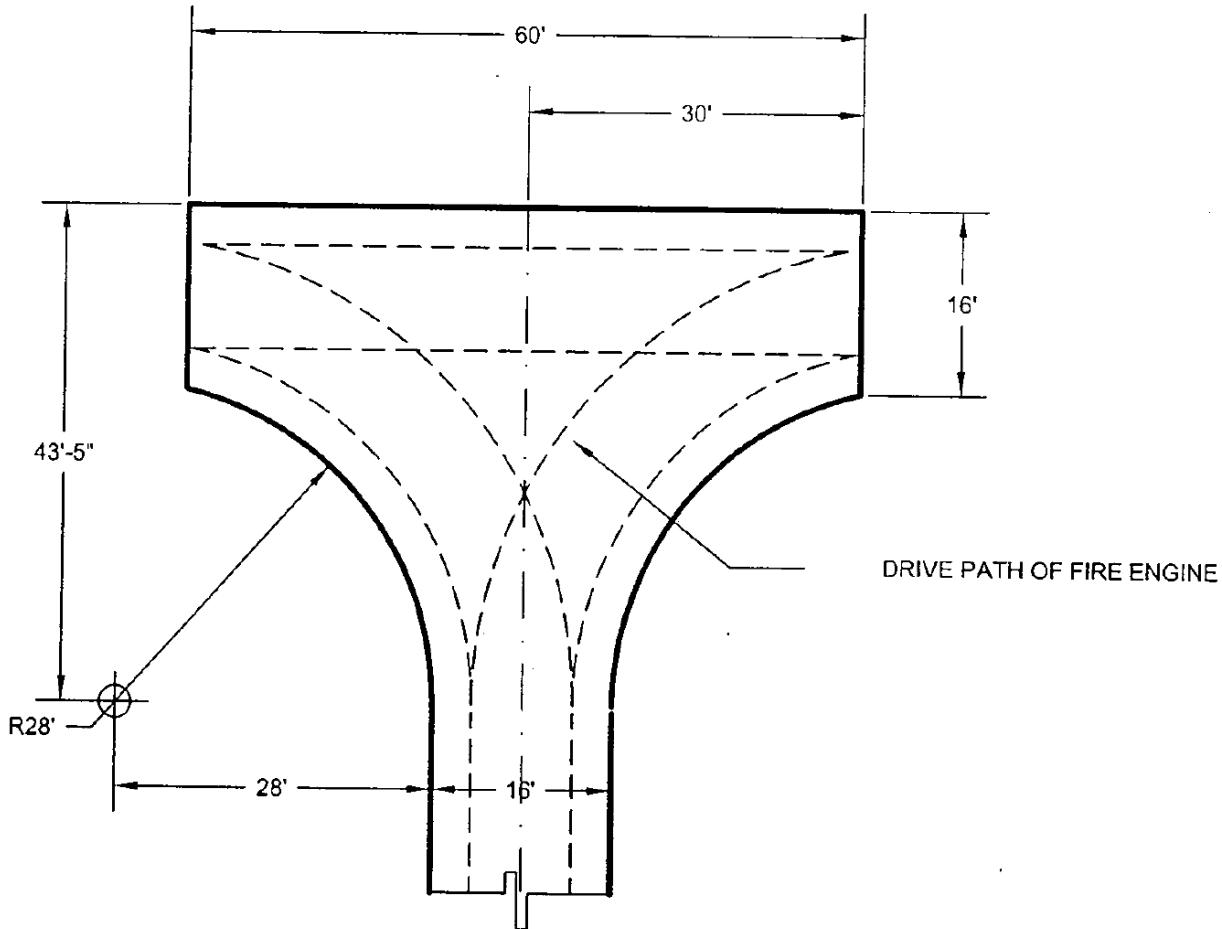
**SAN MARCOS FIRE DEPARTMENT
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Single family dwelling driveway turnaround



**RESIDENTIAL
60' HAMMERHEAD**

SCALE: 1" = 20'-0"



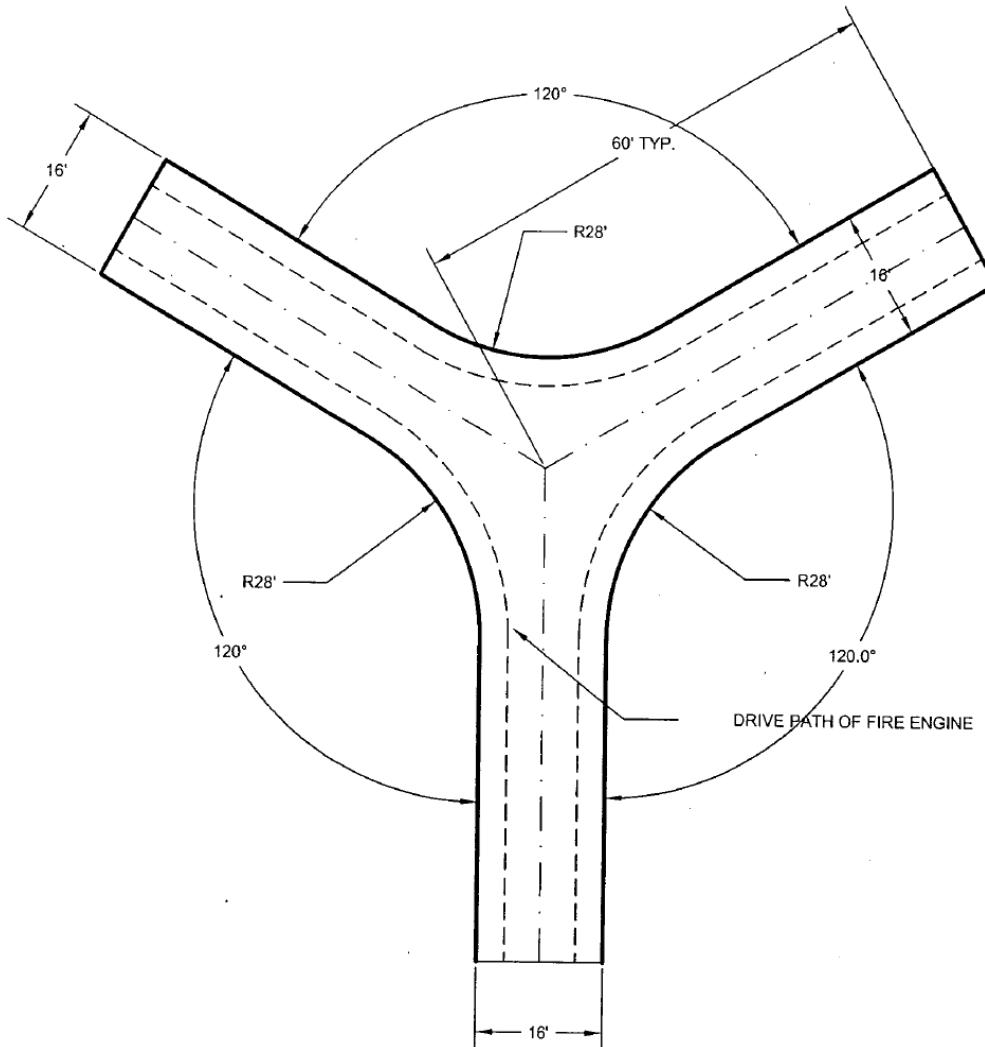
**SAN MARCOS FIRE DEPARTMENT
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Single family dwelling alternative turnaround



**RESIDENTIAL
HAMMERHEAD ALTERNATIVE**

SCALE: 1" = 20'-0"



**SAN MARCOS FIRE DEPARTMENT
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Tiller truck turning radius

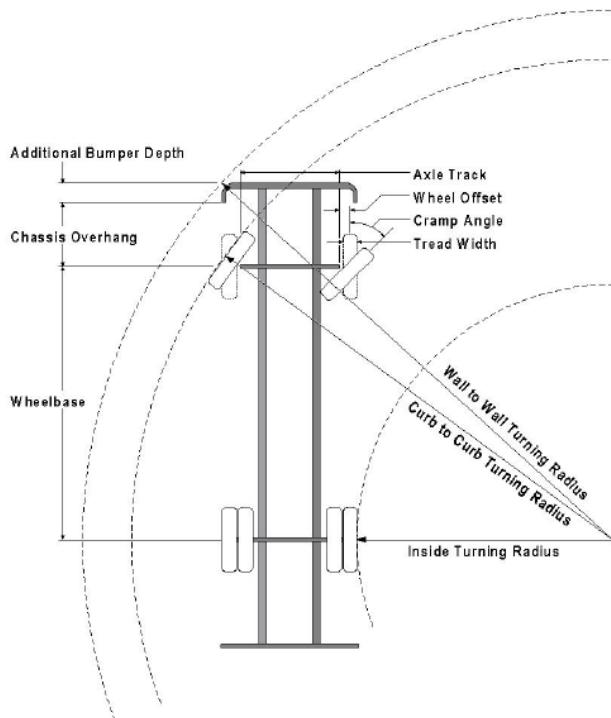


Turning Performance Analysis

01/08/2020

Bid Number: 448
Department: San Marcos Fire Department

Chassis: Velocity Tractor Chassis (Tiller), (Big Block), 2010
Body: Aerial, Tiller, Alum Body



Parameters:

*Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	4.68 in.
Tread Width:	17.7 in.
Chassis Overhang:	65.99 in.
Additional Bumper Depth:	10 in.
Front Overhang:	75.99 in.
Wheelbase:	177 in.

Calculated Turning Radii:

Inside Turn:	13 ft. 7 in.
Curb to curb:	27 ft. 4 in.
Wall to wall:	31 ft. 1 in.

Category	Option	Description
Axle, Front, Custom	0508849	Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, Imp/Vel
Wheels, Front	0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot
Tires, Front	0686052	Tires, Front, Michelin, XFE (wb), 425/65R22.50, 20 ply, Fire Service Speed Rtg
Bumpers	0123622	Bumper, 10" Extended, Imp/Vel
Aerial Devices	0670312	Aerial, 100' Heavy Duty Ladder, Tiller 2002 (500 dry/500 water)

Notes:

*Actual Inside cramp angle may be less than shown.

Curb to Curb turning radius calculated for 9.00 inch curb.

NOTE: The full length of the tiller truck is approximately 62 feet in length.



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Engine pumper turning radius

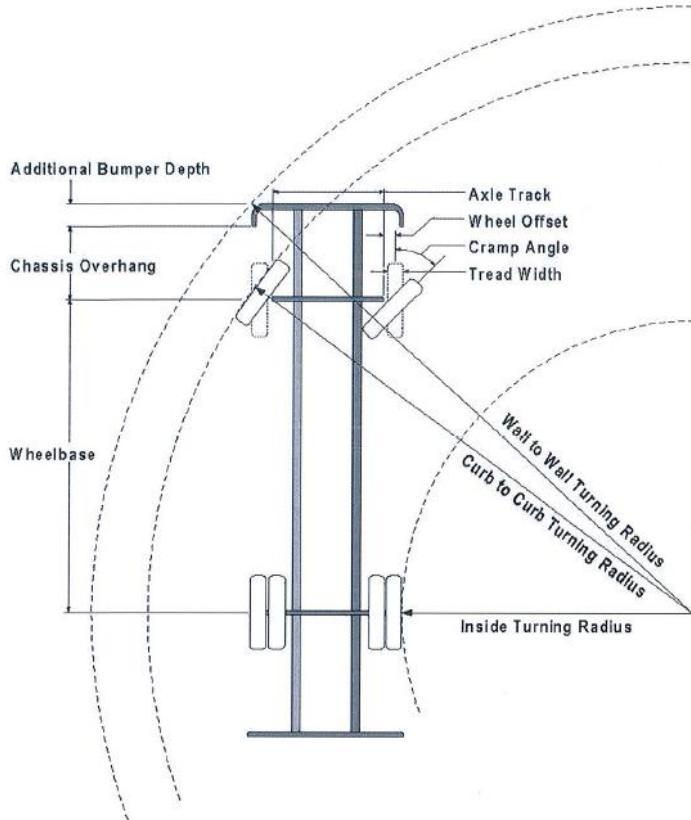


Turning Performance Analysis

06/29/2017

Bid Number: 246
Department: San Marcos Fire Department

Chassis: Velocity Chassis (Big Block), 2010
Body: Pumper, Medium, Aluminum, 2nd Gen



Parameters:

Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	4.68 in.
Tread Width:	17.70 in.
Chassis Overhang:	78.00 in.
Additional Bumper Depth:	19.00 in.
Front Overhang:	97.00 in.
Wheelbase:	183.50 in.

Calculated Turning Radii:

Inside Turn:	14 ft. 2 in.
Curb to curb:	28 ft. 1 in.
Wall to wall:	33 ft. 0 in.

Comments:

Category Description:	OptionID:	Option Description:
Axle, Front, Custom	0508849	Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, Imp/Vel
Wheels, Front	0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot
Tires, Front	0686052	Tires, Front, Michelin, XFE (wb), 425/65R22.50, 20 ply, Fire Service Speed Rtn
Bumpers	0123625	Bumper, 19" Extended, Imp/Vel

Notes:

Actual Inside cramp angle may be less due to highly specialized options.

Curb to Curb turning radius calculated for 9.00 inch curb.