

HIGHLAND PARK HIGH SCHOOL PHASE 1: NORTHWEST ADDITION

UNIVERSITY PARK, TEXAS



YEAR COMPLETED:

July 2019

OWNER:

Highland Park ISD

CLIENT NAME:

Stantec Architecture, Inc.

RLG SERVICES:

Civil Engineering
Structural Engineering
Surveying

WHAT OUR CLIENTS ARE SAYING...

"I haven't run into one person in Stantec that doesn't enjoy working with RLG(myself included). They have always been responsive, flexible, and pleasant to work with. This fact is not lost on anyone here and actually does come up frequently in conversations internally. When we all work together in the future, as much as possible, I want RLG on my team."

- Douglas Neri, Senior Project Manager, Stantec Architecture, Inc

PROJECT DESCRIPTION /SCOPE:

Highland Park High School has enlisted the help of RLG Consulting Engineers to provide civil, structural and surveying engineering services for the 107,500 SQ FT Northwest Addition. The new addition will provide the school with new amenities including a storm shelter, basement gymnastics area with pits and three floors of classrooms.

RLG's team of civil engineers coordinated utility services of wastewater, storm and water supply. In addition to providing paving and grading services in accordance with TASS/ADA compliance.

Members of RLG's structural team designed 16-foot cantilevered retaining walls to support pier loads from adjacent buildings in addition to the retained soil. Additionally, specialty foundation designs were required to build the gymnastics area in the basement, which included 6-foot deep pits adjacent the cantilevered retaining walls. A key feature of the Northwest addition includes the monumental stair, designed with a single central column. Each floor is approximately 14 ft tall and connects four floors starting in the basement through the third floor. Throughout the building, there are multiple double-height spaces to create a sense of grandeur.

In 2015, the International Building Code (IBC) introduced new requirements for the construction of tornado shelters for public buildings in 23 states where wind speeds for tornadoes reach 250 MPH. RLG's team of structural engineers was up for the challenge of incorporating the new IBC-2015 and ICC 500-214 building requirements into their designs.

The 11,645 SQ FT basement storm shelter was designed to hold 2,317 occupants and to withstand the total collapse of the building above, a collapse of the adjacent structures and wind-borne debris. Additionally, the shelter was designed to have a strong continuous load path to resist overturning, uplift and foundation connection failure. The materials used to design the storm shelter include a concrete pan beam lid with concrete girders.

RLG's surveying department provided topographic and improvement surveys for the expansion of the Northwest Addition. As well as located visible improvements on and immediately adjacent to the area. RLG's team of land surveyors obtained elevation on the site for a 50'x50' grid to produce one-foot contours, which were based on the City of University Park's vertical datum system. Coupled with the identification of flow line elevations on manholes and inlets, to document the flow and size of lines.

This project began construction in January 2018 and is not yet completed. RLG Consulting Engineers has proudly provided engineering services for HPISD since 1991