
NEST
2000 GALLOPING HILL RD,
KENILWORTH, NJ
255,856 SF of Biologics Manufacturing
with Support Laboratory
JLL
ONYX
19 NEST

*2024 Dollars

History: Northeast Science & Technology Center

FORMER SCHERING-PLOUGH/MERCK RESEARCH & DEVELOPMENT SITE OF 2.0M SF AND ADDITIONAL LAND

SCHERING-PLOUGH CONSTRUCTS BUILDING 15 IN 1992

- 1,121,000 SF building now known as 15 NEST to house state-of-the-art laboratories for research in fields such as microbiology, virology, molecular and cell biology, pharmacology and chemistry. The building was also built to hold a library, a 550-seat cafeteria, a seminar room and administrative offices.
- +/- 1,500 employees moved to facility.

CONSTRUCTION COST: $550M*

MERCK ACQUIRES SCHERING-PLOUGH IN 2009

- Merck relocates its global headquarters to Kenilworth campus.

MERCK CONSTRUCTS POD H, RENOVATES POD E AT BUILDING 15 IN 2014

- 120,000 SF construction of Pod H and 137,000 SF renovation of Pod E (the combined area now known as 19 NEST) to house state-of-the-art drug substance product process development and scale up for novel biologics and biosimilars.
- +/- 350 employees moved to facility.

CONSTRUCTION COST: $165M*

ONYX EQUITIES ACQUIRES CAMPUS FROM MERCK IN 2023

- Campus rebranded to The Northeast Science & Technology (NEST) Center

19 NEST Total Construction & Renovation Costs: $232M | $907/RSF

BUILDINGS

1 NEST

5 NEST

11 NEST

15 NEST

MANAGEMENT: 16 NEST

VIVARIUM: 17 NEST

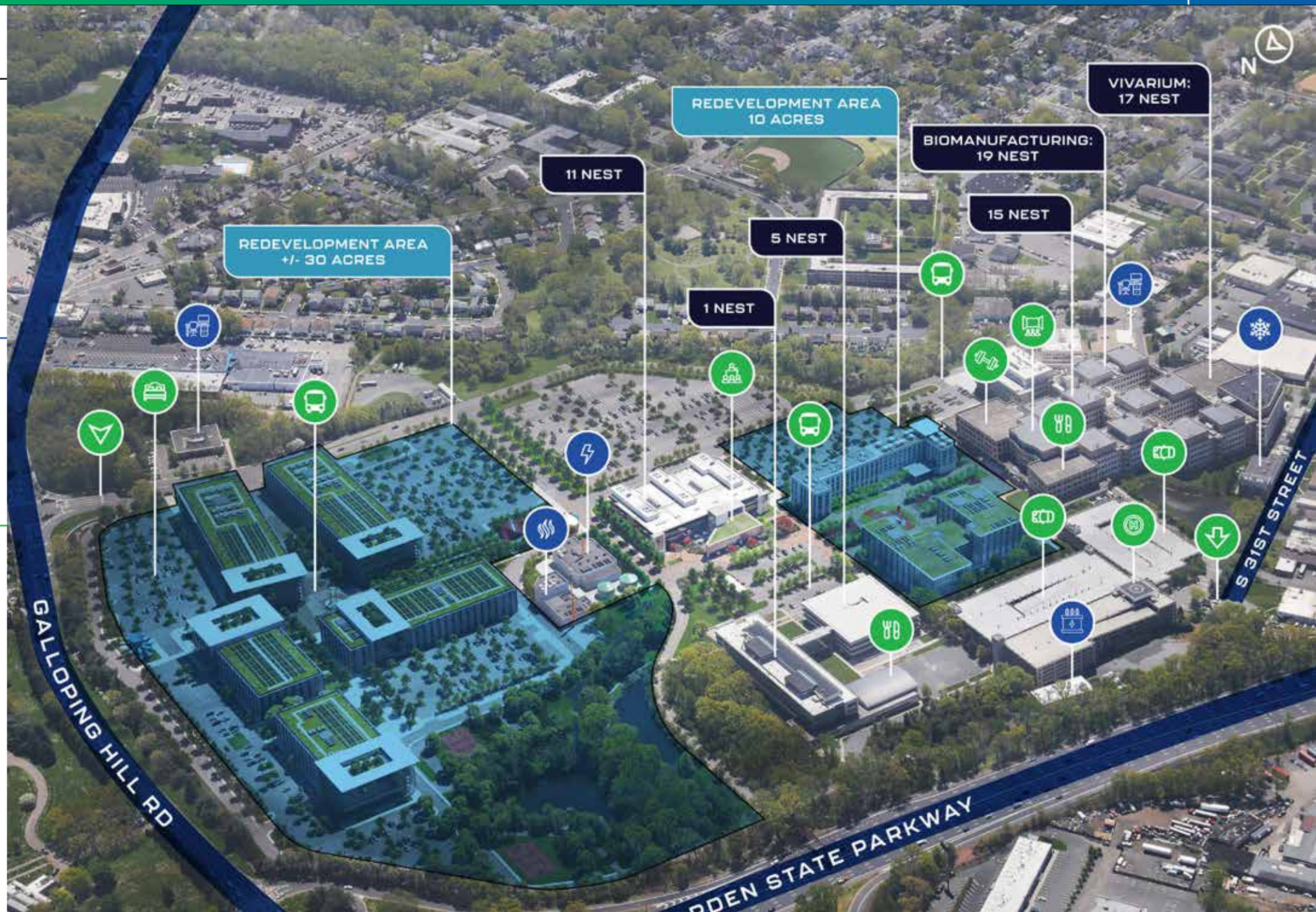
19 NEST

SUPPORT BUILDINGS

- COGEN POWER PLANT
- BOILER PLANT
- CHILLER PLANT
- MANAGEMENT OFFICE

FEATURES & AMENITITES

- MAIN ENTRY
- FULL-SERVICE CAFETERIA
- FITNESS CENTER
- AUDITORIUM
- CONFERENCE CENTER
- COURTYARD
- PARKING GARAGE
- HELIPORT
- PROPOSED HOTEL & RESTAURANT
- SHUTTLE PICKUP
- REAR ENTRY



Biologics Development & Manufacturing

DSP (Drug Substance Product) Process Development and Scale Up for novel biologics and biosimilars

Upstream and Downstream Process Development

Batch or batch fed from T flask to 500L bioreactors

Cell line development

Sterile Biologics formulations

Analytical support

Development of microbial and mammalian cell cultures

Dual purpose microbial or mammalian fermenters

POD H

119,142 RSF

PROCESS AREAS CAPABILITIES:

- Upstream Process Development (mammalian cell): USP and DSP Process development for mammalian Cell Culture and Purification for process scale - up and production of pre-clinical supplies.
- Cell culture operations will range from T flask to 500L bioreactor scale. Operations are batch or fedbatch; perfusion operations are not anticipated or designed into the facility. Primary recovery include centrifugation and depth filtration. Downstream operations include rooms for chromatography, ultrafiltration, viral filtration and bulk product filling. The largest chromatography column is 60 cm diameter.

POD E

136,714 RSF

PROCESS AREAS CAPABILITIES:

- USP and DSP Fermentation Process development and scale up for microbial expression systems. Both intracellular and extracellular products.
- Facility is capable of microbial expression systems such as E. coli and Pichia. Facility can support mammalian cell cultures in the dual purpose fermentors/bioreactors. Small 2L fermentors and development scale units up to 300L are installed in the fermentation area. Recovery operations include centrifugation, homogenization, microfiltration and depth filtration. Bench scale purification operations are depth filtration, chromatography, filtration and small volume filling.

19 NEST Total: 255,856 RSF

LABORATORY AREAS CAPABILITIES

- Purification Development: DSP Process Development and scale up for recombinant proteins derived from mammalian and microbial expression systems.
- Protein Expression Technology: Cell line Development with capability to support clone selection.
- Sterile Product Development: Development of sterile biologics formulations. Lyophilized and liquid preparation of drug products supplies for pre-clinical studies.
- Functional Assays: Development of cellbased assays, ELISA, affinity assays for use as potency product release assays and biological characterizations of therapeutic proteins during preclinical and clinical development.
- Immunoassay: Development, validation, and operation of bioanalytical immunoassays supporting novel biologics and biosimilars programs
- Analytical Support: Release and stability testing of preclinical materials (therapeutic proteins), in process testing, technical support to GMP labs, analytical support for formulations and drug substance development.
- Characterization: Development of analytical tests to characterize therapeutic proteins and their degradation products from discovery through early-stage development.

POD H

119,142 RSF

With the largest bioreactor at 500L, the process and media volumes are limited to 500L or less. Buffer volumes up to 1000L to support recovery and purification operations. The 320L and 500L bioreactors are fixed with portable process skids served by wall mounted utility panels

- Process transfer/holding are provided as follows:
  - Up to 200 L – portable containers
  - 200 L to 500 L – movable containers
  - >500 L – stationary containers
- Limited transfer piping – buffer transfer from buffer prep to buffer hold vessels

Cell Culture: Cell culture operations occur in the following rooms within floor H1 – Inoculum , Batch Flask, Cell Culture , 2L/3L Bioreactor and Production . Below is summary of equipment and operations that support cell culture development:

- Mode of bioreactor operation – Batch or Fed Batch
- Centralized inoculum prep serves all cell culture spaces
- 2L wv benchtop bioreactors
- e 3L wv benchtop bioreactors
- f. 200-250 L wv bioreactor systems
- g. 500 L wv bioreactor systems

Recovery: Small scale recovery development activities occur in Recovery. This includes centrifugation and depth filtration studies. Harvesting of the larger bioreactors (250L, 320L and 500L) performed within Production with centrifuge and depth filter.

- Cell Culture broth harvested via stacked disk centrifuge with the centrate directed through a depth filter

Purification: Purification operations takes place in rooms Chrom, Chrom and Chrom with bulk filling activities in Final Filtration. A summary of purification operations:

- Ambient processes – Typical monoclonal antibody process
- Three processing rooms for 3 chromatography steps, one viral filtration and one ultrafiltration/diafiltration step along with final filtration room
  - One room is capable of being converted to cold room
  - Columns, small and midsized volume buffers (< 500L) can be moved in/out of room as needed
  - Large volume (>500 L) buffers piped directly one of four 1000L buffer hold tanks that support rooms Chrom and Chrom

POD E

136,714 RSF

Development operations in Pod H include dual purpose equipment for microbial and mammalian cell cultures capable of supporting the processing of 300L of cell broth.

Equipment, processing scope, options and approach are indicated below:

- Mammalian cell based, Pichia yeast based and E. coli based cultures – dual purpose fermentors
- Up to 300 L of product/media solutions
- Up to 500 L buffer volumes
- Portable process skids served by utility panels
- Process transfer/holding
  - Up to 200 L – portable containers
  - 200 L to 500 L – movable containers with 2 people
  - >500 L – stationary containers
  - Piping for utilities supply only
- Dual Purpose (microbial or mammalian) fermentors
- 2L
- 20 L
- 30 L / 300 L systems
- Mammalian Cell Culture
- Batch or fed batch mode
- Microbial Fermentation
- Batch or fed batch mode
- Recovery
- Fermentation broth harvested via stacked disk centrifuge
- Other unit operations include:
  - Microfiltration
  - Homogenization
  - Depth Filtration
  - Inclusion body solubilization and refolding
  - Process Filtration
- Purification
  - Small scale purification performed
  - Benchtop units for chromatography & ultrafiltration
  - Crystallization
  - Process Filtration

19 NEST Total: 255,856 RSF

FLOOR LOADS
100-250 LBS/SF

GENERATOR
Dedicated 2,000 kVA Cummins Generator

POWER
8,000 kVA current connected load.

Dedicated utility switchgear in lower level with redundant utility feeds.

Dedicated UPS for first floor in Pods H & E.

HVAC
Dedicated AHUs in Penthouse with HEPA filters.

Chilled water and steam fed from campus system with seperate feeds to penthouse.

Dedicated general exhaust fans (N+1).

AHU's can be modified or replaced as needed to meet potential needs.

LOADING
One (1) dedicated two bay loading dock with chemical storage and waste rooms.

FLOOR TO FLOOR HEIGHT
16' 2.5"

CLEAN UTILITIES & LAB SERVICES

- Reverse Osmosis Water
- Process Chillers + -4C Glycol Chillers
- Vacuum
- Process Liquids (Nitrogen, O2, CO2)
- Process Gases (Nitrogen, O2, CO2)
- Clean Steam
- Water for Injection
- Clean Compressed Air

USE(S)
Bio Manufacturing,
Support laboratory & office

BUILDING AREA
255,856 RSF

NUMBER OF STORIES
Four story building plus lower level and mechanical penthouse

YEAR BUILT/RENOVATED
Built in 2014

STRUCTURE
Structural Steel Frame

BUILDING EXTERIOR
Pod H: metal panel and glass
Pod E: pre-cast concrete

ROOF AND WARRANTY
PVC installed 2014 (20 year warranty)

FLOORS
Concrete

HVAC SYSTEM
Main HVAC units in penthouse
using chilled water/hot water; HW perimeter heating.

ELECTRICAL
Three 3 phase 3.16 KV feed into bldg.
Step down to 3 phase 277/480 volt
(2,000 A, 8,000 A, 6,000 A
One 3 phase 3.16 KV feed dedicated to chiller.

GENERATORS
Dedicated 2,000 kVA Cummins Generator

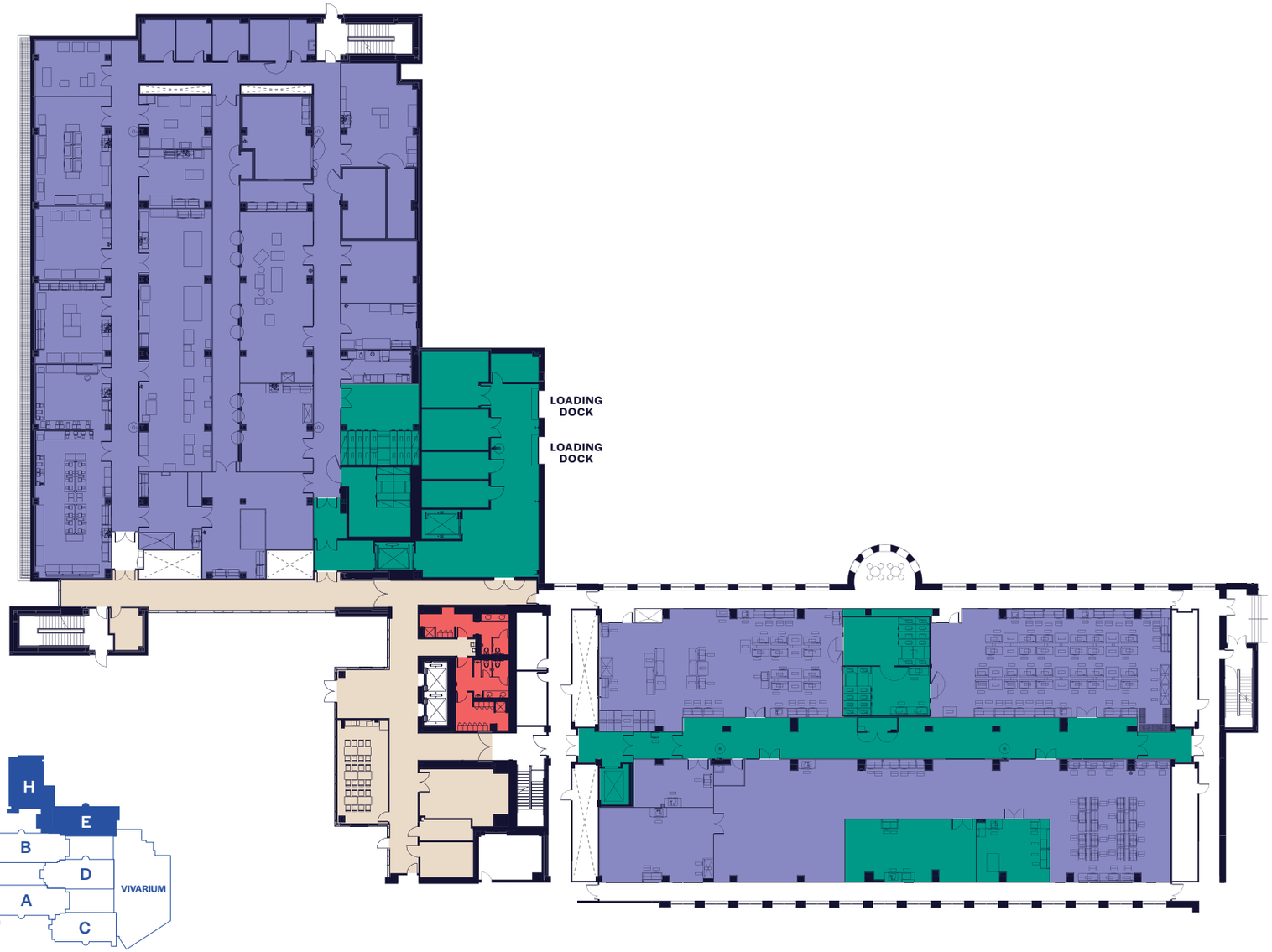
FIRE & SAFETY
Remote fire alarm system and smoke detectors. Fully sprinklered. Card access entry system.

FLOOR LOAD (LBS. PSF)
Pod H:
Lower Level: 250
Floors 1-4: 125
Pod E:
Floors 1-4: 100

PARKING
Adjacent to 2,131 spaces in G1 and G2 parking garages

ELEVATOR
Two (2) dedicated passenger elevators
Three (3) dedicated freight elevators

CAMPUS AMENITIES
Full-service Cafeteria, Fitness Center, Auditorium, Conference Rooms, Courtyards, BSL-2 and BSL-3 Lab Space, Vivarium

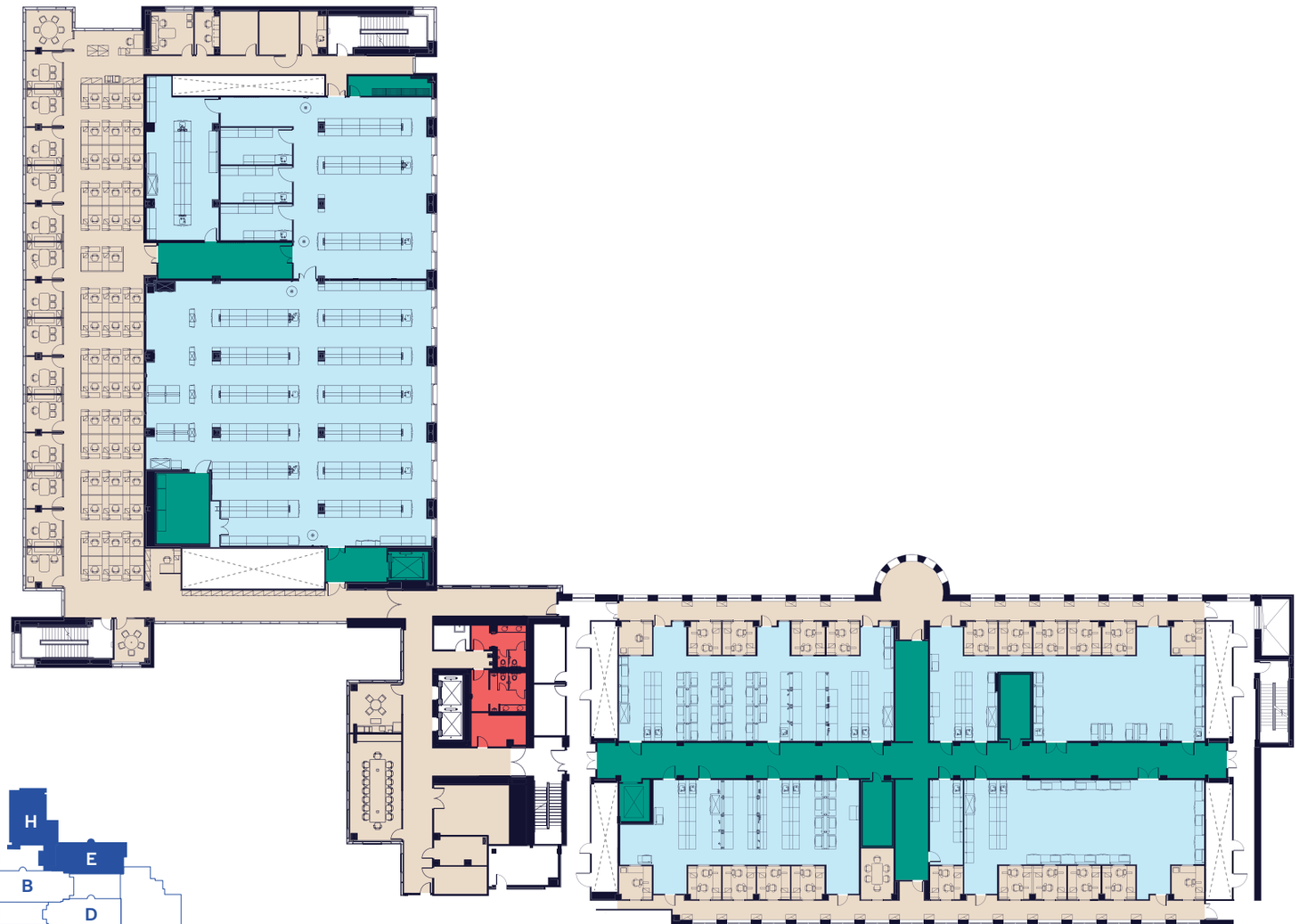


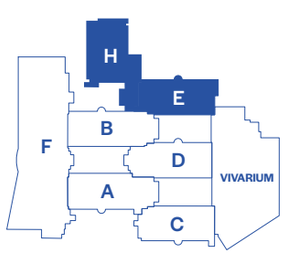
Ground Floor

POD H	31,324
POD E	29,706
TOTAL RSF	59,286
FLOOR TO FLOOR HEIGHT	16’ 2.5”

KEY

- Office Space
- Biomanufacturing Space
- Lab Support
- Employee Bathrooms



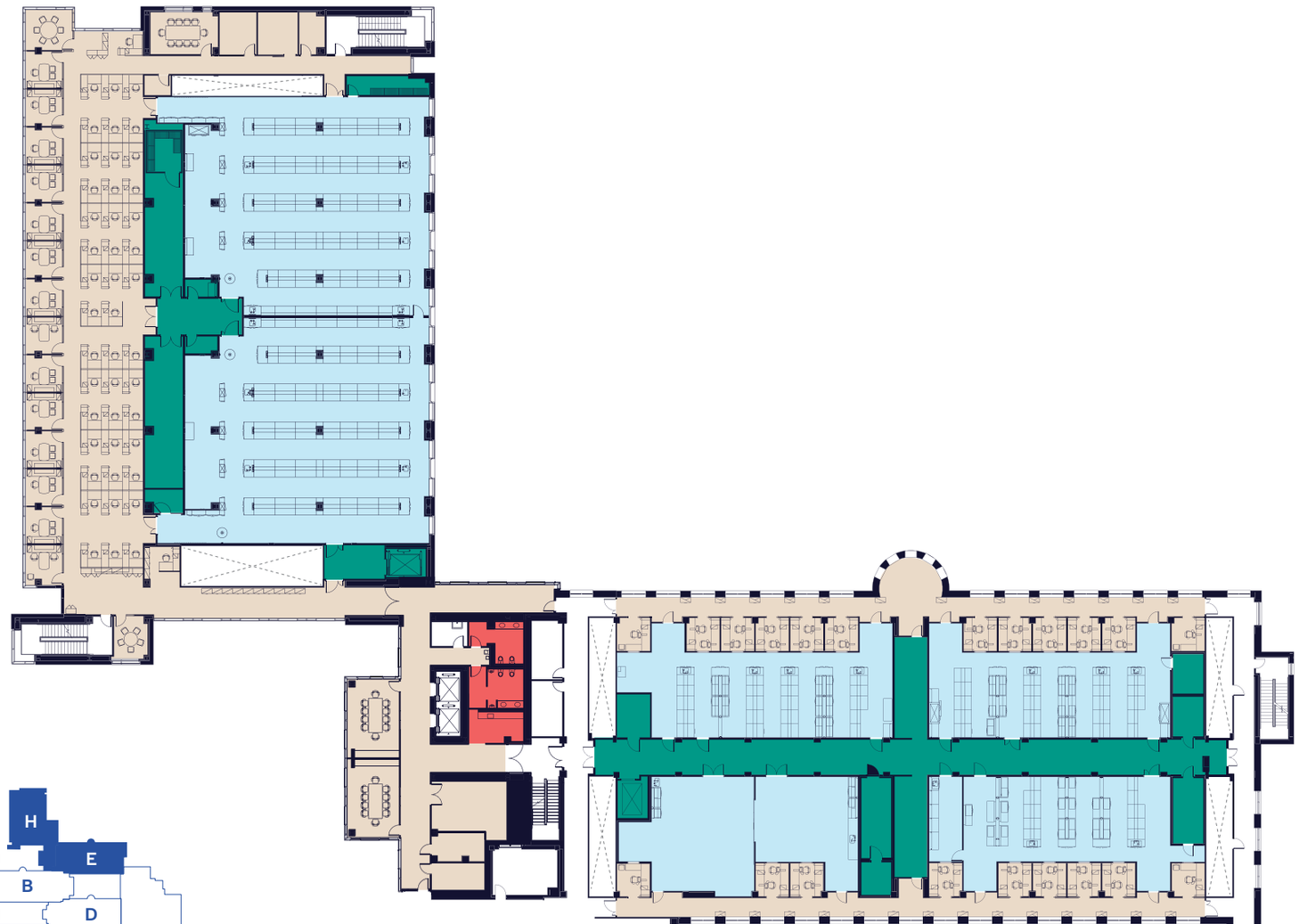


Floor Two

POD H	27,500
POD E	29,706
TOTAL RSF	55,571
FLOOR TO FLOOR HEIGHT	16’ 2.5”

KEY

- Office Space
- Employee Bathrooms
- Lab Space
- Lab Support

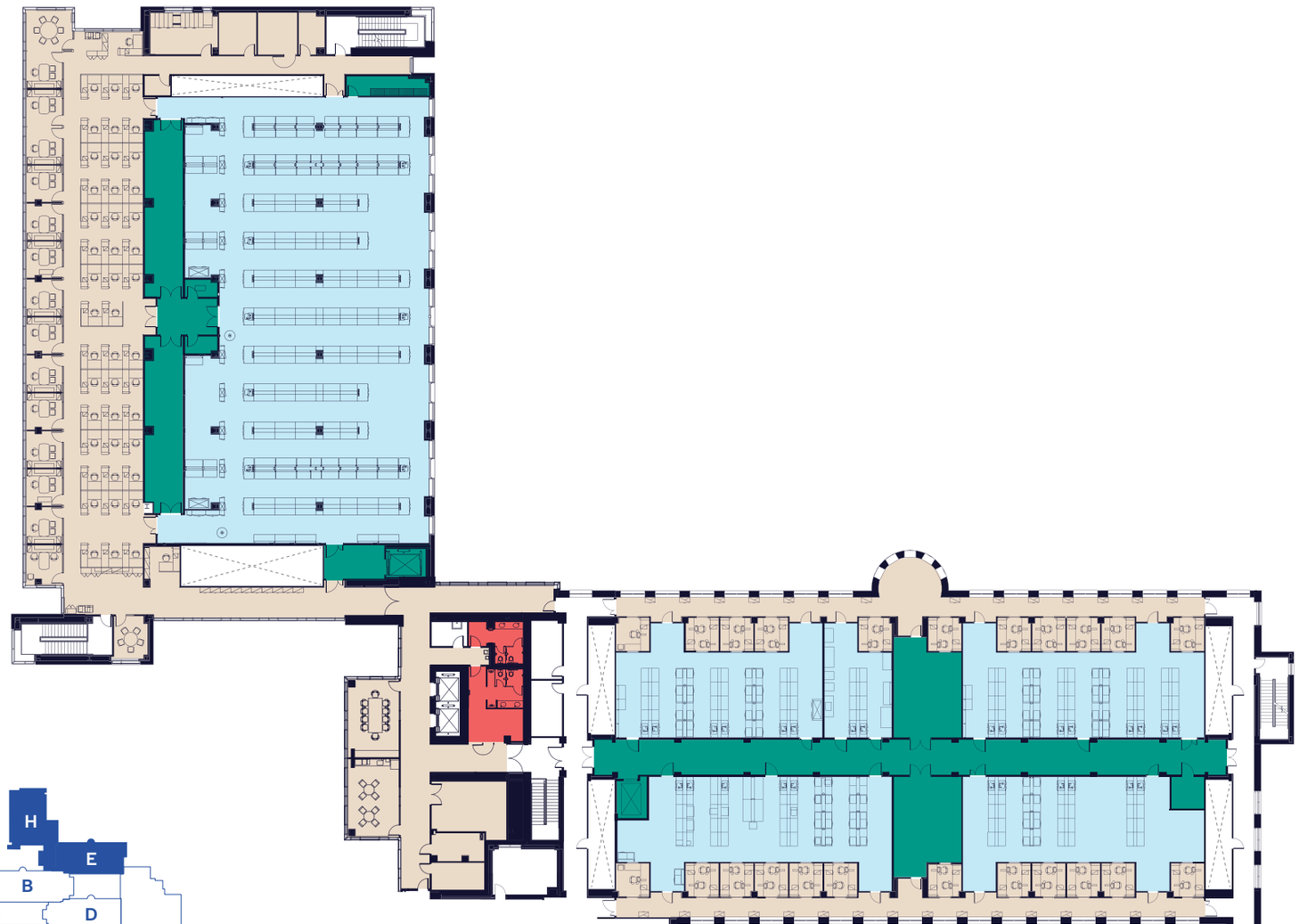


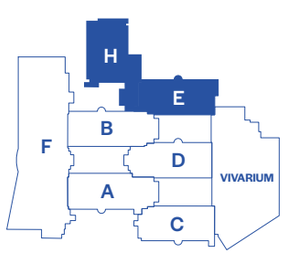
Floor Three

POD H	27,500
POD E	29,706
TOTAL RSF	55,571
FLOOR TO FLOOR HEIGHT	16’ 2.5”

KEY

- Office Space
- Employee Bathrooms
- Lab Space
- Lab Support





Floor Four

POD H	27,500
POD E	29,706
TOTAL RSF	55,571
FLOOR TO FLOOR HEIGHT	16’ 2.5”

KEY

- Office Space
- Employee Bathrooms
- Lab Space
- Lab Support

NORTHEAST SCIENCE
& TECHNOLOGY CENTER

19 NEST DRIVE

Speak to a member of our team today to learn more about NEST and the exceptional opportunities we have to offer. Request additional information or a private, guided visit to our convenient location where over 2 million square feet of purpose-built R&D facilities are waiting for you.

NESTCENTER.COM
LEASING@NESTCENTER.COM
2000 GALLOPING HILL ROAD
KENILWORTH, NJ 07033

Dan Loughlin
+1 973 829 4695
dan.loughlin@jll.com

Bob S. Ryan
+1 973 829 4717
BobS.Ryan@jll.com

Craig Eisenhardt
+1 973 829 4680
craig.eisenhardt@jll.com

Blake Goodman
+1 973 829 4739
blake.goodman@jll.com