



MEMORANDUM

Date:	April 15, 2026	GTS: 240903
From:	GTS	
To:	City of Beaumont	
Cc:	Chambers Group	
Subject:	Sight Distance and Swept Path Analysis – Beaumont City Yard Project	

The City of Beaumont, California has proposed the development of a city yard that would be utilized by the City to manage various City services including Transit, Vehicle Maintenance, Facilities, Parks and Recreation, and Public Works, and to accommodate future staff expansion.

This Memorandum contains a review of the following items in the site design for the site's four entrance/exit driveways:

- 1) Sight distances
- 2) Swept path analysis

PROJECT DESCRIPTION

The approximately 6.15-acre parcel development, located at the southwest corner of W 4th Street and Veile Avenue, would include the construction of an Administrative Operations Facility, Vehicle Maintenance Facility, Hydrogen Fueling Station, Compressed Natural Gas (CNG) Fueling Station, Electric Vehicle (EV) Charging Infrastructure, an equipment storage building, an outdoor secured storage area, and designated parking with both uncovered and solar-covered areas for a total of approximately 210 spaces. The project site would accommodate up to 100 employees and will be operating Monday through Thursday 8:00 AM to 5:00 PM and Friday 8:00 AM to 12:00 PM. The proposed project construction is expected to begin in 2026 with a duration of approximately 12 months.

1. SIGHT DISTANCE ANALYSIS

Sight distances were evaluated for vehicles exiting the site at the following driveways:

- The north driveway, located on W 4th Street. The site plan shows this drive way as exit only, right turn only.
- The west driveway, located on the Wastewater Treatment Plant (WWTP) access road. The site plan shows this driveway as allowing both entering and exiting traffic, with right and left turns allowed both in and out, but with the normal directions of traffic reversed (drivers will enter and exit on the left side of the driveway) due to the need for entering drivers to tap key fobs. There is not sufficient space for a median island to accommodate the key fob reader, so it will be placed to the side of the driveway, requiring entry on the left.
- The east driveway, located on Veile Avenue. The site plan shows this driveway as allowing both entering and exiting traffic, with right and left turns allowed both in and out.
- The southeast driveway, located on Veile Avenue. The site plan shows this driveway as allowing both entering and exiting traffic, with right and left turns allowed both in and out.

The driveway at the northwest corner of the site was not evaluated for sight distances because the site plan indicates that it is only for entering vehicles.

Stopping Sight Distance (SSD) is the minimum distance required by a vehicle traveling at or near the design speed of a roadway, on wet pavement, to stop before reaching an object in its travel path. Per the Caltrans Highway Design manual (HDM), Table 201.1, the SSDs for the site driveways are as follows:

- On W 4th Street, where the posted speed limit is 40 mph, SSD = 300 feet.
- On Veile Avenue, where the posted speed limit is 35 mph, SSD = 250 feet.
- On the WWTP access road, where the posted speed limit is 5 mph, SSD = 50 feet.

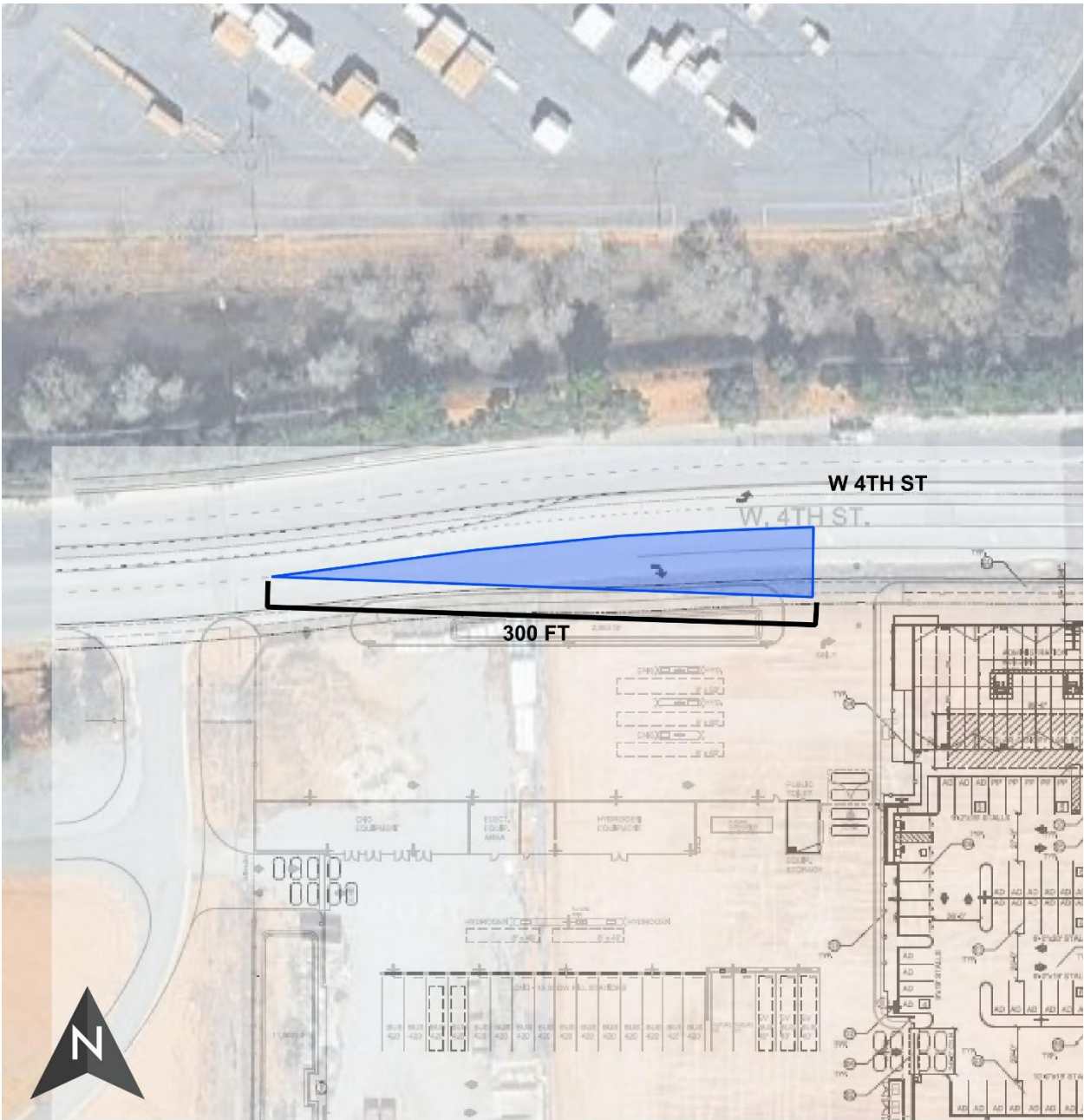
Per HDM Section 405.1, "Set back for the driver of the vehicle on the minor road should be a minimum of 10 feet plus the shoulder width of the major road but not less than 15 feet." Therefore, a setback distance of 10 feet was used for the driver's viewpoint.

The results of the sight distance analysis are summarized in Exhibit 1.1. Sight triangle diagrams are shown in Exhibits 1.2 through 1.5. Photos from each of the site driveways are shown in Exhibits 1.6 through 1.11.

Exhibit 1.1. Sight distance analysis results

Driveway	Posted speed limit	Stopping sight distance	Direction	Result	Exhibits
North (W 4 th St.)	40 mph	300 feet	Looking left (west)	Achieved	1.2, 1.6
East (Veile Ave.)	35 mph	250 feet	Looking left (north)	Utility poles may block the view for a driver stopped behind the STOP bar. However, prudent drivers typically roll forward to enhance their view after coming to an initial stop. For a driver pulled forward (but not encroaching on the travel lane), the sight distance is achieved.	1.3, 1.7, 1.8
			Looking right (south)	Achieved	
Southeast (Veile Ave.)	35 mph	250 feet	Looking left (north)	Achieved	1.4, 1.9, 1.10
			Looking right (south)	Parked vehicles may block the view. Red curbing is recommended (see Section 1.1: Recommendations).	
West (WWTP access road)	5 mph	50 feet	Looking left (south)	Achieved	1.5, 1.11
			Looking right (north)	Achieved	

Exhibit 1.2. Sight distance triangles: north driveway

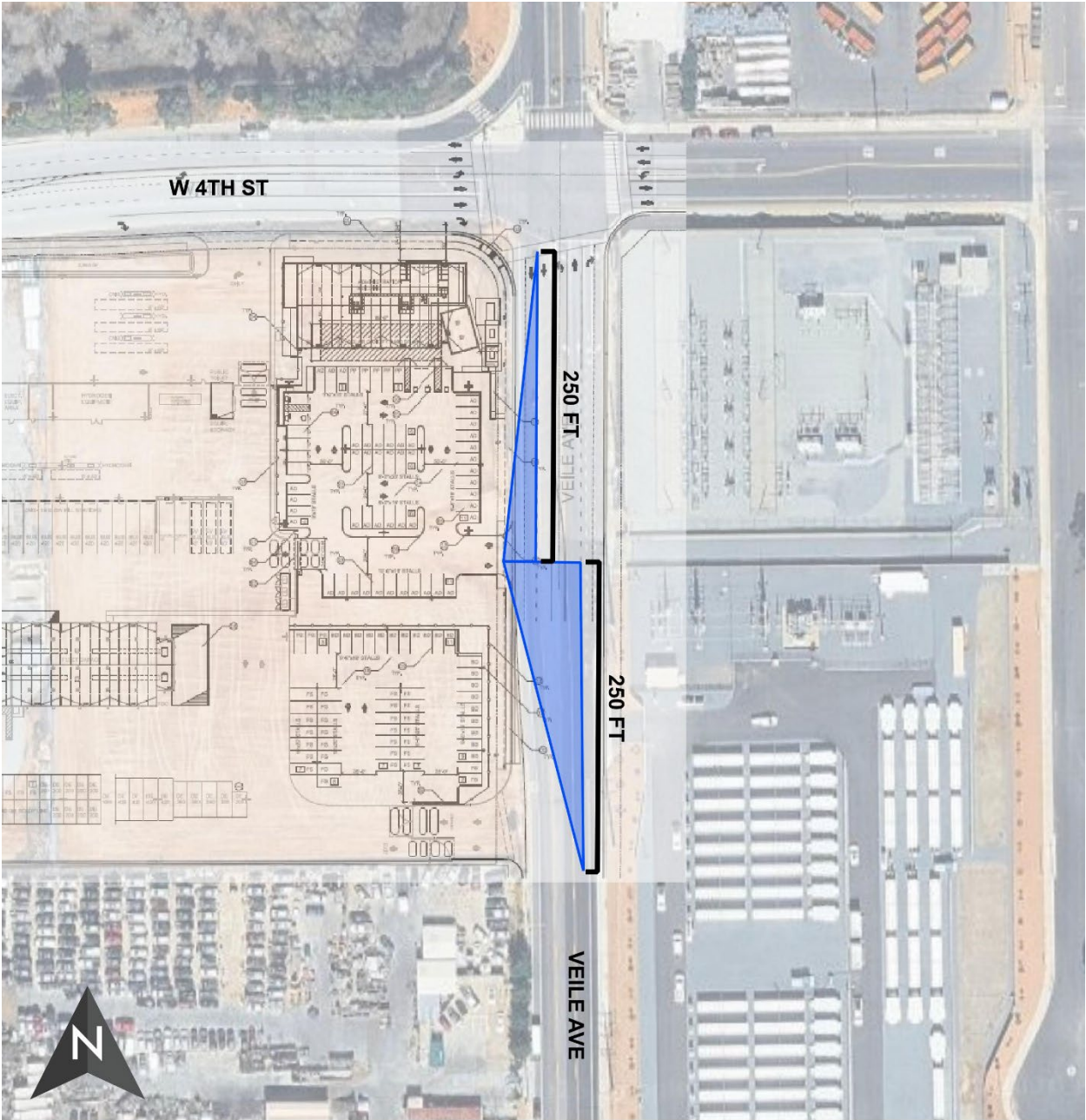


Legend

 Sight Distance Triangles



Exhibit 1.3. Sight distance triangles: east driveway

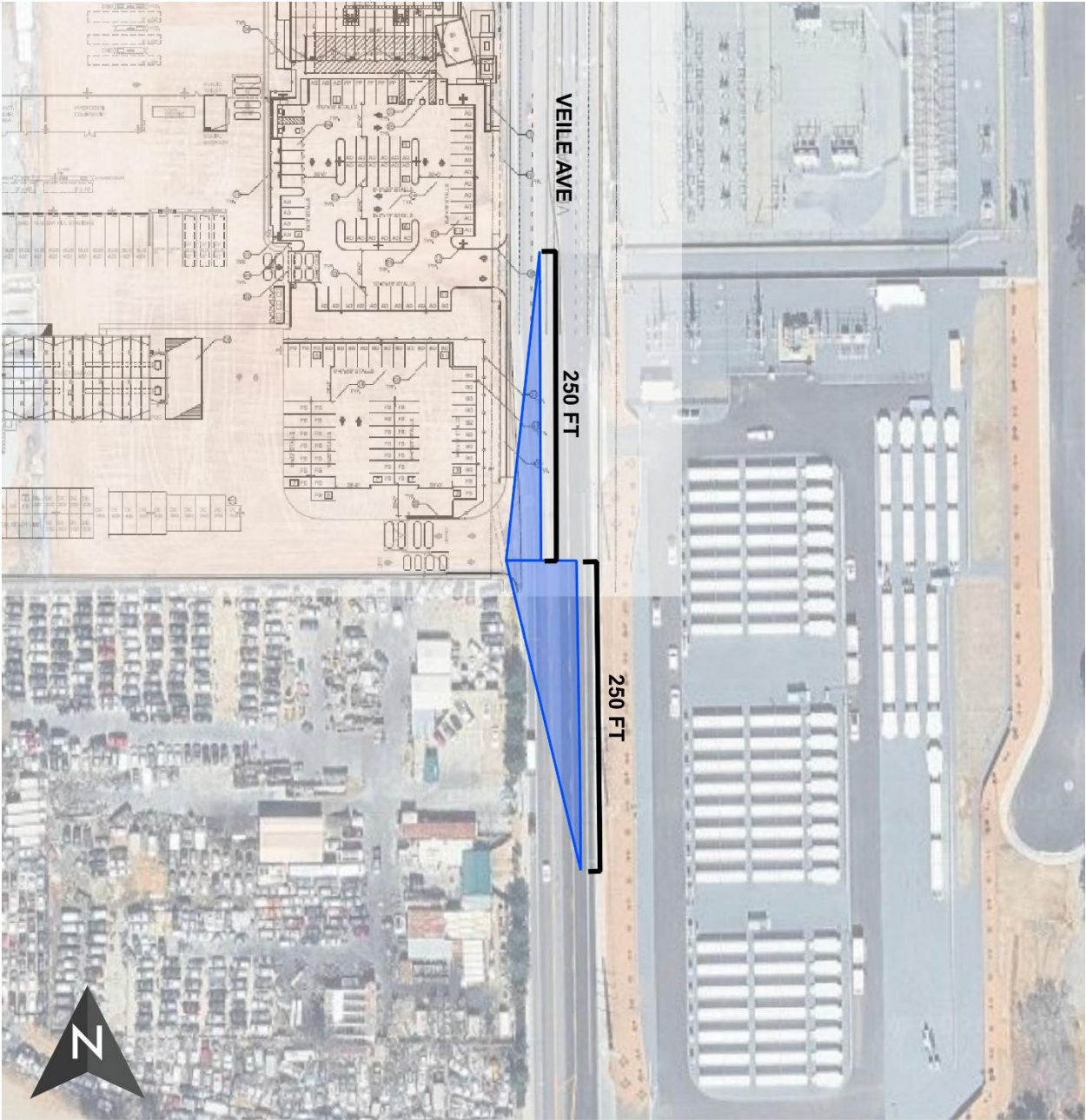


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 Sight Distance Triangles



Exhibit 1.4. Sight distance triangles: southeast driveway

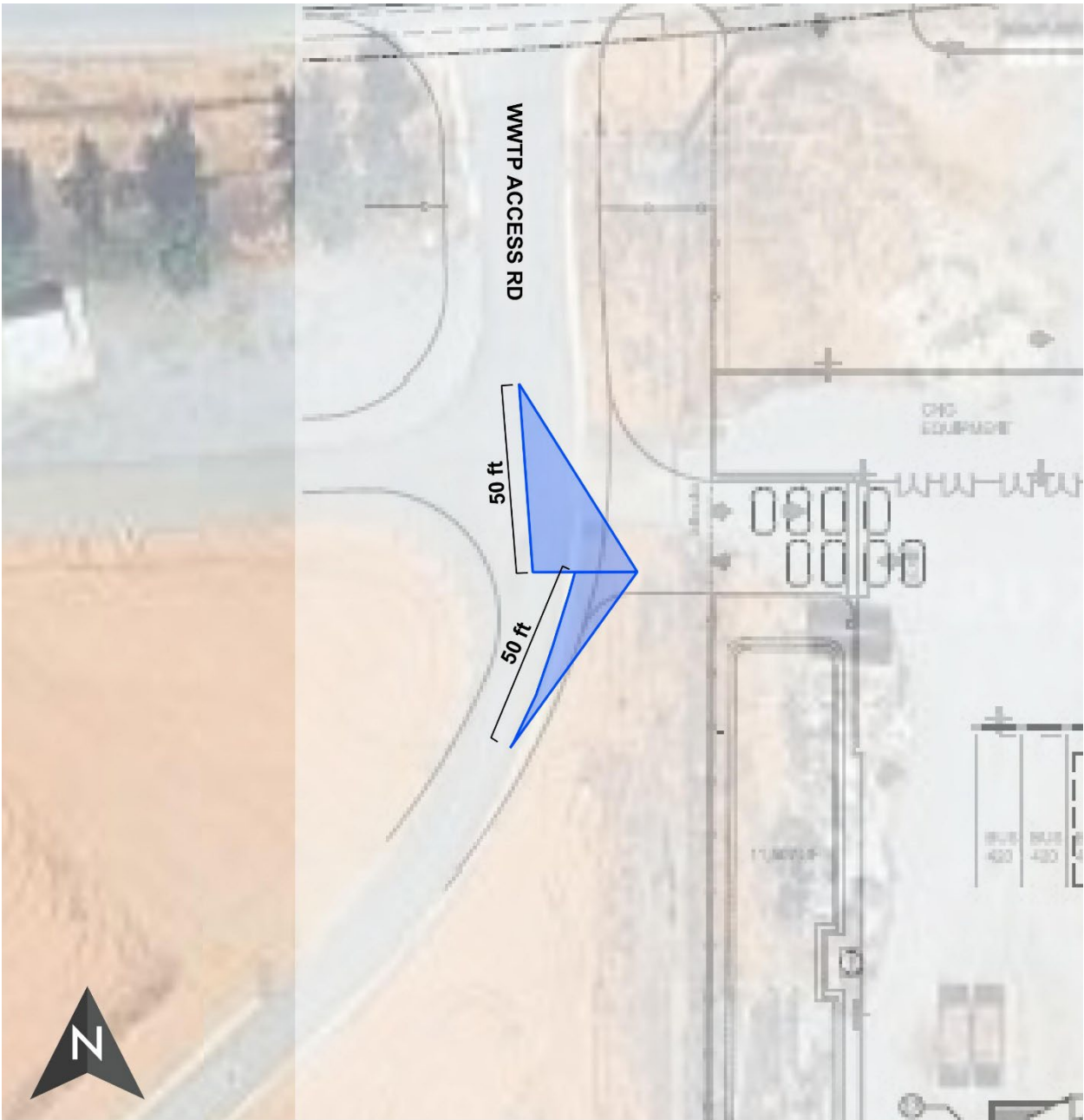


Legend

 Sight Distance Triangles



Exhibit 1.5. Sight distance triangles: west driveway



Legend

 Sight Distance Triangles



Exhibit 1.6. North driveway looking left (west) – 300-ft sight distance achieved



Exhibit 1.7. East driveway looking left (north) – 250-ft sight distance achieved after pulling forward



Exhibit 1.8. East driveway looking right (south) – 250-ft sight distance achieved



Exhibit 1.9. Southeast driveway looking left (north) – 250-ft sight distance achieved



Exhibit 1.10. Southeast driveway looking right (south) – parked vehicles may block view



Exhibit 1.11. View of the west driveway as seen from the WWTP access road, looking south



1.1. Recommendations

- At the southeast driveway, parked cars along Veile Ave to the south of the site may obstruct an exiting driver's view. Red curbing is recommended along the west side of Veile Ave from the site's southeast driveway southward for at least 100 feet and possibly as far as the driveway belonging to the adjacent site to the south. The exact length of red curb needed can be calculated after construction.

2. SWEEP PATH ANALYSIS

A swept path analysis of the internal site circulation and access driveways was carried out using AutoTURN software with a 45-foot bus and WB-67 truck as the design vehicles. The identified issues are listed below. The AutoTURN results are shown in Exhibits 2.2 through 2.6 on the following pages, with areas of concern outlined in red and indicated with red numbers corresponding to the numbers on the following list.

1. At the southwest corner of the site, there may be a conflict between two vehicles moving in opposite directions near to the space labeled “DE 100” (see Exhibit 2.2).
2. Near the south central portion of the site, there may be a conflict between two vehicles moving in opposite directions near to the space labeled “DE 200” (see Exhibit 2.3).
3. At the southeast driveway, a vehicle exiting and turning right (southbound) could encroach into the center turn lane on Veile Ave (see Exhibit 2.3).
4. At the north driveway, if buses need to exit and use the through lane to proceed eastbound on W 4th Ave, some modifications to the striping and pavement markings may be required. Currently there is a solid white line that would be crossed by vehicles making this movement, and a truck prohibition pavement marking in the eastbound through lane on W 4th Ave approaching Veile Ave (see Exhibit 2.4; photo shown in Exhibit 2.1).
5. At the entrance/exit on the west side of the site, two vehicles entering and exiting at the same time could conflict with one another (see Exhibit 2.5).
6. Near the center of the site, a vehicle driving around the corner near the EV charging spaces as shown in the exhibit could conflict with another vehicle going in the opposite direction. As shown, the swept path of a large vehicle going in one direction takes up most of the available space (see Exhibit 2.6).

Exhibit 2.1. North driveway looking right (east); note solid white line and truck restriction pavement markings



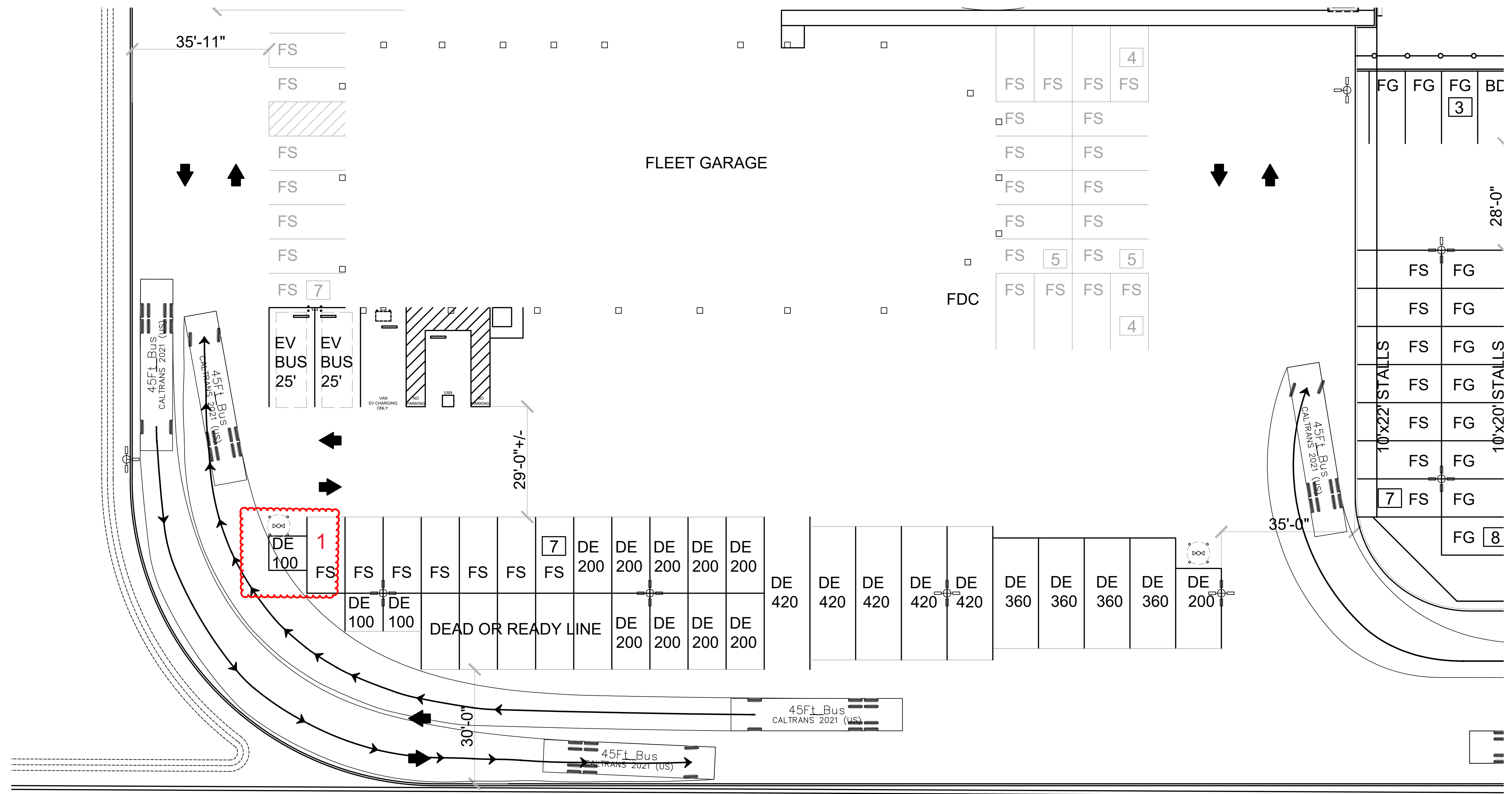


Exhibit 2.2

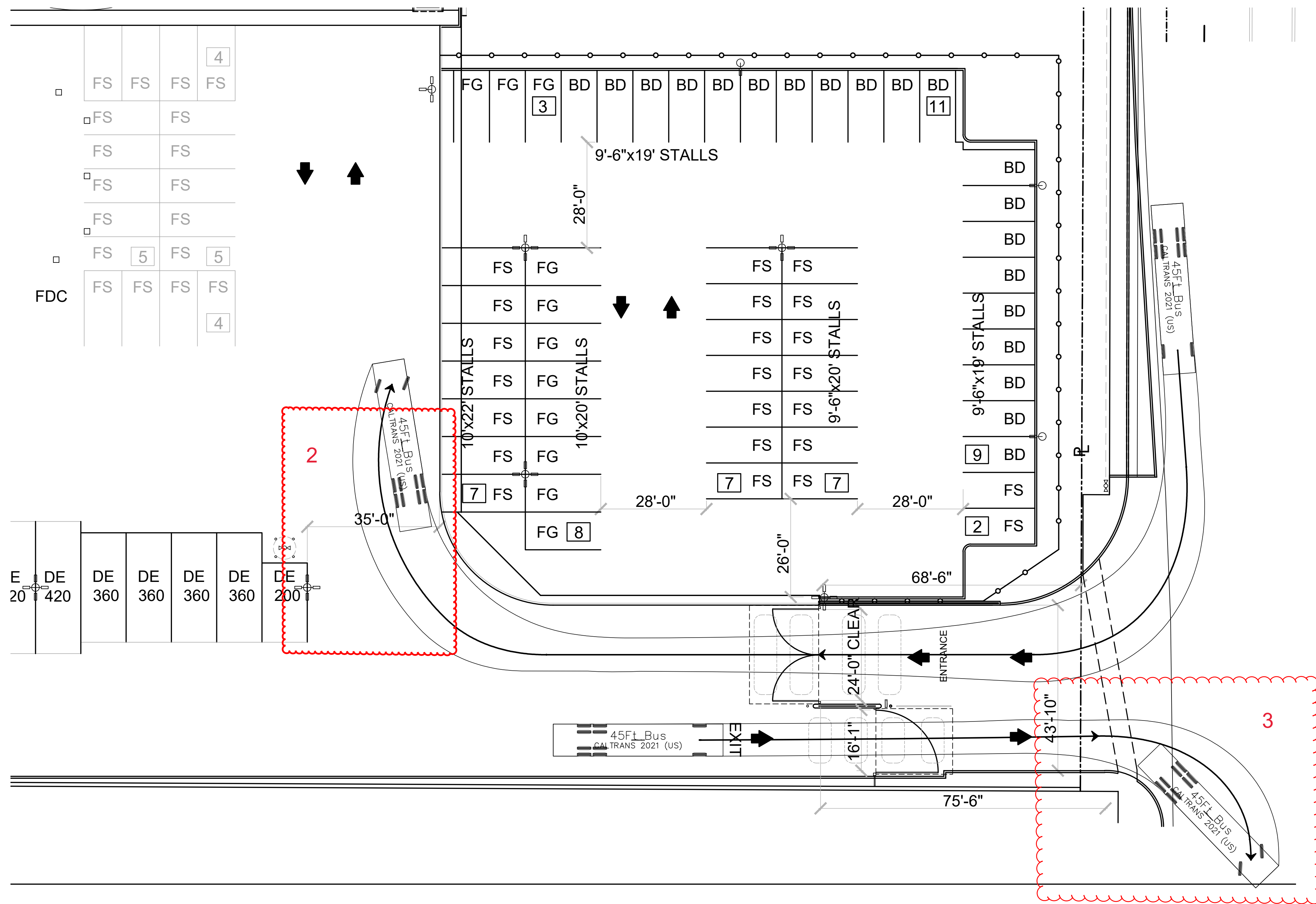


Exhibit 2.3

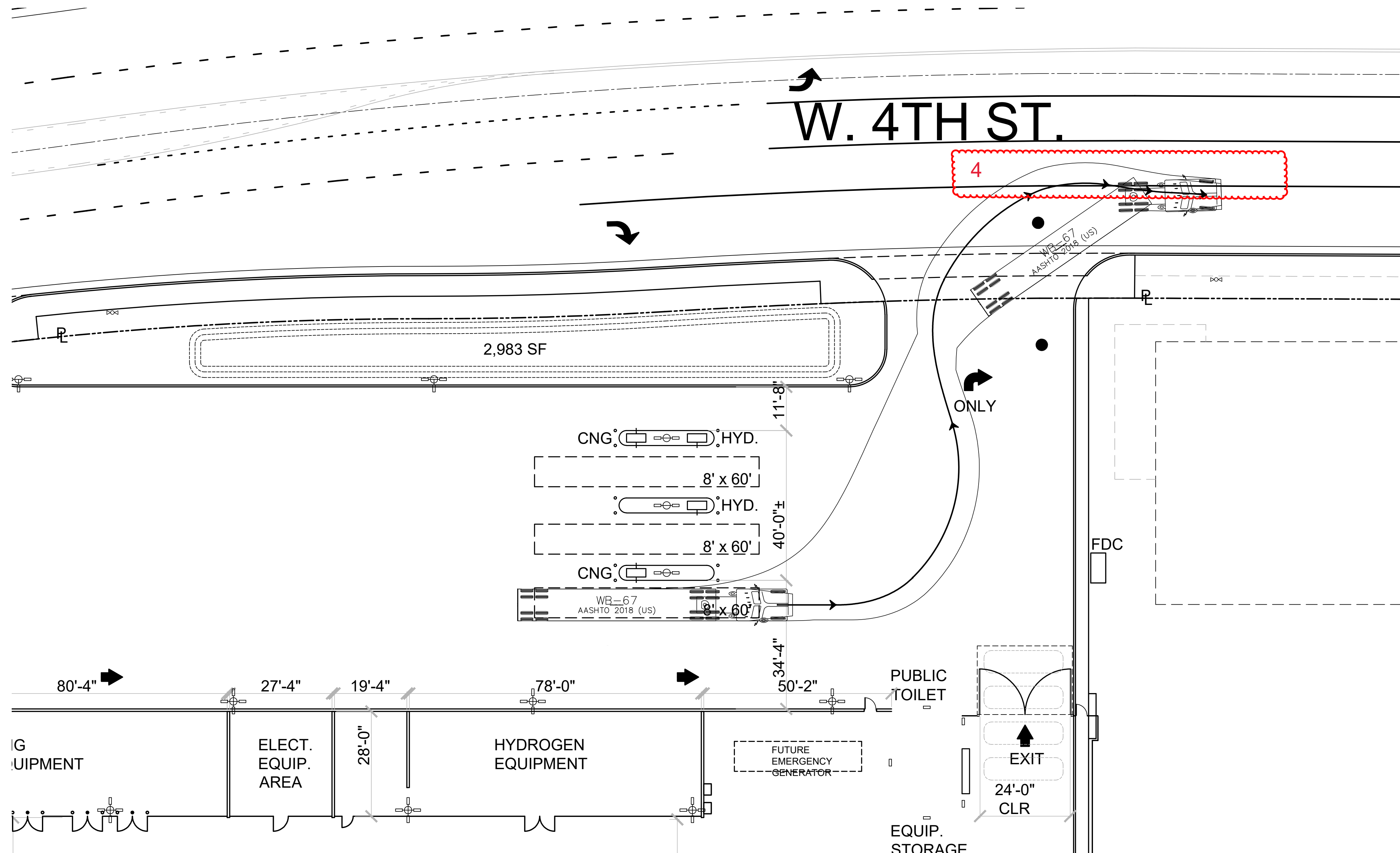
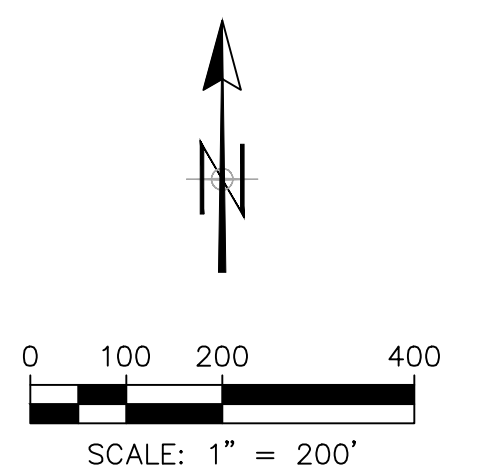


Exhibit 2.4



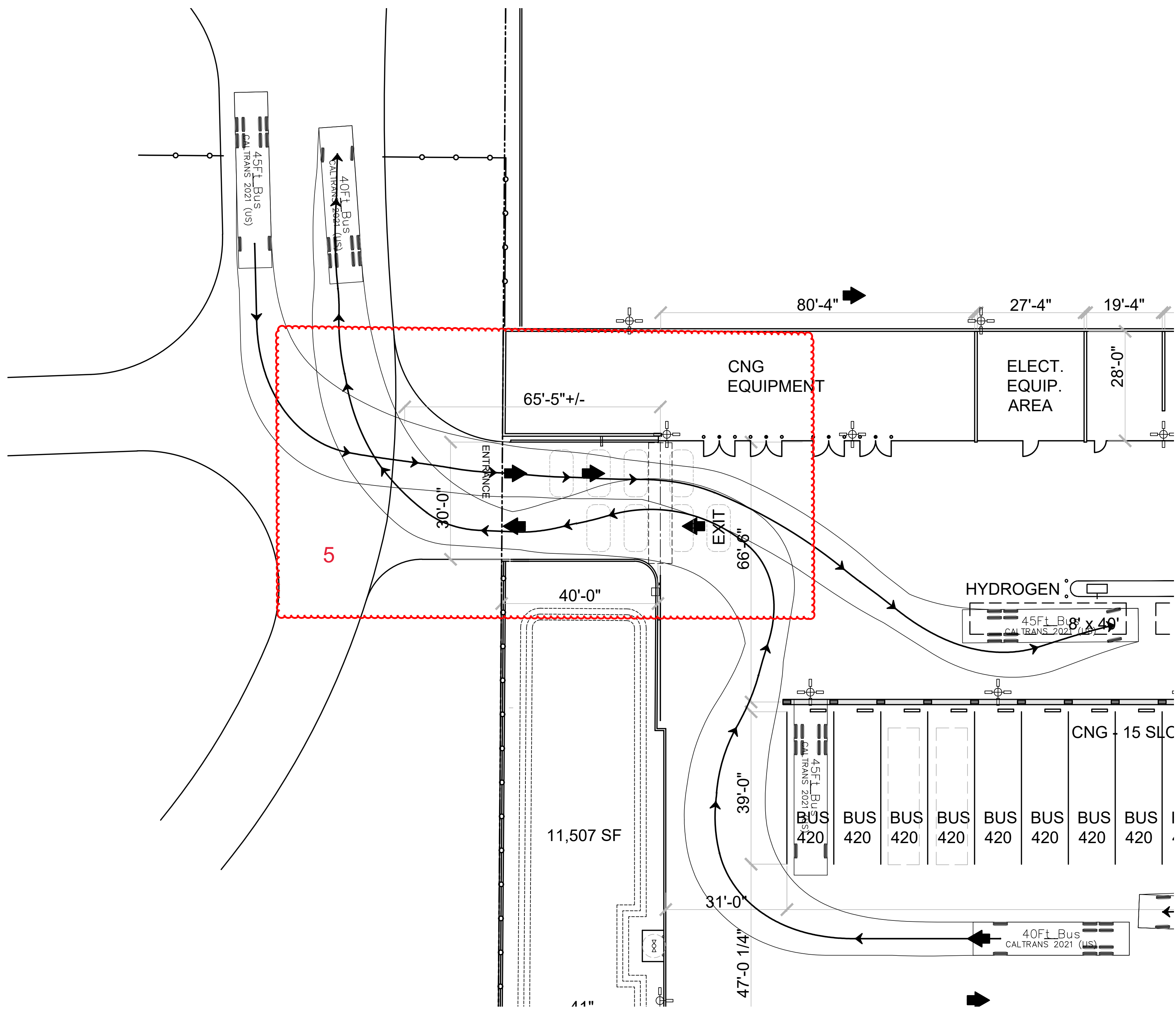


Exhibit 2.5

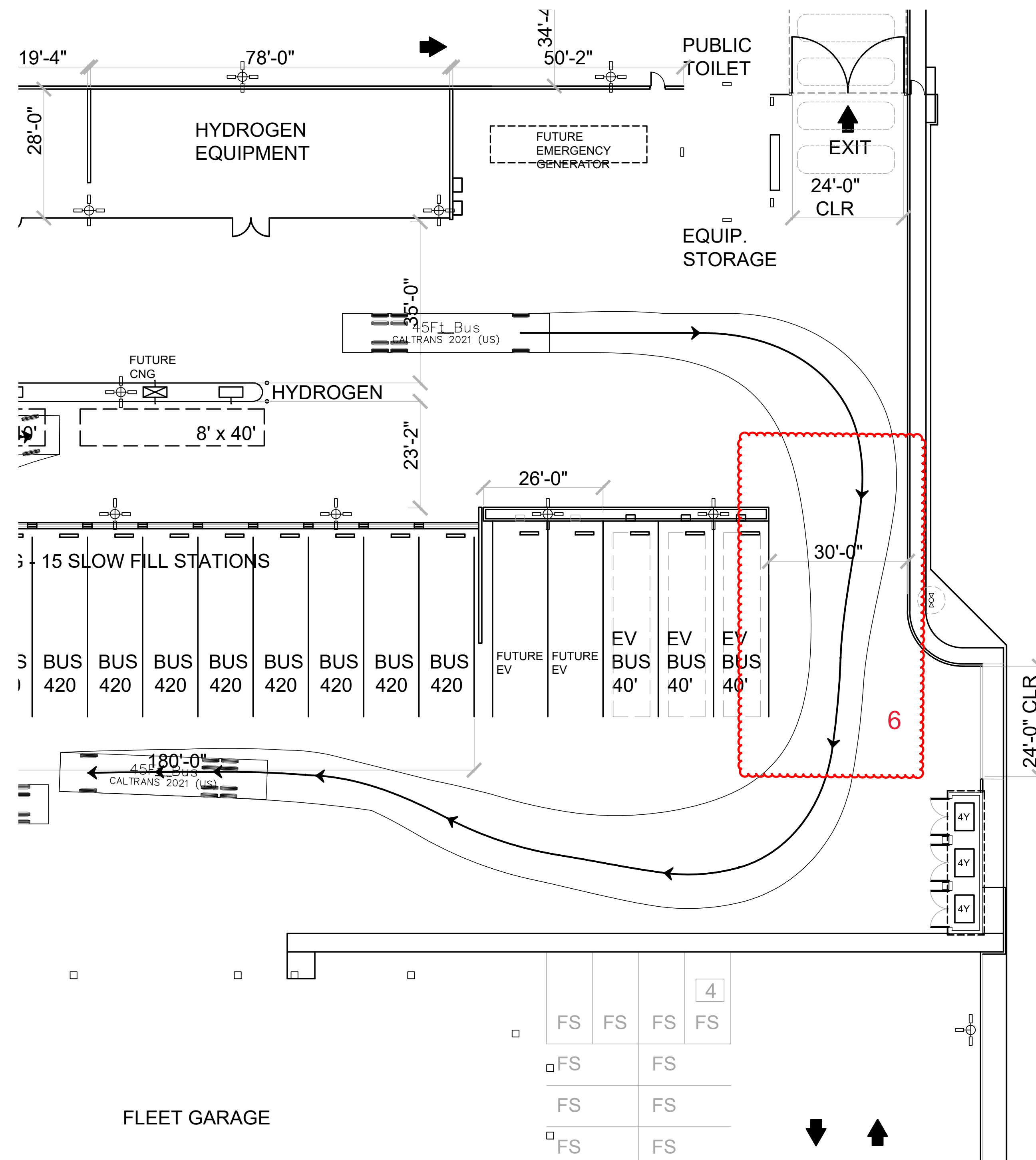


Exhibit 2.6

