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STRUCTURAL ANALYSIS PROJECT

OBJECTIVES

ANALYSIS

ILLUSTRATIONS



STRUCTURAL ANALYSIS PROJECT

DICK'S SPORTING GOODS

BUCKHEAD, ATLANTA



PROJECT DESCRIPTION:

THE STRUCTURAL DESIGN OF THE DICK'S SPORTING GOODS OF BUCKHEAD IS STUDIED, ILLUSTRATED, AND ANALYZED TO UNDERSTAND HOW A COMPLEX CONCRETE FRAME SYSTEM HAS BEEN APPLIED.

OBJECTIVES:

THE CONCRETE FRAME SYSTEM OF THIS BUILDING IS COMPLEX AS IT EMPLOYS THE USE OF MULTIPLE SETS OF GLOBAL ORDERS, VARYING SPAN LENGTHS, AND FACILITATES A MIX OF USES. THE UNDERSTANDING OF THESE ATTRIBUTES CAN THEN BE INFLUENTIAL IN THE APPLICATION OF STRUCTURAL DESIGN STRATEGIES, SPECIFICALLY GEARED TOWARD THE SEMESTER DESIGN PROJECT, AN INNOVATIVE HIGH SCHOOL.

SITE:

LENOX MARKETPLACE IS A MULTI-STORY, MIXED-USE DEVELOPMENT IN THE BUCKHEAD DISTRICT OF ATLANTA. FIVE INDIVIDUAL STRUCTURES COMPOSE THE COMPLEX. THE BUILDINGS' STRUCTURES ARE INDEPENDENT OF ONE ANOTHER, ALTHOUGH EACH CONVERGES ONTO THE PARKING DECK IN THE CENTER OF THE COMPLEX, FACILITATED BY EXPANSION JOINTS.



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DICK'S SPORTING GOODS

LENOX MARKETPLACE



SITE COMPONENTS:

- // DICK'S SPORTING GOODS
- // RESTAURANT/FITNESS BUILDING
- //PUBLIX GROCERY BUILDING
- // TARGET BUILDING
- // SHARED PARKING DECK

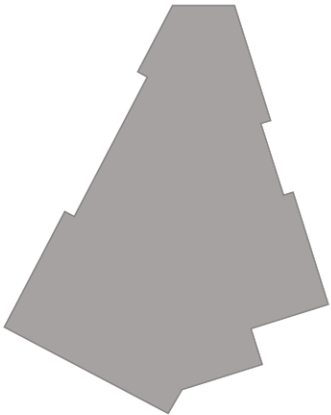
STRUCTURAL DESIGN:

THE ATYPICAL FOOTPRINT IS NARROW AT THE NORTHERN END AND FLARES OUTWARD TO A WIDE SOUTHERN END. THEREFORE, MULTIPLE ROWS OF COLUMNS SUPPORT GLOBAL ORDERS WHICH CONVERGE ON ONE ANOTHER AS THE BUILDING NARROWS. THE RESULTING IRREGULAR PATTERN IS EFFICIENT IN THE RETAIL LEVELS, ALTHOUGH THE PARKING LEVEL BELOW IS IMPACTED WITH A SPORADIC, SHIFTING LAYOUT.

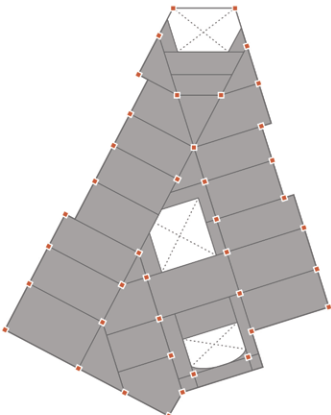
ANALYSIS:

- // SITE PROGRAM + USES
- // BUILDING FOOTPRINT
- // COLUMN LAYOUT STRATEGY
- // IDENTIFICATION OF GLOBAL ORDERS
- // FRAMING PLANS
- // LOAD PATH ANALYSIS

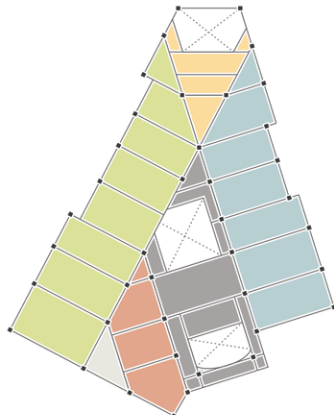
BUILDING FOOTPRINT



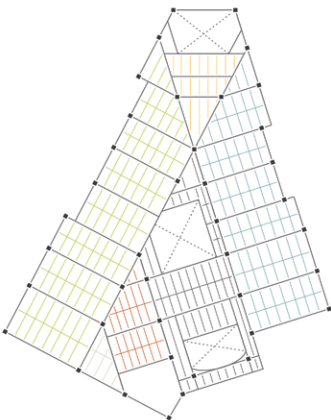
COLUMN LAYOUT



GLOBAL ORDERS



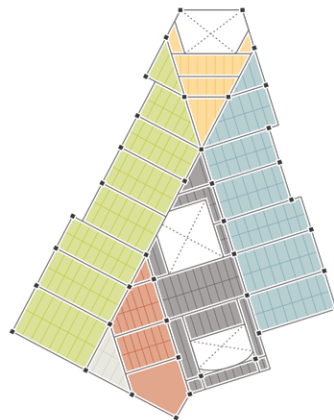
SUPPORTING BEAMS



VARYING SPANS

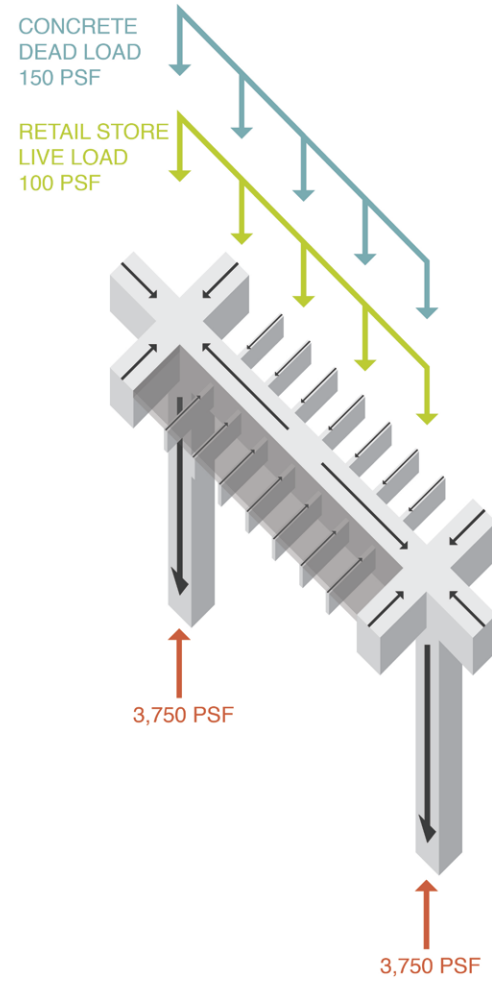


OVERALL DESIGN



STRUCTURAL ANALYSIS PROJECT

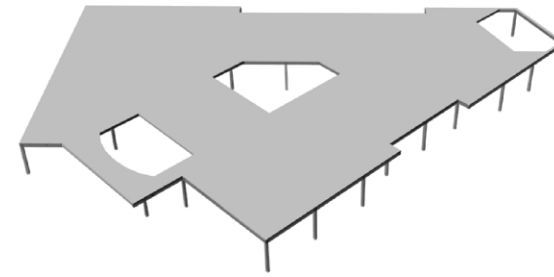
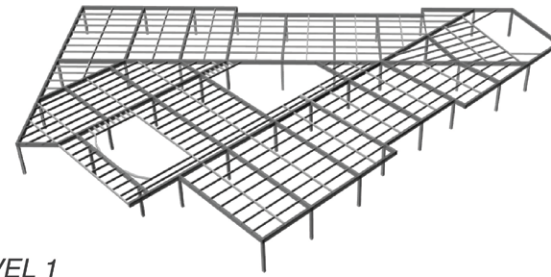
DICK'S SPORTING GOODS



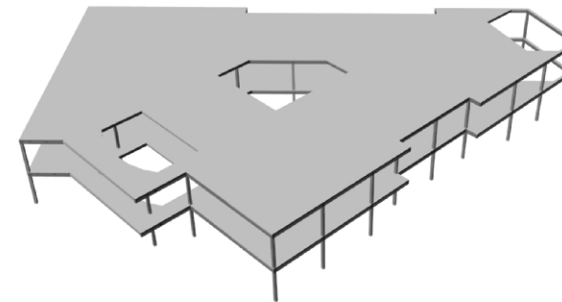
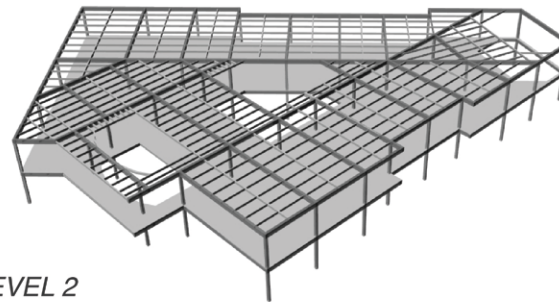
LOAD DIAGRAM

ILLUSTRATION OF A TYPICAL 30-FOOT SPAN BEAM AND SUPPORTING STRUCTURAL ELEMENTS FOUND IN THE DESIGN OF DICK'S SPORTING GOODS.

LEVEL 1



LEVEL 2



LEVEL 3

