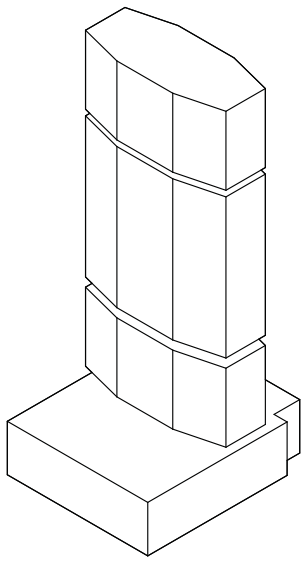
MISSION STATEMENT:

THE STRATEGIC PLANNING FOR THE DESIGN/ENGINEERING OF A SKYSCRAPER SHOULD BE THE FIRST STEP IN PROVIDING A SUCCESSFUL OUTCOME FOR THE LIFE OF THE TOWER ITSELF, AS WELL AS FOR THOSE THAT INHABIT AND EXPERIENCE THE WORLD THE TOWER CREATES. THE STRATEGY IS FINDING, AND INTERSECTING, THE "SWEAT SPOT" OF THE FOLLOWING BUILDING METRICS:

ENVIRONMENT: ALLOW THE NATURAL CONDITIONS OF THE SITE TO PROVIDE FOR THE TOWER'S ORIENTATION AND PLAN, TO SCULPT THE TOWER.
PROGRAM: TOWER TO BE ADAPTABLE/FLEXIBLE FOR USE BETWEEN RESIDENTIAL/COMMERCIAL/RETAIL, WITHOUT THE DEMAND AND COST (MONETARY AND ENVIRONMENTAL) OF THE REHABILITATION WORK REQUIRED TO THE BUILDING'S INFRASTRUCTURE FOR PROVIDING THIS CHANGE OF USE.
ENERGY: INCORPORATING RENEWABLE ENERGY STRATEGIES AND OTHER MEASURES AT THE EXTERIOR ENVELOPE AND MECHANICAL SYSTEM.
INNOVATION: ACTIVATE THE BUILDING'S EXTERIOR ENVELOPE, SLABS AND EXTERNAL SPACES; ENGINEER BUILDING SYSTEMS TO PROVIDE MORE THAN ONE FUNCTION TO MAXIMIZE THEIR EFFICIENCIES.
STRUCTURE: DEVELOP VERTICAL BLOCKS, CREATING OPPORTUNITIES FOR MULTI-PURPOSE SKY TERRACES

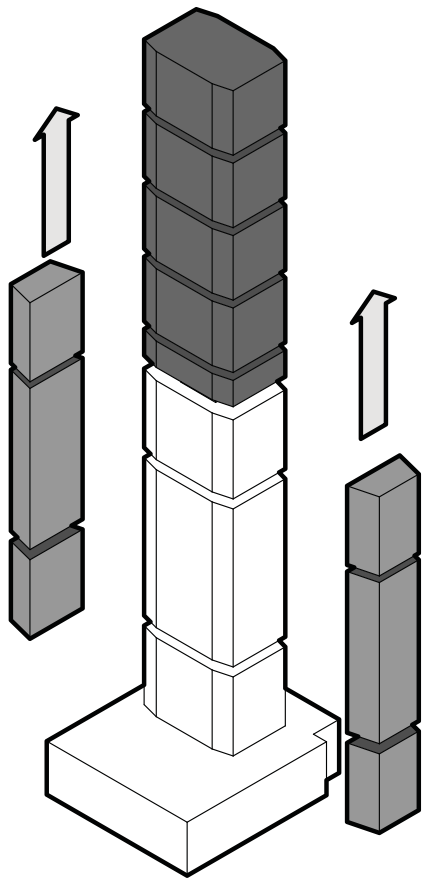
THE IMPLEMENTATION OF THIS STRATEGY ENABLES THE CONSTRUCTION TO BE MORE EFFICIENT AND SUSTAINABLE, MINIMIZES OPERATIONS AND MAINTENANCE, AND IS DESIGNED WITH THE ABILITY TO REPOSITION/REPROGRAM THE TOWER WITH MINIMUM IMPACT TO THE TOWER'S INFRASTRUCTURE. THE ACHIEVEMENT OF THIS APPROACH IS THAT IT CAN BE TRANSLATED TO ANY SITE, TAKING SHAPE AS DETERMINED BY THESE MEASURES AND SYSTEMS.

REIMAGINING 200 PARK AVENUE



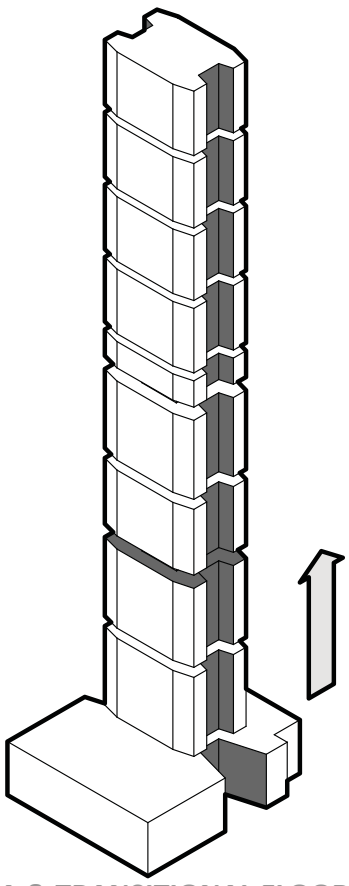
1 EXISTING BUILDING

FOOTPRINT AT EAST/WEST IS TOO DEEP, IMPEDING THE BENEFITS OF NATURAL LIGHT, AND IT CAN BE ARGUED THAT THE MASS IS A VISUAL IMPEDIMENT ALONG THE PARK AVENUE AXIS.



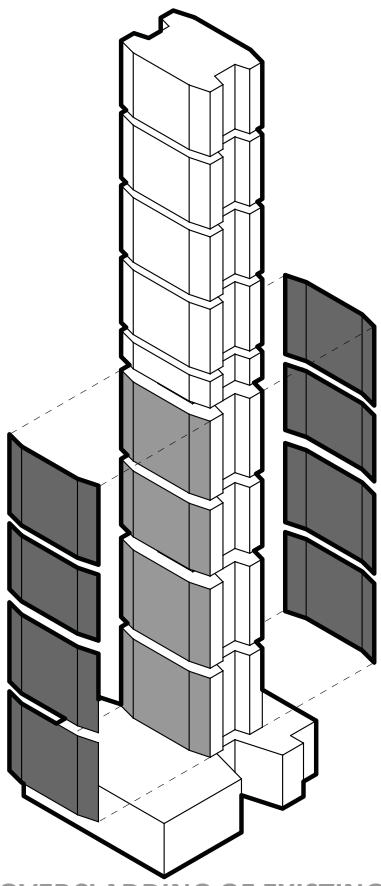
2 RE-MASSING OF EXISTING TOWER

BY REMOVING THE "WINGS" OF THE TOWER, RE-LOCATE THAT MASS TO CREATE A NEW TOWER AND PROGRAM.



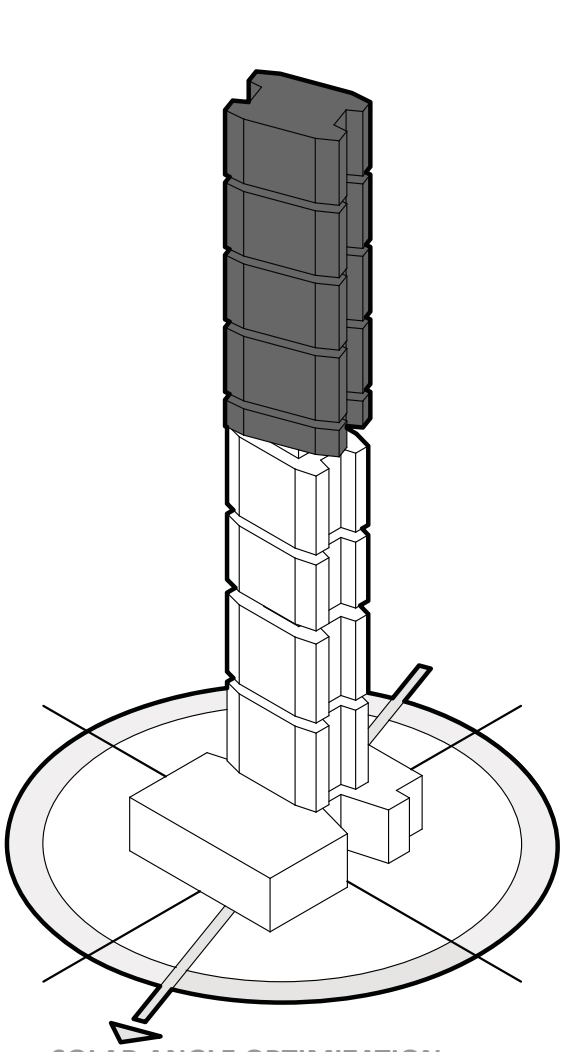
3 ATRIA & TRANSITIONAL FLOORS

CREATE EAST AND WEST ATRIA (THRU PODIUM) AND NEW SKY-TERRACE/ MECHANICAL LEVEL.



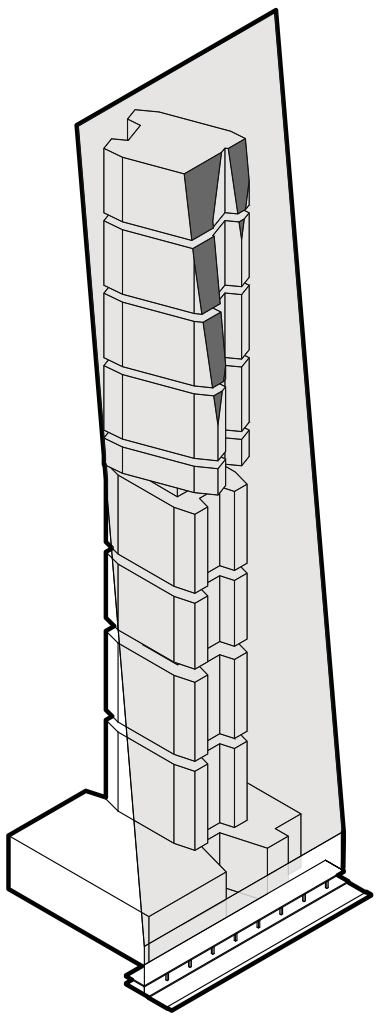
4 OVERCLADDING OF EXISTING FACADE

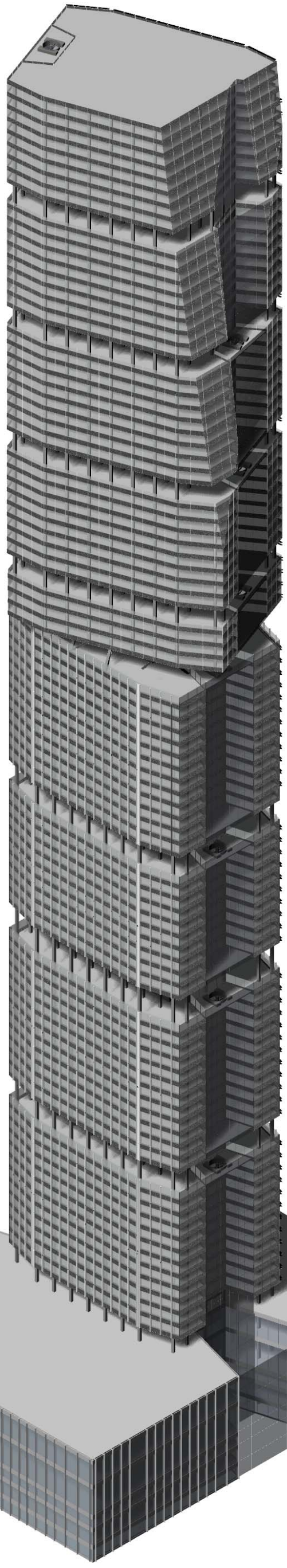
INSTALL NEW CURTAIN WALL OVER EXISTING N/S FACADES, CREATING A "TROMBE WALL" EFFECT.



5 SOLAR ANGLE OPTIMIZATION

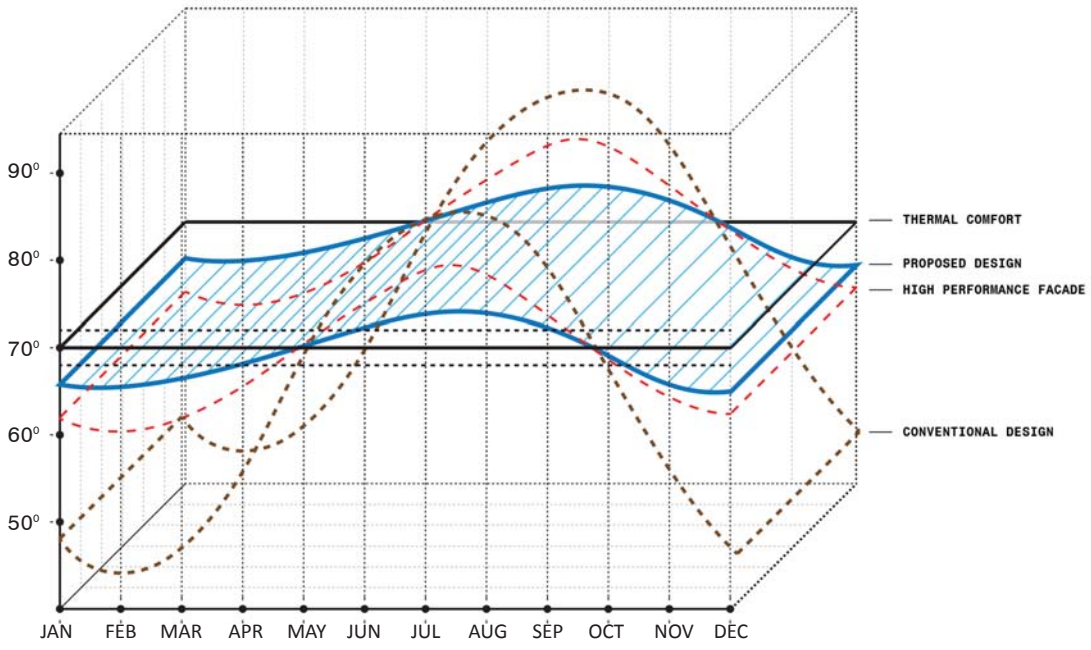
PROVIDE 20% TWIST OF UPPER NEW SECTION OF TOWER TO MAXIMIZE DAYLIGHTING BASED ON SUN'S PATH ON SITE, INCLUDING PV PANEL, SHADING, PASSIVE HEATING EFFECTIVENESS ALONG THE SOUTHERN SIDE.





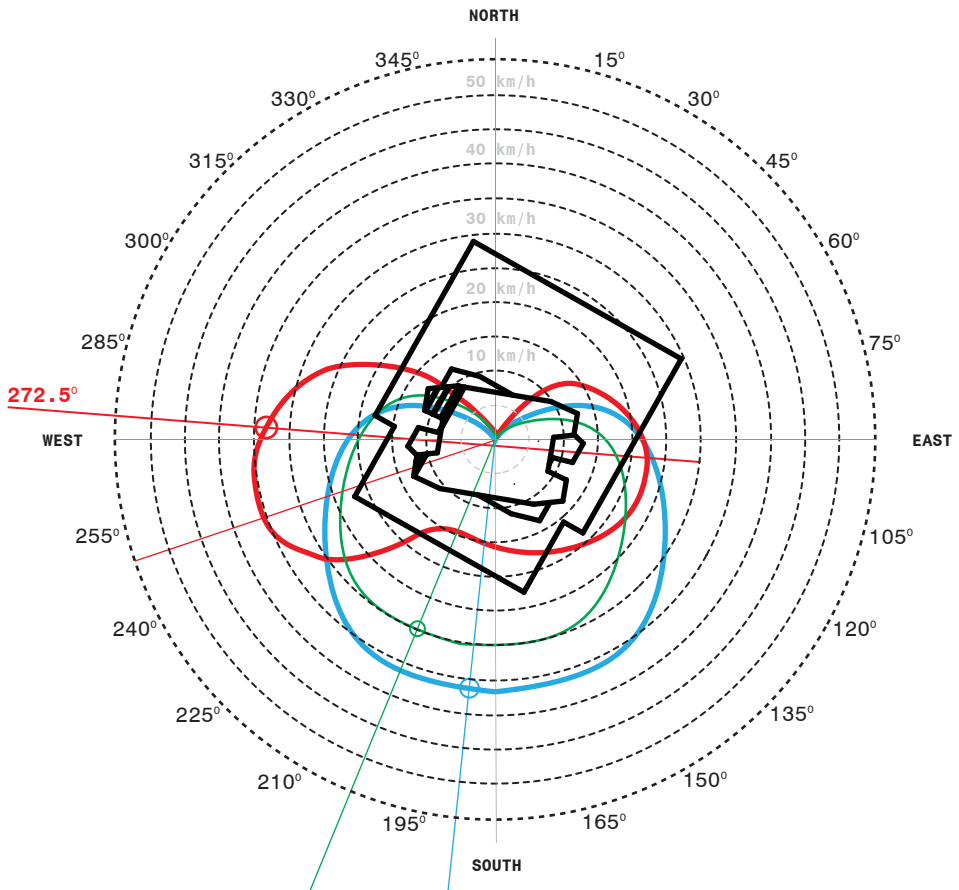
6 RE-MASSING WITH ZONING & FAR REQUIREMENTS

200 PARK AVENUE BEGAN CONSTRUCTION IN 1960 AND PREDATES THE SPECIAL MIDTOWN DISTRICT ZONING PROVISIONS (1961), BUT ANY ADDITION TO THE EXISTIG TOWER IS SUBJECT TO SUCH PROVISIONS. THE SPECIAL MIDTOWN DISTRICT MODIFIES THE UNDERLYING C5-3 HEIGHT AND SETBACK PROVISONS WITH A GRADUATED SETBAACK THAT INCREASES WITH BUILDING HEIGHT AT A SLOPE OF 10 TO 1, WHICH TAKES EFFECT ALONG THE VANDERBILT AVENUE STREET FRONTAGE. VANDERBILT AVENUE IS A STREET WITH LESS TAN 60 FEET WIDTH, THEREFORE THE TABLE A SETBACK FIGURES OF THE SPECIAL MIDTOWN DISTRICT ARE APPLICABLE. THE EXISTING VANDERBILT AVENUE FACING WEST FACADE ENCROACHES AT THE TOP BEYOND THE SETBACK PLANE AS AN EXISTING NON-COMPLIANT CONDITION, AND THE PROPOSED NEW TOWER CHAMFERS BEHIND THE ZONING SETBACK LINE, WHICH AT THE EXISTING BUILDING HEIGHT OF 808 FEET WOULD BE 65.5 FEET FROM THE EXISTING WEST WALL, AND AT THE MAXIMUM DESIGN PROPOSED HEIGHT OF 1,350 FEET WOULD BE 80 FEET FROM THE EXISTING WEST FACADE.



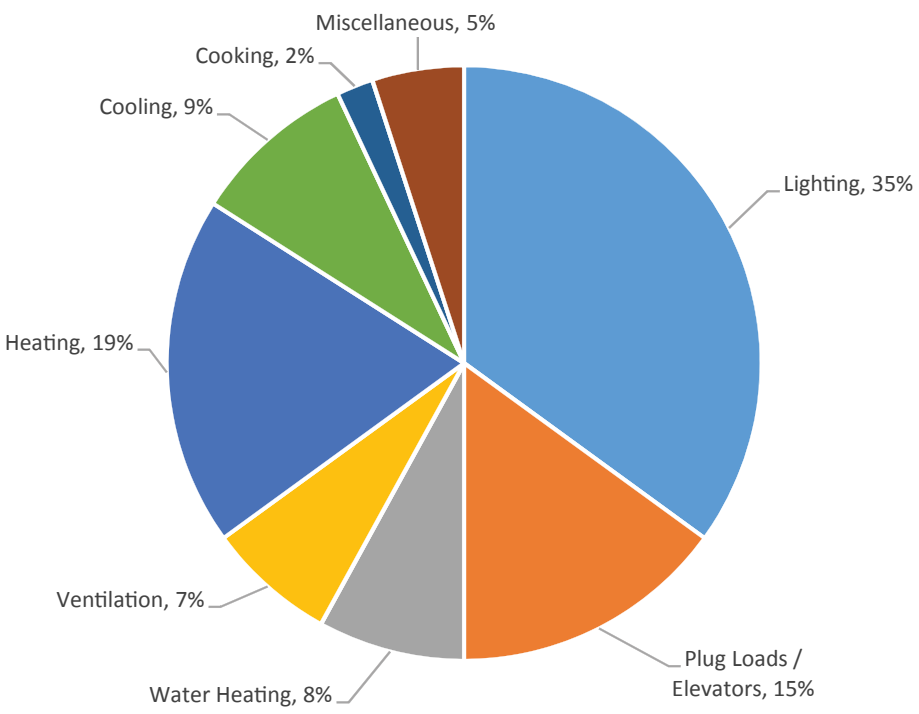
1 THERMAL PERFORMANCE CHART

RESULTS SHOWING THERMAL PERFORMANCE OF THE REMASSING DESIGN AND HIGH PERFORMANCE FACADE IN COMPARISON TO THE EXISTING CONVENTIONAL DESIGN.



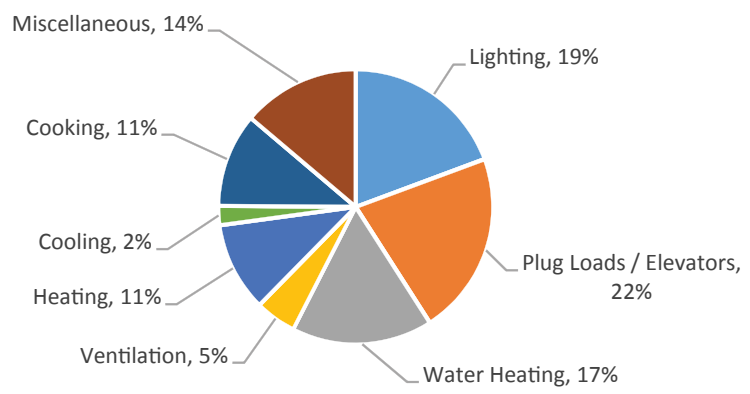
2 SOLAR ANGLE OPTIMIZATION_REMASSING DESIGN IN RELATION TO SUN ORIENTATION

PROVIDE 20% TWIST OF UPPER NEW SECTION OF TOWER TO MAXIMIZE DAYLIGHTING BASED ON SUN'S PATH ON SITE, INCLUDING PV PANEL, SHADING, PASSIVE HEATING EFFECTIVENESS ALONG THE SOUTHERN SIDE. THE SOLAR ANGLE OPTIMIZATION PROVIDES BENEFITS INCLUDING OPTIMIZATION OF PV EFFECTIVENESS, OPTIMIZATION OF PASSIVE HEATING EFFECTIVENESS, MINIMIZATION OF GLARE ON EAST AND WEST EXPOSURES DUE TO LOW SUN ANGLE, OPTIMIZATION OF DAYLIGHTING STRATEGIES IN CONJUNCTION WITH ENERGY PANEL HORIZONTAL SHADES ON THE SOUTH SIDE OF THE BUILDING.



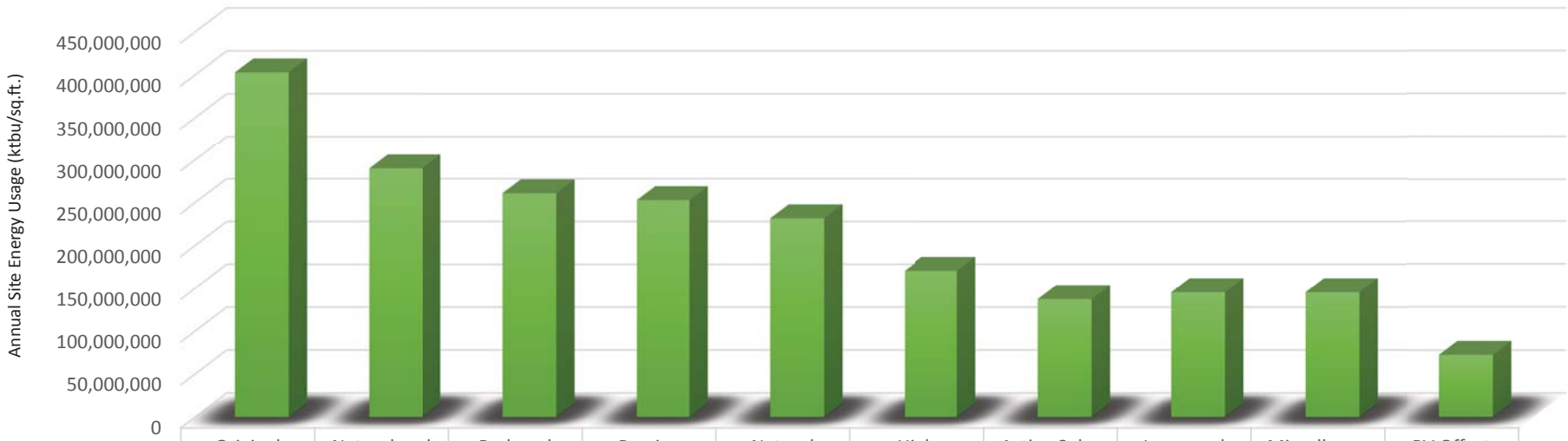
3 CURRENT ESTIMATED ENERGY END USE BREAKDOWN

(@ 135 KBTU/SQ.FT.) ESTIMATED END USE BREAKDOWN SHOWING LIGHTING, PLUG LOADS, ELEVATORS, WATER HEATING, VENTILATION, HEATING, COOLING, COOKING AND MISCELLANEOUS TO CALCULATE CURRENT ESTIMATED TOTAL ENERGY CONSUMPTION.



4 ENERGY END USE BREAKDOWN WITH PROPOSED DESIGN SCHEME

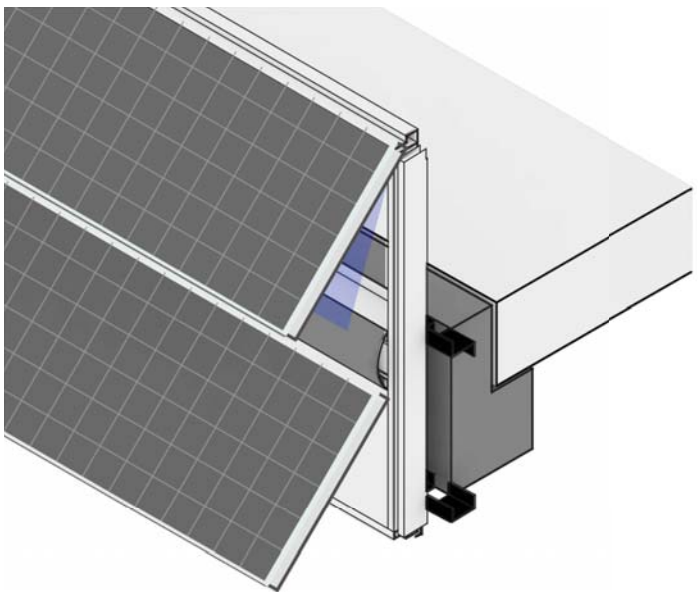
(@ 51 KBTU/SQ.FT.) ESTIMATED END USE BREAKDOWN SHOWING LIGHTING, PLUG LOADS, ELEVATORS, WATER HEATING, VENTILATION, HEATING, COOLING, COOKING AND MISCELLANEOUS TO CALCULATE OPTOMIZED ENERGY CONSUMPTION TOTAL FOR EXISTING AND NEW TOWERS, AND REDESIGNED WALL SYSTEM.



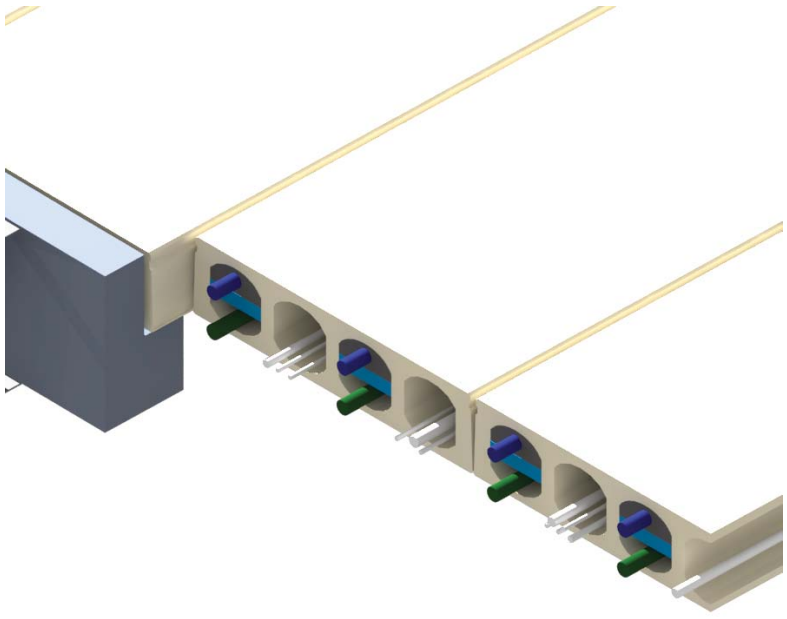
	Original Energy Usage	Natural and active Daylighting, Occupancy Sensors, LED lighting	Reduced Plug Loads Including Elevator Bank Reductions	Passive Thermal Water Heating and Condensing Boilers	Natural Ventilation and High Efficiency Fan motors	High Performance Envelope with Trombe Wall and passive heating strategies	Active Solar shading and natural ventilation atria	Increased cooking demands	Miscellaneous	PV Offset (15 MW)
SCALE 1	403,345,980	290,409,106	261,368,195	253,301,275	232,125,611	170,817,023	137,782,987	145,849,906	145,849,906	72,924,953

5 PROPOSED ENERGY REDUCTION BY END USE STRATEGY

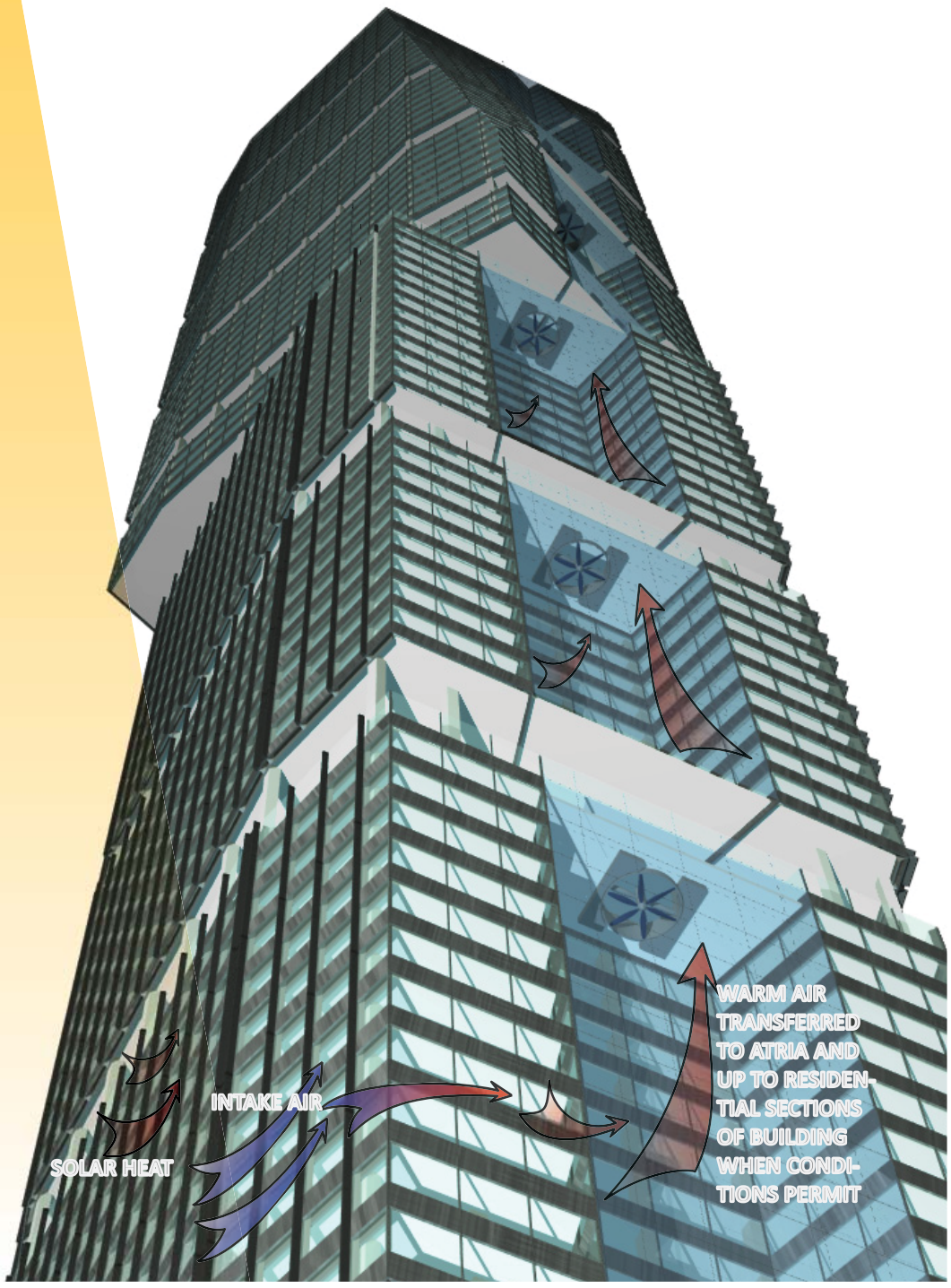
ESTIMATED END USE BREAKDOWN SHOWING OPTIMIZED ENERGY WITH REDUCTIONS INCLUDING PRESCRIPTIVE ENVELOPE UPGRADES AND REDUCTIONS INCLUDING PROPOSED MULTI-USE DESIGN SCHEME.



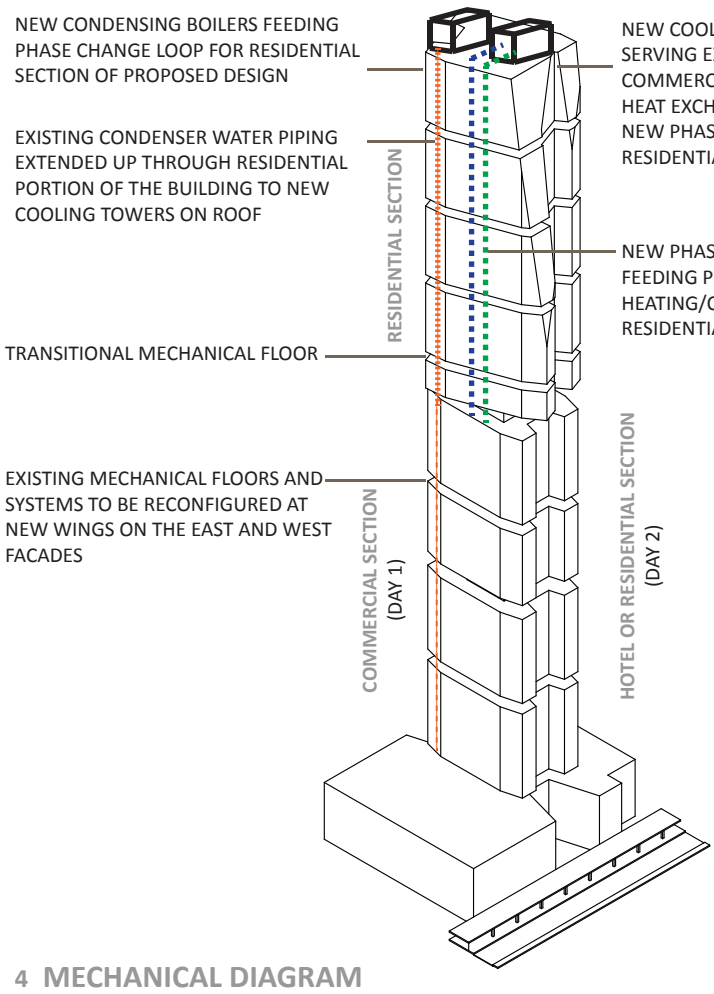
1 SOUTH FACADE_PHOTO VOLTAICS PANELS TWO BANDS OF INCLINED PHOTO VOLTAICS AT EACH SPANDREL ON THE SOUTH FACADE PROVIDE SUFFICIENT ENERGY TO OFFSET THE USAGE OF ALL PLUG LOADS AND LIGHTING FOR THE BUILDING, WHILE PROVIDING A ZONE FOR OPERABLE VENTS BEHIND, INCLUDING PROVIDING FOR SIGNIFICANT SHADING FOR THE VISION GLASS BELOW. PROPOSED DESIGN ESTIMATED TO REACH AN OVERALL ENERGY REDUCTION OF APPROXIMATELY 70-80% OF ORIGINAL ENERGY USAGE WITH PV APPLIED TO THE ENERGY PANELS ALONG THE ENTIRE SOUTH FACING FACADE.



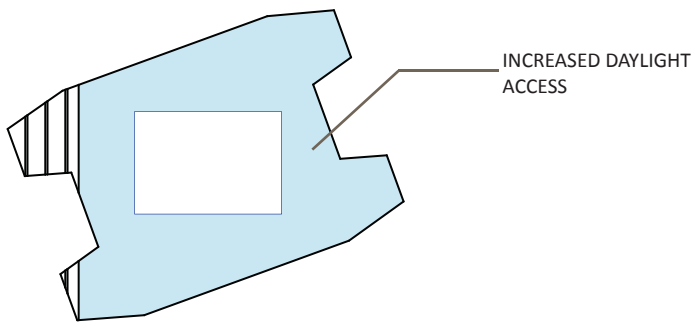
2 RESIDENTIAL TOWER_PRE-CAST BEAMS WITH PHASE CHANGE MATERIAL
PHASE-CHANGE MATERIAL: ALTERNATE CELLS IN THE HOLLOW PRECAST PLANKS CONTAIN PHASE CHANGE MATERIAL AND PLUMBING TO REDUCE PEAK HEATING AND COOLING LOADS, ENABLE SIGNIFICANTLY SMALLER MECHANICAL SYSTEMS AND REDUCED ENERGY CONSUMPTION.

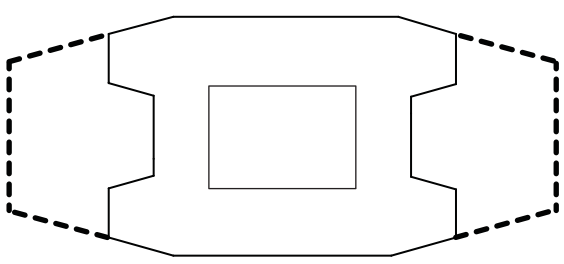


3 ENHANCED AIR FLOW FOR PASSIVE HEAT OPTIMIZATION WITH DOUBLE WALL ASSEMBLY AND ATRIA DESIGN ENHANCED THE ABILITY TO CAPTURE HEAT AT THE COMMERCIAL PORTION OF THE BUILDING BY OVERCLADING THE PRECAST 'MASS WALL' WITH A CURTAINWALL SYSTEM ACTING AS A DOUBLE WALL SO THE PRECAST CAN NOW ABSORB HEAT IN A SIMILAR FASHION TO A TROMBE WALL. THE HEAT GENERATED FROM THE TROMBE WALL CAN BE STORED IN THE TROMBE WALL TO HEAT THE COMMERCIAL SPACE AS NEEDED DURING EVENING HOURS. THE HEAT CAN BE STORED IN THE TROMBE WALL AND THEN INTRODUCED INTO THE ATRIA AND UP TO THE RESIDENTIAL PORTION OF THE BUILDING TO PROVIDE SUPPLEMENTAL HEAT IN THE EVENINGS. THE HEAT CAN BE STORED IN THE TROMBE WALL AND THEN INTRODUCED INTO THE ATRIA TO FEED MECHANICAL VENTILATION UNITS AS PREHEATED OUTSIDE AIR FOR EITHER THE COMMERCIAL OR RESIDENTIAL SECTIONS OF THE BUILDING.



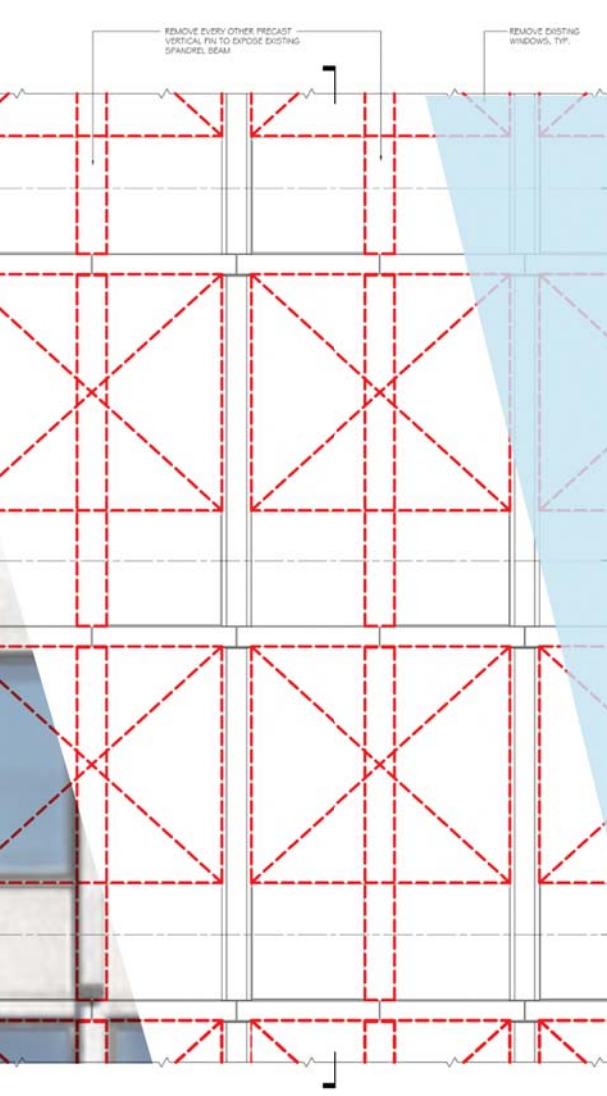
4 MECHANICAL DIAGRAM
UTILIZATION OF THE EXISTING MECHANICAL SYSTEM ON THE EXISTING COMMERCIAL FLOORS, NEW MECHANICAL SYSTEM FOR THE PROPOSED RESIDENTIAL SECTION OF THE BUILDING.





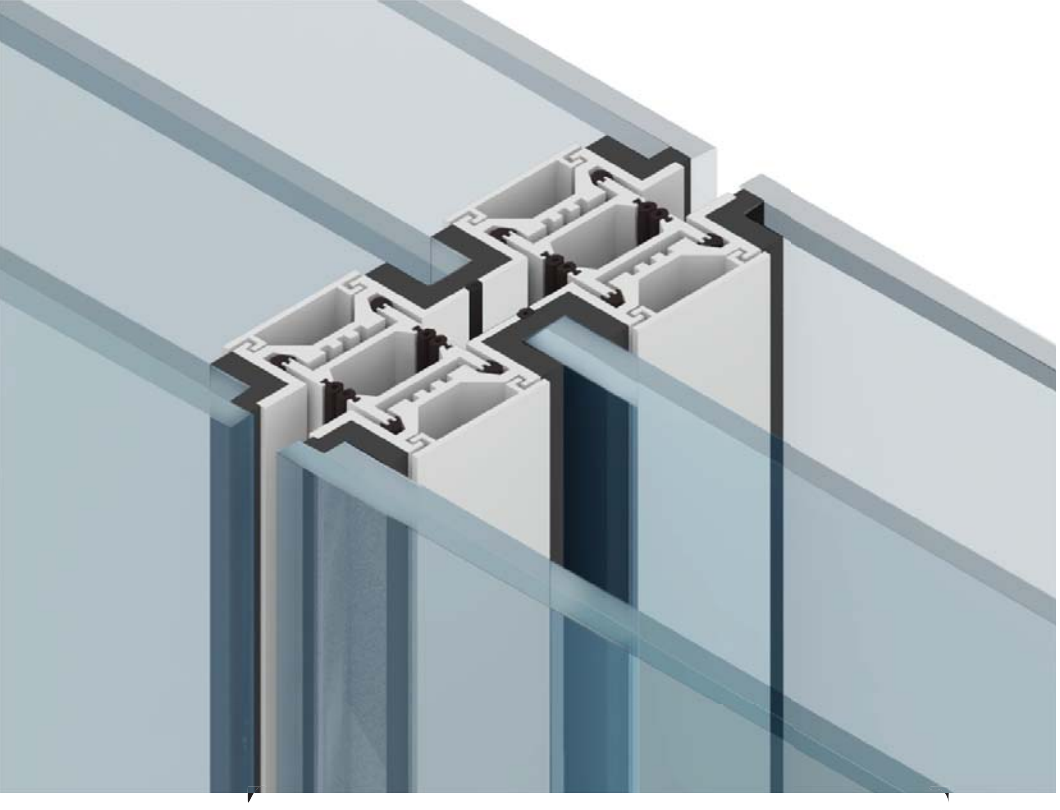
5 IMPROVED DAYLIGHTING WITH RE-MASSING
IMPROVED ACCESS TO DAYLIGHT WITH THE REDUCTION OF DISTANCE TO THE EXTERIOR WALLS ON THE EAST AND WEST WINGS, AND INTRODUCTION OF ATRIA.

1 EXISTING WALL ASSEMBLY WITH PRECAST PANELS



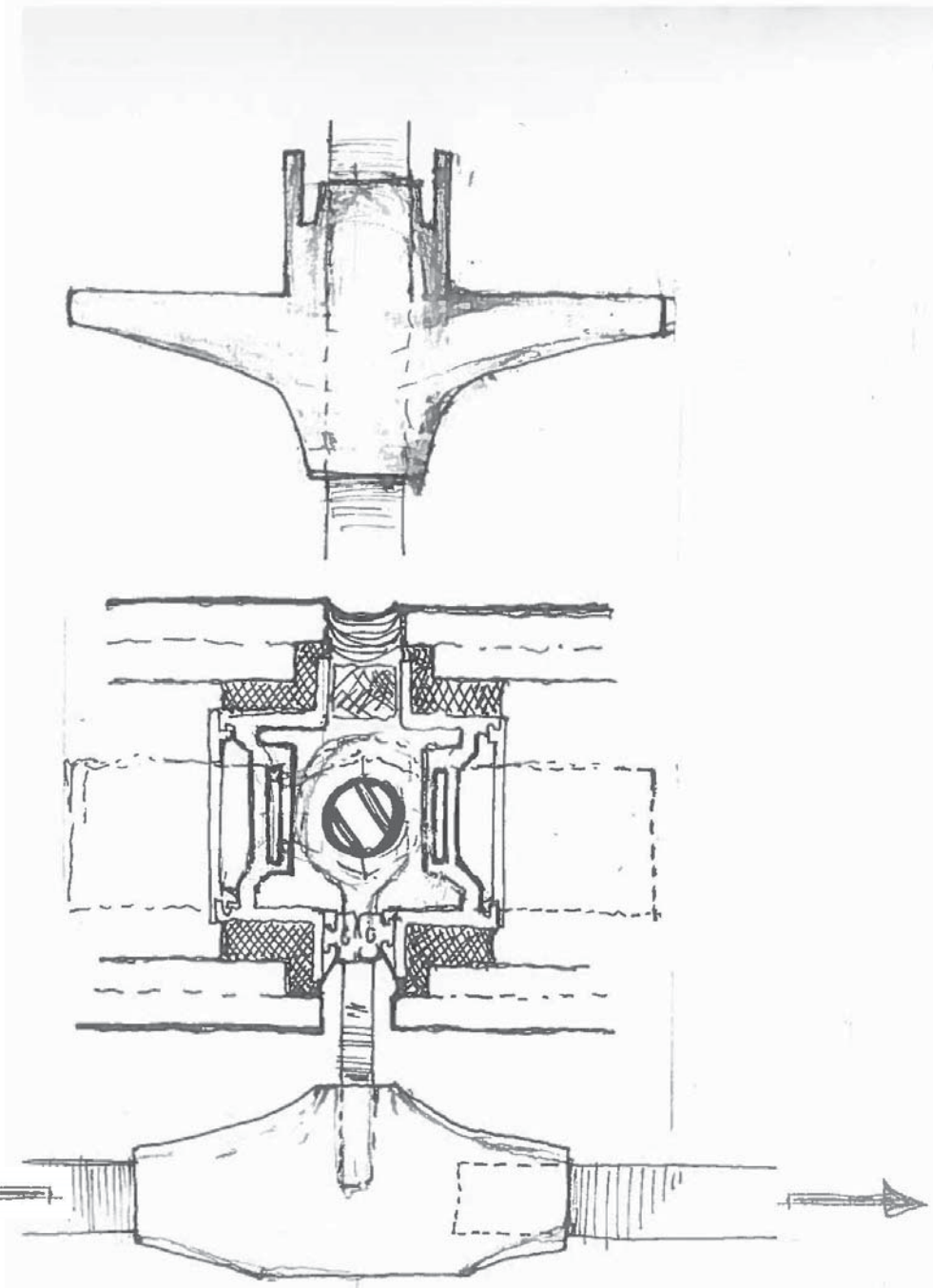
2 EXTENT OF DEMOLITION/STRATEGY

3 CUTRAIN WALL PANELS WITH INTERGRATED PHOTO VOLTAICS AND TROMBE WALL

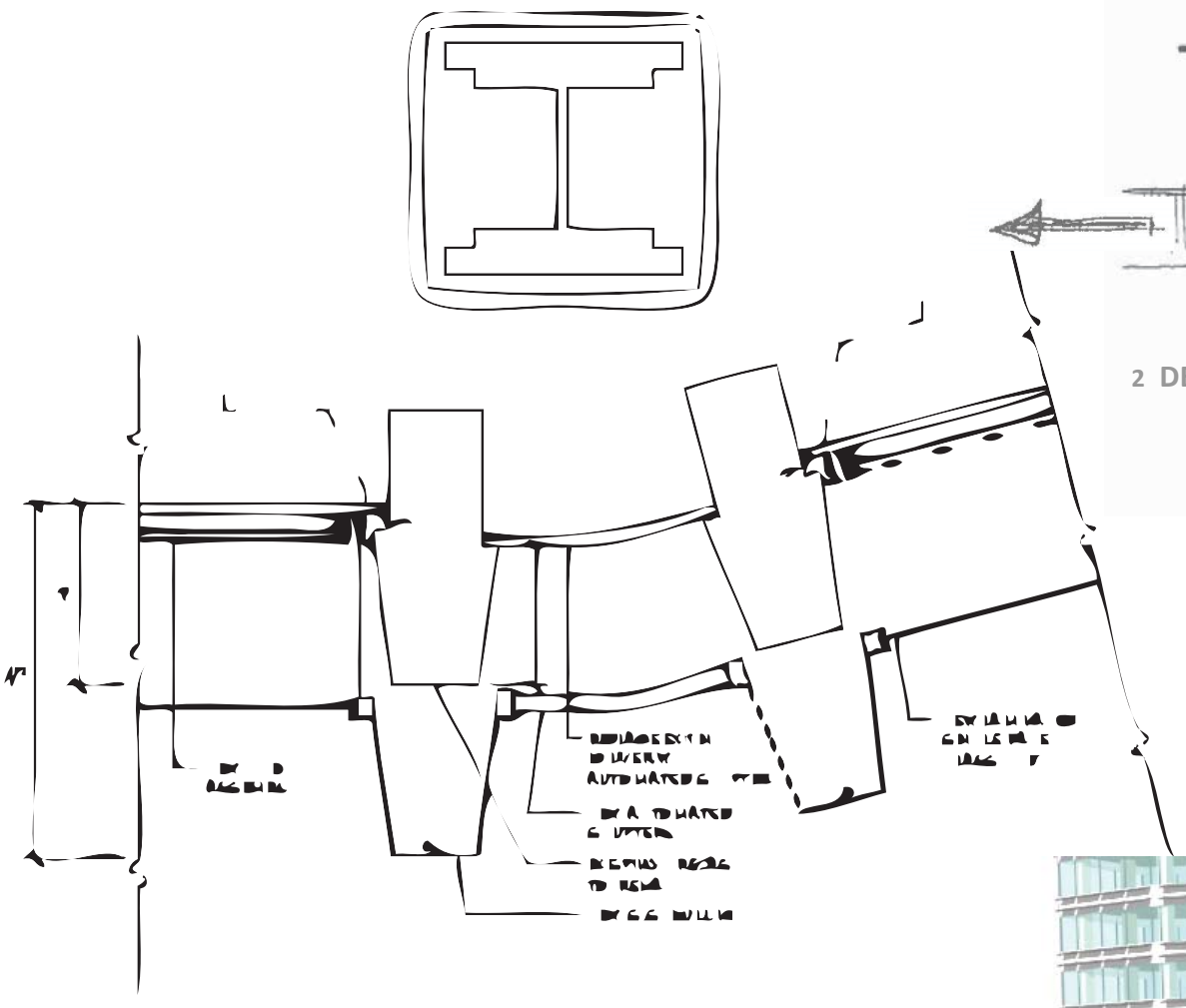


1 GLASS SPACER TRIPLED GLAZED LAMINATE IGU'S

THE PERFORMANCE OF A SKYSCRAPER'S EXTERIOR ENVELOPE HAS BEEN MADE MORE ENERGY EFFICIENT OVER THE YEARS, BUT WHAT MATERIALS/ SYSTEM SHOULD BE EXPLORED AND IMPLEMENTED FOR THE NEXT CENTURY? CREATE A "FRAMELESS" GLASS CURTAIN WALL; INCORPORATE TRIPLE GLAZING FOR THE ENERGY BENEFITS, BUT ALSO FOR ITS INHERENT STRENGTHS TO ACCOMMODATE WIND LOADS.



2 DETAIL AT ATRIA STRUCTURAL GLASS WALL



3 REUSING VERTICAL LOUVER BANDS

EXISTING VERTICAL FRESH AIR AND 'SPILL' AIR LOUVERS AT VERTICAL BANDS WILL REMAIN IN PLACE. AUTOMATED SHUTTERS INCORPORATED AT THE OVERCLAD AND ISOLATED FROM THE CAVITY THAT IS CREATED BY THE OVERCLAD WILL ALLOW FOR CONTINUED OPERATION OF EXISTING LOUVERRED OPENINGS.

OPERATION OF THE AUTOMATED SHUTTERS WILL BE TIED INTO OPERATION OF THE EXISTING COMMERCIAL BUILDING FLOORS TO MAINTAIN ACCESS TO DUCTED FRESH AIR AND SPILL AIR WHEN CONDITIONS NECESSITATE MECHANICAL HEATING AND COOLING.

4 ATRIUM-STRUCTURAL GLASS WALL

5 COMMERCIAL/RESIDENTIAL TRANSITION-SKY LOBBY