

Memo

To: Westtown Planning Commission

From: Maggie Dobbs, AICP, Director of Planning & Zoning

Date: October 22, 2021

Re: Stokes Estate – Fire Company Comments

In response to a request for comment from the Goshen Fire Company on the Stokes Conditional Use Application, I received the following feedback from Grant Everhart, Executive Director:

- The roadway connection to Shiloh Hill Drive is a positive for emergency vehicle access and fire hydrant water supply for both developments.
- Roadway widths should allow easy movement of fire apparatus even with on-street parking.
- Fire hydrant design flows should be at least 1000 gpm. If Aqua has concerns about meeting this requirement, we can review.
- Pipeline locations and depths should be carefully verified prior to the commencement of site work. Even minor damage (scraping or denting) to the pipe can lead to future leaks.

Mr. Everhart also provided turning radius data for the largest fire apparatus (Tower 54). He noted the "curb-to-curb" turning radius is the critical dimension for turning without stopping and backing up.



Turning Performance Analysis

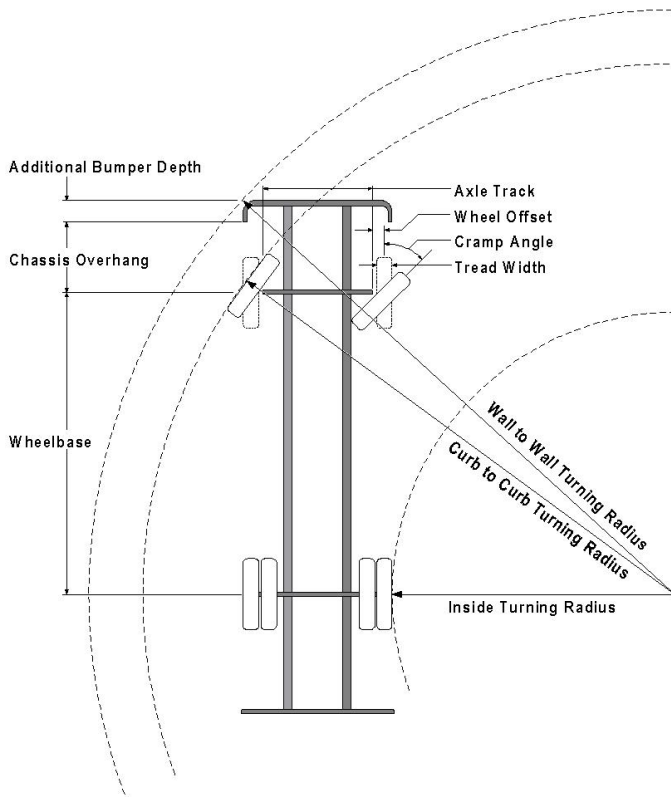
07/10/2020

Bid Number: 312

Chassis: Arrow-XT Chassis, PAP/Midmount MUX, 2010, NOT FOR FUTURE USE

Department: Goshen Fire Company

Body: Aerial, Platform 100', Alum Body



Parameters:

Inside Cramp Angle:	40°
Axle Track:	82.92 in.
Wheel Offset:	5.30 in.
Tread Width:	16.6 in.
Chassis Overhang:	68.99 in.
Additional Bumper Depth:	26 in.
Front Overhang:	94.99 in.
Wheelbase:	247 in.

Calculated Turning Radii:

Inside Turn:	23 ft. 5 in.
Curb to curb:	38 ft. 9 in.
Wall to wall:	46 ft. 10 in.

Comments:

Category	Option	Description
Axle, Front, Custom	0090913	Axle, Front, Oshkosh TAK-4, Non Drive, 24,000 lb, Qtm/AXT/DCF
Wheels, Front	0019618	Wheels, Front, Alcoa, 22.50" x 13.00", Aluminum, Hub Pilot
Tires, Front	0679621	Tires, Front, Michelin, XZY3 (wb), 425/65R22.50, 20 ply, Fire Service Load Rtnng
Bumpers	0695359	Bumper, 26" Extended, Steel, Painted, Saber FR/Enforcer
Aerial Devices	0657391	Aerial, 100' Pierce Platform, 35 MPH Wind Rating, 400lb Tip Load Allowance

Notes:

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

Curb to Curb turning radius calculated for 9.00 inch curb.

Definitions:

Inside CrampAngle	Maximum turning angle of the front inside fire.
Axle Track	King-pin to King-pin distance of front axle.
Wheel Offset	Offset from the center line of the wheel to the King-pin.
Tread Width	Width of the tire tread.
Chassis Overhang	Distance of the center line of the front axle to the front edge of the cab. This does not include the bumper depth.
Additional Bumper Wheel	Depth that the bumper assembly adds to the front overhang.
Wheelbase	Distance between the center lines of the vehicles front and rear axles.
Inside Turning Radius	Radius of the smallest circle around which the vehicle can turn.
Curb to Curb Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures assumes a curb height of 9 inches.
Wall to Wall Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures takes into account any front overhang due to chassis , bumper extensions and or aerial devices.