

Project Description

ROLE OF ENTRANT'S FIRM

The project involved the development of a six-story, Homewood Suites hotel on a 3.48-acre property located at the southwest intersection of Jack Warner Parkway and Greensboro Avenue in Tuscaloosa, Alabama. TTL, Inc. (TTL) developed and implemented the civil engineering design package for the project and directly contracted with our client, Cohen Investments, Inc. (Cohen). TTL's services include civil design, surveying, geotechnical engineering, environmental consulting, construction materials testing, and Special Inspections. Specific to the project's award entry category (Environmental), the TTL team overcame several challenges while preparing the environmentally-impaired property for construction. TTL performed subsurface environmental investigations which confirmed that off-gassing of volatile contaminants and methane from decomposing trash from the site's previous an unpermitted landfill could occur at levels that might adversely impact future occupants. On behalf of Cohen, TTL enrolled the project into the Alabama Department of Environmental Management's (ADEM) Voluntary Cleanup Program (VCP). A TTL-developed remediation system designed to mitigate the buildup of harmful vapors in the structure was installed to allow for safe occupancy of the hotel.

ROLE OF OTHER CONSULTANTS

Architect:

Renaissance Group

General Contractor:

J. T. Harrison Construction Company

Plumbing Contractor:

Black Warrior Mechanical

Vapor Barrier Installation Contractor:

S&H Waterproofing





HOMEWOOD SUITES HOTEL PROJECT SPECS

Total Project Construction Budget: \$19,408,2000

Total Project Construction Actual Cost: \$19,474,000

Entrant's Portion of the Total Project Construction Budget Cost: \$457,700

Entrant's Portion of the Total Project Construction Actual Cost: \$457,700

Project's Scheduled Completion Date: January 1, 2021

Project's Actual Date of Completion: March 1, 2021

ENTRANT'S CONTRIBUTION TO THE PROJECT

The protection of human health was the driving directive for designing and implementing a vapor extraction system beneath the Homewood Suites hotel. The methane mitigation project merged proven technologies into a unique remedial design to provide safe occupancy of the hotel. The multi-tiered system provides a barrier to prevent the infiltration of harmful vapors into the structure. A sub-foundation grid of header and lateral PVC piping, that spans the extent of the building's footprint, serves as the vapor collection and transport network for the remedial system. The collected vapors are actively exhausted into the atmosphere via a roof-mounted blower unit. A 90-mil thick, built-up vapor barrier was placed above the collection network to add a significant factor of safety against vapor migration into the structure.

Based on the analytical results from subsurface investigative efforts and risk factor modeling, TTL collaborated with the Alabama Department of Environmental Management's (ADEM) Site Redevelopment team to ensure the design would meet and exceed ADEM's requirements for safe occupancy. In addition to making this project possible, the successful application of this technology enhanced the future of the engineering profession and the public's awareness and perception of the profession within the community. The redevelopment of this brownfield site carries with it several advantages that benefit the community. First, it safely repurposed an old city dump site for a much higher end use; essentially transforming a city dump into a



beautiful city landmark. In addition to forgoing development on a greenfield site, the project location came with the presence of available infrastructure in the way of roadways and utilities. From the inception of the project, the public was involved in the process. The project was approved by the City Council in a public forum and the remedial action plan was made available for a 30-day comment period prior to approval by ADEM. The repurposing of environmentally-impaired sites with the application of engineering technology does not go unnoticed by the community. The successful development of sites such as this encourages investors and developers to consider the redevelopment of properties with a similar environmental stigma. This all reflects well on the engineering profession as our foremost directive, to be protective of human health and welfare, can never be compromised in advancing the objectives of a project.

TTL is proud to be part of a team that brought this new landmark to the City of Tuscaloosa. The hotel augments the tax base of the City, and provides revenue from visitors, all while providing a welcoming location in the heart of the hotel and entertainment district. The letter from our client, Stuart Cohen with Cohen Investments, Inc., included in this submission, sums up his satisfaction with the project.

SUMMARY

There were significant challenges to the property's development due to the site having historically been used as an unpermitted landfill. The off-gassing of volatile contaminants and methane from decomposing waste material provided significant risks to occupants including health concerns associated with exposure to harmful gasses and the potential for accumulated gasses to become explosive. The environmental impairment of the property caused it to be classified as a brownfield site that required significant corrective action to prepare it for occupancy.

TTL completed a subsurface investigation that included estimating the extent of trash buried on the property. Trash was excavated and transported to a landfill for disposal. An environmental investigation was conducted that included the collection of soil and groundwater samples for laboratory analysis and the collection of soil vapor/methane samples for field-screening and laboratory analysis. Investigative results confirmed the potential for off-gassing to occur at levels in excess of those considered protective of human health.

In order to secure available liability protections for Cohen as a "non-responsible party", TTL applied for the project's enrollment into





the Alabama Department of Environmental Management (ADEM) Voluntary Cleanup Program (VCP). Under the guidance of the VCP, TTL designed a remediation system to mitigate the potential for harmful subsurface vapors to collect in the proposed structure.

The remediation plan included several components designed to establish a formidable measure of protection. First, a compacted engineering fill was placed over the building's footprint. A sub-slab depressurization system was then constructed, consisting of a multiple

zone, horizontal vapor extraction system with lateral and header piping that spanned the entire footprint of the structure. After the application of gravel into the foundation system, a 90-mil thick, built-up vapor barrier system was installed over the gravel. Vertical piping from the collection system penetrated the vapor barrier and traversed to the hotel's rooftop where it was connected to a skid-mounted blower system. The blower safely vents harmful vapors into the atmosphere. As added protection, methane monitoring devices were installed on the first floor of the hotel. With the remedial system in place, the hotel opened for business in March 2021. ADEM recently issued a letter to Cohen indicating that environmental issues had been adequately addressed.



There are several positive socio-economic impacts associated with the development. The successful navigation of the project through the ADEM VCP removes the stigma associated with developing environmentally-impaired properties and encourages future investment in the City. The transformation of a city dump into a higher-end hotel property augments the City's downtown landscape, improves the tax base, and provides excellent amenities for visitors to the City. The re-use of existing infrastructure precludes the need for development of a greenfield site that lacks such advantages. The hotel is conveniently located within walking distance of the City's downtown entertainment district, the Tuscaloosa Amphitheater, Riverwalk trail, the Black Warrior River, and the University of Alabama campus.