

May 4, 2018

Chief Harwing
Falcon Fire Department
7030 Old Meridian Road
Peyton, CO 80831

**Re: Liberty Tree Academy
Fire Flow Rate Confirmation**

Dear Chief Harwing:

The Liberty Tree Academy is a proposed private school with a kindergarten through 8th grade enrolment of 486 student in one building on approximately 3.4 acres of undeveloped land. The facility is scheduled to be open in January 2019 with full enrollment anticipated in 5 years. The school may be expanded to include high school enrollment of an additional 264 students for a total of 750 students. The remaining site may be developed at a later date to include an alternate use, but due to development uncertainty is not included in the application

Phase 1 of Liberty Tree Academy is proposed as a single two story building and includes, administrative offices, class rooms, gymnasium, warming kitchen, and ancillary rooms. An internal fire suppression system is proposed. The Phase 1 building area is 39,676 square feet. Phase 2 is proposed as an attached building with an additional 11,640 square feet of class rooms. The total building area of both Phase 1 and Phase 2 is 51,316 square feet. Adjacent to and south of the building is a fenced play area for younger aged children. Exterior to the building the facility includes a circular one way drive aisle, with width to sufficiently accommodate a fire truck. (See attached)

The project proposes to install an 8 inch site water main loop connecting to the 8 inch transmission water main in the Eastonville Road. The Eastonville Road main is located in the Woodmen Hill Water District. A 6 inch fire line will connect to 8 inch site main. In addition to the internal fire suppression system three site fire hydrants are proposed.

Fire Flow Tests

A fire flow test was conducted by Fire Flow Incorporated on April 18, 2018. The test was conducted at the fire hydrants located near the intersection of Eastonville Road at Snaffle Bit Road, approximately 500 feet from the site entrance. The test indicated a static pressure of 109 psi and residual pressure of 86 psi. (See attached)

Fire Flow Confirmation

The fire flow demand have been determined for the Liberty Tree Academy Building based upon Type V-B construction and total area of 51,316 square feet. Per the 2012 edition of the International Fire Code (IFC) the require Fire Flow needed is 6,000 gpm for a duration of 2 hours. Internal automated fire suppression systems allow a reduction 50%, so the resulting fire flow demand is 3,000 gpm. In addition to the 2-story building automatic sprinkler system three vicinity fire hydrants are proposed. The system provides adequate flow for the fire flow demands of the site.

Fire Route

The perimeter drive aisle geometry has been designed to accommodate fire access. The drive aisle is proposed to be signed to prohibit parking to support emergency vehicle access. (See attached)

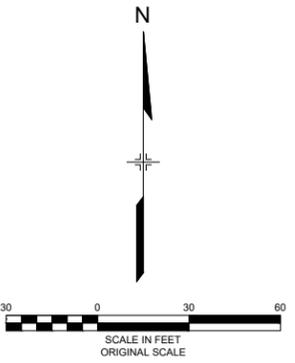
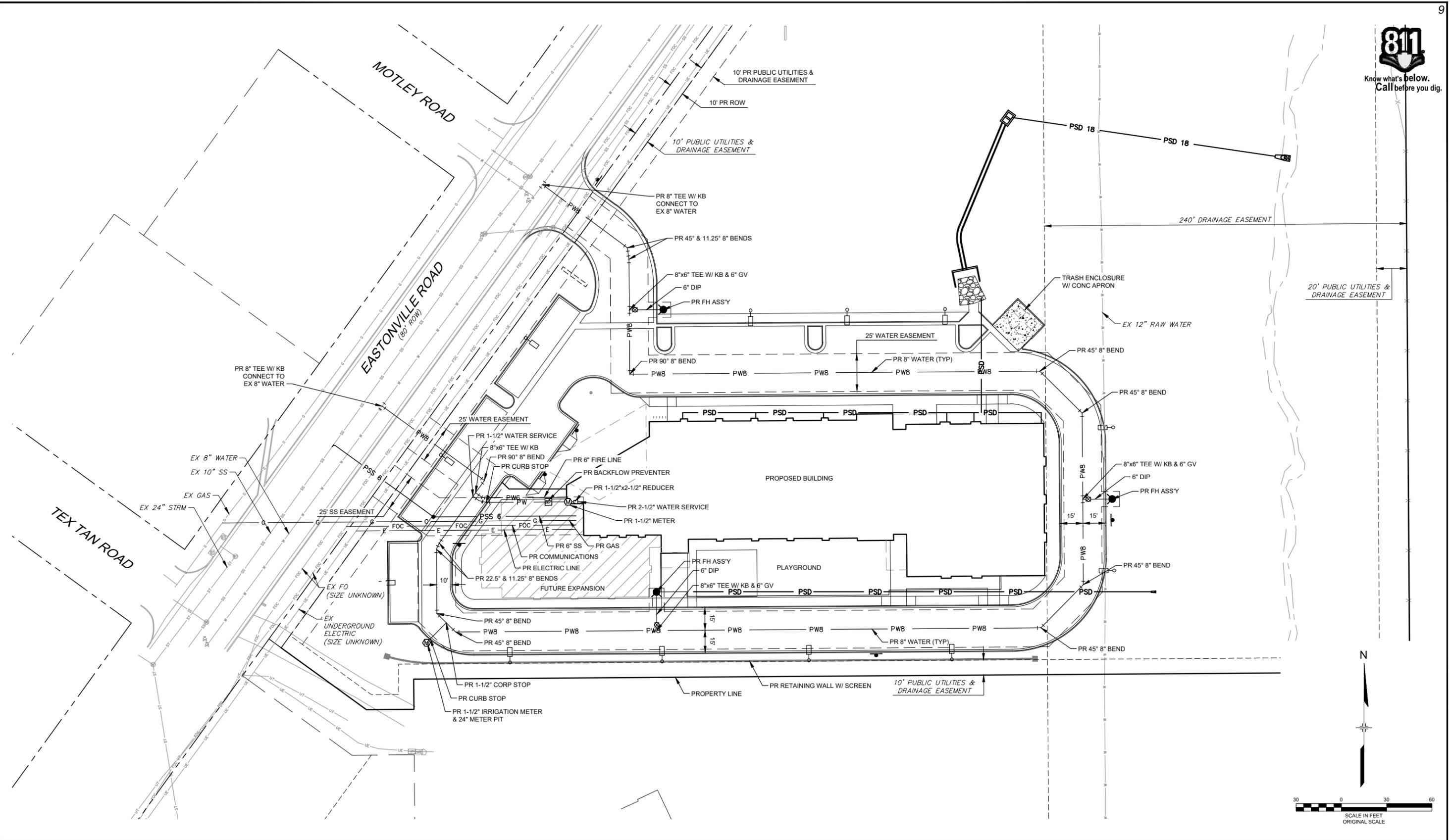
Sincerely,
MATRIX DESIGN GROUP, INC.



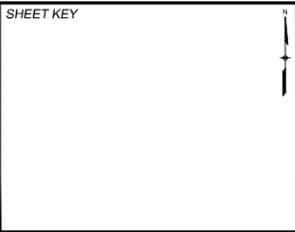
David Kline, PE, PTOE



Know what's below.
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REFERENCE DRAWINGS	SHEET KEY		
X-995-MDG22x34			
X-995-PR-BASE			
X-995-EV-BASE			
X-995-EX-MAP			
X-995-PR-UTIL			
No.	DATE	DESCRIPTION	BY
REVISIONS			
COMPUTER FILE MANAGEMENT			
FILE NAME: R:\18.995.001 (Liberty Tree Academy)\Dwg\Construction Plans\WO01.dwg			
CTB FILE: ---			
PLOT DATE: 5/4/2018 9:07 AM			
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.			



PREPARED BY:

Matrix
DESIGN GROUP
AN EMPLOYEE-OWNED COMPANY

SEAL

PRELIMINARY
THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE

FOR AND ON BEHALF OF
MATRIX DESIGN GROUP, INC.
PROJECT No. 18.995.001

LIBERTY TREE ACADEMY			
TOWN OF PEYTON, EL PASO COUNTY CONSTRUCTION DOCUMENTS			
SITE WATER MAIN PLAN			
DESIGNED BY: ACR	SCALE	DATE ISSUED: MAY 2018	DRAWING No.
CHECKED BY: DRK	HORIZ	SHEET 9 OF 18	WO01

FIRE FLOW FIRE HYDRANT TESTING & MAINTENANCE SERVICES, LLC

5835 Northwind Dr. Colorado Springs, CO 80918
(719) 495-5699

Pikes Peak Building Department
Fire Suppression Hydrant Technician License ID Number 11176

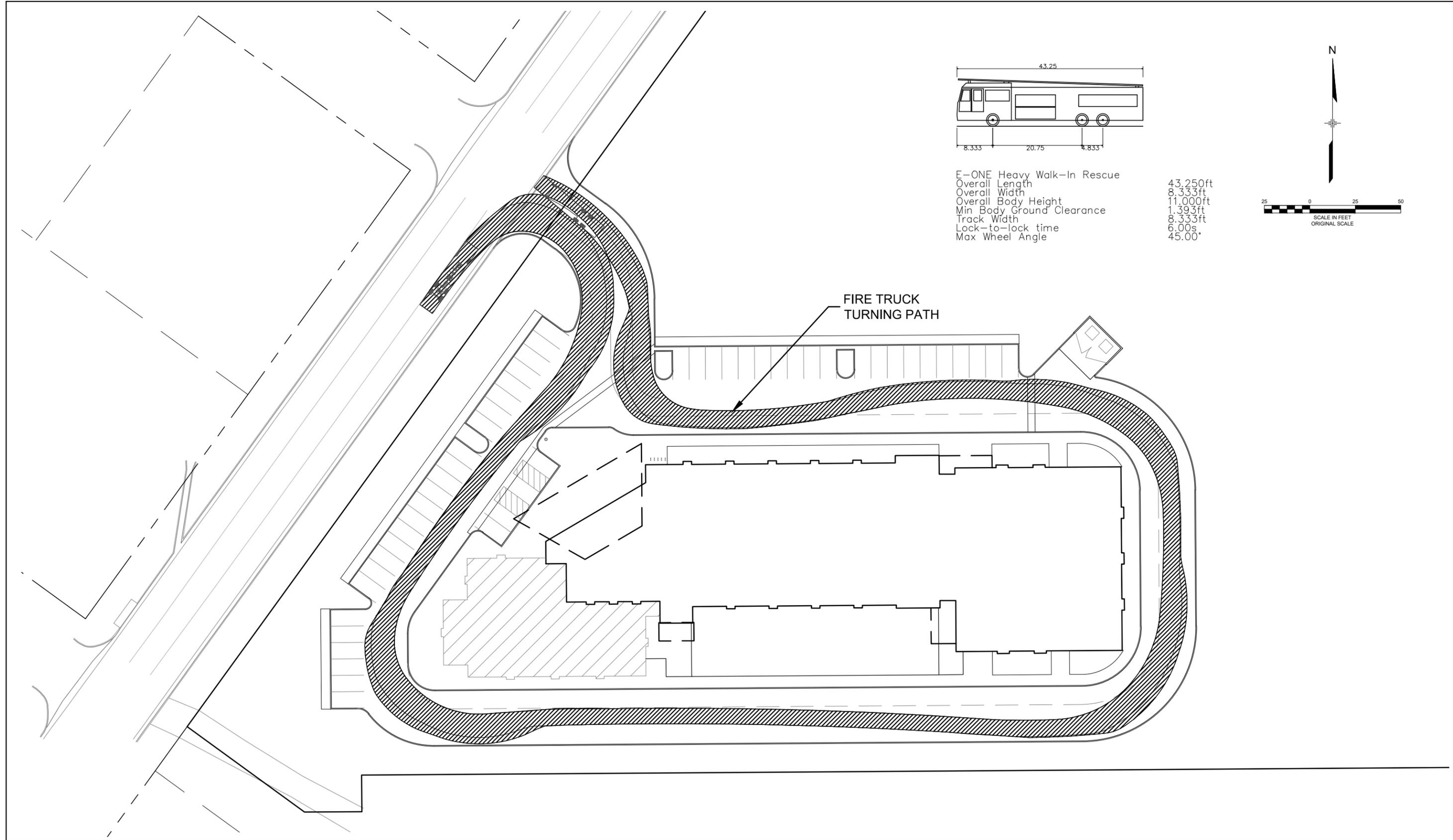
Fire Flow Test Report

ADDRESS	Eastonville Rd. and Snaffle Bit Rd.	DATE:	04/18/2018
OCCUPANT	Liberty Tree Academy	TIME:	1300
RESPONSIBLE PARTY	Matrix Design Group, Inc.	PHONE:	303-226-7822
WOODLAND HILLS:	Danny Everett	# OF HYDRANTS:	ONE
PURPOSE OF TEST:	Test Woodland Hills Metro Water District pressures to calculate the # of hydrants for a new build school.		

Hydrant	Hydrant Location	Outlet	Static	Flow	Location	Residual	Flow @ 20psi
1	Eastonville Rd.: Snaffle Bit Rd.	2.5	109	1007	Same Hydrant	86	2091 gpm

REMARKS:

- This hydrant worked well and as expected without showing signs of issues that would indicate the need for maintenance beyond the routine annual testing and maintenance services.
- Minor maintenance was completed on the hydrant and then painted to appropriate color reflecting the NFPA standard flow rates at 20%.



FIRE TRUCK TURNING EXHIBIT

LIBERTY TREE ACADEMY

APRIL 2018