

## Explosive and Flammable Hazards (CEST and EA)

General requirements	Legislation	Regulation
HUD-assisted projects must meet Acceptable Separation Distance (ASD) requirements to protect them from explosive and flammable hazards.	N/A	24 CFR Part 51 Subpart C
Reference		
<a href="https://www.hudexchange.info/environmental-review/explosive-and-flammable-facilities">https://www.hudexchange.info/environmental-review/explosive-and-flammable-facilities</a>		

1. Does the proposed HUD-assisted project include a hazardous facility (a facility that mainly stores, handles or processes flammable or combustible chemicals such as bulk fuel storage facilities and refineries)?

☒ No

→ Continue to Question 2.

☐ Yes

Explain:

→ Continue to Question 5.

2. Does this project include any of the following activities: development, construction, rehabilitation that will increase residential densities, or conversion?

☐ No

→ Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below.

☒ Yes

→ Continue to Question 3.

3. Within 1 mile of the project site, are there any current *or planned* stationary aboveground storage containers:

- Of more than 100 gallon capacity, containing common liquid industrial fuels OR
- Of any capacity, containing hazardous liquids or gases that are not common liquid industrial fuels?

☐ No

→ Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide all documents used to make your determination.

☒ Yes

→ Continue to Question 4.

**4. Is the Separation Distance from the project acceptable based on standards in the Regulation?**

Please visit HUD's website for information on calculating Acceptable Separation Distance.

☒ Yes

→ Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide map(s) showing the location of the project site relative to any tanks and your separation distance calculations. If the map identifies more than one tank, please identify the tank you have chosen as the "assessed tank."

☐ No

→ Provide map(s) showing the location of the project site relative to any tanks and your separation distance calculations. If the map identifies more than one tank, please identify the tank you have chosen as the "assessed tank."  
Continue to Question 6.

**5. Is the hazardous facility located at an acceptable separation distance from residences and any other facility or area where people may congregate or be present?**

Please visit HUD's website for information on calculating Acceptable Separation Distance.

☐ Yes

→ Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide map(s) showing the location of the project site relative to residences and any other facility or area where people congregate or are present and your separation distance calculations.

☐ No

→ Provide map(s) showing the location of the project site relative to residences and any other facility or area where people congregate or are present and your separation distance calculations.  
Continue to Question 6.

**6. For the project to be brought into compliance with this section, all adverse impacts must be mitigated. Explain in detail the exact measures that must be implemented to make the Separation Distance acceptable, including the timeline for implementation. If negative effects cannot be mitigated, cancel the project at this location.**

Note that only licensed professional engineers should design and implement blast barriers. If a barrier will be used or the project will be modified to compensate for an unacceptable separation distance, provide approval from a licensed professional engineer.

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## **Worksheet Summary**

### **Compliance Determination**

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

The project does not involve explosive or flammable materials or operations. There is no visual evidence or indication of unobstructed or unshielded above ground storage tanks (fuel oil, gasoline, propane, etc.) at or immediately adjacent to the project site. The nearest above-ground storage tanks (ASTs) is located at 185 Berry Street.

The AST at 185 Berry Street (Level 3 Communications LLC), contains approximately 6,400 gallons and has an Acceptable Separation Distance (ASD) for thermal radiation of 600 feet (if unobstructed). The project site is approximately 1,000 feet south of 185 Berry Street, separated by Mission Creek and several buildings; it is thus located at an acceptable distance.

Please refer to:

1. HUD Exchange, Acceptable Separation Tool. Available at: <https://www.hudexchange.info/environmental-review/asd-calculator/>. Accessed April 9, 2018.

### **Are formal compliance steps or mitigation required?**

- ☐ Yes
- ☒ No

## Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft<sup>2</sup> - hr - people and 10,000 BTU/ft<sup>2</sup> - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Siting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

**Note:** Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

### Acceptable Separation Distance Assessment Tool

Is the container above ground?	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>
Is the container under pressure?	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>
Does the container hold a cryogenic liquified gas?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Is the container diked?	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>
What is the volume (gal) of the container?	<input type="text" value="6400"/>
What is the Diked Area Length (ft)?	<input type="text"/>
What is the Diked Area Width (ft)?	<input type="text"/>
<input type="button" value="Calculate Acceptable Separation Distance"/>	
Diked Area (sqft)	<input type="text"/>
ASD for Blast Over Pressure (ASDBOP)	<input type="text"/>
ASD for Thermal Radiation for People (ASDPPU)	<input type="text" value="599.31"/>
ASD for Thermal Radiation for Buildings (ASDBPU)	<input type="text" value="118.60"/>
ASD for Thermal Radiation for People (ASDPNPD)	<input type="text"/>
ASD for Thermal Radiation for Buildings (ASDBNPD)	<input type="text"/>

**For mitigation options, please click on the following link:** [Mitigation Options \(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/\)](/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)

#### Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using [Ask A Question \(/ask-a-question/my-question/\)](/ask-a-question/my-question/). Enter "Environmental Review" in the "My question is related to" field.

#### Related Information

- [ASD User Guide \(/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/\)](/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)
- [ASD Flow Chart \(/resource/3840/acceptable-separation-distance-asd-flowchart/\)](/resource/3840/acceptable-separation-distance-asd-flowchart/)



# Above Ground Stroage Tank

Distance between MB6W and nearest AST is greater than 1,700 feet

185 Berry St

## Legend

-  6West
-  China Basin
-  Distance between MB6W and AST- 1,700 feet

Google Earth

Gray Buildings © 2008 Sanborn  
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900 ft