

School Administration Building Study  
Town of Needham, MA  
August 2013  
Contract ID #13PCF-104D

designLAB architects

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# executive summary

## GOALS

The goal of this study was to determine the current and future programmatic needs of the Needham's School Administration and propose viable solutions to meet these needs. Building upon previous feasibility studies, the unique intention in this study was to assess current needs in relation to current market, property values, and project execution strategies. This information is intended to aid future masterplanning efforts for the Town of Needham.

The School Administration has long been housed in Needham's historic building, the Emery Grover Building. While looking at the renovation of this building is a potential solution, the design team was charged to also consider alternate building solutions. The alternates discussed were varied, and include the following:

- Complete Renovation of Emery Grover to house the entire School Administration Building.
- The demolition of Emery Grover and new construction on the same site.
- The selling/leasing of Emery Grover and new construction elsewhere in Needham.
- The re-use of an alternate Town-Owned Property for the School Administration.
- The leasing and renovating an available commercial property.
- The purchase of new property for the new construction of a School Administration Building.

Through the consideration of these options in regards to the current needs, the team determined that the following three as the best recommendations for the School Administration:

1. The complete Renovation of the historic Emery Grover Building.
2. The Addition/Renovation to an existing Town-Owned Property. For the purposes of this study the Ridge Hill Mansion was determined the most viable property.

3. New Construction on a town-owned or purchased property. This study assumes a generic parcel, as market fluctuations make the detailed assessment of any particular site inconclusive.

## PRECEDENT STUDIES

Needham has undertaken several previous feasibility studies to assess the programming and facilities needs surrounding the School Administration and the Emery Grover building. These served as a starting point for this study, including the 2006 Facilities Masterplan, the 2007 Senior Center Study at Ridge Hill, and the 2010 Senior Center Feasibility study for the Emery Grover. There were also numerous supporting materials provided- historic articles regarding the Emery Grover Building, appraisals, documentation for National Registration, easements, etc.

It is assumed that any issues and recommendations from those studies are still applicable to future renovation efforts, particularly in the envelope and facility assessment of the Emery Grover and Ridge Hill buildings.

## PROCESS

During the course of the study, the design team attended programming meetings and site-walks, along with several meetings to discuss program/layout materials and resolution strategies. Through the collaboration with the Town and School Administration Directors, determinations were made in the following order:

1. Program components within each department were identified, along with ideal adjacencies and inter-departmental relationships. It was determined that approximately 13,000 NSF is required to satisfy the School Administration Program, which would lead to approximately 16,000-18,000 GSF required for the full project.

2. Site location and access to the School Administration building is a high priority for determining viable properties. While it is not required to be adjacent directly to a school or located in Needham's downtown district, it should be easily accessed from a major route, given the number of employees and public visitors it serves on a daily basis. It was further determined that approximately 54 parking spots would be required to support the office use and 42 for Assembly, if it is determined that these uses should happen concurrently. The estimated 102 total parking spots is a worst-case assumption that is most applicable to remote sites that do not provide additional public parking.
3. Given the program and site requirements, three recommendations were proposed, as previously indicated. The design team test fit each recommended scenario to ensure viability and potential for each site to meet zoning and current Building Code/ADA requirements.
4. Pro-formas were prepared to provide an overall estimate of the costs associated with each option. These include the hard costs of construction along with applicable enabling and soft costs. These vary based on the particular option and include items such as land purchase, temporary relocation, moving expenses, legal and consulting costs. Also included are potential CPA funding estimates, where applicable.



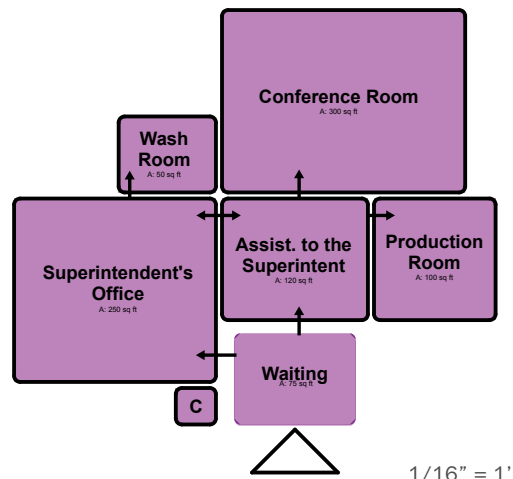
The Needham School Administration is currently housed in the Historic Emery Grover Building, pictured above.

# programming

The first step of the study was to determine the exact programmatic requirements for a new School Administration Building. Through meetings with directors and members of each department, and a several tours of Emery Grover, a list of spaces and sf allocations were identified for each department. The program charts to follow indicate the name of the space, number, size, and additional storage and/or furnishing considerations unique to the space.

These were then organized into a series of adjacency diagrams that indicate the ideal relationships between the spaces. Direct relationships are indicated with arrows and indirect with dotted lines, enclosed spaces are identified with a black outline. These programming diagrams served as a basis for the layout of each departmental suite in the test fits to follow.

## SUPERINTENDENT OF SCHOOLS



1/16" = 1'

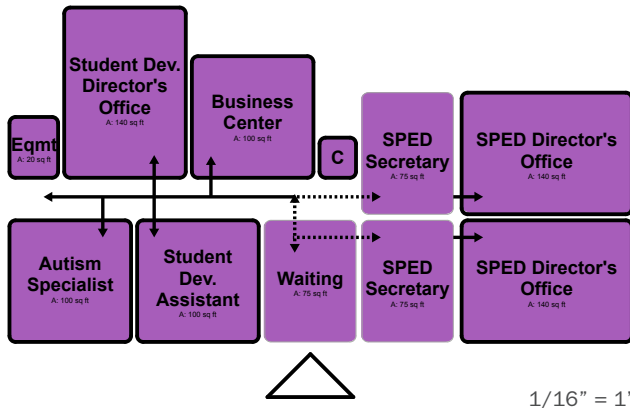
SUPERINTENDENT OF SCHOOLS				
ROOM NAME	UNITS	NSF/UNIT	NSF	COMMENTS
Superintendent's Office	1	250	250	Includes table/chairs for 4-6 ppl Not adjacent to front door
Assistant to the Superintendent	1	120	120	Includes table/chairs for 4 ppl
Conference Room	1	300	300	Capacity of 10-12 ppl
Production Room	1	100	100	Includes worktable, fax, etc.
Waiting Room	1	75	75	Waiting for 4-6 ppl
Wash Room	1	50	50	
Coat Closet	1	10	10	
SUBTOTAL NSF			905	

## SCHOOL ADMINISTRATION DEPARTMENTS

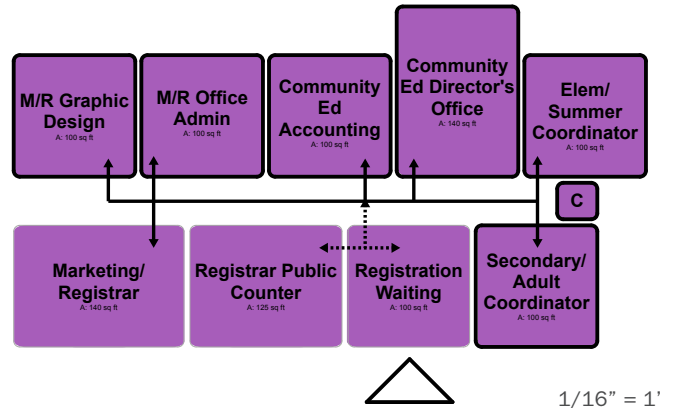
- SUPERINTENDENT
- STUDENT DEVELOPMENT DEPARTMENT
  - STUDENT DEVELOPMENT
  - COMMUNITY EDUCATION
- INNOVATION TECHNOLOGY DEPARTMENT
- FINANCE OPERATIONS DEPARTMENT
  - HUMAN RESOURCES
  - BUSINESS/FINANCE OPERATIONS
  - TRANSPORTATION/FOOD SERVICE
- PROGRAM DEVELOPMENT DEPARTMENT
- SHARED BUILDING SERVICES

# STUDENT DEVELOPMENT DEPARTMENT

## STUDENT DEVELOPMENT



## COMMUNITY EDUCATION

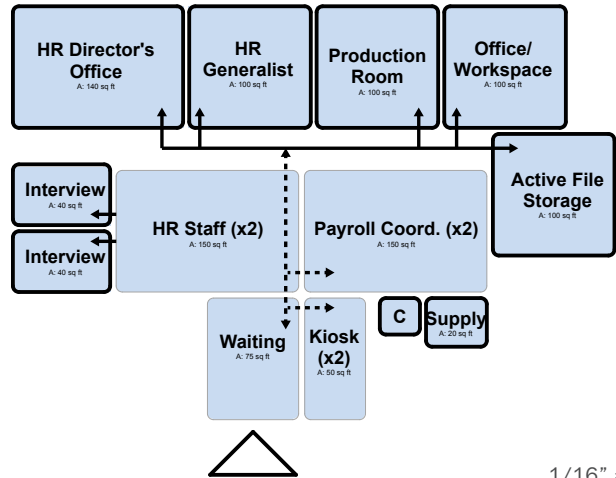


STUDENT DEVELOPMENT DEPARTMENT					
ROOM NAME	UNITS	NSF/UNIT	NSF	COMMENTS	
<b>STUDENT DEVELOPMENT</b>					
Student Dev. Director's Office	1	140	140	Includes table/chairs for 4 ppl	
Student Dev. Assistant	1	100	100		
Waiting Room	1	75	75	Waiting for 4-6 ppl	
Autism Specialist	1	100	100		
SpEd Director's Office	2	140	280		
SpEd Secretary	2	75	150		
Business Center	1	100	100	Incl. large copier, printer, & worktable	
Equipment Storage	1	20	20	Confidential materials, Dedicated to Stud. Dev.	
Coat Closet	1	10	10	Hearing Equipment	
<b>COMMUNITY ED</b>					
Single entry; Near HR					
Community Ed Director	1	140	140	Includes table/chairs for 4 ppl	
Community Ed Accounting	1	100	100	Confidential	
Marketing/Registrar	1	140	140		
M/R Office Admin	1	100	100		
M/R Graphic Design	1	100	100		
Registrar Public Counter	1	125	125	Includes counter, workspace, queue	
Registration Waiting	1	100	100	Waiting for 8-10 ppl	
Elem/Summer Coord. Office	1	100	100		
Secondary/Adult Coord. Office	1	100	100		
Coat Closet	1	10	10		
<i>SUBTOTAL NSF</i>			1990		

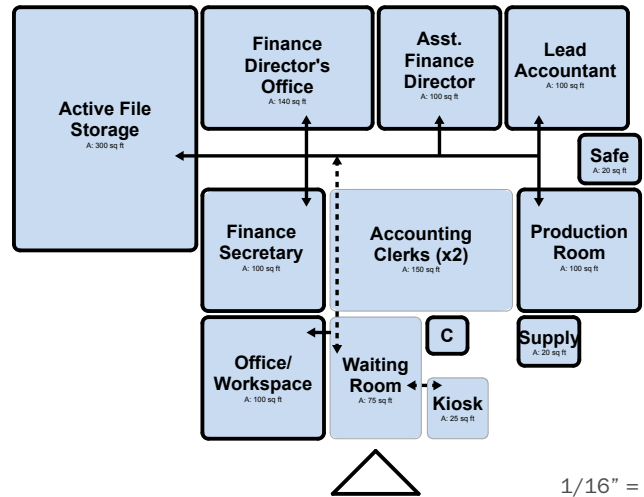
# programming

## FINANCE OPERATIONS DEPARTMENT

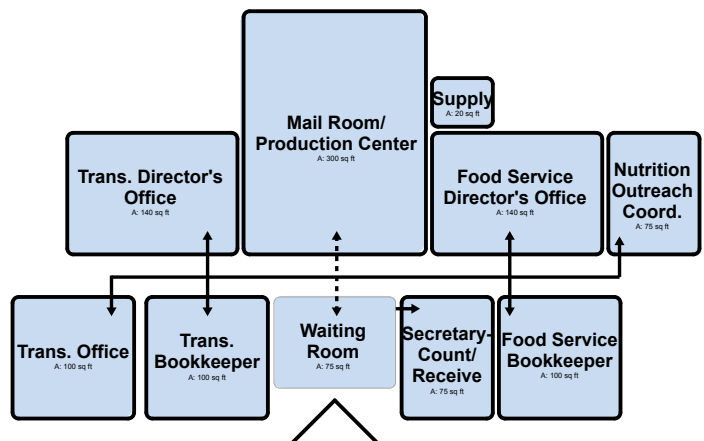
### HUMAN RESOURCES



### BUSINESS/FINANCE OPERATIONS



### TRANSPORTATION/FOOD SERVICES

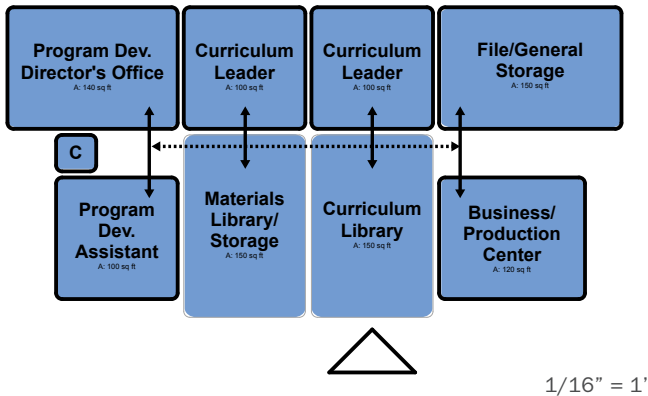


<b>FINANCE OPERATIONS DEPARTMENT</b>				
<b>ROOM NAME</b>	<b>UNITS</b>	<b>NSF/UNIT</b>	<b>NSF</b>	<b>COMMENTS</b>
<b>HUMAN RESOURCES</b>				Locate on Ground Floor- Suite Style
HR Director's Office	1	140	140	Includes table/chairs for 4 ppl
HR Generalist Office	1	100	100	Confidential
HR Staff Offices	2	75	150	Shared offices for active personnel files
				Shared offices
Payroll Coordinators	2	75	150	Collaborative between HR & Business
Interview Offices	2	40	80	Includes 2 ppl
Office/Workspace	1	100	100	Temp Workers
Waiting Room	1	75	75	Waiting for 4-6 ppl
Student Registration Kiosk	2	25	50	Open w/in Waiting Room
Production Room	1	100	100	Includes worktable, fax, etc.
Active File Storage	1	100	100	12-13 file cabinets
Dead File Storage*	-	-	-	*Shared Building Program
Office Supply Closet	1	20	20	
Coat Closet	1	10	10	
<b>BUSINESS/FINANCE OPERATIONS</b>				Suite Style, Ground Floor not req'd.
Finance Director's Office	1	140	140	Includes table/chairs for 4 ppl, in Suite
Assistant Finance Director	1	100	100	Confidential
Finance Secretary	1	100	100	Confidential
Lead Accountant	1	100	100	
Accounting Clerks	2	75	150	Shared
Waiting Room	1	75	75	Waiting for 4-6 ppl
Accounting Storage/Safe	1	20	20	Shared w/in Accounting
Office/Workspace	1	100	100	Auditors and Temp Workers
Production Room	1	100	100	Includes worktable, fax, etc.
Active File Storage	1	300	300	30-40 file cabinets
Office Supply Closet	1	20	20	
Coat Closet	1	10	10	
Payment Kiosk	1	25	10	Open w/in Waiting Room?
<b>TRANSPORTATION/FOOD SERVICE</b>				Locate on Ground Floor
Transportation Director's Office	1	140	140	Confidential; Includes table/chairs for 4 ppl
Transportation Bookkeeper	1	100	100	Confidential
Transportation Office	1	100	100	Drivers, Charter Coordinator, Visiting Food Service
				Waiting for 4-6 ppl; Drivers from 9-2pm
Trans/Food Service Waiting Room	1	75	75	Includes Customer Service Counter
Food Service Director's Office	1	140	140	Confidential; Includes table/chairs for 4 ppl
Food Service Bookkeeper	1	100	100	Confidential
Secretary- Counting/Receiving	1	75	75	Loud Machines, Dedicated/Lockable/Secure
Nutrition Outreach Coordinator	1	75	75	Share space w/Intern
Food Service Storage	-	-	-	*Shared Building Program
Food Service Supplies Closet	1	20	20	Large Closet with Shelving
				Includes bulk paper storage
Mail Room/Production Center	1	300	300	Located on Ground Floor, near Loading Dock
Coat Closet	1	10	10	
<b>SUBTOTAL NSF</b>			<b>3435</b>	



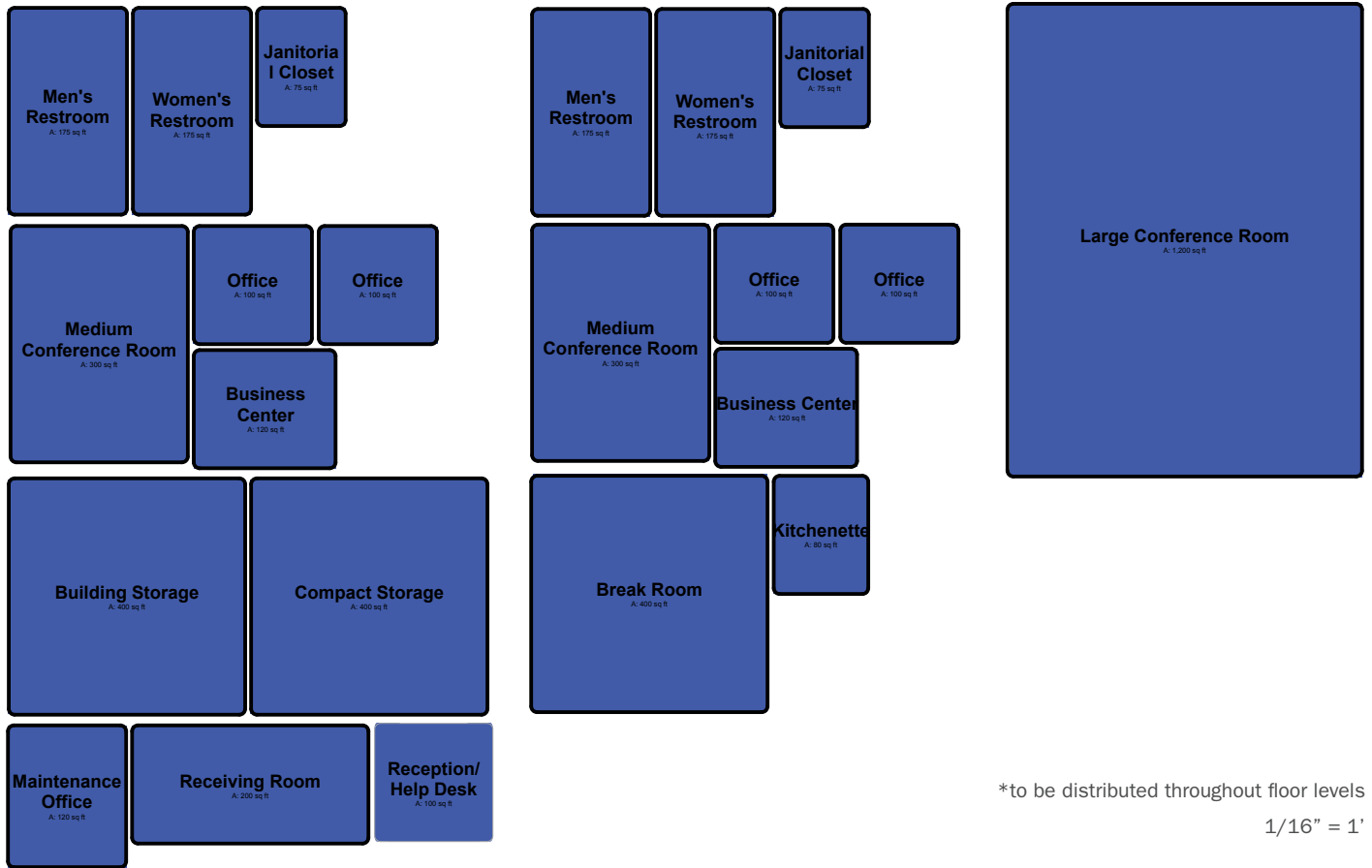
# programming

## PROGRAM DEVELOPMENT DEPARTMENT



PROGRAM DEVELOPMENT DEPARTMENT				
ROOM NAME	UNITS	NSF/UNIT	NSF	COMMENTS
Program Dev. Director's Office	1	140	140	Includes table/chairs for 4 ppl + shelving
Program Dev. Assistant	1	100	100	
Curriculum Leaders' Offices	2	100	200	
Curriculum Library	1	150	150	20 bookcases, approx. Direct Exterior Access
File/General Storage	1	150	150	
Materials Library/Storage	1	150	150	Shelving for classroom materials
Business/Production Center	1	120	120	Dedicated production space Direct Exterior Access
Coat Closet	1	10	10	
SUBTOTAL NSF			1020	

SHARED BUILDING PROGRAM\*



\*to be distributed throughout floor levels

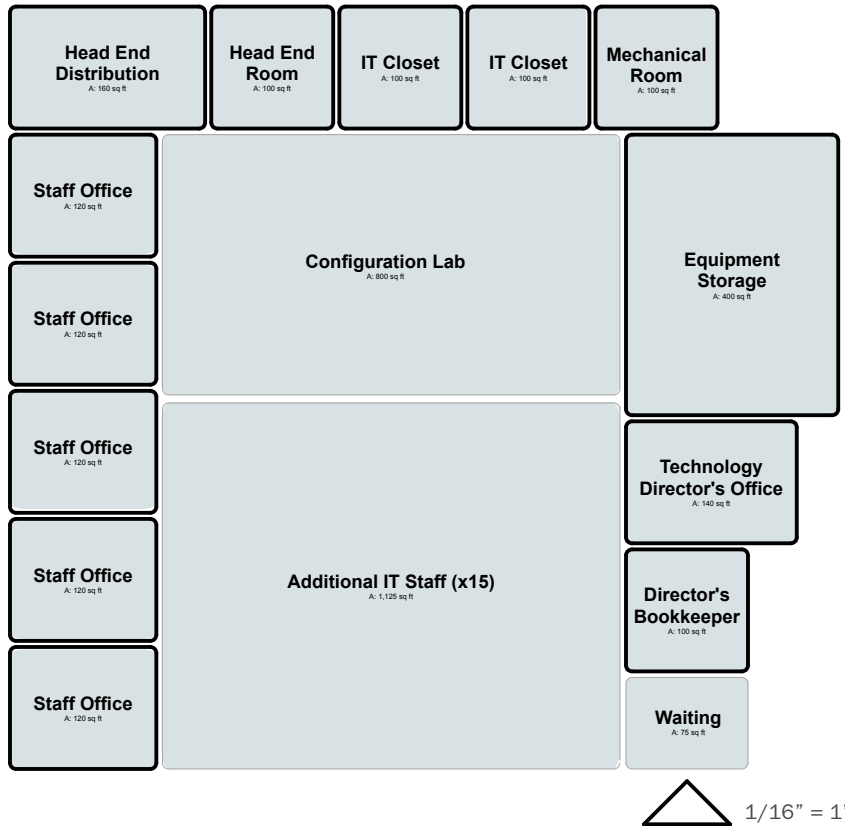
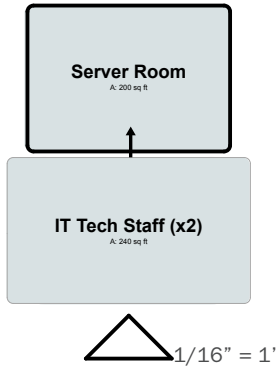
1/16" = 1'

SHARED BUILDING SERVICES				
ROOM NAME	UNITS	NSF/UNIT	NSF	COMMENTS
Help Desk/Reception	1	100	100	At building entry, directs to all departments
Large Conference Room	1	1200	1200	100 ppl/ 50 ppl Projection/Sound/Technology, Subdivisible
Medium Conference Rooms	2	300	600	10-12 ppl, flexible
Additional Offices	4	100	400	For Future Growth
Kitchenette	1	80	80	Access to Large Conference Room
Business Center	2	120	240	1 per floor- copier, counter, worktable
Restrooms, Male	2	175	350	1 per floor
Restrooms, Female	2	175	350	1 per floor
Break Room	1	400	400	seating
Janitorial Closet	2	75	150	1 per floor
Maintenance Office	1	120	120	
Compact Storage	1	400	400	22 file cabs - Finance Dept 50 file cabs - Student Development 5 file cabs (20 file drawers) - Food Services
Building Storage	1	400	400	
Receiving Room	1	200	200	Adjacent to Loading Dock, Near Storage
Loading Dock	-	-	-	Near building Storage/Receiving Room
Expanded Parking	-	-	-	Total Visitor/Staff Spots Required?
SUBTOTAL NSF			4990	

# programming

## INNOVATION TECHNOLOGY DEPARTMENT

### OPTIONAL IT PROGRAM\*



\*The Optional IT Program is currently housed in the Broadmeadow Building. The Administration does not believe relocating to a new School Administration building is a necessary measure, though understanding the program needs would help determining whether future properties provide the opportunity for full integration.

INNOVATION TECHNOLOGY				
ROOM NAME	UNITS	NSF/UNIT	NSF	COMMENTS
IT Tech Staff	2	120	240	
Server Room	1	200	200	
SUBTOTAL NSF			440	
<b>OPTIONAL PROGRAM</b>				Not Included in School Admin NSF/GSF
Technology Director's Office	1	140	140	Includes table/chairs for 4 ppl
Director's Bookkeeper	1	100	100	
Waiting Room	1	75	75	Waiting for 4-6 ppl
Configuration Lab	1	800	800	Network Infrastructure; Access to Exterior
Staff Offices	5	120	600	Dedicated Office Space
Add'l Staff	15	75	1125	ETC Staff, Shared/General Office Space
Head End Room	1	100	100	
Head End Distribution	1	160	160	
IT Closets	2	100	200	
Mechanical Room	1	100	100	Dedicated to Technology
Equipment Storage	1	400	400	High security, controlled environment Access to Loading Dock Controlled environment- temp & moisture
Optional NSF			3800	Optional Program, not included in total NSF

PROGRAM SUMMARY

NAME OF DEPARTMENT	NSF
<b>SUPERINTENDENT OF SCHOOLS</b>	
DEPARTMENT SUBTOTAL NSF	905
<b>STUDENT DEVELOPMENT DEPARTMENT</b>	
STUDENT DEVELOPMENT	
SUBTOTAL NSF	975
COMMUNITY EDUCATION	
SUBTOTAL NSF	1,015
DEPARTMENT SUBTOTAL NSF	1,990
<b>INNOVATION TECHNOLOGY</b>	
IT DEPARTMENT	
SUBTOTAL NSF	440
OPTIONAL PROGRAM	
SUBTOTAL NSF	3,800
DEPARTMENT SUBTOTAL NSF	440
<b>FINANCE OPERATIONS DEPARTMENT</b>	
HUMAN RESOURCES	
SUBTOTAL NSF	1,075
BUSINESS/FINANCE OPERATIONS	
SUBTOTAL NSF	1,225
TRANSPORTATION/FOOD SERVICE	
SUBTOTAL NSF	1,135
DEPARTMENT SUBTOTAL NSF	3,435
<b>PROGRAM DEVELOPMENT DEPARTMENT</b>	
DEPARTMENT SUBTOTAL NSF	1,020
<b>SHARED BUILDING PROGRAM</b>	
DEPARTMENT SUBTOTAL NSF	4,990
<b>ADMIN OFFICE TOTAL NSF</b>	<b>12,780</b>
<b>*ADMIN OFFICE TOTAL GSF</b>	<b>16,614</b>
OPTIONAL PROGRAM NSF	3,800
OPTIONAL PROGRAM GSF	4,940

\*Determined through a Net-to-Gross factor of 1.3.

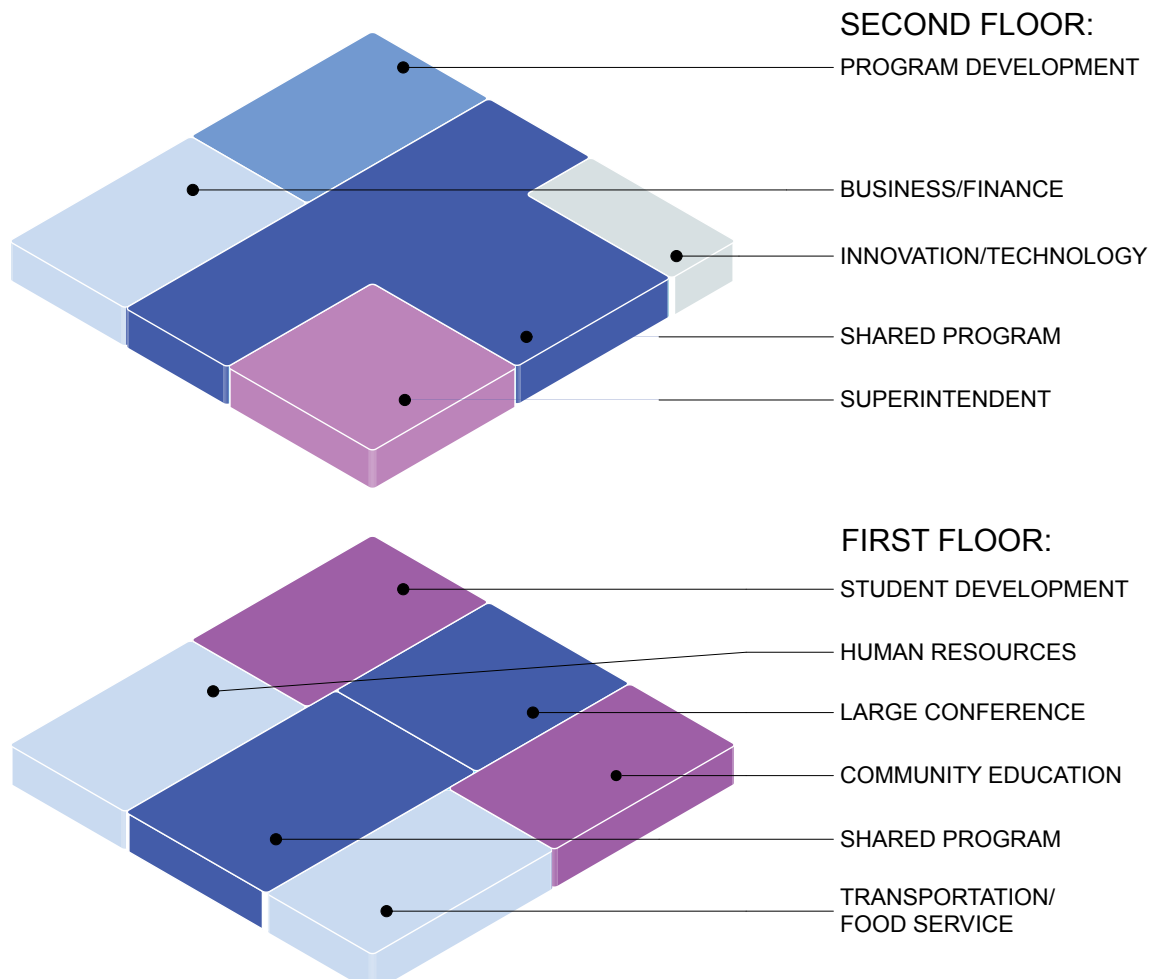
# programming

## STACKING DIAGRAMS

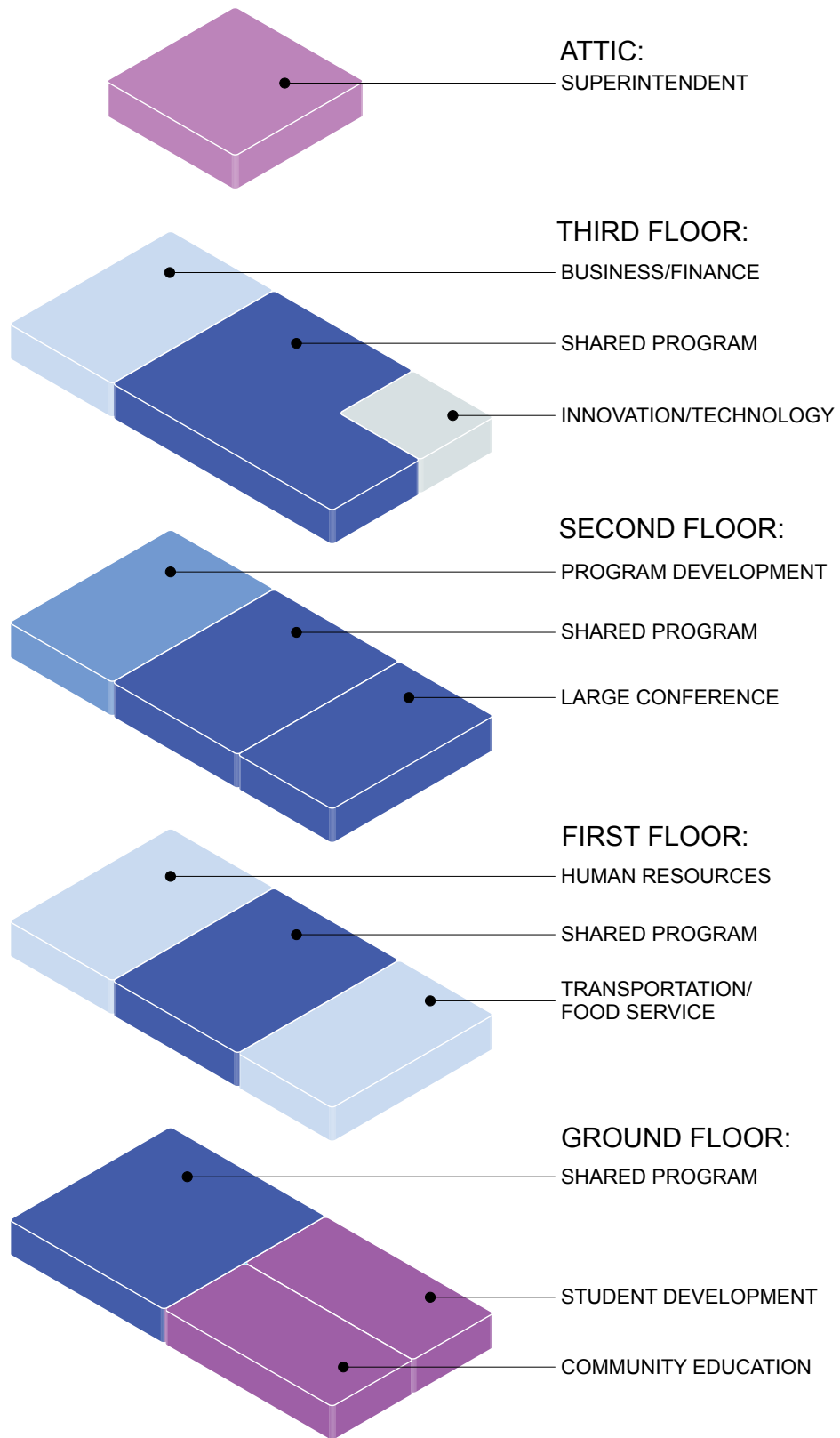
Following the departmental programming and diagramming studies, the allocation of each department within the overall building was discussed. The proper location of each department within the building is key to the efficient performance of the School Administration. It is an important priority to keep the departments with the most public interface, such as Human Resources and Transportation/Food Service, at the first floor while other departments benefit from

a more remote location, such as the Superintendent, can move to an upper level.

The following diagrams show an idealized distribution of departments within floors for both the Emery Grover building and a generic two-story scenario, providing the starting point for the test fits to follow. While several changes were made to these idealized adjacencies during the test-fit process, these can similarly serve future investigations as first steps in program layout.



STACKING DIAGRAM - 2 STORY GENERIC



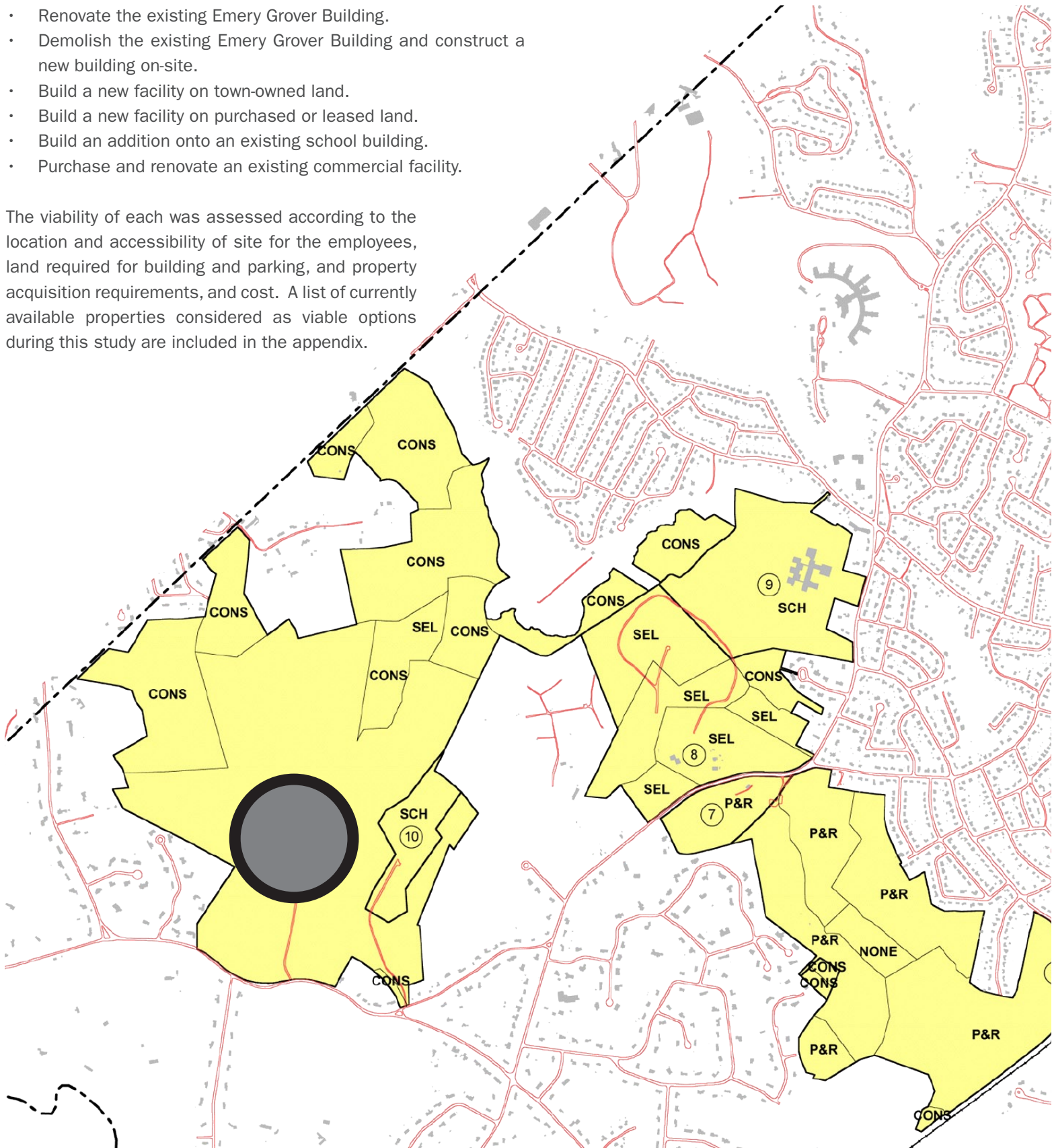
STACKING DIAGRAM - EMERY GROVER

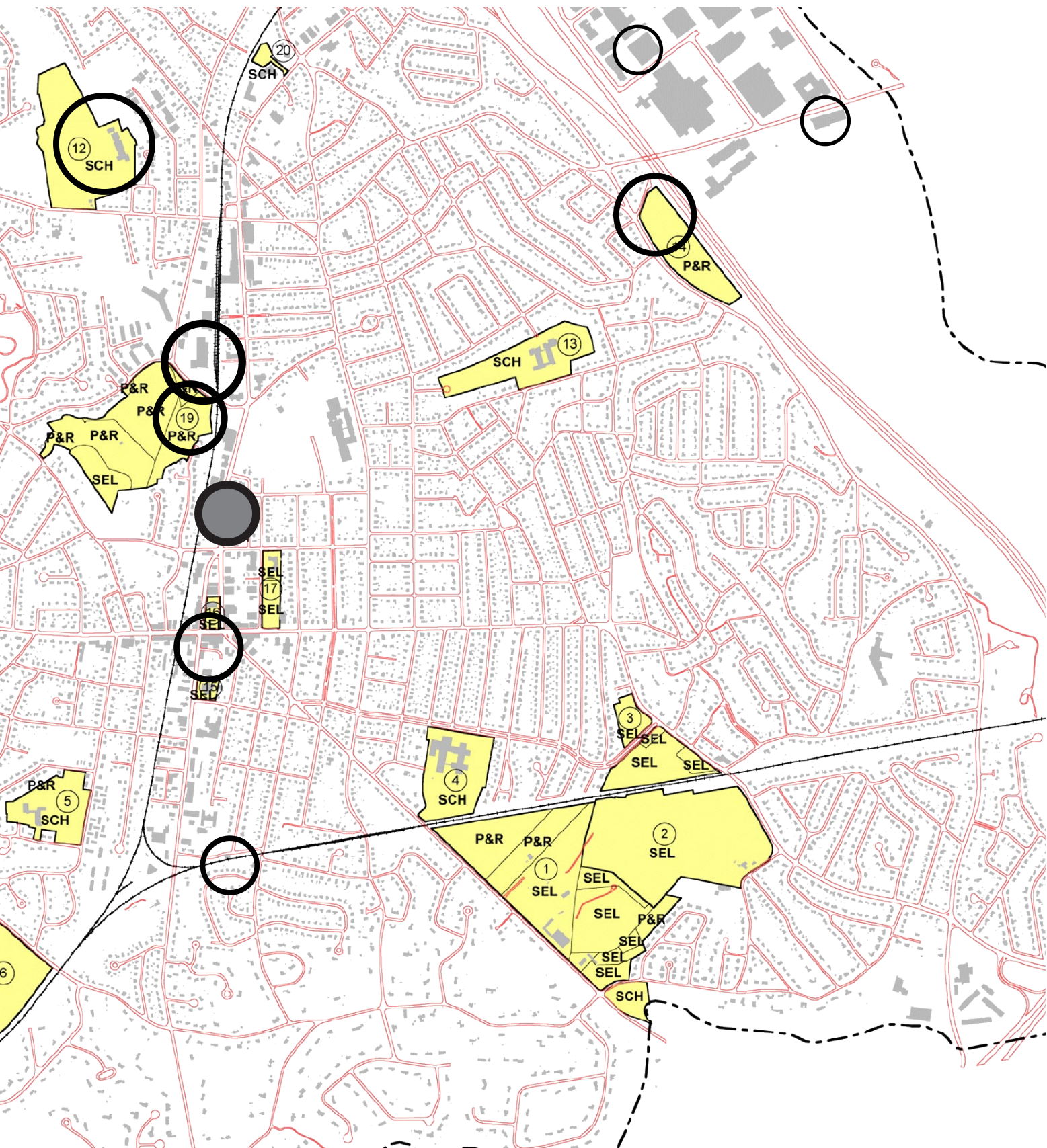
# site selection

Numerous properties were discussed as potential siting options for a new School Administration Building. It was determined that a new School Administration Building could be achieved through several strategies, including but not limited to:

- Renovate the existing Emery Grover Building.
- Demolish the existing Emery Grover Building and construct a new building on-site.
- Build a new facility on town-owned land.
- Build a new facility on purchased or leased land.
- Build an addition onto an existing school building.
- Purchase and renovate an existing commercial facility.

The viability of each was assessed according to the location and accessibility of site for the employees, land required for building and parking, and property acquisition requirements, and cost. A list of currently available properties considered as viable options during this study are included in the appendix.







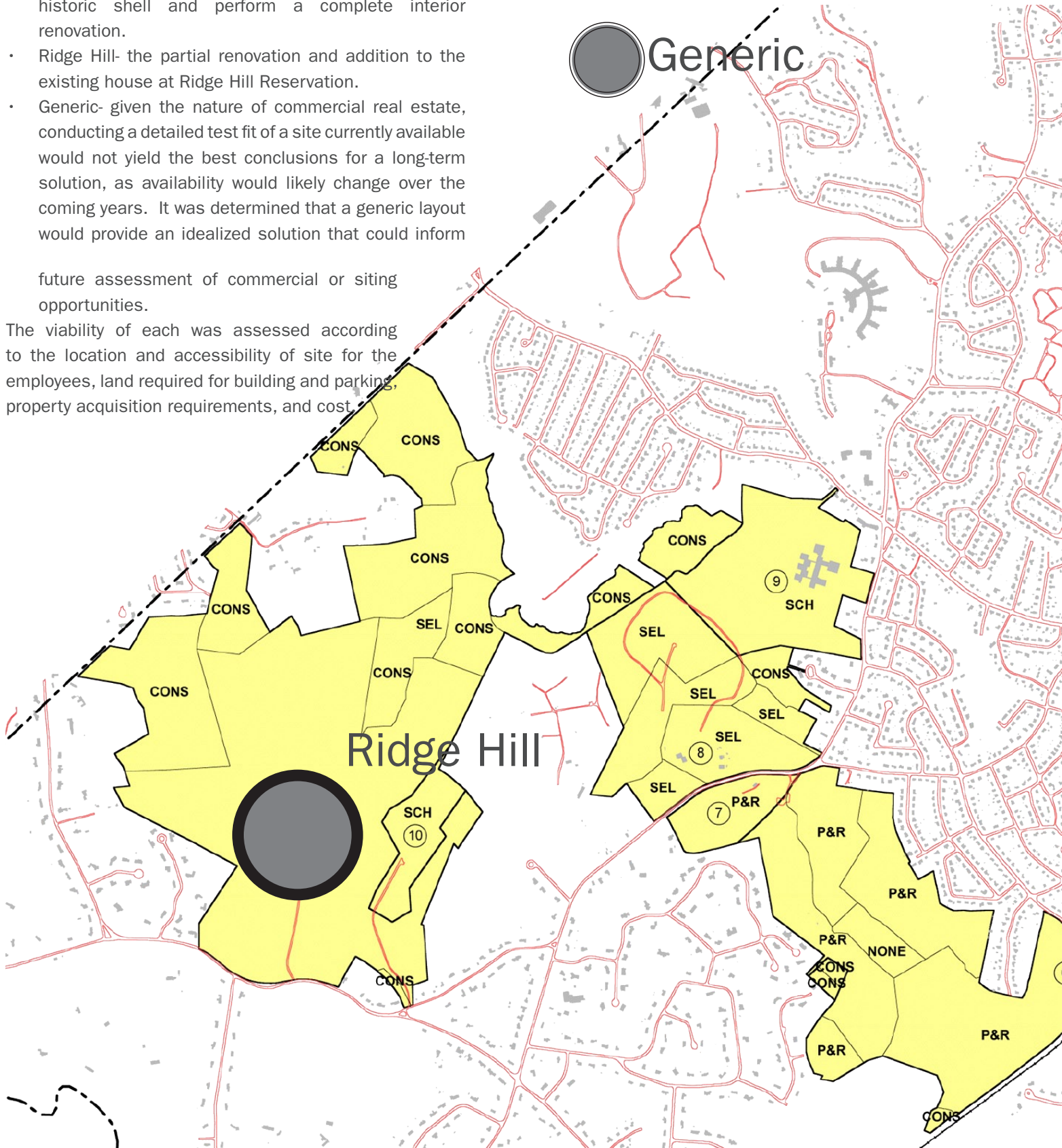
# site selection

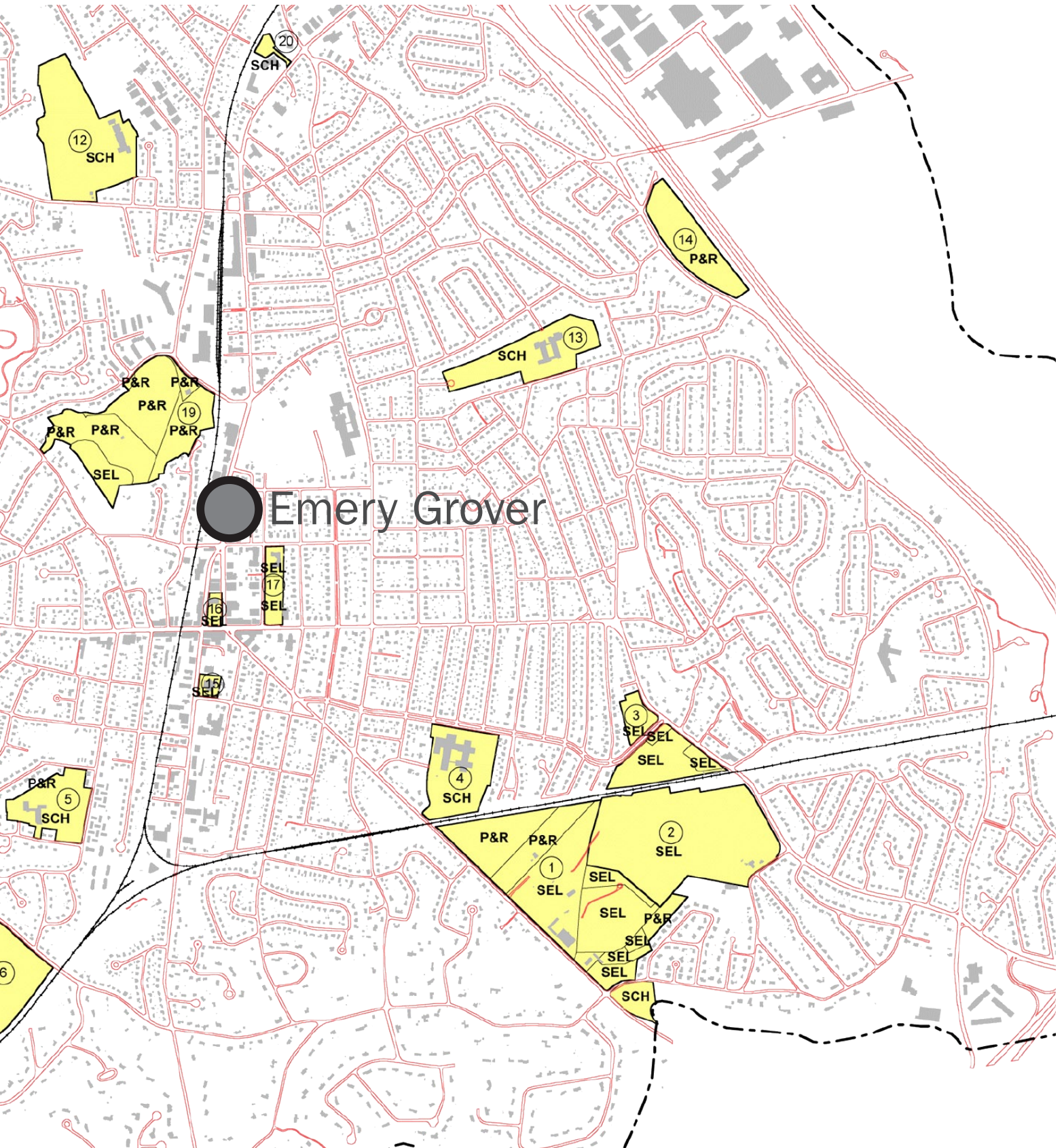
Discussion between the architects and representatives from the Town/Administration determined the following as the best options for further study:

- Emery Grover- the team opted to keep the existing historic shell and perform a complete interior renovation.
- Ridge Hill- the partial renovation and addition to the existing house at Ridge Hill Reservation.
- Generic- given the nature of commercial real estate, conducting a detailed test fit of a site currently available would not yield the best conclusions for a long-term solution, as availability would likely change over the coming years. It was determined that a generic layout would provide an idealized solution that could inform

future assessment of commercial or siting opportunities.

The viability of each was assessed according to the location and accessibility of site for the employees, land required for building and parking, property acquisition requirements, and cost.





Emery Grover

20  
SCH

12  
SCH

14  
P&R

13  
SCH

P&R P&R  
P&R P&R  
19  
P&R P&R  
SEL

17  
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P&R  
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P&R P&R  
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SEL P&R  
SEL  
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SEL  
SCH

6

# test fits\_EMERY GROVER

## EXISTING CONDITIONS

The assessment of the existing Emery Grover revealed a shell in need of repair and interior in need of complete renovation. Building upon the detailed envelope assessment completed in the 2010 Senior Center Study there is work required to repair building deterioration. Recommendations include:

- Partial re-pointing of the brickwork required at the shell and chimneys and reconstruction of the south portico.
- Selective repair to the slate roof and gutters/soffit/flashing are required to prevent leaking.
- All windows should be replaced throughout with energy efficient systems. New windows should attempt to replicate the original building windows, as possible.

In addition restoring the shell, there are several fundamental building components that will need reconstruction/upgrade:

- There is currently no handicapped accessibility to the main entry, nor is there an elevator access between floors.
- Current building systems are antiquated and would require a complete replacement.
- Current stairs are structurally compromised and non-compliant with current fire codes and would require a complete replacement.
- Attic Level would need to be dropped/reconstructed for ideal use.



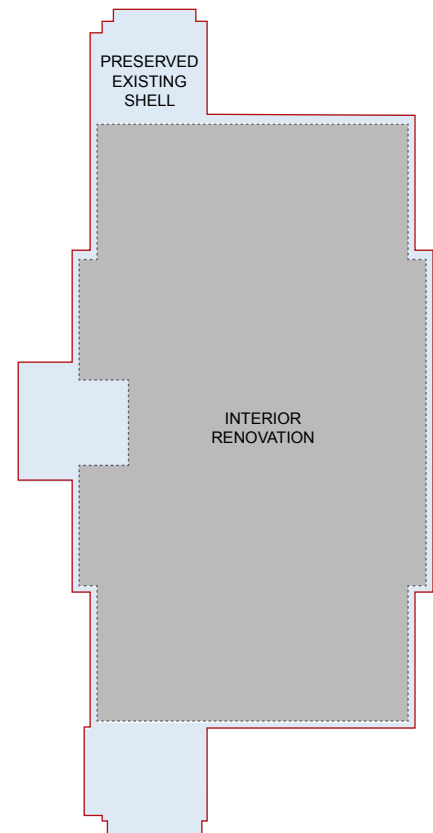
ATTIC/STAIRS IN NEED OF REPAIR

## SITE PLAN



EXISTING EXTERIOR CONDITION

## RENOVATION PROPOSAL



1/32" = 1'



EXISTING OFFICE INTERIOR

### INTERIOR CONDITION

The interior of Emery Grover building is inadequate for the current School Administration use. The current partitioning is inefficient as a result of many serial retrofits over the years. This renders spaces that are not appropriately sized and have little access to natural light or outside awareness. Furthermore, there is a disproportionately high amount of area dedicated to circulation, remnant of the buildings original use as a high school.

In addition, the need for confidential paper records is highly compromised, as file storage is scattered throughout the building without order or proper security. The School Administration is in need of both departmental filing and building compact filing systems to achieve adequate efficiency. This, along with dedicated locations for business operations, would free circulation space from miscellaneous equipment, filing cabinets, and other hazardous hallway obstructions.



EXISTING EXTERIOR CONDITION

# test fits\_ EMERY GROVER

## BUILDING LAYOUT

The complete renovation of Emery Grover would require the program to be split between four levels, with both the Basement and Attic holding program space. New code requirements would prompt a complete reconstruction of the two stairs, as well as the addition of an elevator. In the Test Fit, new rated fire stairs would be placed at either end of the building to satisfy circulation and egress requirements. The elevator is proposed at the existing entry, which would provide adequate height for the full shaft. Given the impact of these modifications, along with completely updated interior partitions and systems, a full gut-renovation is recommended.

The new building's main entry is proposed at the north portico, which would be enclosed and serve as a vestibule. Through the use of a new ADA ramp to the exterior and lift at the interior, this entry could accommodate visitors of all abilities. A secondary entry directly into the basement is proposed at the south portico, which would allow for deliveries directly into Receiving. In addition, this would allow the south portico- which is currently structurally compromised- to be repaired/reconstructed. It is assumed a match to the north portico could be achieved from the street view, while allowing for excavation to the rear of the building, restoring the historic symmetry of the Emery Grover's public facade.

This scenario is associated with the following pro-forma, included in the appendix:

- \$9.7 million: Renovation of Emery Grover, with the potential for an estimated \$4.1-4.9 in CPA funding.

## DEPARTMENTAL ADJACENCIES







Given the existing proportions of Emery Grover, the departments would have to be split between all four levels, see adjacency diagrams to the right. The highly public interface of Human Resources and Transportation/Food Service Departments require those to be located at the First Floor. Student Development is placed at the basement floor and Business/Finance on the second floor to provide easy circulation between department suites. The Conference Room is also placed at the second level, which would provide relative ease in access while also optimizing exterior awareness. The three departments that could afford the most remote locations were determined to be the Superintendent, Program Development, and IT Departments, which would be placed in the attic level. These spaces are currently oversized to account for reduction in head height at the perimeters, and it is recommended that the floor is dropped to maximize usable space.

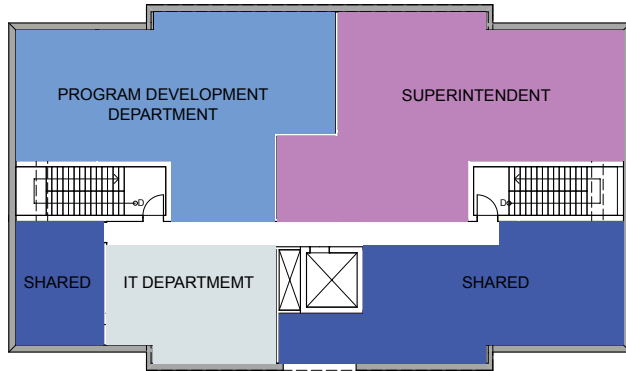
## SF TAKEOFFS:

15,191 NSF

22,246 GSF

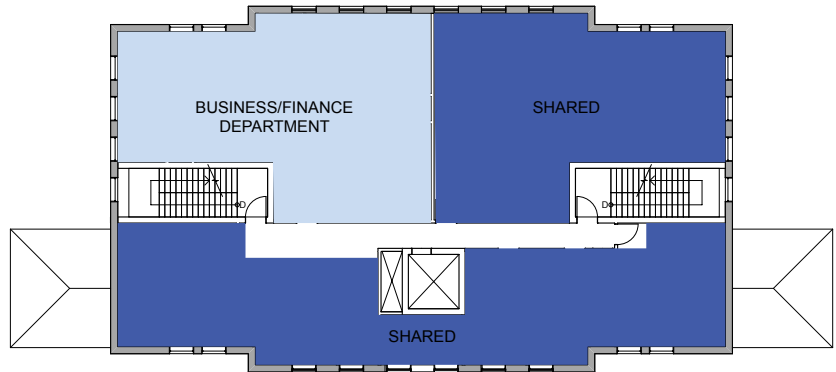
## SCHOOL ADMINISTRATION DEPARTMENTS

-  SUPERINTENDENT
-  STUDENT DEVELOPMENT DEPARTMENT
-  INNOVATION TECHNOLOGY DEPARTMENT
-  FINANCE OPERATIONS DEPARTMENT
-  PROGRAM DEVELOPMENT DEPARTMENT
-  SHARED BUILDING SERVICES



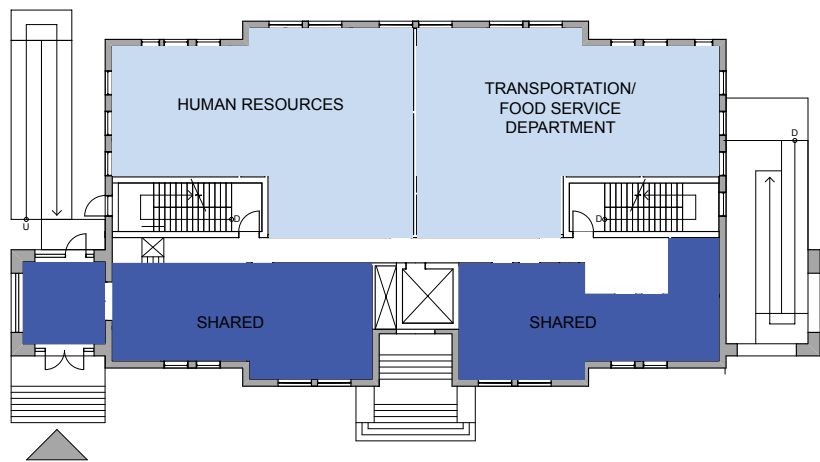
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1/32" = 1'



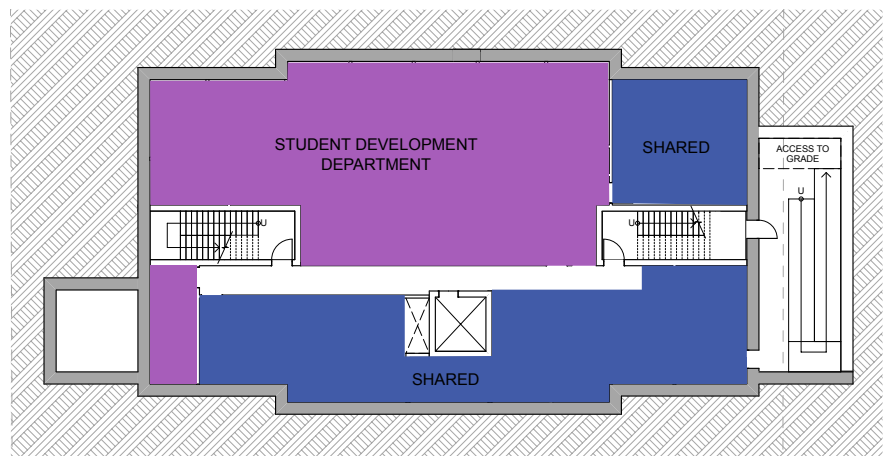
SECOND FLOOR

1/32" = 1'



FIRST FLOOR

1/32" = 1'

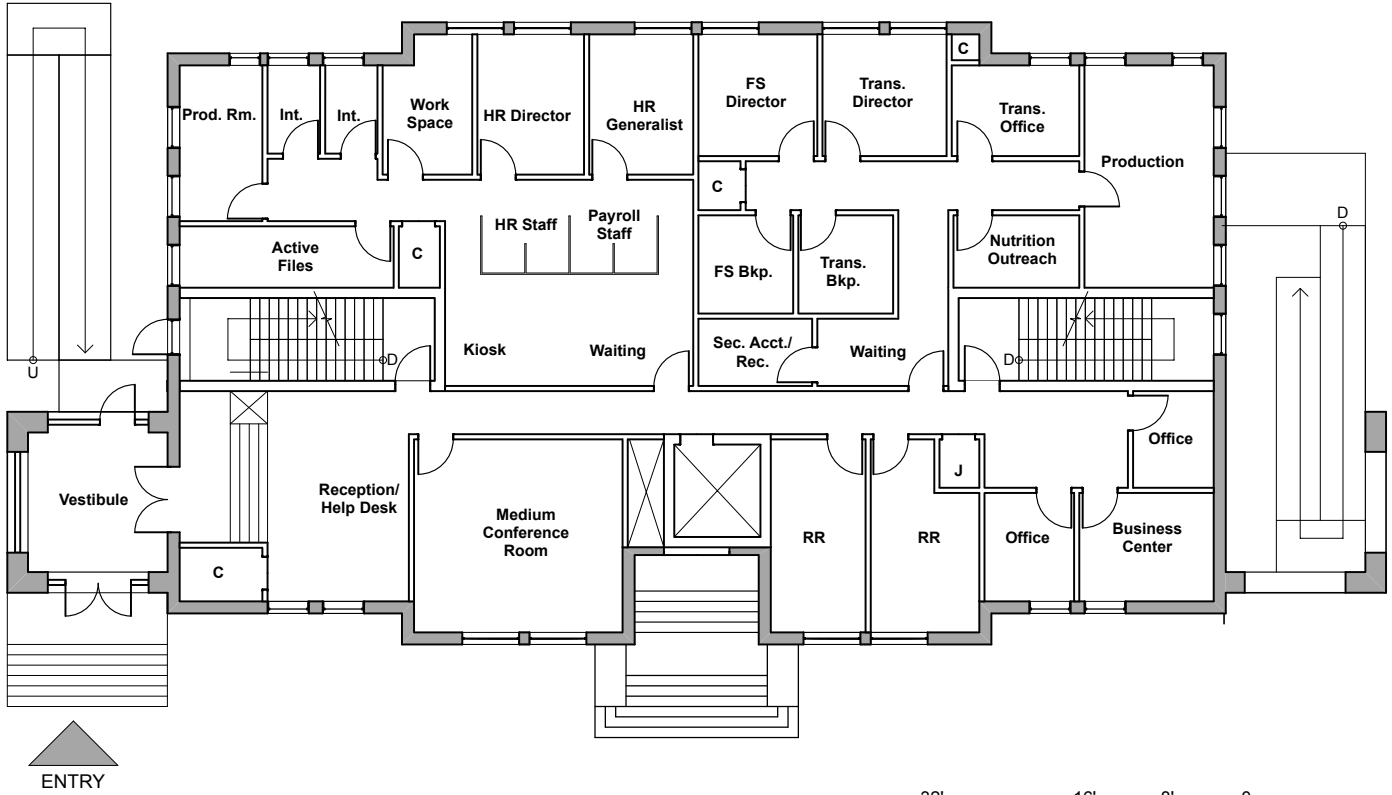


BASEMENT

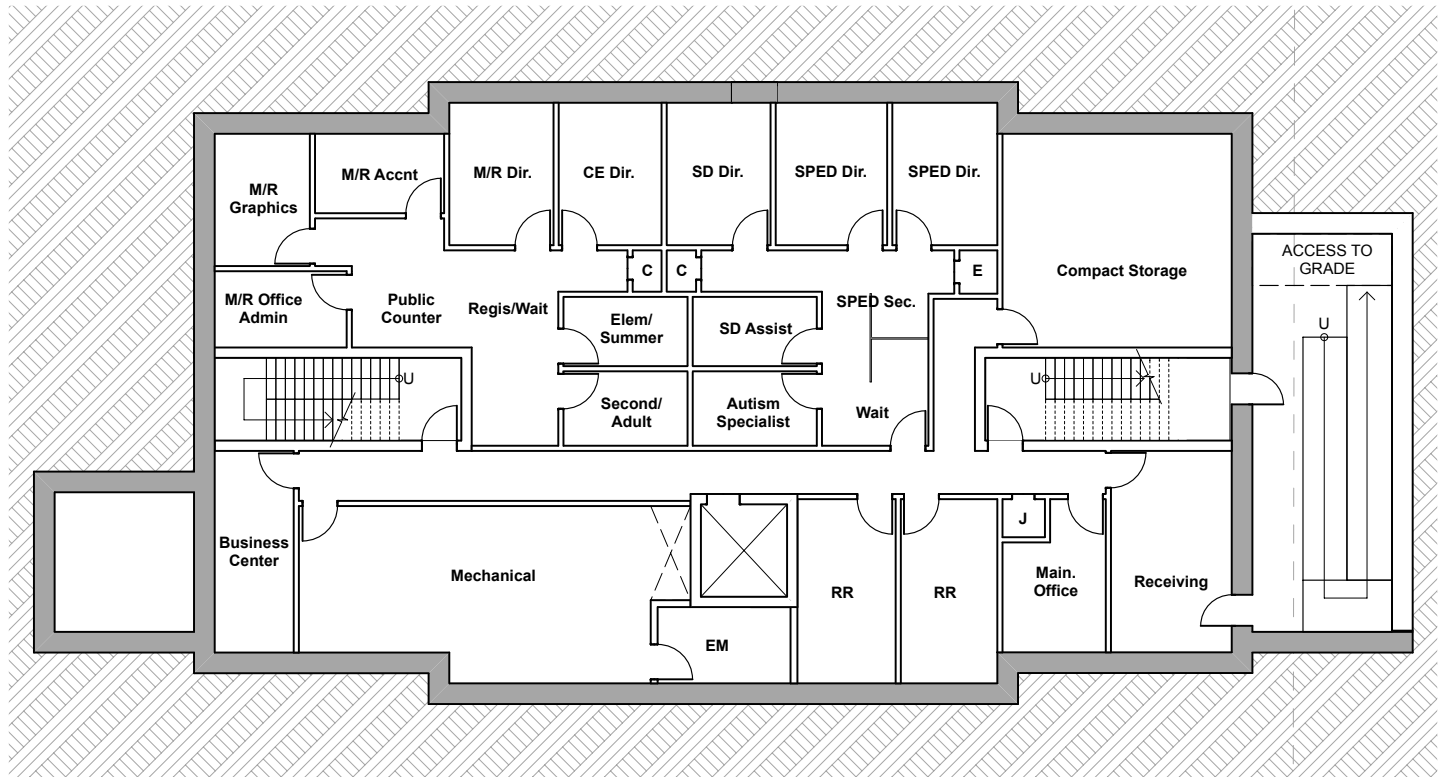
1/32" = 1'

# test fits\_ EMERY GROVER

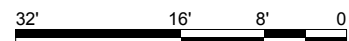
see appendix for 1/16"=1'-0" floor plans

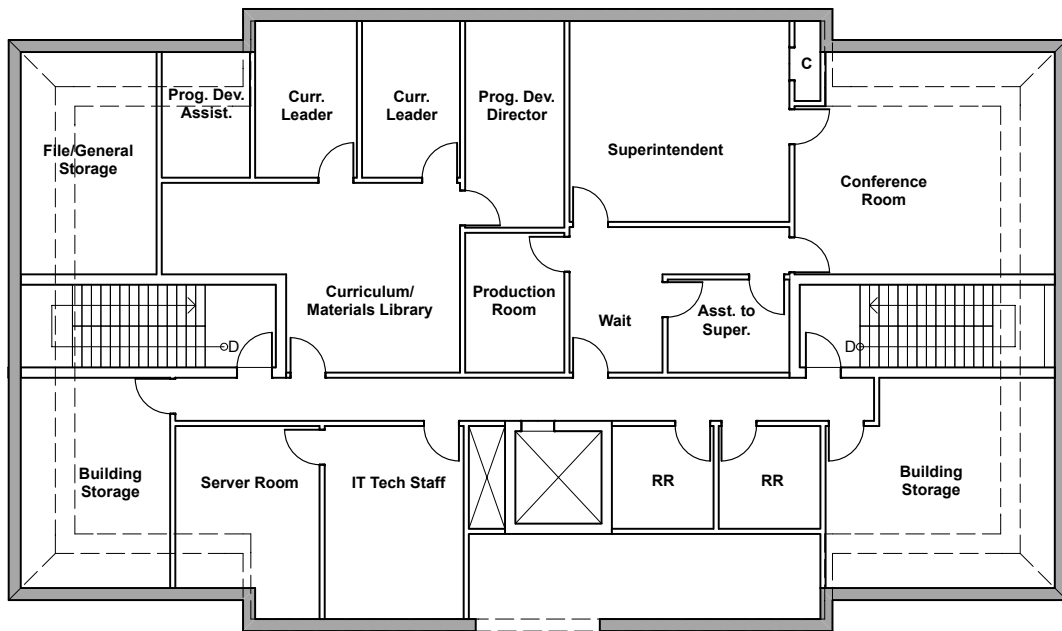


FIRST FLOOR PLAN\_ EMERY GROVER TEST FIT

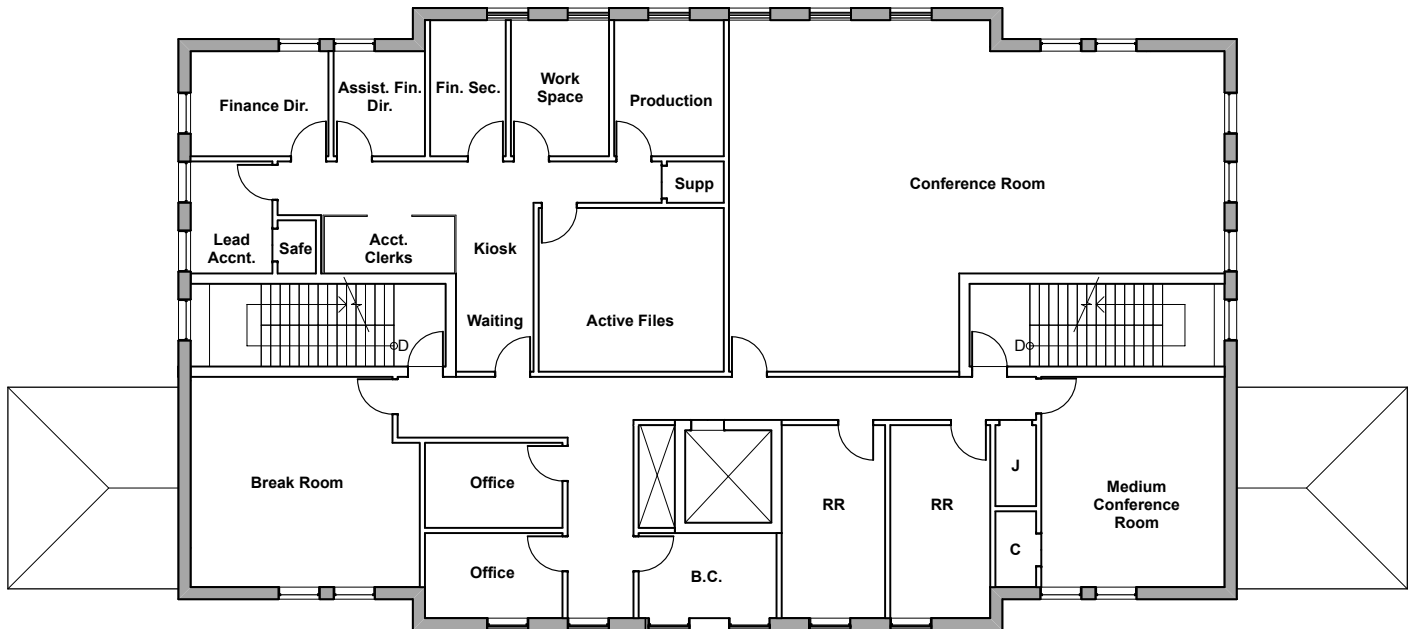
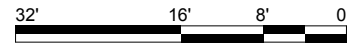


BASEMENT FLOOR PLAN\_ EMERY GROVER TEST FIT

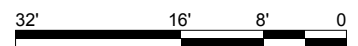




ATTIC FLOOR PLAN\_ EMERY GROVER TEST FIT



SECOND FLOOR PLAN\_ EMERY GROVER TEST FIT





# test fits\_ RIDGE HILL

## EXISTING CONDITIONS

The existing property at the Ridge Hill is an early 20th Century summer estate. The existing house is approximately 9000sf, sited in a reservation remote from downtown Needham and currently used as event space and storage. Distance from the town center is considered the most significant challenge to a potential School Administration Building. However there is more than adequate space to fulfill parking requirements, as shown in the 2010 Senior Center Study.

While both the interior and exterior are in relatively good condition, there are improvements that would be required if the School Administration was to be located at this property. Building upon two previous studies (2007-2010 senior center studies), the following measures are recommended:

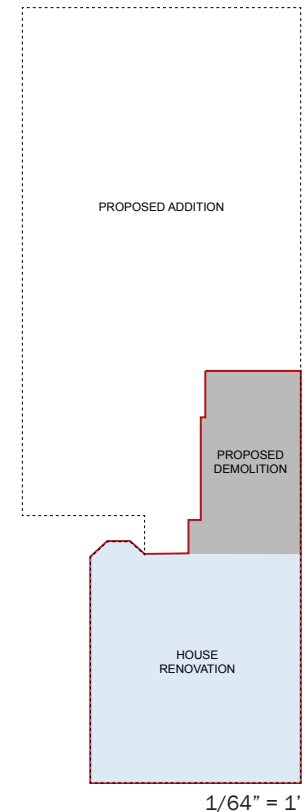
- Selective repair to the existing envelope: stucco repair at water damage, spalled concrete at stairs, repointing at brick chimneys.
- Localized repair to slate shingles, repair/replacement to gutters and rain leaders, removal of all ivy/growth that has resulted from water damage.
- Interior partitions will need to be demolished/rebuilt in order to account for the new department suites within the house volume. It is assumed that the fireplaces would remain in place.
- ADA upgrades must be introduced, including regrading at the main entry, the addition of an elevator, and widening of any doors required for egress.
- Infrastructure would need to be updated and extended to the Ridge Hill Site. It is not believed to have adequate plumbing or data infrastructure to support the School Administration and IT Department requirements.

A strategy for including all School Administration proposes a north-south addition, similar to the 2010 Senior Center Study. This builds on the premise that there are advantages to running along the ridge and preserving the tree-line. While zoning bylaws require any new construction to be in the form of an addition, replacing the service wing with a School Administration wing would provide the financial benefits of more efficient layouts and construction, while still serving as an addition to the historic house.

## SITE PLAN



## RENOVATION PROPOSAL





Interior partitions are not ideally suited for office suites. Re-planning of interior layout recommended.



While much of the interior finishes are in fair condition, selective restoration to the floors and fireplaces would be recommended at the main house.



# test fits\_ RIDGE HILL

## BUILDING LAYOUT

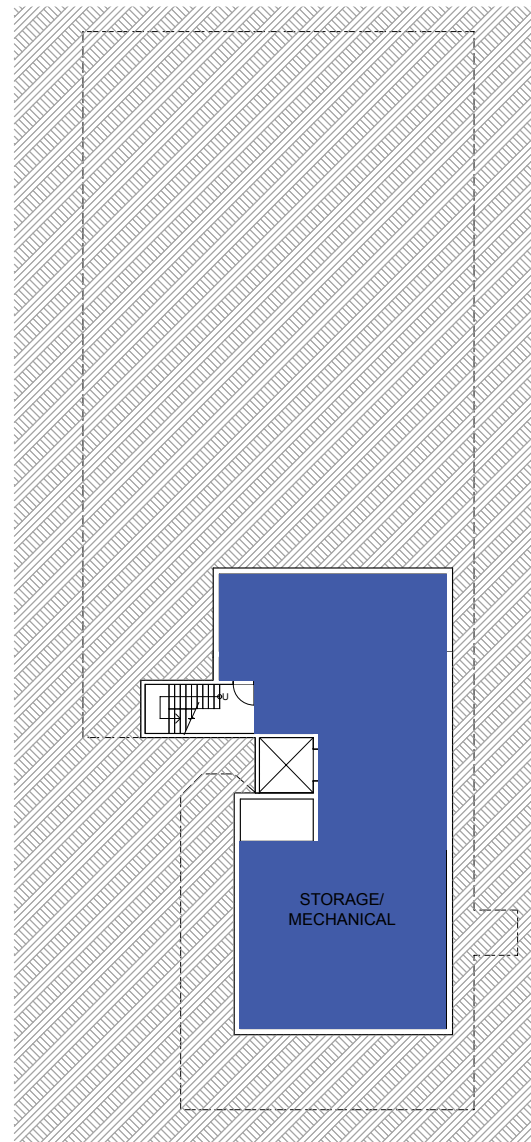
The Ridge Hill test fit proposes a partial renovation/partial addition scenario. There was a desire to maintain a portion of the existing house as a community space, which could serve to host events, community functions, or welcome camp children during summer programming. The original main entry was preserved, though it is assumed that modifications to doors and thresholds would be required to meet ADA requirements. Interior circulation would be achieved through a new elevator placed at a central location between the renovation and addition, and two new firestairs at either end of the addition corridor.

The house-proper would serve as community space and shared functions, with the School Administration Departments being housed within the addition wing. The wing is a double-loaded corridor programmed with larger departments suites to the west, smaller departments and shared programming located to the east. The majority of the wing can be shut down during non-business hours, in the event that the Community Room or Conference space is used during non-business hours.

This scenario is associated with the following pro-forma, included in the appendix:

- \$6.2 - 7.0 million: Renovation/Addition Hybrid

## PROGRAMMATIC ADJACENCIES



BASEMENT







1/32" = 1'

## SF TAKEOFFS\*:

14,460 NSF  
21,212 GSF

\*community room and crawl storage included in nsf

## SCHOOL ADMINISTRATION DEPARTMENTS

-  SUPERINTENDENT
-  STUDENT DEVELOPMENT DEPARTMENT
-  INNOVATION TECHNOLOGY DEPARTMENT
-  FINANCE OPERATIONS DEPARTMENT
-  PROGRAM DEVELOPMENT DEPARTMENT
-  SHARED BUILDING SERVICES

## DEPARTMENTAL ADJACENCIES

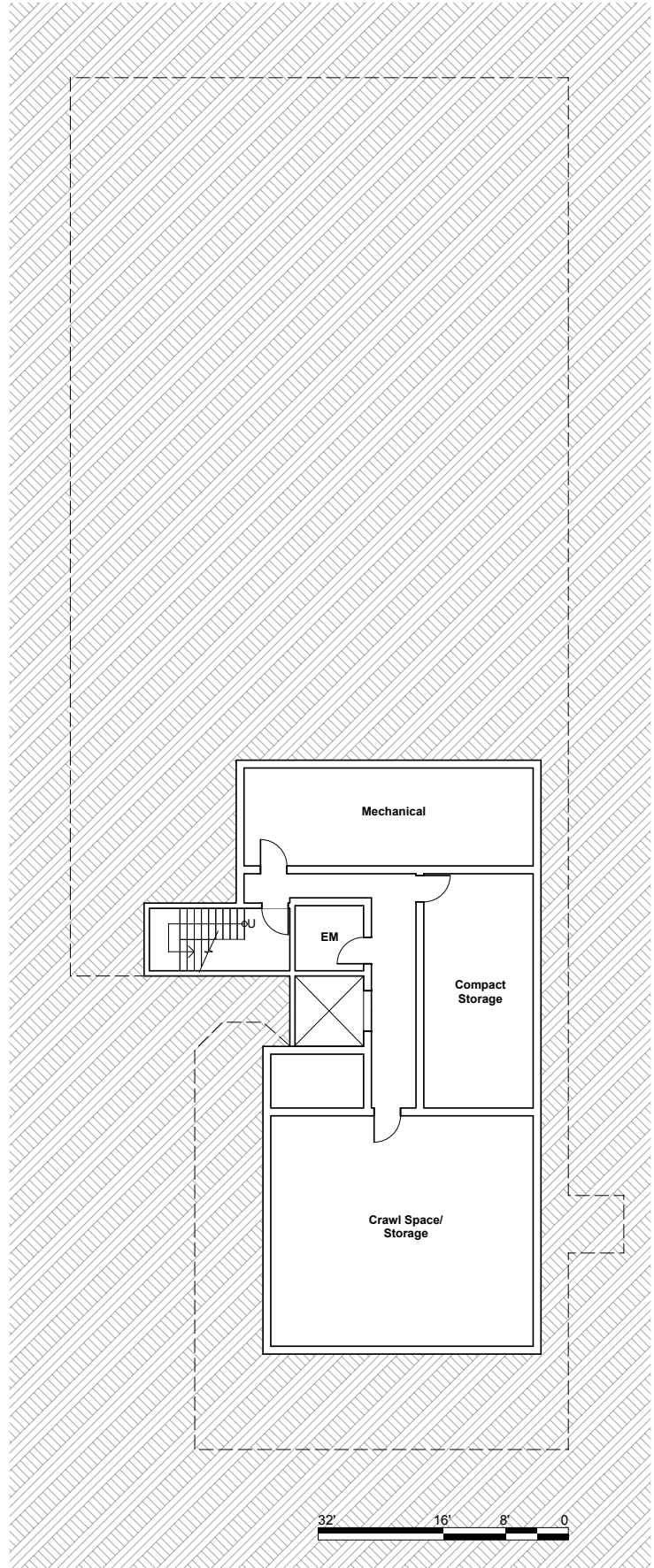
This test fit assumes a two-story scheme, with floors extended directly from the Ridge Hill house. In the addition wing, the three departments with the most public interface- Human Resources, Transportation/Food Service, and Program Development- would all be located at the first level. Also located at this level is the IT Department, which benefits from direct exterior access for loading/unloading equipment. The first level also houses the Conference room and the added "Community Room", which are located nearest to the public entry.

Second level wing would house the entire Student Development Department and Business/Finance Department. The Superintendent's Department was placed within the second level of the main house, as it can handle a remote adjacency to the remainder of the departments.

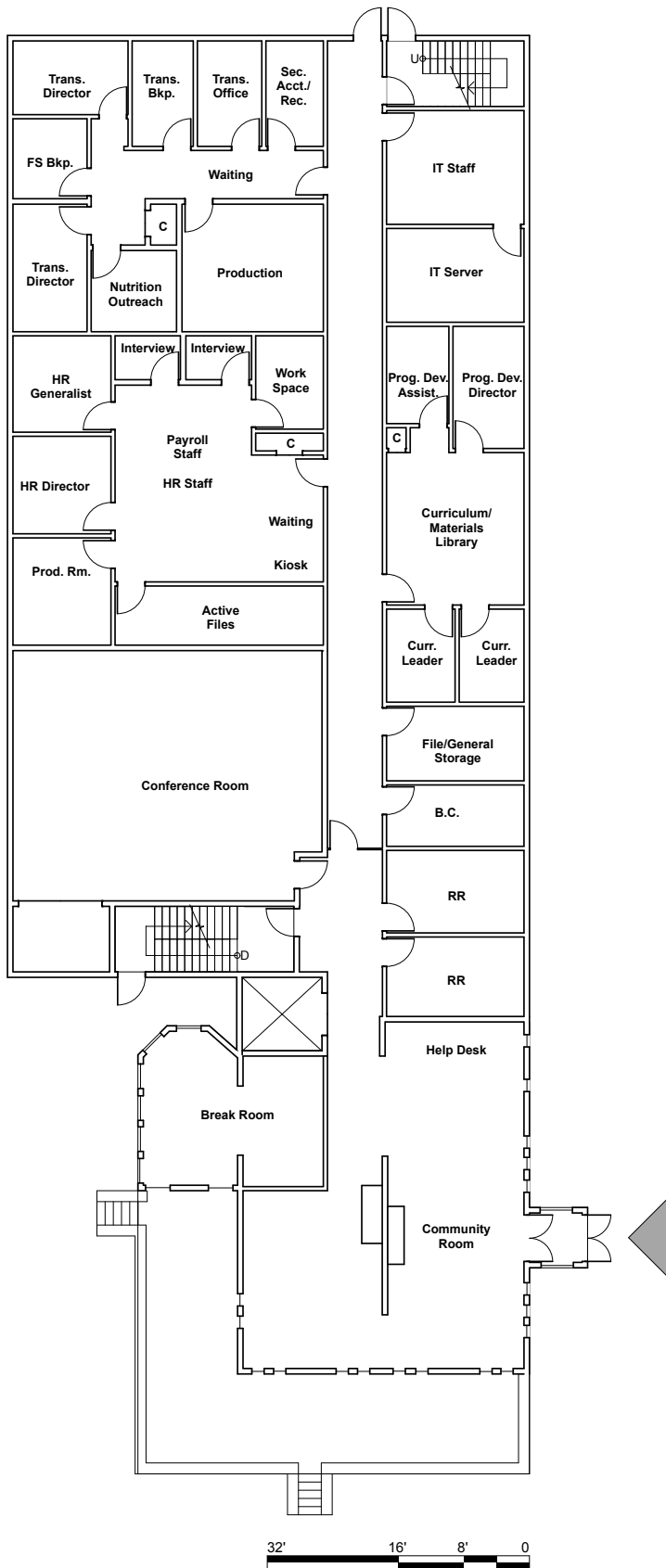


# floor plans\_ RIDGE HILL

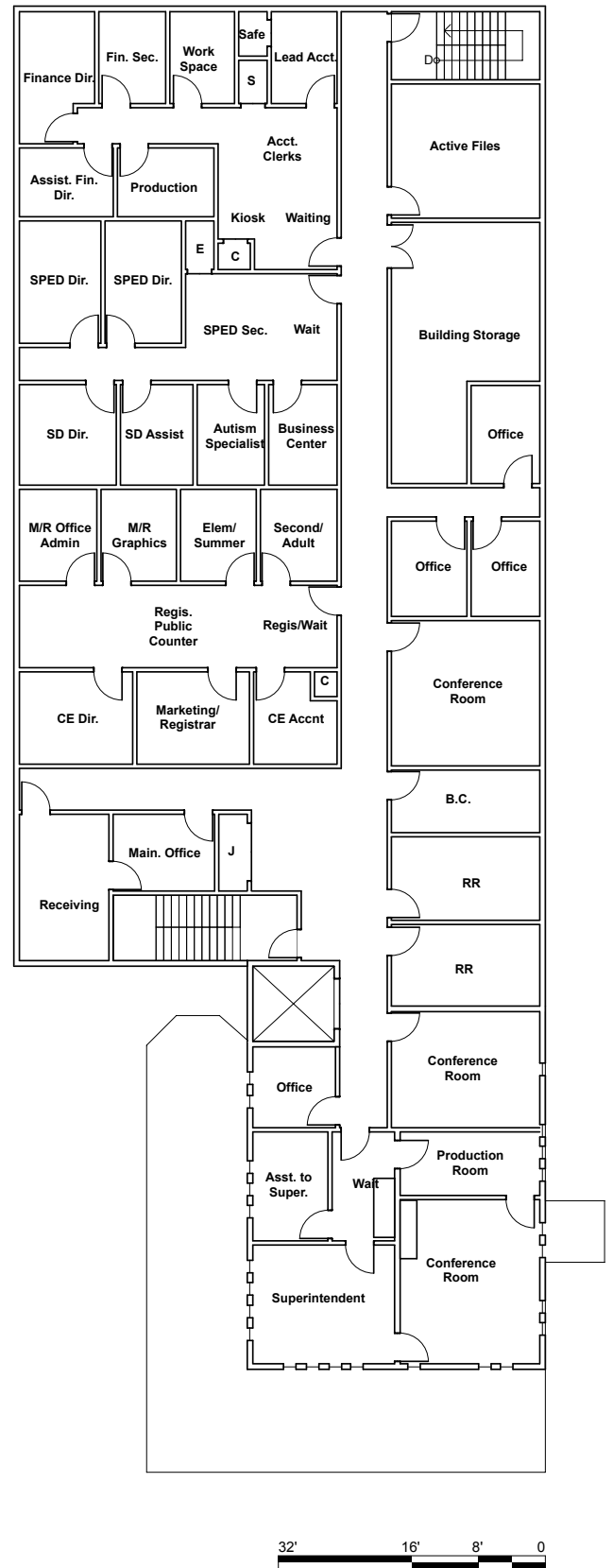
see appendix for 1/16"=1'-0" floor plans



BASEMENT FLOOR PLAN\_ RIDGE HILL TEST FIT



FIRST FLOOR PLAN\_ RIDGE HILL TEST FIT



SECOND FLOOR PLAN\_ RIDGE HILL TEST FIT

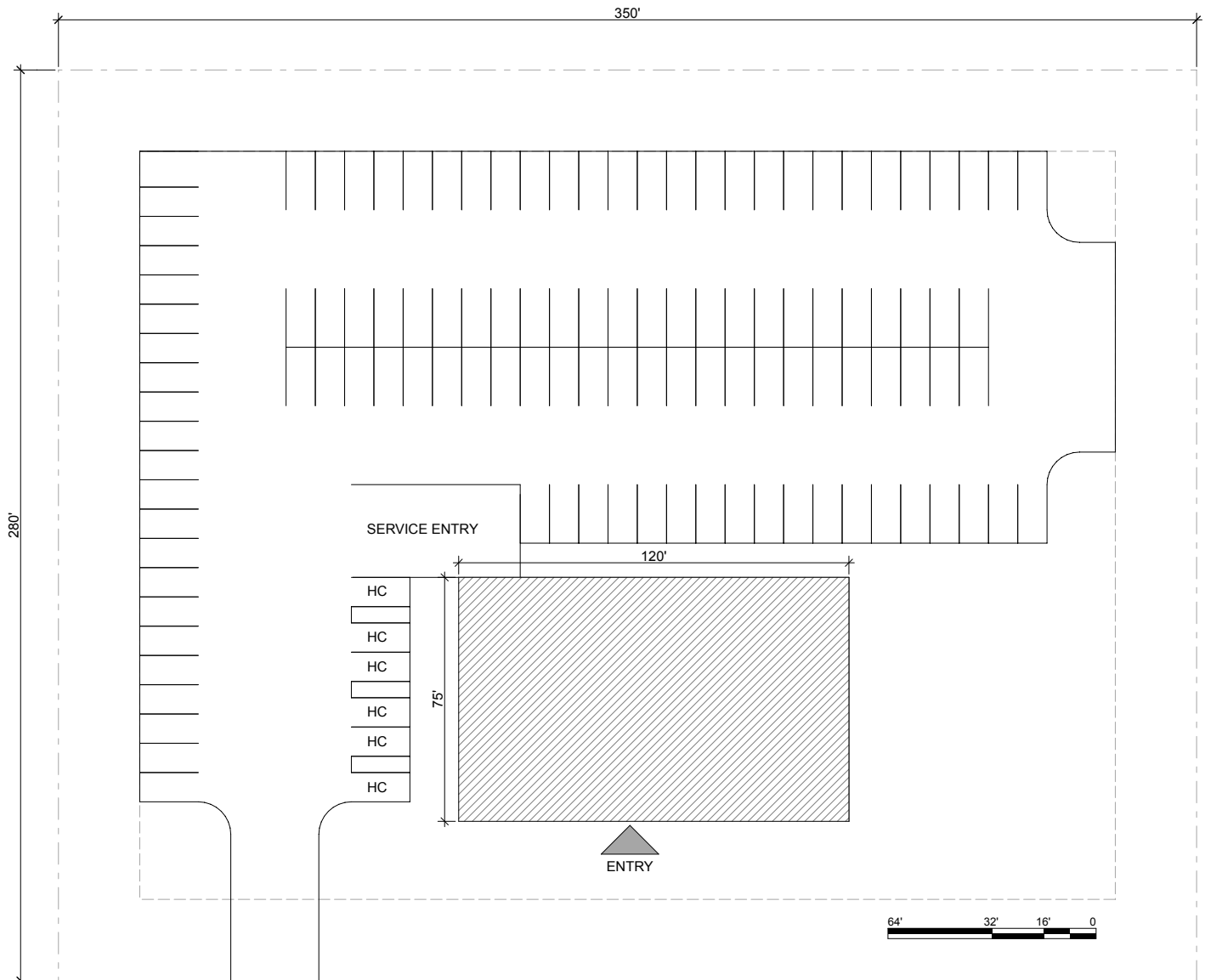
# test fits \_ GENERIC SITE

## BUILDING LAYOUT

The final test-fit was for a generic 280' X 360' site, to idealize the parking layout and building configuration. This could serve as a precedent if a property owned or acquired by the town allowed for a new construction. The general adjacencies could also inform a commercial renovation, if a two story space with appropriate square footage was available. The Site Plan below includes 120 parking spots, more than enough to satisfy the requirements of the School Administration Building.

This scenario could be associated with the following pro-formas, included in the appendix:

- \$4.1 - 4.9 million: New Construction on Town-Owned Parcel
- \$5.8 - 6.6 million: Purchase/Renovate a Commercial Property



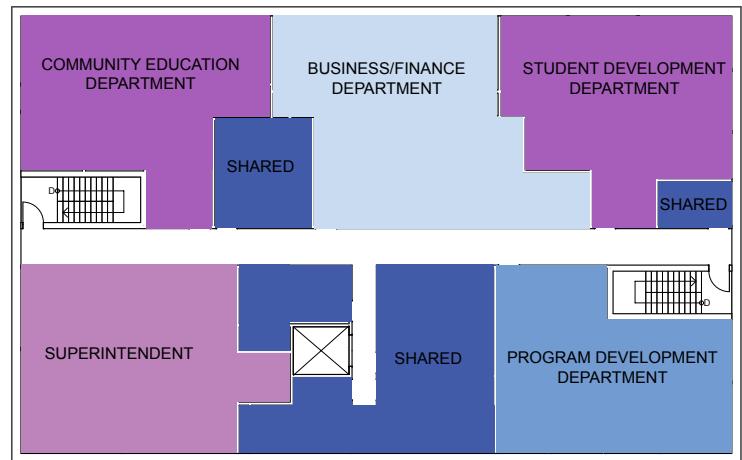
SITE PLAN\_ GENERIC TEST FIT

## DEPARTMENTAL ADJACENCIES

The adjacencies below are recommended to satisfy the School Administration. A main entry is placed at a central location to the street side of the building. Also centrally located is the elevator and restroom core. Firestairs are located to either end of the double-loaded corridor, which serve as both egress and general circulation requirements.

The Conference Room, Human Resources, and Transportation/Food Service are located on the ground level, due to their public interface. The IT Department is also placed on the first level, for proximity to the parking lot for equipment loading/unloading. The remainder of the programs remain at the second level- Business/Finance, Student Development, Program Development, and Superintendent.

## DEPARTMENTAL ADJACENCIES



SECOND FLOOR

1/32" = 1'

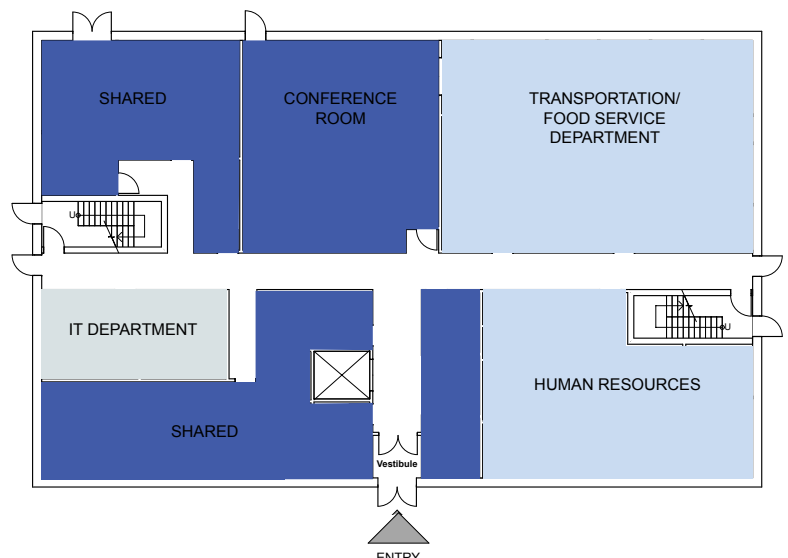
### SF TAKEOFFS:

12,726 NSF

17,750 GSF

### SCHOOL ADMINISTRATIVE DEPARTMENTS

- SUPERINTENDENT
- STUDENT DEVELOPMENT DEPARTMENT
- INNOVATION TECHNOLOGY DEPARTMENT
- FINANCE OPERATIONS DEPARTMENT
- PROGRAM DEVELOPMENT DEPARTMENT
- SHARED BUILDING SERVICES



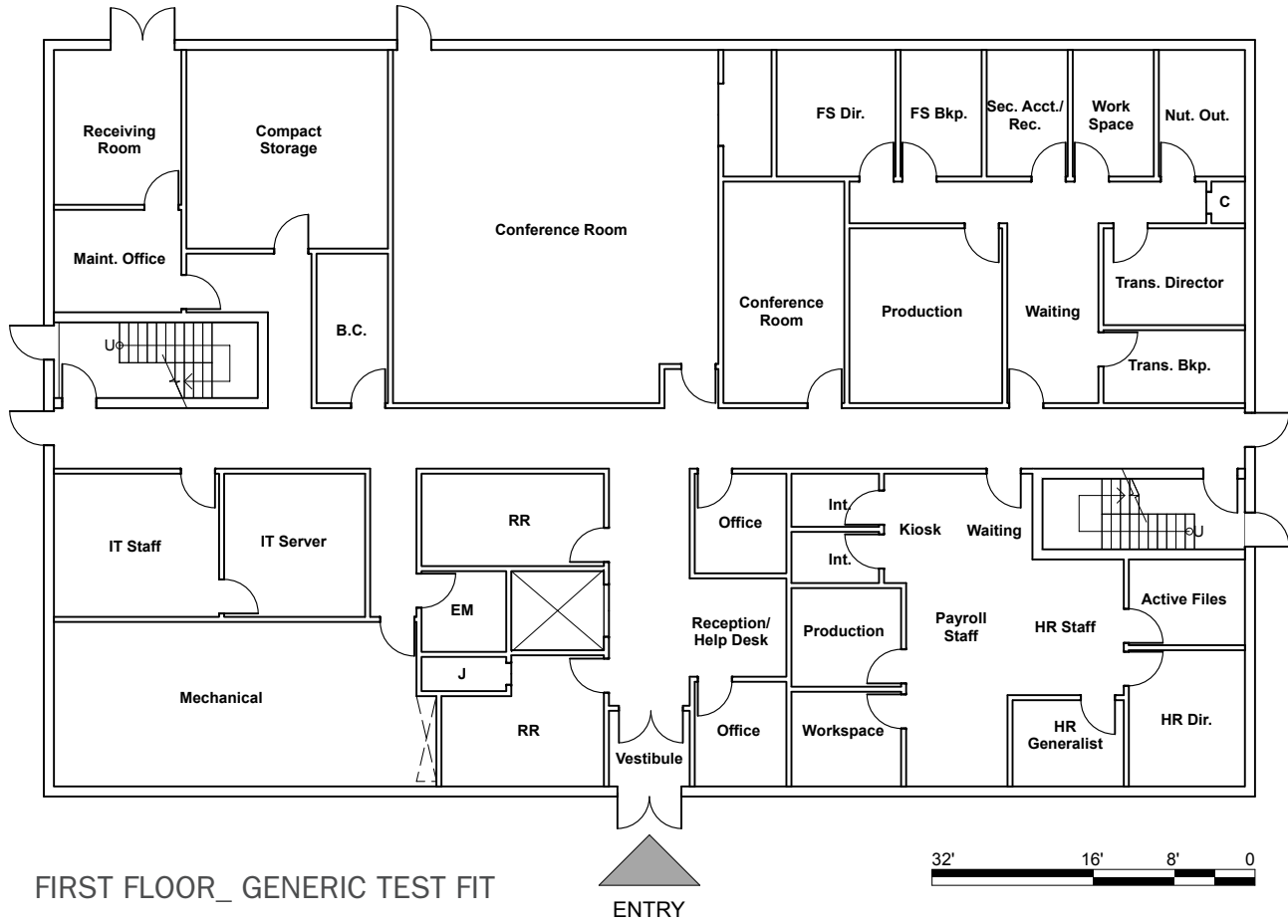
FIRST FLOOR

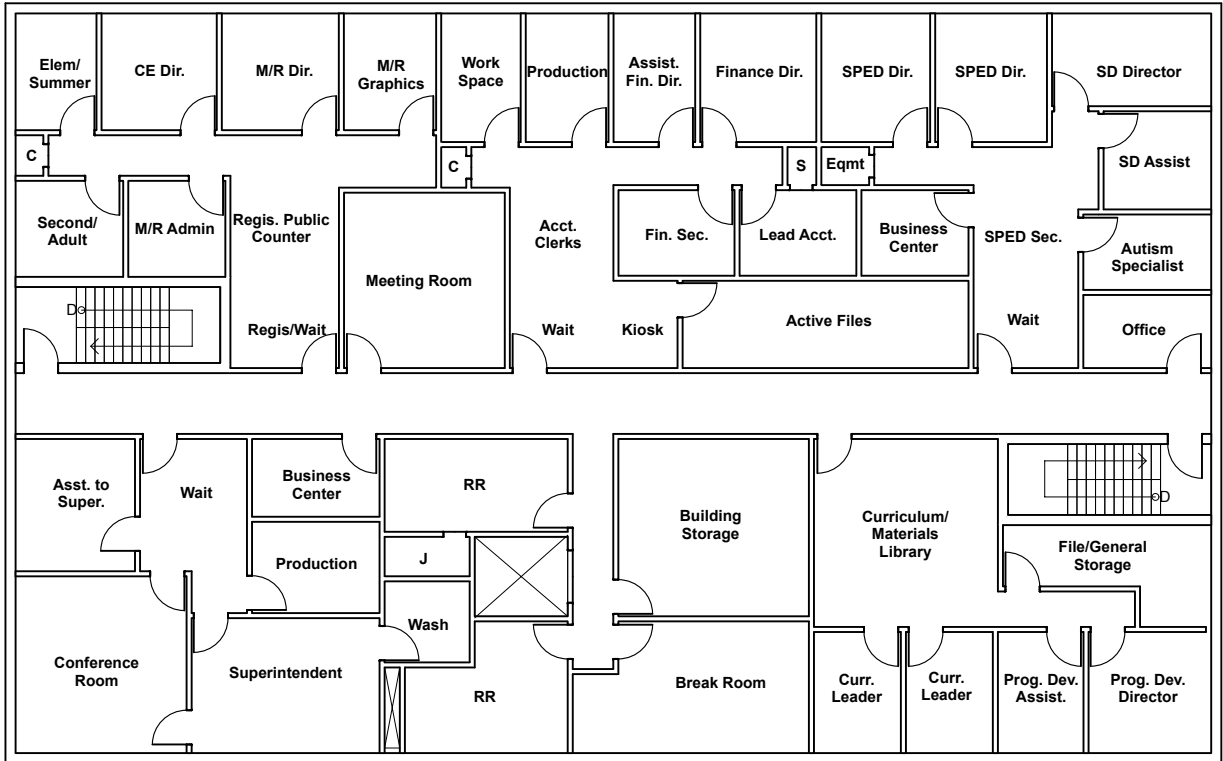
1/32" = 1'



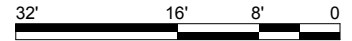
# floor plans \_ GENERIC SITE

see appendix for 1/16"=1'-0" floor plans





SECOND FLOOR\_ GENERIC TEST FIT



# appendix

## appendix contents

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**Budgets\_ Pro-Formas**

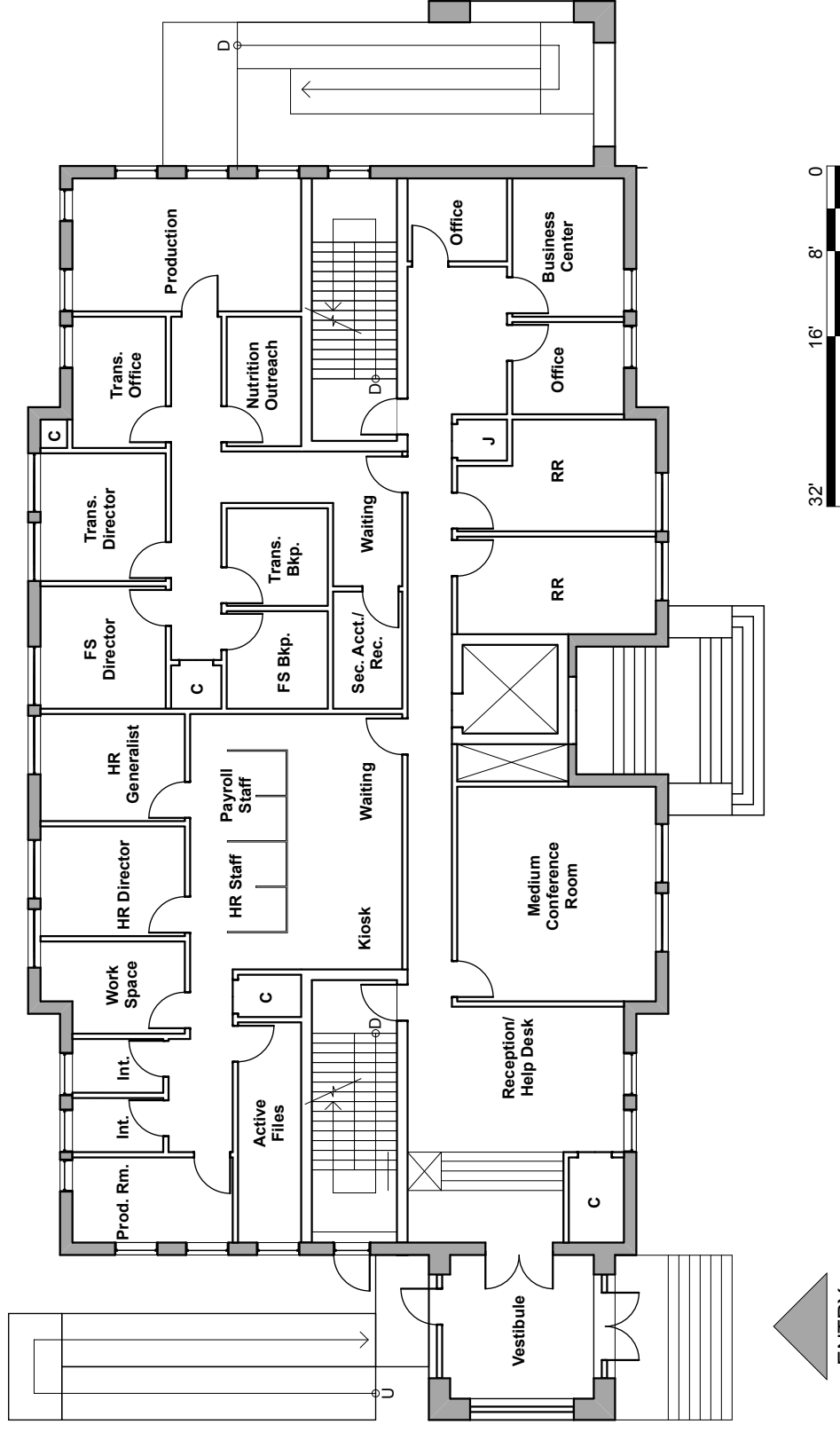
**Test Fit Plans\_ Emery Grover**

**Test Fit Plans\_ Generic Site**

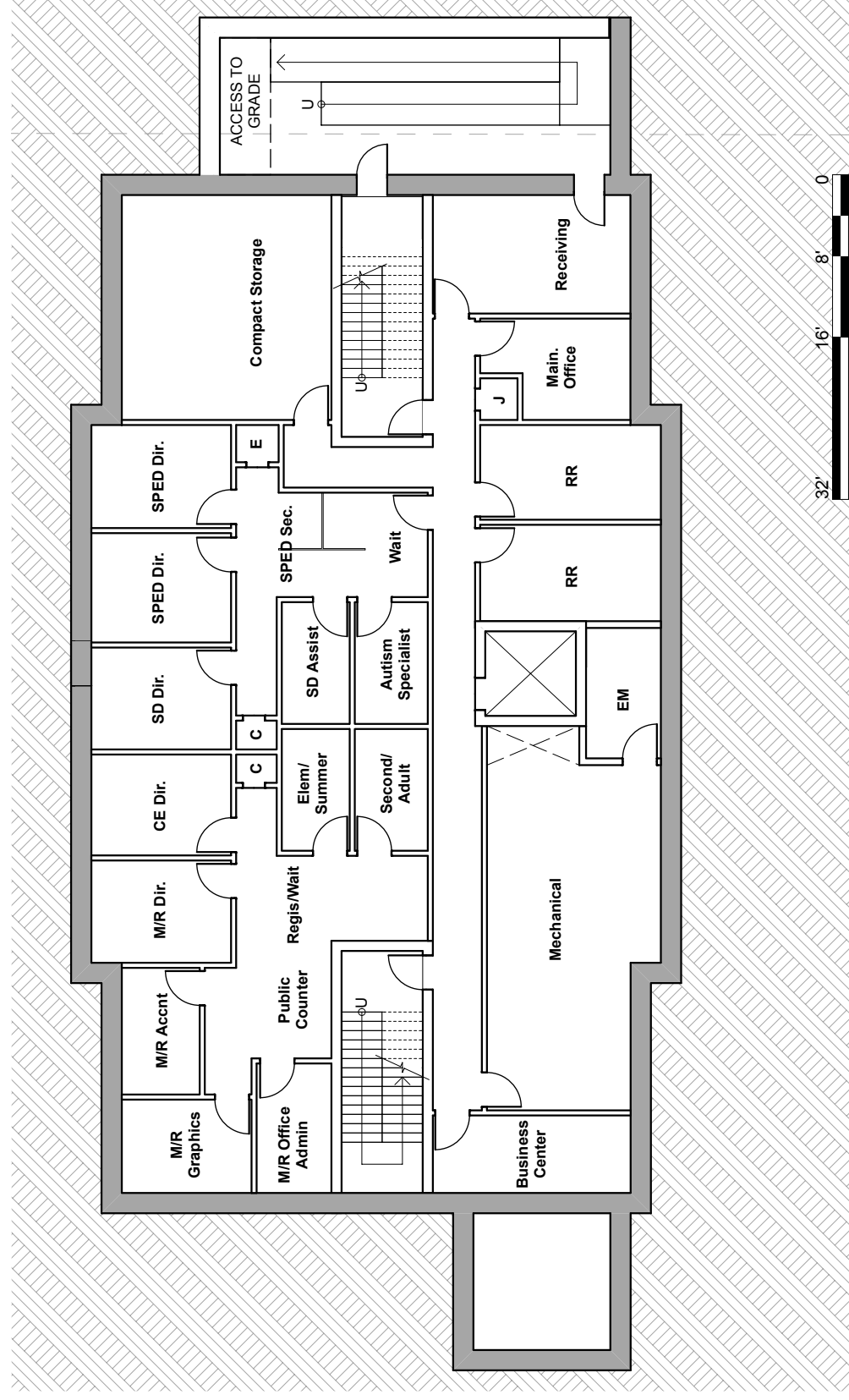
**Test Fit Plans\_ Ridge Hill**

**Site Selection\_ Properties Archive**

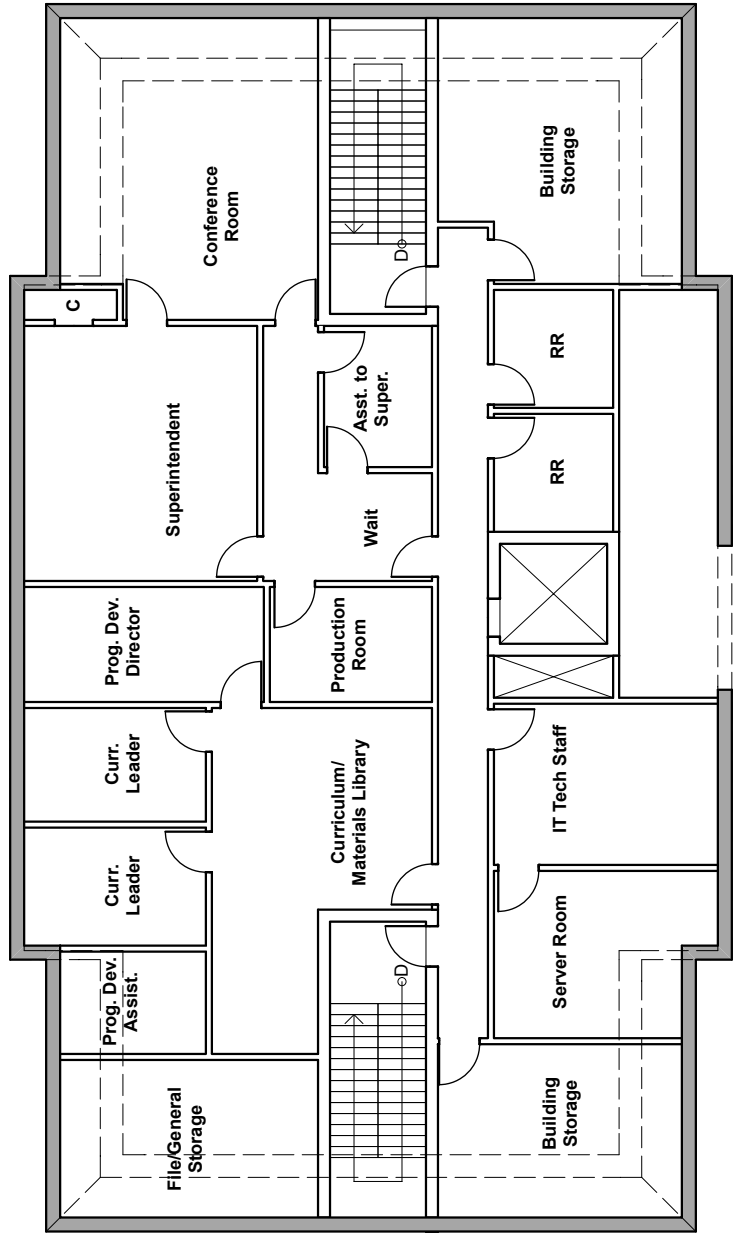
test fit floor plans \_ EMERY GROVER



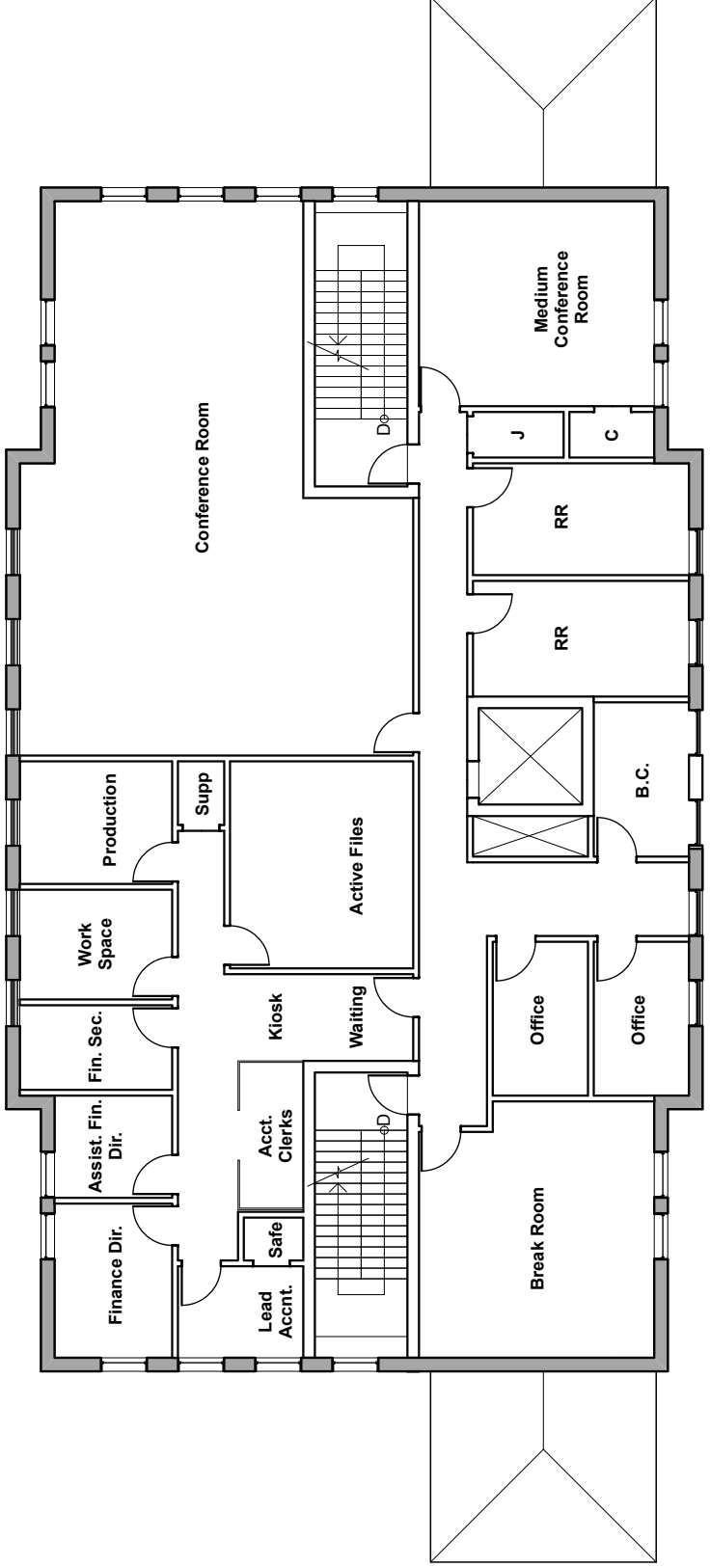
FIRST FLOOR PLAN\_ EMERY GROVER TEST FIT  
1/16"=1'-0"



BASEMENT FLOOR PLAN\_ EMERY GROVER TEST FIT  
1/16"=1'-0"

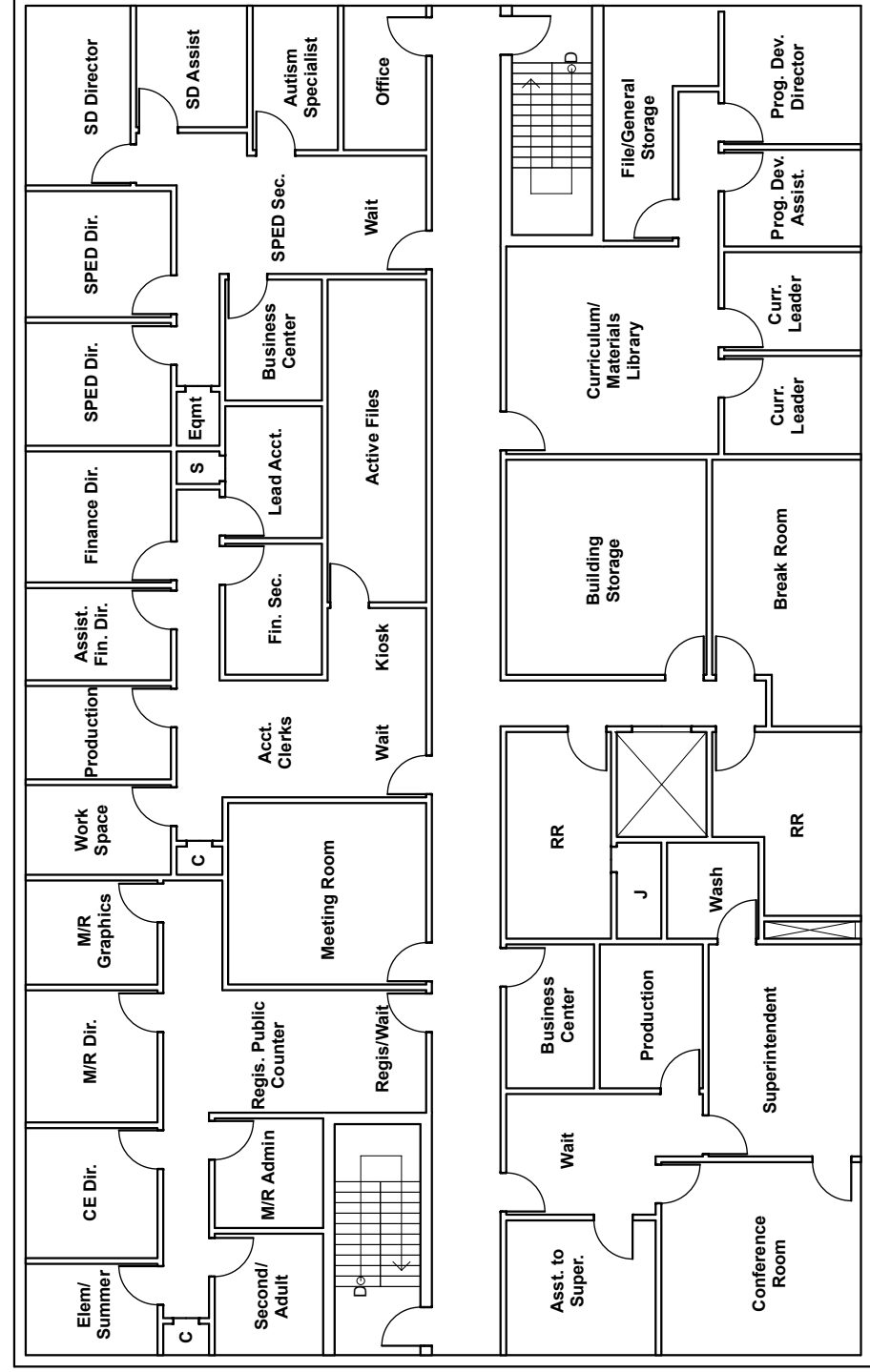


ATTIC FLOOR PLAN\_ EMERY GROVER TEST FIT  
1/16"=1'-0"

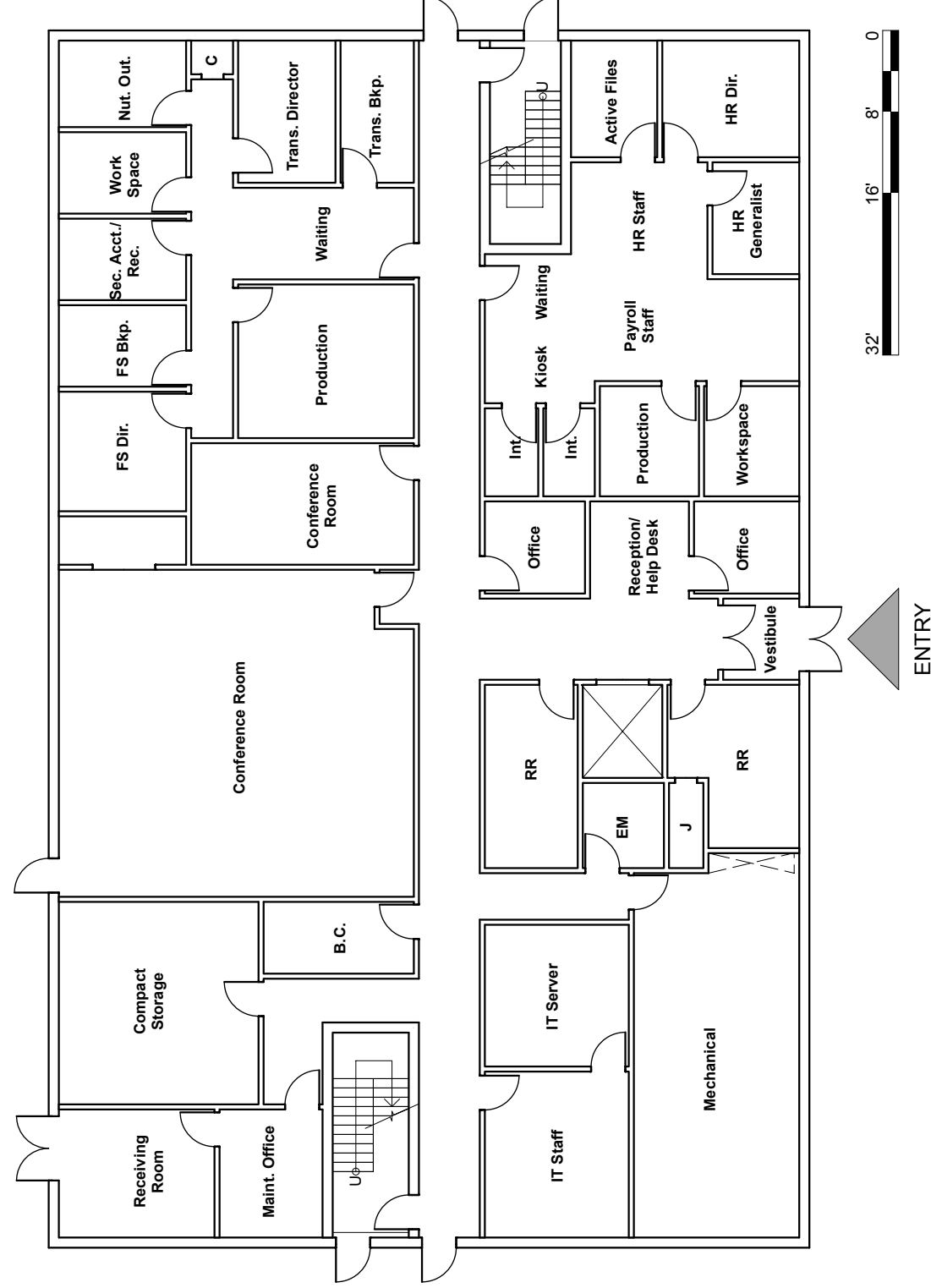


SECOND FLOOR PLAN\_ EMERY GROVER TEST FIT  
1/16"=1'-0"

test fit floor plans \_ GENERIC SITE

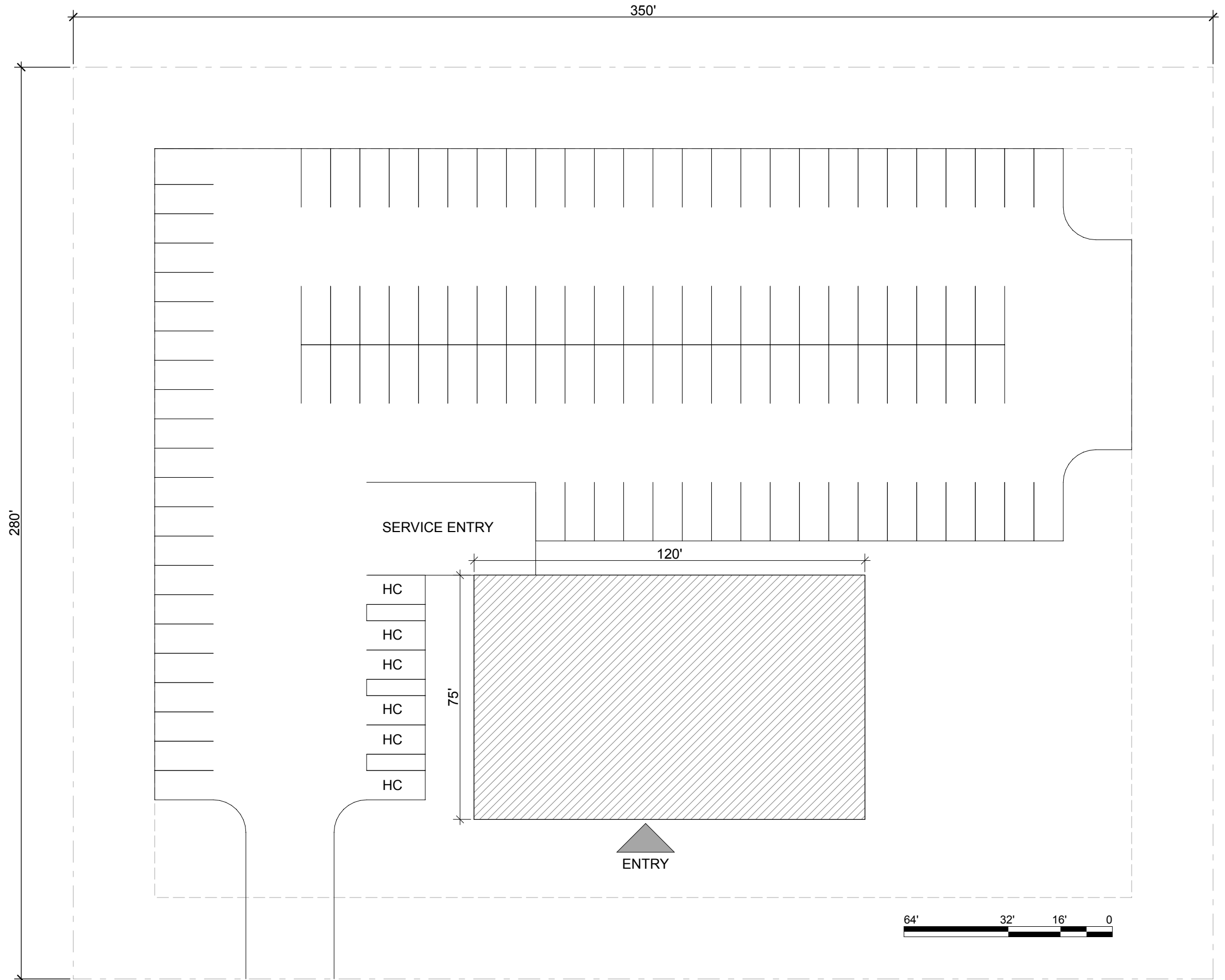


SECOND FLOOR PLAN\_ GENERIC SITE TEST FIT  
1/16"=1'-0"



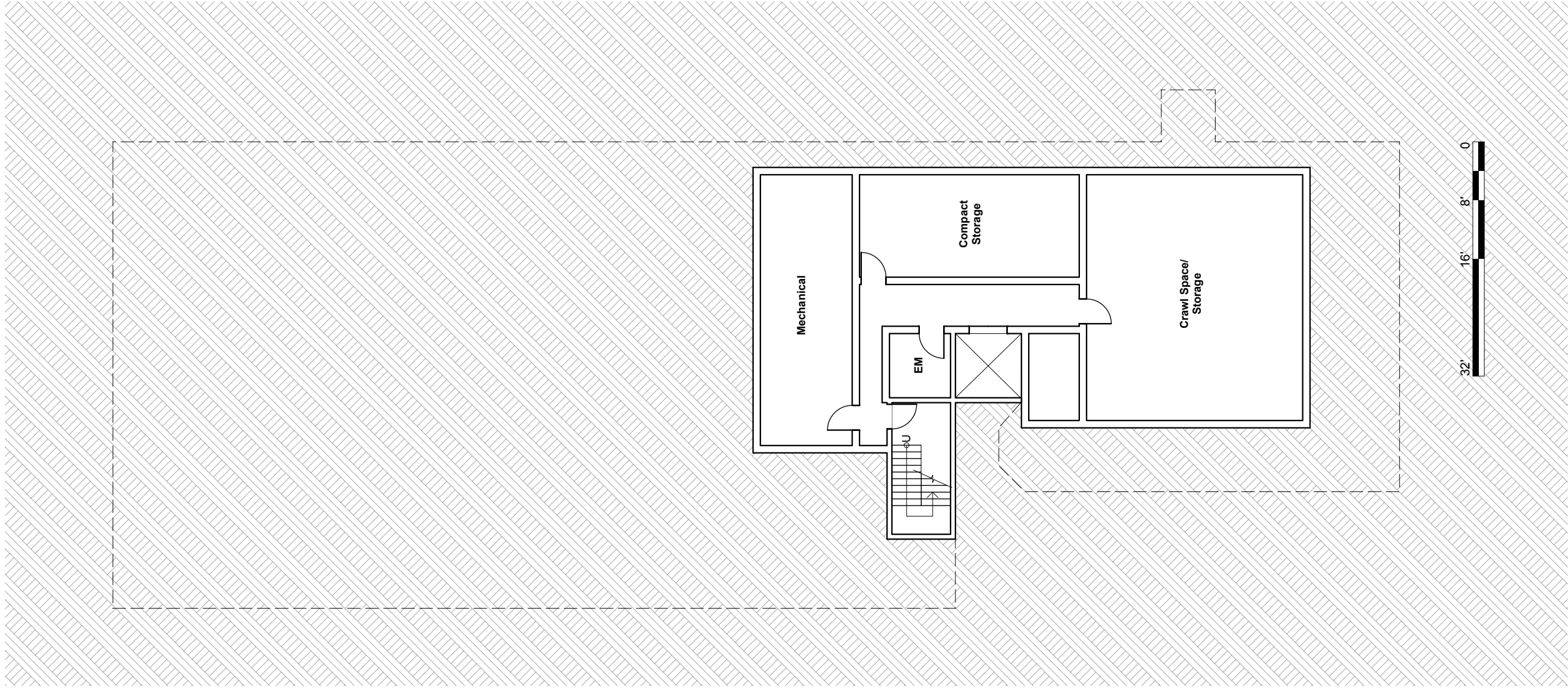
FIRST FLOOR PLAN\_ GENERIC SITE TEST FIT  
1/16"=1'-0"

test fit site plans \_ GENERIC SITE

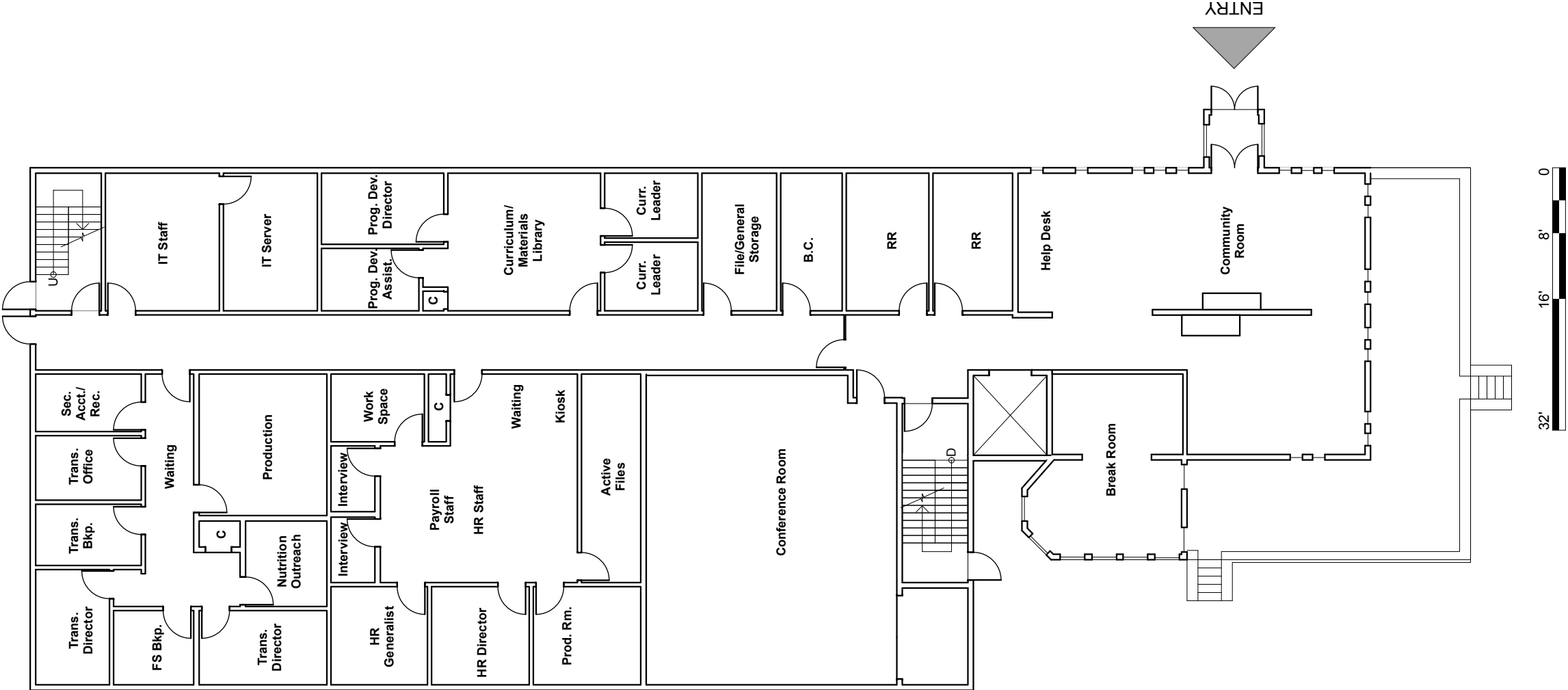


SITE PLAN\_ GENERIC SITE TEST FIT  
1/32"=1'-0"

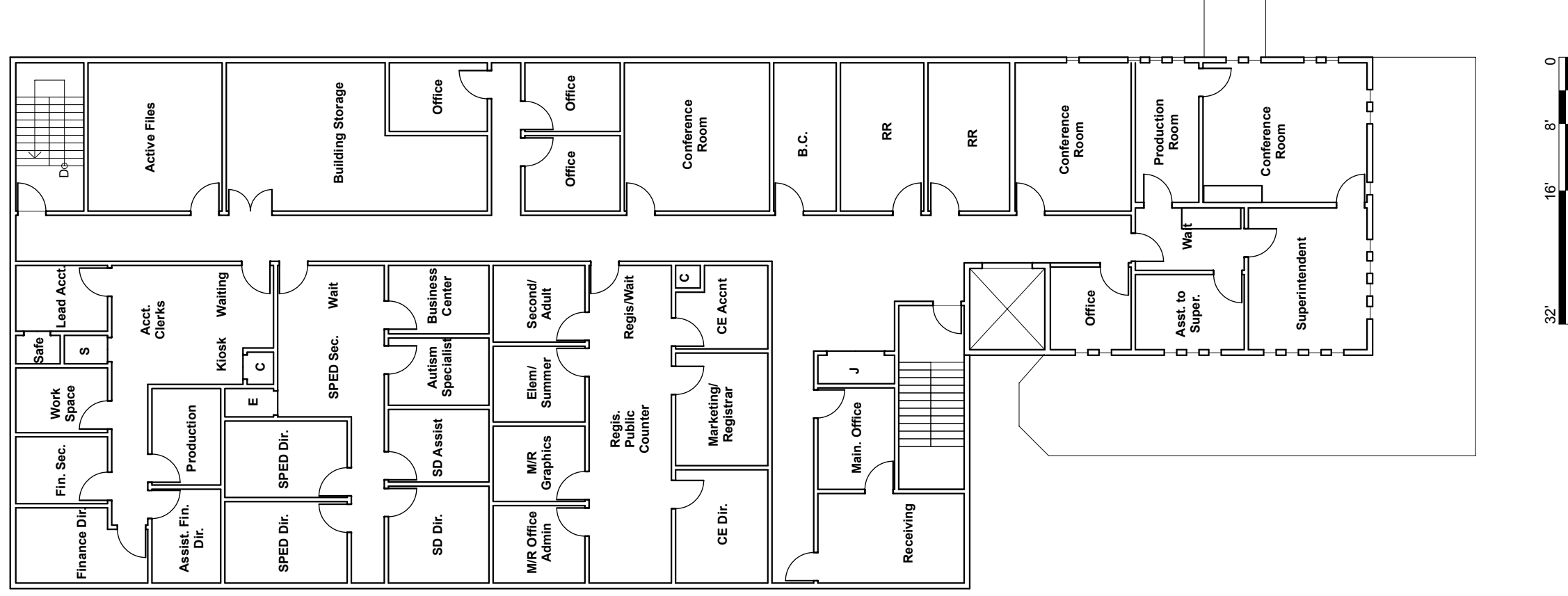




BASEMENT FLOOR PLAN\_ RIDGE HILL TEST FIT  
1/16"=1'-0"



BASEMENT FLOOR PLAN\_ RIDGE HILL TEST FIT  
1/16"=1'-0"



BASEMENT FLOOR PLAN\_ RIDGE HILL TEST FIT  
1/16"=1'-0"

# budget\_ renovation of emery grover

## \$9.7 million

Updated August 22, 2013

			2013\$	Notes
Gross SF			21,235	Existing
Net SF			14,332	Existing
Rentable SF (Swing space)			18,000	
Parking Spaces Needed			70	
	Unit	Unit Cost		
<b>Site costs</b>				
Lease pmts during dev. and construction	18,000	\$ 18	\$ 324,000	\$18/SF, 1 year for swing space
Temporary Space Improvements	18,000	\$ 25	450,000	For swing space
Move out/move back	2	\$ 30,000	60,000	
<b>Hard costs</b>				
Construction	21,235	\$ 300	\$ 6,370,500	
Parking	70	\$ 500	35,000	modest improvements
Site Improvements--other			75,000	allowance
Owner's Contingency + esc.		10.0%	648,050	
<b>Subtotal construction</b>			<b>\$ 7,128,550</b>	
<b>Soft costs</b>				
Basic Architectural & Engineering Services		12%	\$ 855,426	
Sustainability/LEED Cert.			30,000	
Signage/Graphics			15,000	
Reimbursable expenses			25,000	
NSTAR/ utilities			-	
Building Envelope Engineer			25,000	Due Diligence water infiltration study
Geotech Engineer			-	
Civil engineer/Landscape Architect			30,000	
Project/permitting management	12	\$ 10,000	120,000	
Preconstruction services/estimating			-	
Building/site survey			5,000	
IT Consultant			5,000	
Owner's construction rep.	10	\$ 6,500	65,000	
Building commissioning			-	
Construction testing			5,000	
Environmental/Hazmat Survey			-	
Transportation and traffic			-	
Moving			-	see "Site costs" above
Legal- Permitting Checklist (Due Dil)			3,500	
Legal- Permitting			7,500	
Legal - Lease			5,000	
Legal - Title			-	
Legal - Contracts			30,000	
Permits and approvals			-	
Risk and liability insurance			35,000	
Soft Cost Contingency		10%	40,600	
<b>Subtotal Soft Costs</b>			<b>\$ 1,302,026</b>	
<b>FF&amp;E</b>				
FF&E			\$ 350,000	
Design		15%	52,500	
<b>Subtotal FF&amp;E</b>			<b>\$ 402,500</b>	
<b>GRAND TOTAL</b>			<b>\$ 9,667,076</b>	

Potential CPA Funding*		of Construction & 50-60% related Soft Costs (italics)	\$ (4,941,346)	\$ (4,117,788)
<b>Net Cost</b>			<b>\$ 4,725,730</b>	<b>\$ 5,549,288</b>

# budget\_ purchase/renovate commercial property

## \$5.8 - 6.6 million

Updated August 22, 2013

2013\$

Gross SF	16,614	<i>per program</i>
Net SF	12,780	<i>per program</i>
Rentable SF	18,000	<i>unlikely to find exact match for program</i>
Parking Spaces Needed	70	

	Unit	Unit Cost		Notes
<b>Site costs</b>				
Acquisition	18,000	\$ 18	\$ 3,811,765	<i>8.5 CAP of \$18 NNN rent</i>
<b>Hard costs</b>				
Construction	18,000	\$ 100	\$ 1,800,000	
Parking	70	\$ 1,500	105,000	<i>improve existing</i>
Site Improvements--other			200,000	<i>allowance</i>
Owner's Contingency + esc.		10.0%	<u>210,500</u>	
<b>Subtotal construction</b>			<b>\$ 2,315,500</b>	
<b>Soft costs</b>				
Basic Architectural & Engineering Services		10%	\$ 231,550	
Sustainability/LEED Cert.			30,000	
Signage/Graphics			15,000	
Reimbursable expenses			10,000	
NSTAR/ utilities			-	
Building Envelope Engineer			10,000	<i>Due Diligence water infiltration study</i>
Geotech Engineer			-	
Civil engineer			-	
Project/permitting management	10	\$ 10,000	100,000	
Preconstruction services/estimating			-	
Building/site survey			5,000	
IT Consultant			5,000	
Owner's construction rep.	6	\$ 6,500	39,000	
Building commissioning			10,700	
Construction testing			5,000	
Environmental/Hazmat Survey			10,000	
Transportation and traffic			-	
Moving	1	\$ 30,000	30,000	
Legal- Permitting Checklist (Due Dil)			3,500	
Legal- Permitting			20,000	
Legal - Acquisition/Sale			50,000	
Legal - Title			5,000	
Legal - Contracts			40,000	
Permits and approvals			25,000	
Risk and liability insurance			15,000	
Soft Cost Contingency		10%	<u>42,820</u>	
<b>Subtotal Soft Costs</b>			<b>\$ 702,570</b>	
<b>FF&amp;E</b>				
FF&E			\$ 350,000	
Design		15%	<u>52,500</u>	
<b>Subtotal FF&amp;E</b>			<b>\$ 402,500</b>	
<b>GRAND TOTAL</b>			<b>\$ 7,232,335</b>	

Value of Lost Property Tax Revenue	\$ 46,605	6.00%	\$ 776,752	
Sale of Existing Building			\$ (1,450,000)	\$ (2,250,000)
<b>Net Cost</b>			<b>\$ 6,559,087</b>	<b>\$ 5,759,087</b>

# budget\_ new construction on town-owned parcel

## \$4.1 - 4.9 million

Updated August 22, 2013

			2013\$	Notes
Gross SF			16,614	<i>per program</i>
Net SF			12,780	<i>per program</i>
Rentable SF			NA	<i>no swing or rented space</i>
Parking Spaces Needed			70	
	Unit	Unit Cost		
<b>Site costs</b>				
Acquisition	-	\$ -	\$ -	<i>Opportunity cost not included. Conceivably Town could sell this land</i>
<b>Hard costs</b>				
Construction	16,614	\$ 225	\$ 3,738,150	
Parking	70	\$ 4,500	315,000	<i>new</i>
Site Improvements--other			450,000	<i>allowance, incl. utility connections</i>
Owner's Contingency + esc.		10.0%	<u>450,315</u>	
<b>Subtotal construction</b>			<b>\$ 4,953,465</b>	
<b>Soft costs</b>				
Basic Architectural & Engineering Services		10%	\$ 495,347	
Sustainability/LEED Cert.			30,000	
Signage/Graphics			15,000	
Reimbursable expenses			10,000	
NSTAR/ utilities			-	
Building Envelope Engineer			-	
Geotech Engineer			-	
Civil engineer			-	
Project/permitting management	12	\$ 10,000	120,000	
Preconstruction services/estimating			-	
Building/site survey			7,500	
IT Consultant			5,000	
Owner's construction rep.	8	\$ 6,500	52,000	
Building commissioning			10,700	
Construction testing			5,000	
Environmental/Hazmat Survey			10,000	
Transportation and traffic			-	
Moving	1	\$ 30,000	30,000	
Legal- Permitting Checklist (Due Dil)			3,500	
Legal- Permitting			20,000	
Legal - Lease/Sale of EG			50,000	
Legal - Title			5,000	
Legal - Contracts			30,000	
Permits and approvals			25,000	
Risk and liability insurance			25,000	
Soft Cost Contingency		10%	<u>45,370</u>	
<b>Subtotal Soft Costs</b>			<b>\$ 994,417</b>	
<b>FF&amp;E</b>				
FF&E			\$ 350,000	
Design		15%	<u>52,500</u>	
<b>Subtotal FF&amp;E</b>			<b>\$ 402,500</b>	
<b>GRAND TOTAL</b>			<b>\$ 6,350,382</b>	
<b>Sale of Existing Building</b>			<b>\$ (1,450,000)</b>	<b>\$ (2,250,000)</b>
<b>Net Cost</b>			<b>\$ 4,900,381.50</b>	<b>\$ 4,100,382</b>

# budget\_ renovation/addition hybrid

## \$6.2 - 7.0 million

Updated August 22, 2013

			2013\$	Notes
Gross SF			22,500	<i>per program</i>
Net SF			12,780	<i>per program</i>
Rentable SF			NA	<i>no swing or rented space</i>
Parking Spaces Needed			70	
<hr/>				
	Unit	Unit Cost		
<hr/>				
<b>Site costs</b>				
Acquisition	-	\$ -	\$ -	<i>Opportunity cost not included. Conceivably Town could sell this land</i>
<hr/>				
<b>Hard costs</b>				
<hr/>				
Construction				
Addition	15,000	\$ 225	\$ 3,375,000	
Renovation	7,500	\$ 275	\$ 2,062,500	
Demolition	2,900	\$ 7	\$ 20,300	
Parking	70	\$ 4,500	315,000	<i>new</i>
Site Improvements--other			450,000	<i>allowance, incl. utility connections</i>
Owner's Contingency + esc.		10.0%	<u>622,280</u>	
<b>Subtotal construction</b>			<b>\$ 6,845,080</b>	
<hr/>				
<b>Soft costs</b>				
<hr/>				
Basic Architectural & Engineering Services		10%	\$ 684,508	
Sustainability/LEED Cert.			30,000	
Signage/Graphics			15,000	
Reimbursable expenses			10,000	
NSTAR/ utilities			-	
Building Envelope Engineer			-	
Geotech Engineer			-	
Civil engineer			-	
Project/permitting management	12	\$ 10,000	120,000	
Preconstruction services/estimating			-	
Building/site survey			7,500	
IT Consultant			5,000	
Owner's construction rep.	8	\$ 6,500	52,000	
Building commissioning			10,700	
Construction testing			5,000	
Environmental/Hazmat Survey			10,000	
Transportation and traffic			-	
Moving	1	\$ 30,000	30,000	
Legal- Permitting Checklist (Due Dil)			3,500	
Legal- Permitting			20,000	
Legal - Lease/Sale of EG			50,000	
Legal - Title			5,000	
Legal - Contracts			30,000	
Permits and approvals			25,000	
Risk and liability insurance			25,000	
Soft Cost Contingency		10%	<u>45,370</u>	
<b>Subtotal Soft Costs</b>			<b>\$ 1,183,578</b>	
<hr/>				
<b>FF&amp;E</b>				
<hr/>				
FF&E			\$ 350,000	
Design		15%	<u>52,500</u>	
<b>Subtotal FF&amp;E</b>			<b>\$ 402,500</b>	
<hr/>				
<b>GRAND TOTAL</b>			<b>\$ 8,431,158</b>	
<hr/>				
<b>Sale of Existing Building</b>			\$ (1,450,000)	\$ (2,250,000)
<b>Net Cost</b>			<b>\$ 6,981,158</b>	<b>\$ 6,181,158</b>





### Needham School Administration

Office space options tracking sheet

Property Name/Address

Update

27-Mar-13

Owner

Type

DESCRIPTION

Size

Cost Impacts

#### Town-controlled Sites

<b>A</b>	Daley Building	School Committee	Rehab/expand	1.2 ac	relocate storage, demo building, central	
<b>B</b>	Greendale Avenue	Parks & Rec	Land	13 Acres	not downtown but relatively central	
<b>C</b>	Harris/Great Plain	Selectmen	Land	3.3 ac	Wetlands constrained: small footprint for building. Can parking be accommodated on wetland setback area?	
<b>D</b>	South St/Livingston Circle	Selectmen/School	Land		distant from center	
<b>E</b>	Rosemary Lake	Parks & Rec	Land		Build pool at Ridge Hill to free up site	
<b>F</b>	Nike Site	School Committee	Land	8.5 ac	no sewer; distant from center	
<b>G</b>	Ridge Hill	Conservation	Land	3-20 ac	utility issues, 4F land requiring act of Legislature?	
<b>H</b>	RTS Transfer station	Selectmen	Land	81.8 ac	Ledge; distant from center	
<b>Privately-owned (rental space on market or recently on market)</b>						
<b>Highland/Chestnut</b>						
<b>1</b>	145 Rosemary Street	Rosemary Office Assoc. LP	Office	5.06 ac; 61,103 sf	5,589 available	
<b>Industrial zone behind Muzi</b>						
<b>2</b>	140 Gould Street	Gould Street Assoc. LP	Office, R&D, W/H	1.33 ac.; 17,000 sf	on 3 floors; \$18/sf	
<b>3</b>	322 Reservoir Street	Muddy River Prop	W/H	.4 ac; 31,971 sf	16,200 SF available; low to mid teens/sf	
<b>Industrial Park Area</b>						
<b>4</b>	40A St.	Forty A LP	Industrial	1.38 ac.; 25524 sf	\$12.95	
<b>5</b>	60 Kendrick	Com Realty (Mark Shuster?)	Office	2.76 ac.; 68,120 sf	5,000 sf available	
<b>Other</b>						
<b>6</b>	1458 Great Plains Avenue	Trustees of the Presbytery of Boston	Church	1.27 ac	Presbyterian church	



**town of needham school administration building**

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