

Commissioner Provided Items

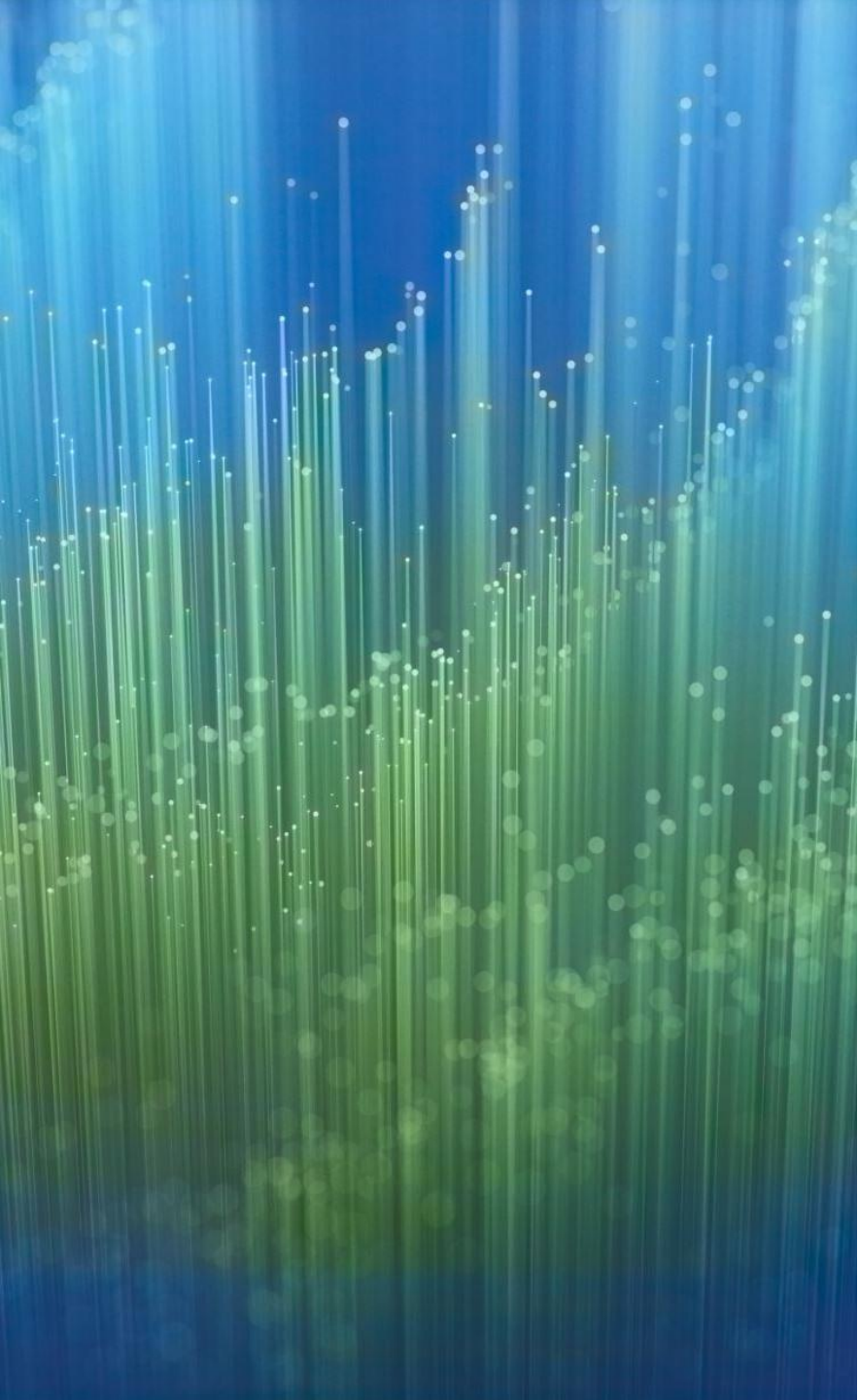
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HB Sports Complex

Landfill Gas Monitoring/Extraction System Analysis

Public Works Dept.

July 29, 2026



Basic Description of Landfill Gas Monitoring/Extraction System

System Architecture & Components

34 vertical gas extraction wells distributed across the site footprint.

A 10-horsepower gas extraction blower facility to pull sub-slab methane and landfill gases.

Activated carbon canister scrubbers and filtration units to filter emissions prior to release/venting, compliant with South Coast AQMD Rule 1150.1 standards.

Main header piping connecting into the local landfill gas collection grid.

History & Background

- **The Operational Era (1940s – 1970s)**
- **Unlined Municipal Dumping:** Long before the sports complex was built, the 30-acre site was operated as an unlined municipal solid waste landfill (often referenced alongside the broader Gothard Street / Central Park landfill footprint).
- **Refuse Accumulation:** Millions of cubic yards of commercial and household waste were buried up to 35 feet deep.
- **Closure & Dredged Cover:** When landfill operations ceased in the 1960s, the site was capped with a soil layer varying from 4 to 25 feet thick—partially composed of silty sand dredged from the Santa Ana River. Without engineered bottom liners, subterranean anaerobic decomposition naturally began generating significant quantities of landfill gas (primarily **methane** and **carbon dioxide**), along with volatile organic compounds (VOCs).

History & Background

- **Grand Opening & Continuous Operation (2000s – Present)**
- **Sports Complex Opening (2003):** The \$16 million+, 45-acre Huntington Beach Sports Complex officially opened, serving as a model for brownfield redevelopment.
- **Gas Production & System Output:** Over the decades, as the buried organic waste has matured, the landfill gas generation rate has naturally decayed. Current operational data indicates the system extracts roughly **40 standard cubic feet per minute (SCFM)** of gas at a methane concentration of around **30%**.
- **Ongoing Regulatory Oversight:** The system remains under strict quarterly surface emission and perimeter probe monitoring regulated by SCAQMD, the Regional Water Quality Control Board, and the Orange County Waste and Recycling agency.

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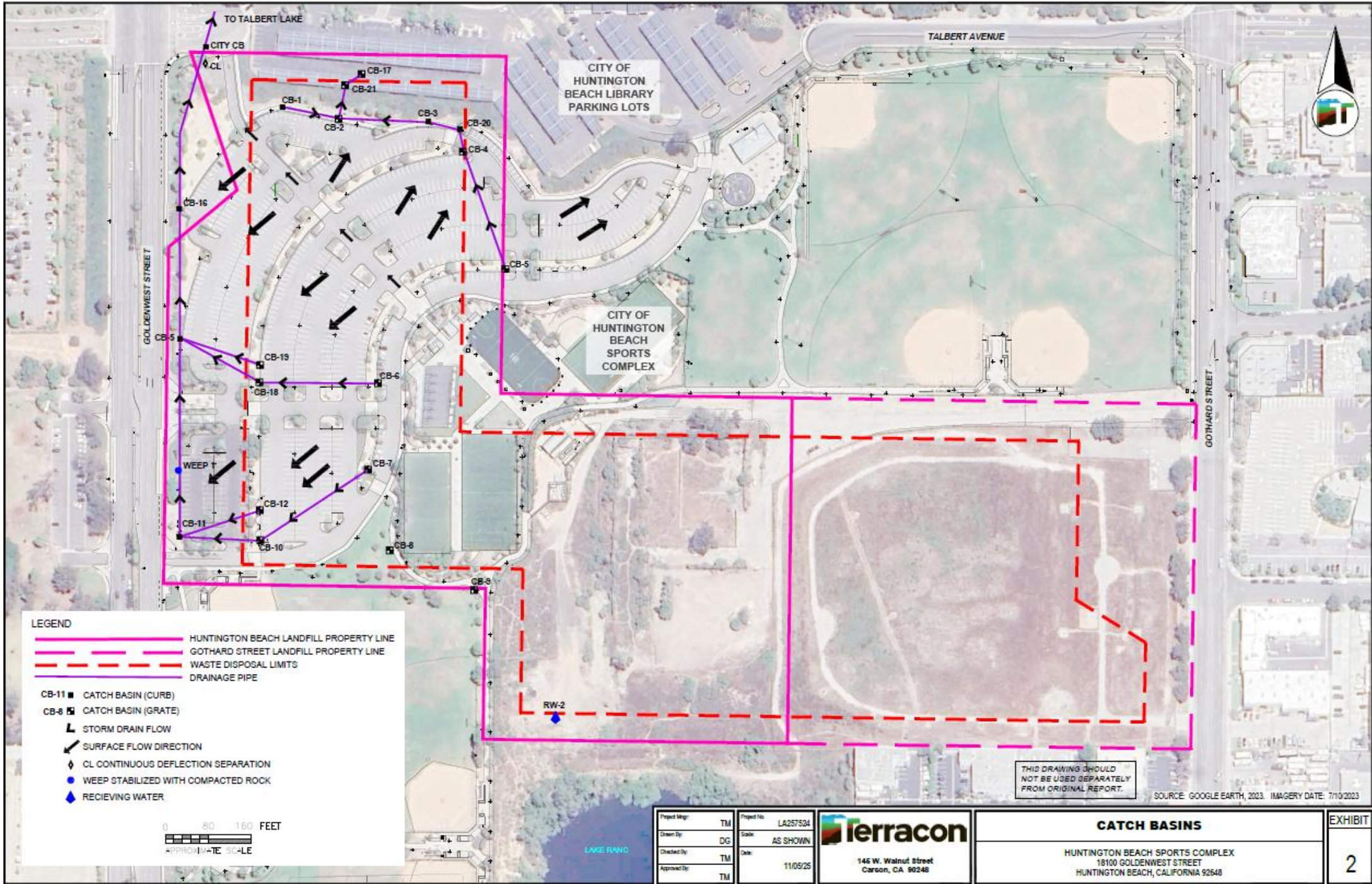
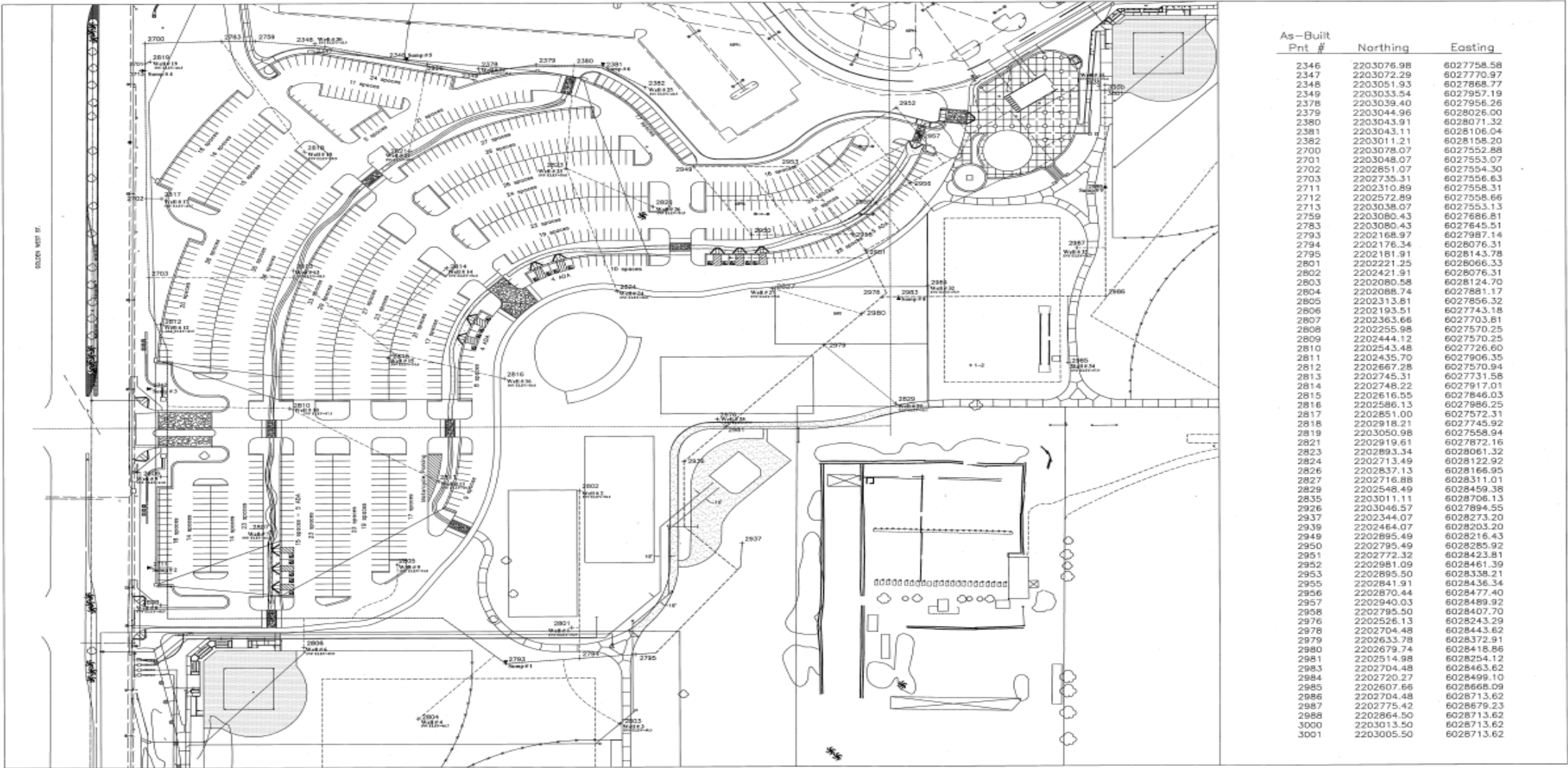


Diagram of Landfill Gas Monitoring/Extraction System



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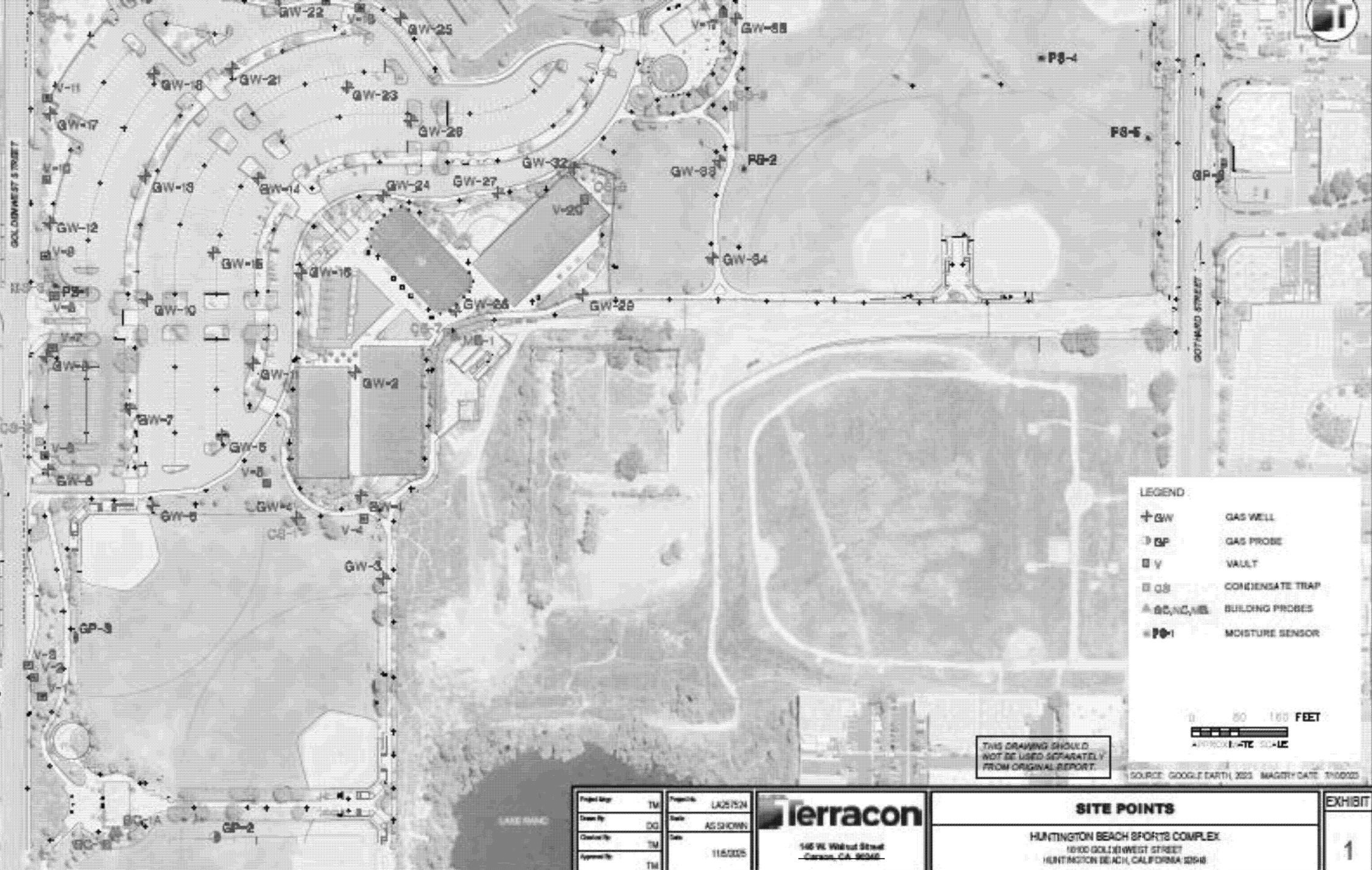


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METHANE GAS AS-BUILT
Huntington Beach Central Park
Sports Complex
for
Valley Crest

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Ballpark Estimate of Replacement Costs

Full System Infrastructure Replacement (\$350,000 – \$800,000+)

- If the entire extraction infrastructure across the Sports Complex footprint required full replacement (re-drilling extraction wells, relaying headers, replacing sub-slab vapor barriers, and updating the blower/treatment skid):
- **Well Field Work (34 Extraction Wells):** Drilling, well screens, heads, and piping run roughly **\$8,000 to \$15,000 per well** (\$270,000 – \$500,000+ total).
- **Collection Piping & Trenching:** High-density polyethylene (HDPE) header piping across the park grounds adds **\$50,000 to \$150,000+** depending on surface restoration requirements (pavement, turf, or hardscape).
- **Blower Skid & Controls:** **\$50,000 – \$100,000+.**
- **Engineering, CEQA/Permitting & Construction Management:** Soft costs typically add **20% to 30%** to the total capital outlay.