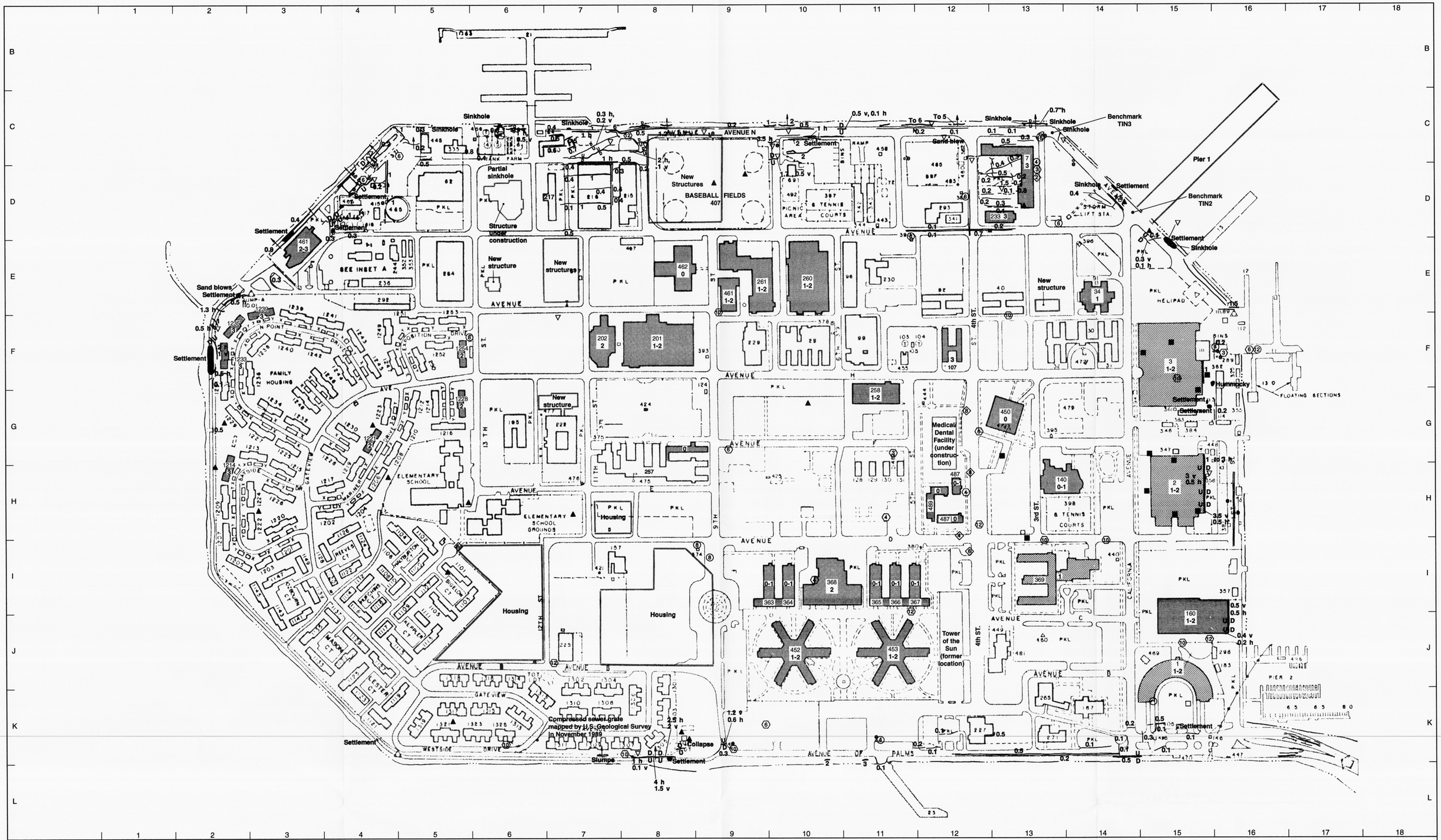

EXPLANATION

D/U 1 h / 1 v — Vertical or horizontal displacement greater than 0.5 in., with magnitude of displacement measured at selected locations (D, down; U, up). Arrow shows sense of displacement: h, horizontal; v, vertical. All displacements shown are horizontal unless otherwise noted.

D/U 0.3 — Laterally continuous cracks at least 50 ft. long, with 0.1 to 0.5 in. of displacement. Arrow shows sense of displacement; all displacements shown are horizontal unless otherwise noted.

■ Settlement feature documented by U.S Geological Survey in November 1989.

▲ Sand boil documented by U.S Geological Survey in November 1989.

Discontinuous cracks or complexly branching crack systems that accommodate 0.1 to 0.5 in. of net displacement unless otherwise noted.

Excavated area; may be related to earthquake effects.

Area of noticeable differential settlement (greater than approx. 1 to 2 in.

□ Ground cracks documented by U.S. Geological Survey in November 1989.

▽ Feature documented by both U.S. Geological Survey in November 1989 and Geomatrix Consultants between January 18 and February 6, 1990.

Review of records indicates that this structure was constructed with a shallow foundation (slab-on-grade or strip/spread footings).

Review of records indicates that this structure was constructed with a foundation supported by piles.

Location of pipeline break. Number inside symbol is diameter of line (in inches).

⑥ Gas pipeline

④ Sewer pipeline

⑩ Freshwater-supply line

Foundation-Damage Index (FDI) (see note 6)

FDI is indicated by bold numbers within structures. Other numbers on/within structures are building/facility numbers.

FDI	Interpretation
0	No apparent damage or settlement of foundation or floor system.
1	Minor cracking or differential settlement of foundation or floor system. No repairs required.
2	Significant cracking or differential settlement of foundation or floor system. Repairs required for slabs-on-grade, but no repairs to foundation.
3	Major cracking or differential settlement of foundation. Foundation repairs required.

Dual classification (for example, 1-2, 2-3) indicates possible range of FDI for a given foundation (rather than indicating that conditions rests of the border line between two classifications).

Notes

1. Field mapping of Treasure Island by Geomatrix Consultants took place between January 18 and February 6, 1990.
2. Ground-distress features were mapped to 1:240 scale on aerial photographs from the topographic and hydrologic survey, November to December 1989.
3. Perimeter area mapped around the entire circumference of Treasure Island. Generally, only those areas within 200 ft. of the dike crest were mapped; however, mapping was extended farther inland when cracks extended beyond 200 ft. On the northeast side of the island, deformation was mapped to approximately 500 ft. from the dike crest.
4. Only the most significant features were transferred from field maps to this base map.
5. New construction at baseball field on northeast side of the island (407), and parking lot north of Building 217; possible earthquake effects removed during construction before mapping.
6. Foundation-damage index (FDI) was assigned on the basis of available formal inspection reports supplemented by discussion with persons familiar with the facilities.

0 200 400 FEET

MAP SHOWING LOCATIONS OF GROUND-FAILURE FEATURES AND DAMAGE TO FACILITIES ON TREASURE ISLAND ATTRIBUTED TO THE 1989 LOMA PRIETA EARTHQUAKE

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Holzer, Thomas L., The Loma Prieta, California, earthquake of October 17, 1989–Liquefaction: U.S. Geological Survey Professional Paper 1551–B.