

A Threat to Health & Safety

Public Safety and Emergency Response Aspects
Of a Proposed Methane Gas Compressor Station in Weymouth

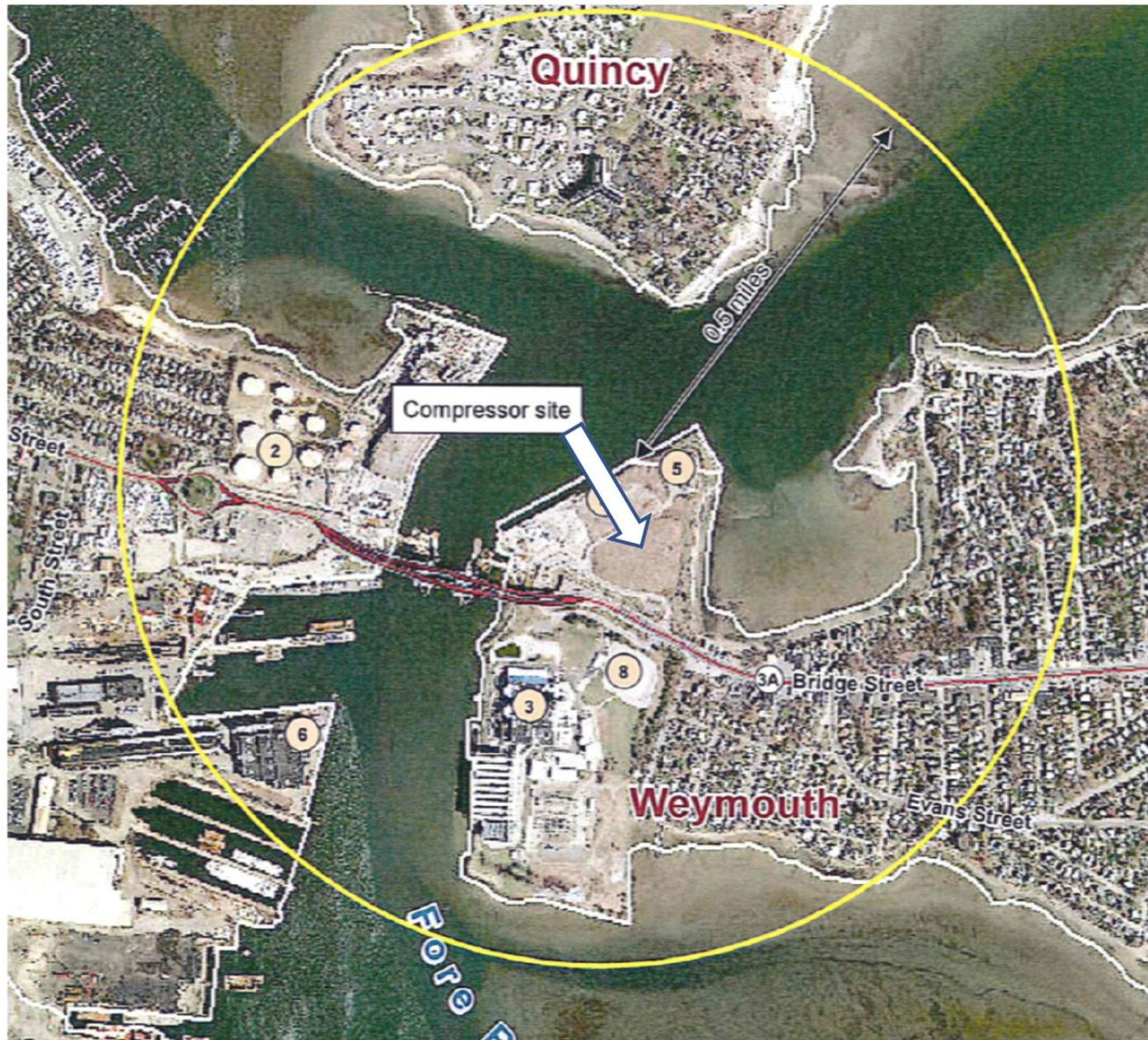




Sewage plant

Proposed
compressor

Calpine electric plant



Industrial Sites in the Vicinity of the Proposed Weymouth Compressor

1. Citgo Marine Petroleum Terminal
2. Twin Rivers Technologies
3. Calpine Electric
4. Potter Station
Braintree Elec. Light
5. MWRA
Sewage pump station
6. Sewage pelletizing plant
7. Clean Harbors
Transfer and treatment facil.
8. Oil storage facility
Calpine Site
9. Algonquin pipeline



Prepared for:
Town of Weymouth
Planning Dept.
By:
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Critical infrastructure within one mile (yellow circle) of proposed compressor station, as provided by Town of Weymouth.

Thermal Radiation Threat Zone

King's Cove, a park next door:
"second degree burns to mortality."

The sewage pumping station:
"second degree burns to mortality."

Sections of Route 3A: "Pain less than second degree burns, second degree burns, mortality."

Surrounding residential areas:
"Second degree burns to pain less than second degree burns."

Bridge & Calpine plant: "Pain less than second degree burns."

FIGURE 7: SMALLEST THERMAL RADIATION THREAT ZONE MODELED

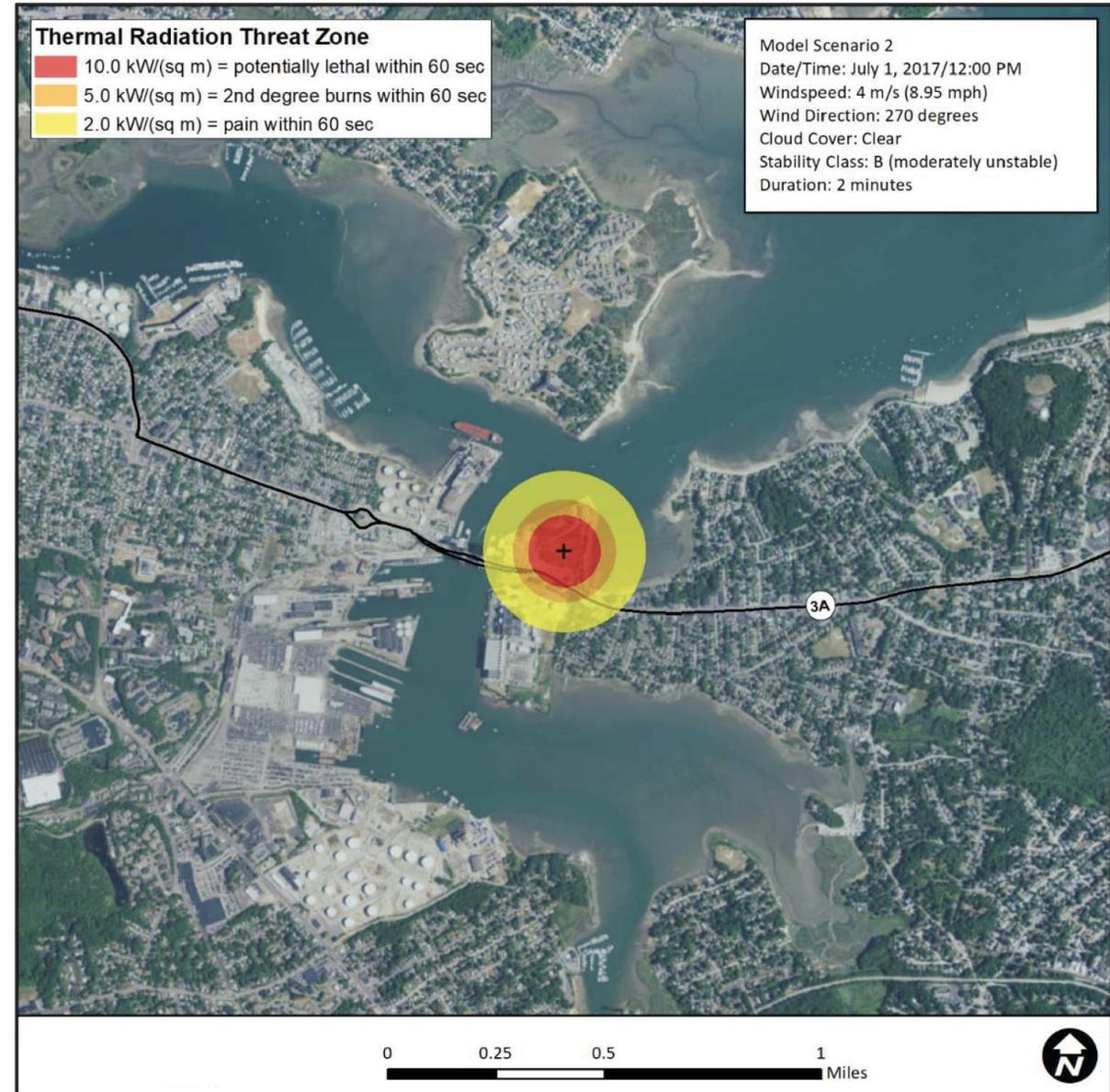
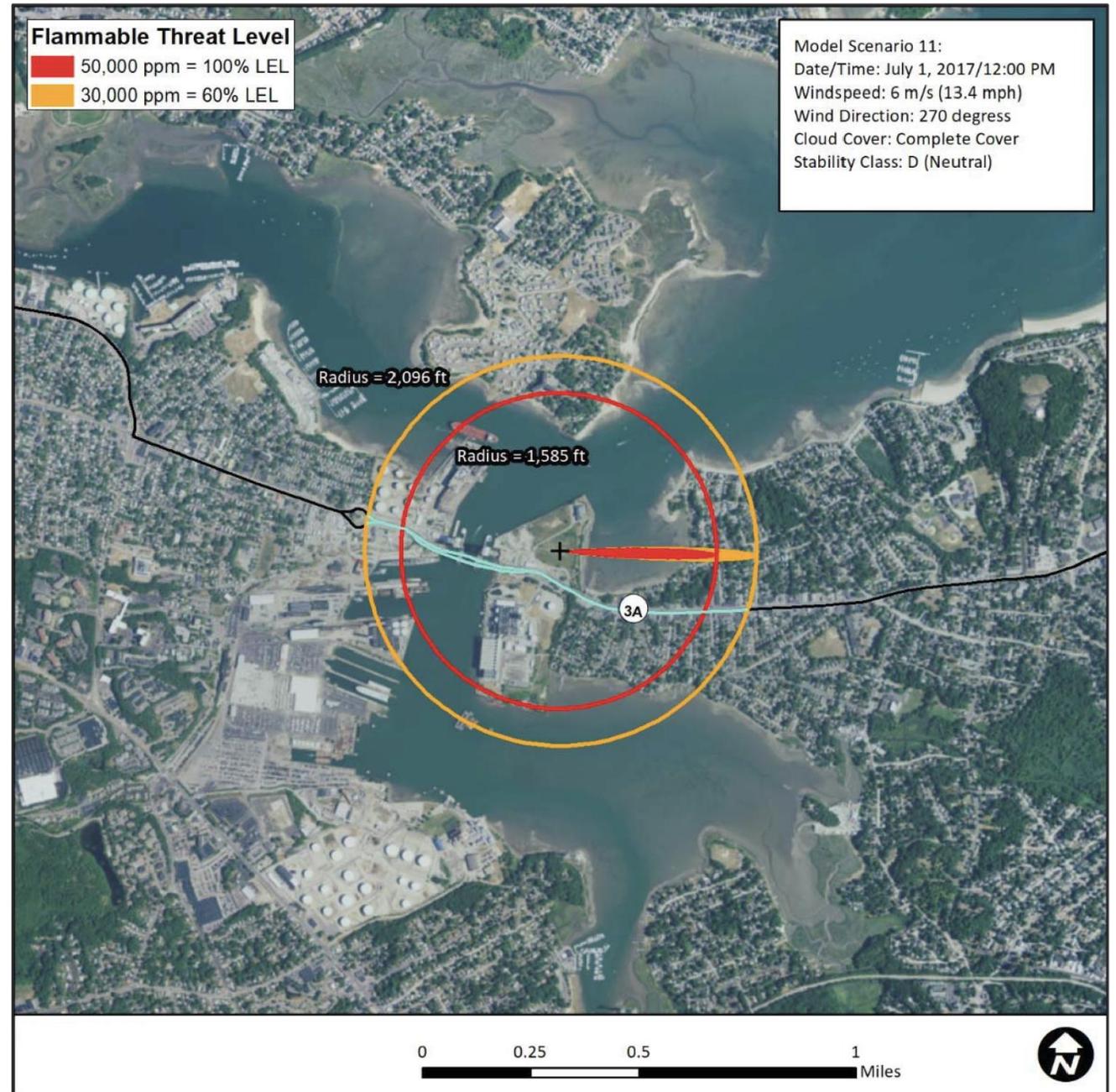


FIGURE 5: AVERAGE SIZED VAPOR THREAT ZONE MODELED

Average-Sized Vapor Threat Zone: 1,585 ft

The “vapor threat zone” is the area downwind from a leak where methane concentration in the air equals or exceeds the lowest concentration at which it will ignite (the Lower Explosive Limit, LEL).

The *average-sized cloud* of methane at explosive concentrations is 1,585 feet in this scenario. Note this would cover the Fore River bridge, the sewage pump station, the entire Calpine plant, and hundreds of homes in Weymouth and across the river in Quincy.

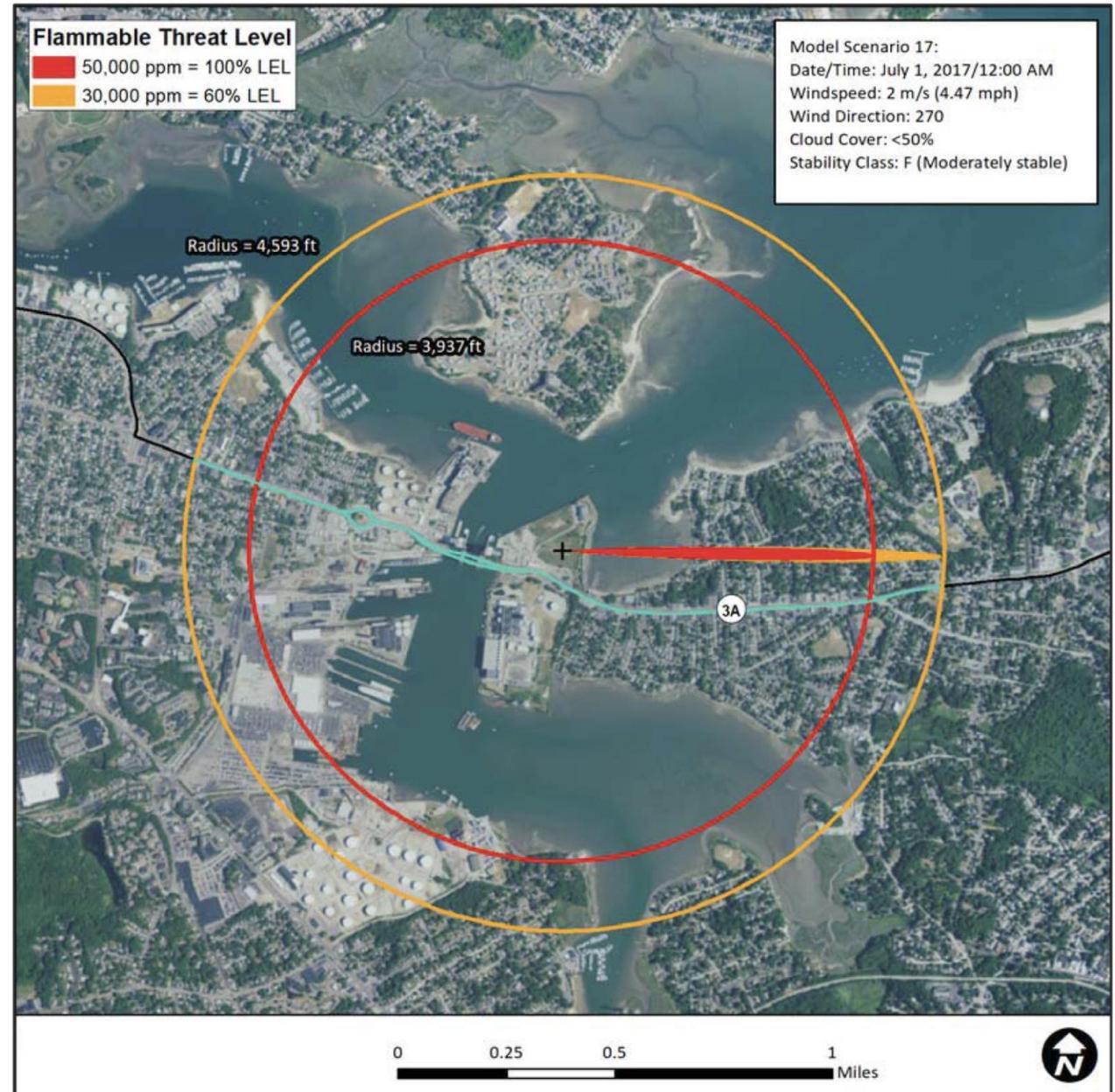


Largest-Sized Vapor Threat Zone: 3,937 ft

The *largest cloud* of methane at explosive concentrations extends to 3,937 feet. This would cover more than 964 households, and approaches the 1.2-mile (6,336-foot) area including schools with 3,100 students, nursing homes and a mental health facility.

Again: This models a somewhat arbitrary scenario of a 2-minute leak that releases 14 tons of methane. The Pennsylvania compressor leak in 2017 (which, fortunately, dissipated without exploding) released 200 tons.

FIGURE 6: LARGEST VAPOR THREAT ZONE MODELED



Take-Homes on Public Safety Concerns

- Methane gas compressor stations explode and catch fire – **one event per year in the United States in each of the past 5 years**
- They are not usually built in densely populated areas
- They are not usually built next to other explosive and critical infrastructure
- Nearby residents, particularly children, the elderly and the disabled, could not be safely evacuated in the event of an emergency.
- The proposed site is a small, low-lying peninsula prone to flooding