

Buker Building Study

Facility Assessment, Space Needs, & Concept
Design Alternatives
New London, NH



Board of Selectmen Presentation

20 August 2018



HARRIMAN

Agenda

- Schedule
- Existing Condition Plans by Department
- Facility Assessments
- Space Needs Interviews
- Space Needs Program
- Preliminary Option Alternatives
- Next Steps

Schedule

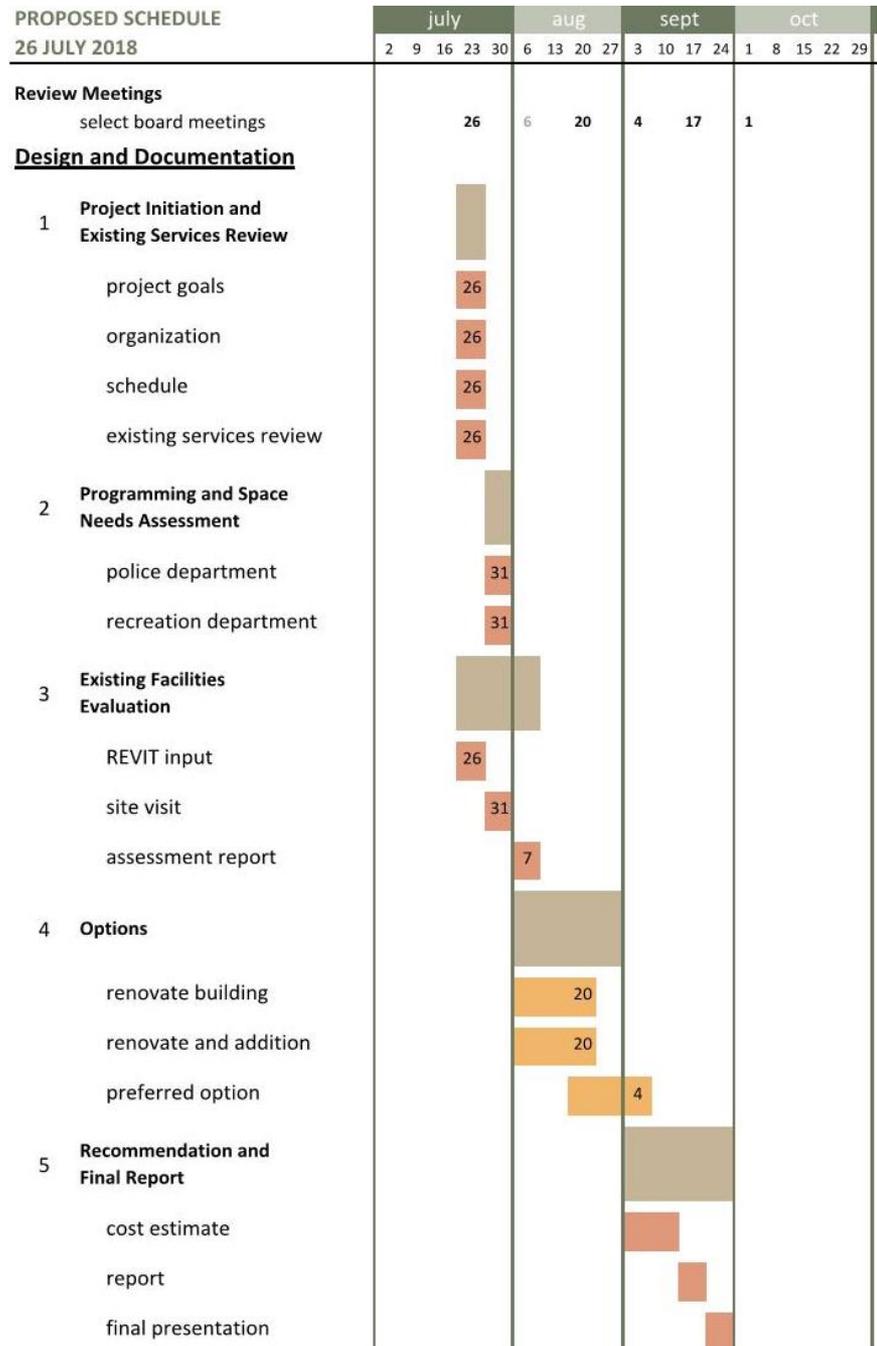
- ✓ Pre-kickoff walk through
- ✓ Kickoff meeting 7-26

- ✓ Draft 1 complete
 - ✓ Existing Areas
 - ✓ Space Needs

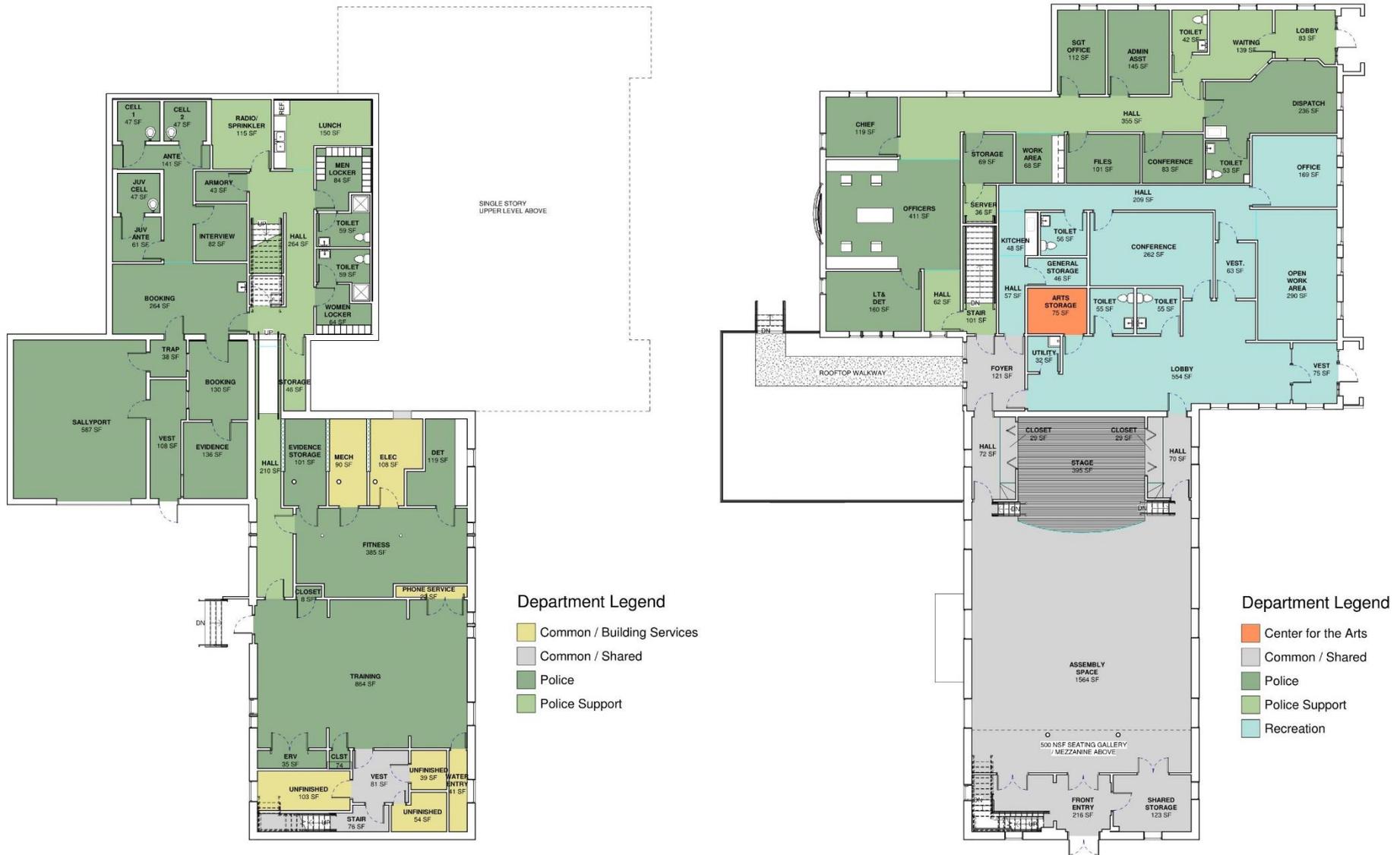
- ✓ On site assessment 7-31
- ✓ Building condition summary

- ✓ Preliminary blocking options

PROPOSED SCHEDULE 26 JULY 2018



Existing Space Analysis – Area by Department



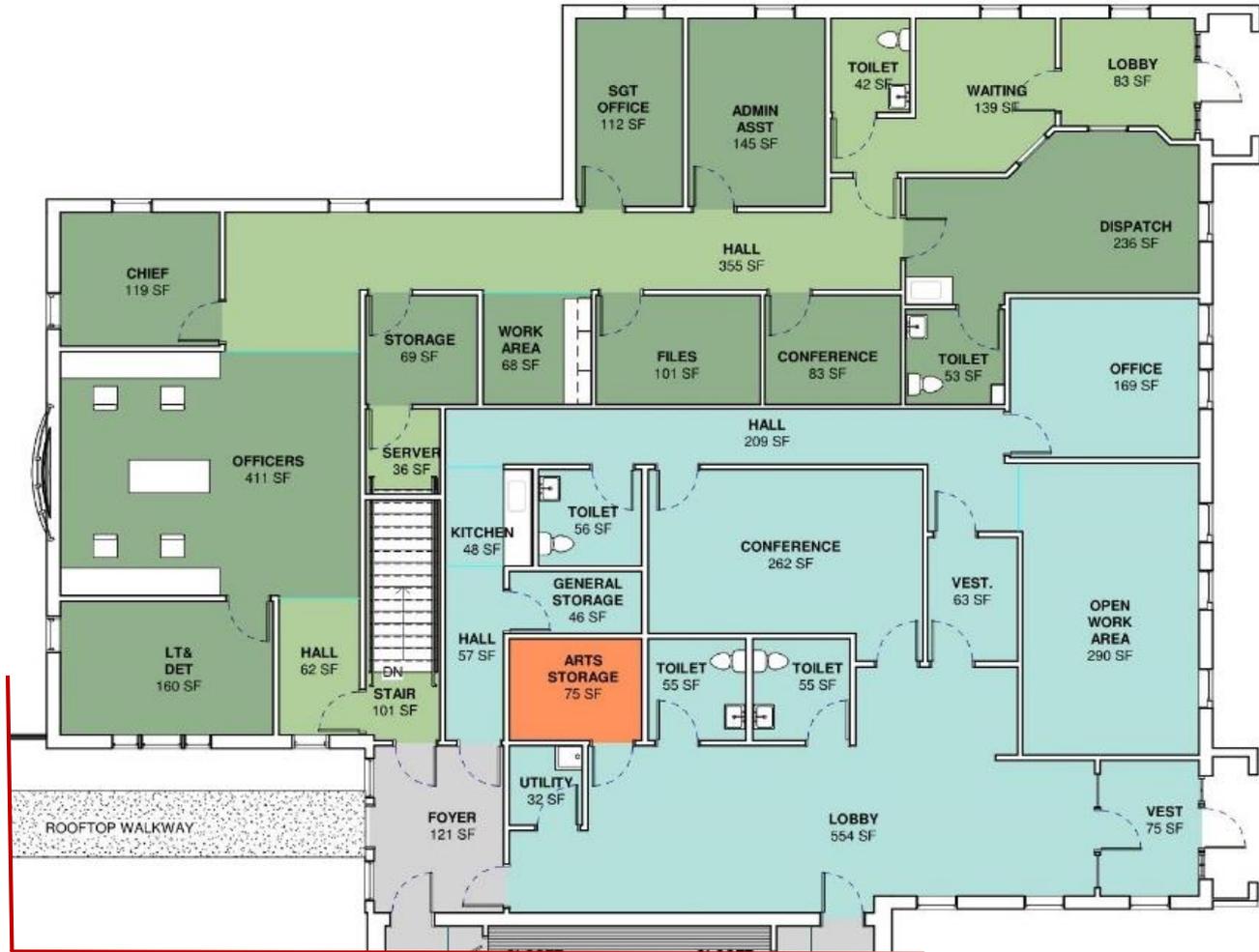
Existing Lower Level

Existing Upper Level

Existing Space Analysis – Area by Department

Department Legend

- Center for the Arts
- Common / Shared
- Police
- Police Support
- Recreation

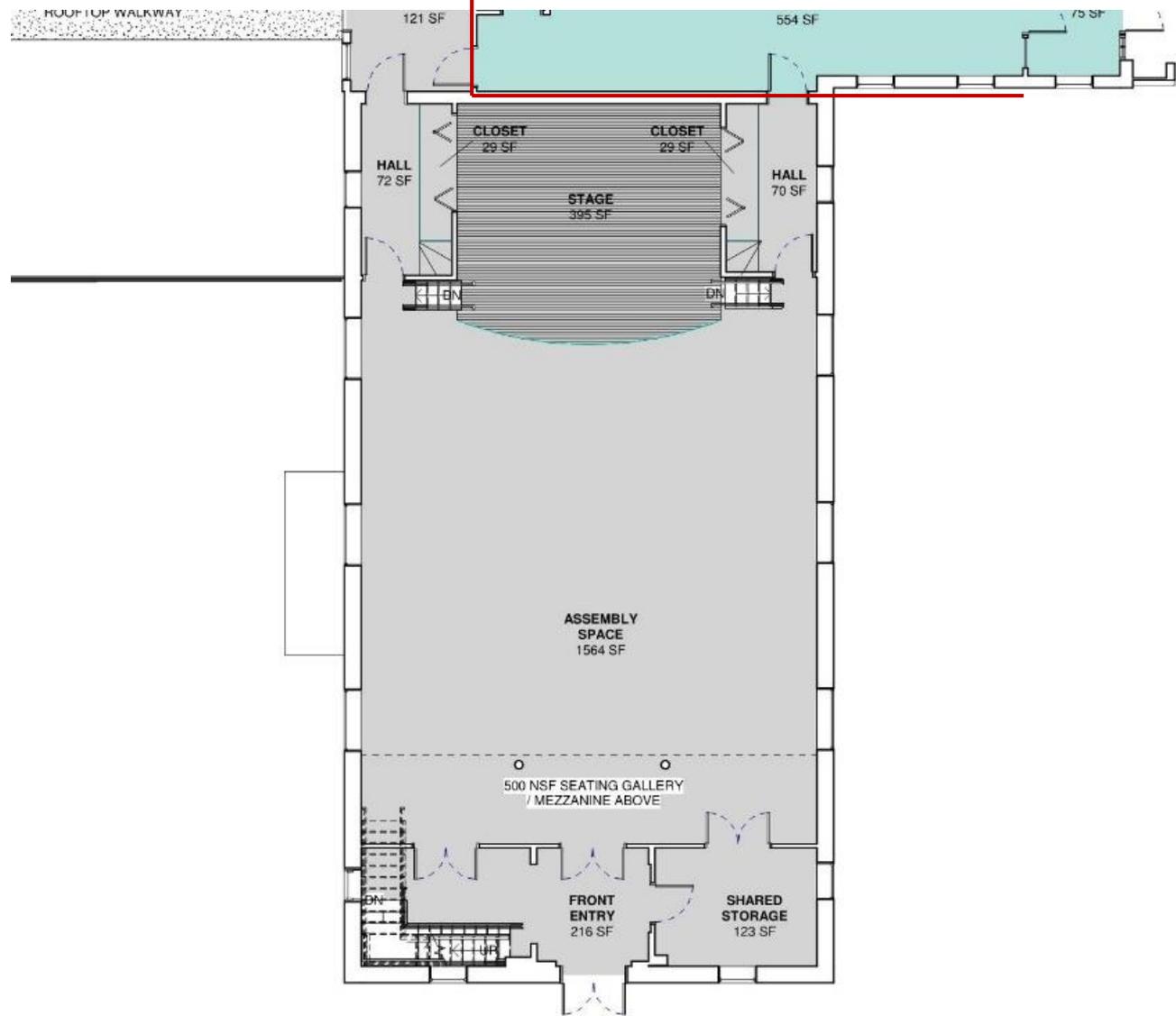


Existing Upper Level (Buker) – Recreation, CFTA, and Police

Existing Space Analysis – Area by Department

Department Legend

- Center for the Arts
- Common / Shared
- Police
- Police Support
- Recreation

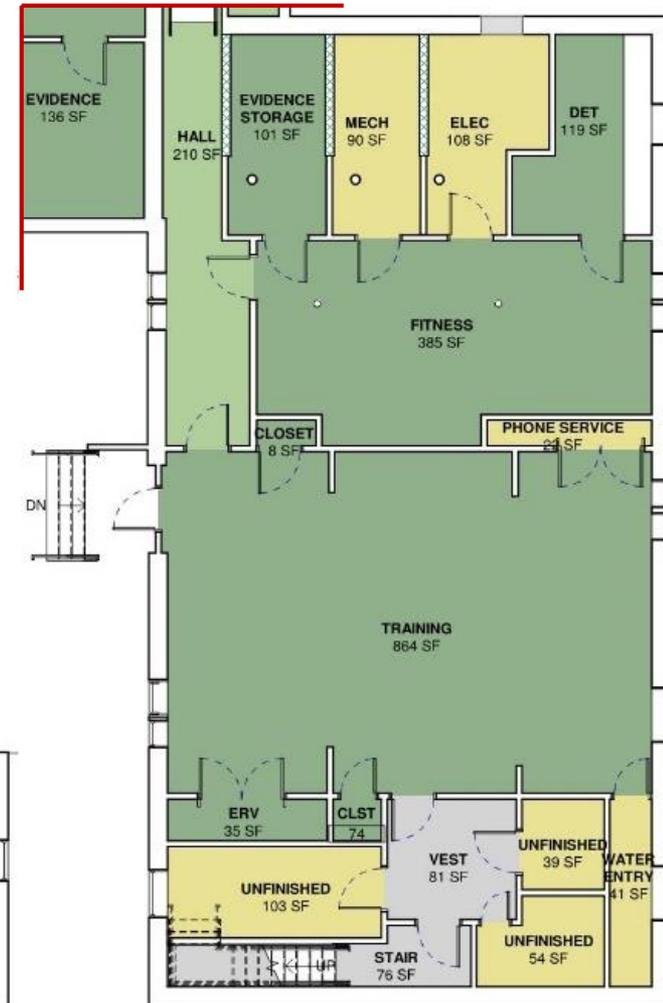


Existing Upper Level (Whipple) – Common / Shared Areas

Existing Space Analysis – Area by Department

Department Legend

- Common / Building Services
- Common / Shared
- Police
- Police Support



Existing Lower Level (Buker & Whipple) – Police and Building Services

Existing Facility Assessment

BUILDING NAME	ADDRESS	YEAR CONSTRUCTED	Summary Information				Building Exterior							Life Safety			Interior						19 Total Review Categories		Overall Condition Rating			
			CONSTRUCTION TYPE	BUILDING USE	BUILDING AREA (GSF)	TOTAL # OF FLOORS	Exposed Foundation	Brick / Masonry	Siding / Cladding	Windows	Doors	Canopies / Overhangs	Roof / Flashing	Fire Alarm / Strobes	CO / Smoke Detector	Life Safety: Exit Signs	Life Safety: Emergency Lighting	Condition of Walls	Base	Flooring	Ceiling	Stairs	Handrails	Doors		Glazing	Total Score	Building Average Rating
Whipple Hall Buker Building Buker Additions	429 Main St Seamans Rd	25 1918/ 1985/ 2000	Masonry & Masonry/Wood	Office & Assembly	6,104 3,984 4,199	2	3	2	2	1.5	2	2	1.5	2	2	3	5	2.5	3	2	2.5	1.5	1.5	2	3	44.0	2.32	Fair

BUILDING NAME	ADDRESS	YEAR CONSTRUCTED	Summary Information				Electrical			Lighting		Mechanical				Plumbing				Structure				38 Total Review Categories		Overall Condition Rating		
			CONSTRUCTION TYPE	BUILDING USE	BUILDING AREA (GSF)	TOTAL # OF FLOORS	Service Entrance	Panel / Distribution	Emergency Power	Lighting	Lighting Controls	Boiler	Fuel	HVAC	Vented Police area	Toilet Rooms	Kitchen	Domestic Water	Sprinkler Riser	Sprinkler Distribution	Showers	Observable Steel	Observable Masonry	Headers / Lintels	Misc Metals / Stairs		Total Score	Building Average Rating
Whipple Hall Buker Building Buker Additions	429 Main St Seamans Rd	25 1918/ 1985/ 2000	Masonry & Masonry/Wood	Office & Assembly	6,104 3,984 4,199	2	1	1	1	3	1	3	4	1	1	2	4	2	2	1	2	2.5	3	2	2	82.5	2.23	Fair

Rating Index	1 Poor	2 Fair	3 Good	4 Very Good	5 Brand New
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Comments
Structural. Concrete floor slabs at the joint between the 1985 Police Dept. building and the 2000 Addition (which is slab on grade) move independently. Wood framing in Whipple building is in good condition for its age. Wood framing in Buker building is in fair condition for its age.
Architectural: Exterior. Building exterior is fair-to-good condition. Exterior steps off Sallyport roof deck do not meet code, are not connected to the building, and need to be replaced. Site grading near the police entry creates flooding of the entry vestibule, secure lobby, toilet room, and administrative office. There are no ballistic rated windows on the building exterior (lack of building hardening).
Architectural: Interior. Fire rated partitions in attic area of 2000 Buker addition have several large openings and do not meet code. Interior finishes range from good condition to poor condition through all parts of each building. Upgrades to flooring, door hardware, and hard ceilings (gypsum board, p
Mechanical. Boiler is in good condition. Chimney needs a liner installed for natural gas fuel. Radiation is residential, not commercial, and is undersized for the required heating load. Buried LP tank and associate piping look good. HVAC system is not properly designed or installed and should be replaced or undergo substantial improvements. The ventilation system should be completely replaced. There are not enough toilet fixtures for the population using the facility. Domestic hot water does not meet demand for showers. The kitchen is not properly ventilated.
Electrical. The building does not meet 7 major criteria for Critical Operations Power Systems (COPS) as outlined in the National Electrical Code (NEC) 708. Service entrance, distribution, and emergency power categories are listed in poor condition since they do not meet the COPS standard. Lighting is older, less efficient technology but in good condition and lacks modern lighting controls.
Life Safety. Additional strobes are needed to meet ADA requirements. Brand new emergency lighting has been installed. Some older brass exist signs are faded and difficult to read.
Operational Notes: Additional facilities considerations need to be made for the critical facility use of the police department. Issues such as water infiltration (flooding), lack of building hardening, delicate / vulnerable communications infrastructure, limited run time for back up power, improper ventilation at evidence storage, and inappropriate HVAC throughout have a more detrimental impact on a critical facility that is required to remain operational 24 hours a day, 7 days per week, 365 days per year.

- Used previous studies as a baseline and arrived at similar conclusions.
- Overlaid operational deficiencies relating to the Police Department.
- 3 vintages of construction are very different.

Existing Facility Assessment - Deficiencies

- Structural: slab joint at 1985 and 2000 addition does not align.
- Exterior Architectural: site grading creates flooding at several PD spaces, exterior steps off sallyport roof do not meet code.
- Interior Architectural: fire rated partitions do not extend through attic properly in 2000 addition.
- Mechanical: HVAC system requires replacement, chimney requires liner for LP gas, radiators are residential grade and do not provide adequate output.
- Electrical : deficiencies in 7 categories for Critical Operations Power Systems (COPS) per National Electric Code: *protection against physical damage, feeder fire protection, receptacle identification, feeder distribution fire protection, surge protection, portable generator connection, duration of backup power supply.*
- Operational Notes: lack of building hardening, vulnerability from flooding & communications infrastructure, poor ventilation at evidence areas, unsafe sallyport.

Space Needs Assessment - Summary

Description	Exist	2017	2022	2027	2037	Total Net Area Required (sf)	Delta Between Exist and Required Area (sf)
	Current Area	Net Area Required (sf)	Anticipated Future Area (sf)	Anticipated Future Area (sf)	Anticipated Future Area (sf)		
S1.0 Shared Building Program	3,269	3,686	0	0	0	3686	(417)
R1.0 Recreation	1,618	2,512	124	184	0	2820	(1,202)
1.0 Administration	424	948	100	0	0	1048	(624)
2.0 Records	215	420	20	40	0	480	(265)
3.0 Communications	289	412	0	64	0	476	(187)
4.0 Patrol	2,003	2,584	24	24	0	3028	(1,137)
5.0 Training	950	1,000	64	64	0	1128	(178)
6.0 Investigations	0	444	0	0	0	444	(444)
7.0 Property & Evidence	237	832	20	40	20	912	(675)
8.0 Legal - Prosecutor	0	140	0	0	0	140	(140)
9.0 Common Facilities	1,526	2,014	80	40	40	2174	(648)
10.0 Other General-Specialty Areas	230	256	0	10	0	266	(36)
11.0 Facility Support	322	60	0	0	0	60	262
R12.0 Parking - Fleet							
12.0 Parking - Fleet							
Total Net Square Footage	11,083	15,308	432	466	60	16,266	(5,183)
Net to Gross Factor	1.289	1.4	1.4	1.4	1.4	1.4	
Total Gross Square Footage	14,287	21,432	605	652	84	22,773	(8,486)

Space Needs Assessment - Deficiencies

- Overall program space need = 5,183 NSF (Net Square Feet)
- Overall total space need = **8,486 GSF** (Gross Square Feet)

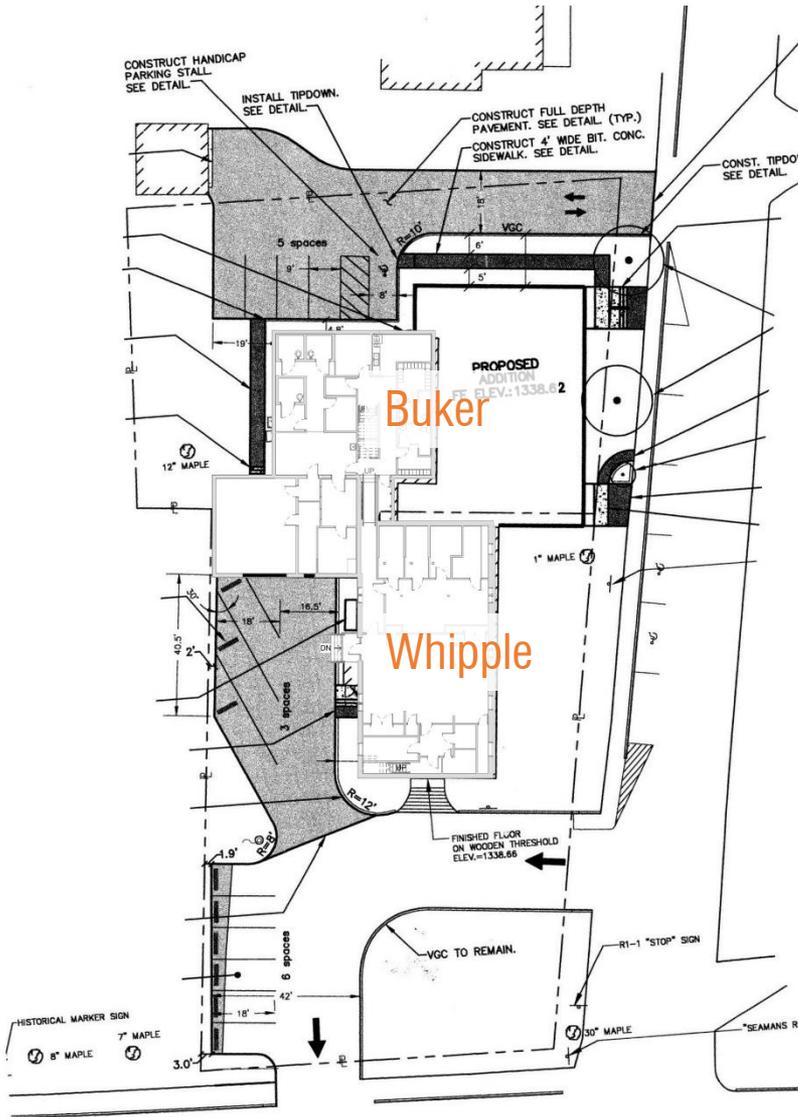
- Police space need = 9,760 NSF
- Recreation space need = 2,820 NSF
- Shared space need (systems) = 417 NSF

- Current & future program target = 16,266 NSF
- Existing total program area = 11,083 NSF

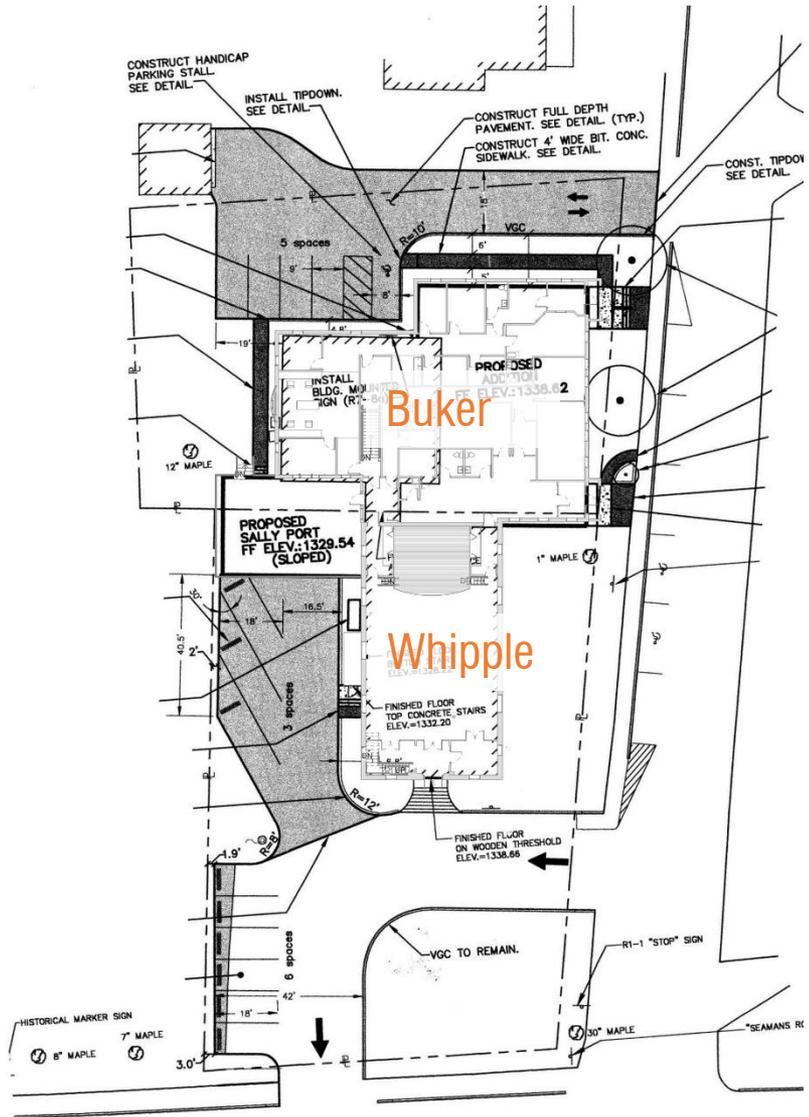
- Existing Whipple Hall 1918 = 6,104 NSF (2-Story + Mezzanine)
- Existing Buker Building 1985 = 3,984 NSF (2-Story)
- Existing Buker Building 2000 = 4,199 NSF (1-Story, 2 footprints)

- Current & future building target = 22,773 GSF
- Existing total building area = 14,287 GSF

Existing Conditions

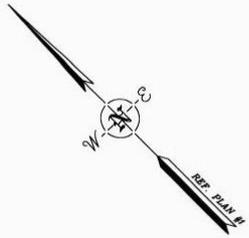


1 FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"

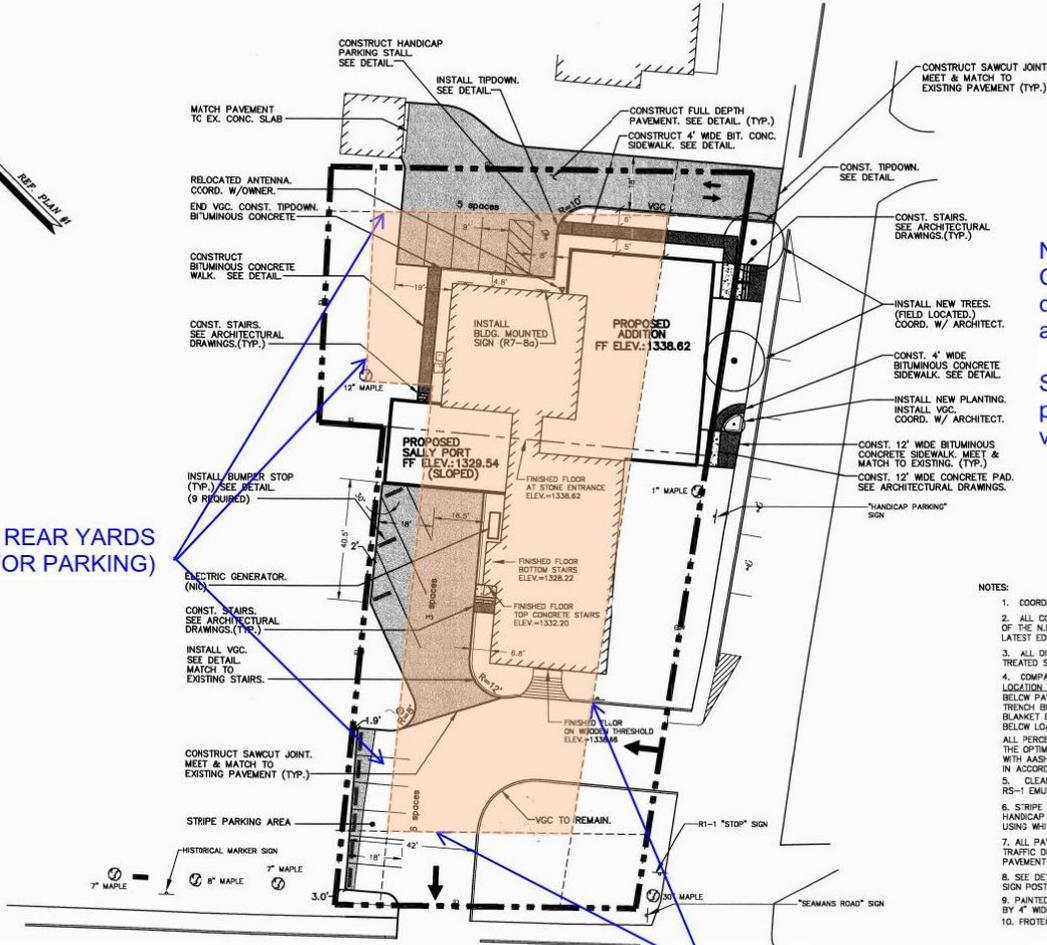


2 SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

Existing Conditions: Site Parameters



15' SIDE & REAR YARDS
(25' MAY BE REQUIRED FOR PARKING)



Note:
Check easement agreement for driveway and parking shared w/ abutting parcel.

See Variance Provision I Items 1-5 pg 84 for Terms for allowing/ granting variances.

- NOTES:
- COORDINATE ALL WORK WITHIN 5' OF BUILDING WITH ARCHITECTURAL DRAWINGS.
 - ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE N.H.D.O.T.'S STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, LATEST EDITION.
 - ALL DISTURBED AREAS NOT INTENDED TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 4" LOAM, LIMESTONE, FERTILIZER, SEED AND MULCH.
 - COMPACTION REQUIREMENTS:

LOCATION	COMPACTION
BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND	95%
BLANKET BACKFILL	90%
BELOW LOAM AND SEED AREAS	90%

ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MINIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH AASHTO STANDARD T-99, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH AASHTO STANDARD T-191, T-204, OR T-238 AND T-239.
 - CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW PAVEMENT.
 - STRIPED PARKING AREAS AND DRIVES AS SHOWN INCLUDING PARKING SPACES, HANDICAP SYMBOLS, AND PAINTED ISLANDS. ALL MARKINGS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248, TYPE F.
 - ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" LATEST EDITIONS, AND THE ADA REQUIREMENTS.
 - SEE DETAILS FOR PARKING STALL MARKINGS, HANDICAP SYMBOLS, SIGNS AND SIGN POST DETAILS.
 - PAINTED ISLANDS SHALL BE 4" WIDE DIAGONAL LINES 3'-0" O.C. BORDERED BY 4" WIDE LINES.
 - PROTECT ROOTS SYSTEM DURING CONSTRUCTION OF ALL TREES SCHEDULED TO REMAIN.

25' FRONT YARD APPLIES TO BOTH STREETS

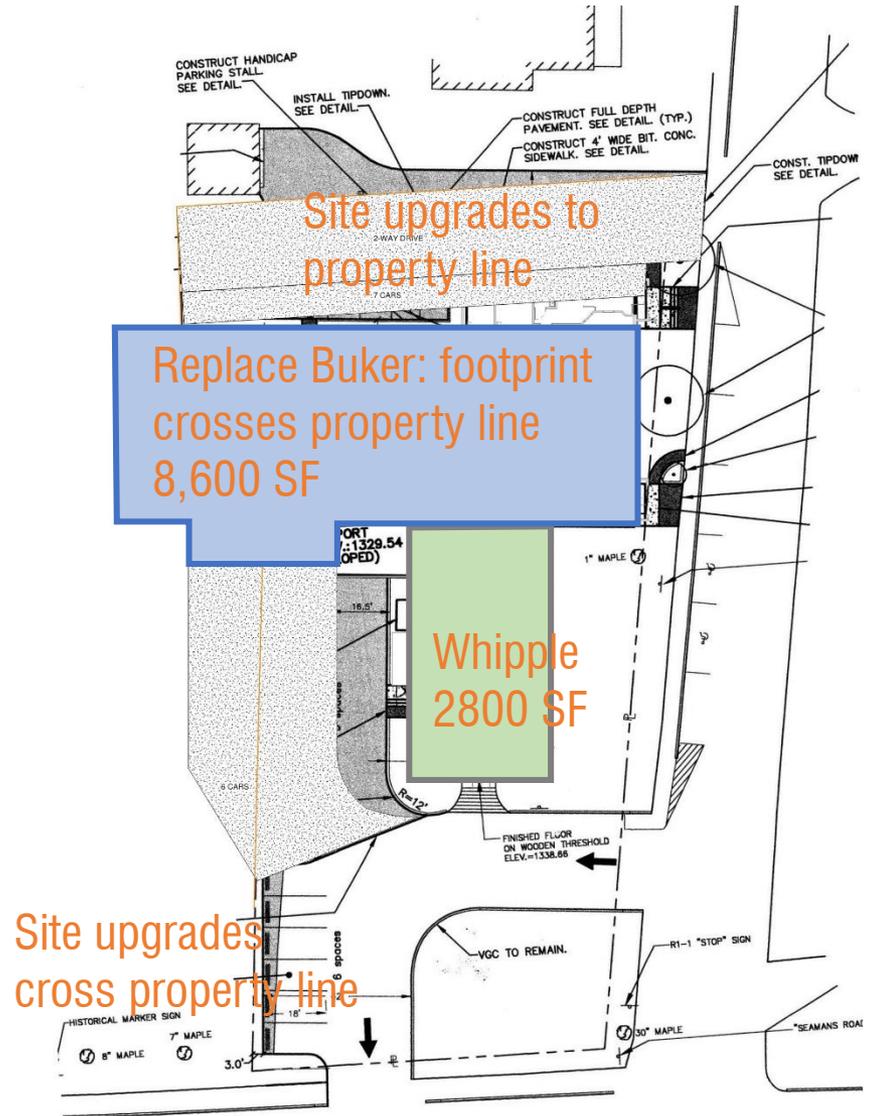
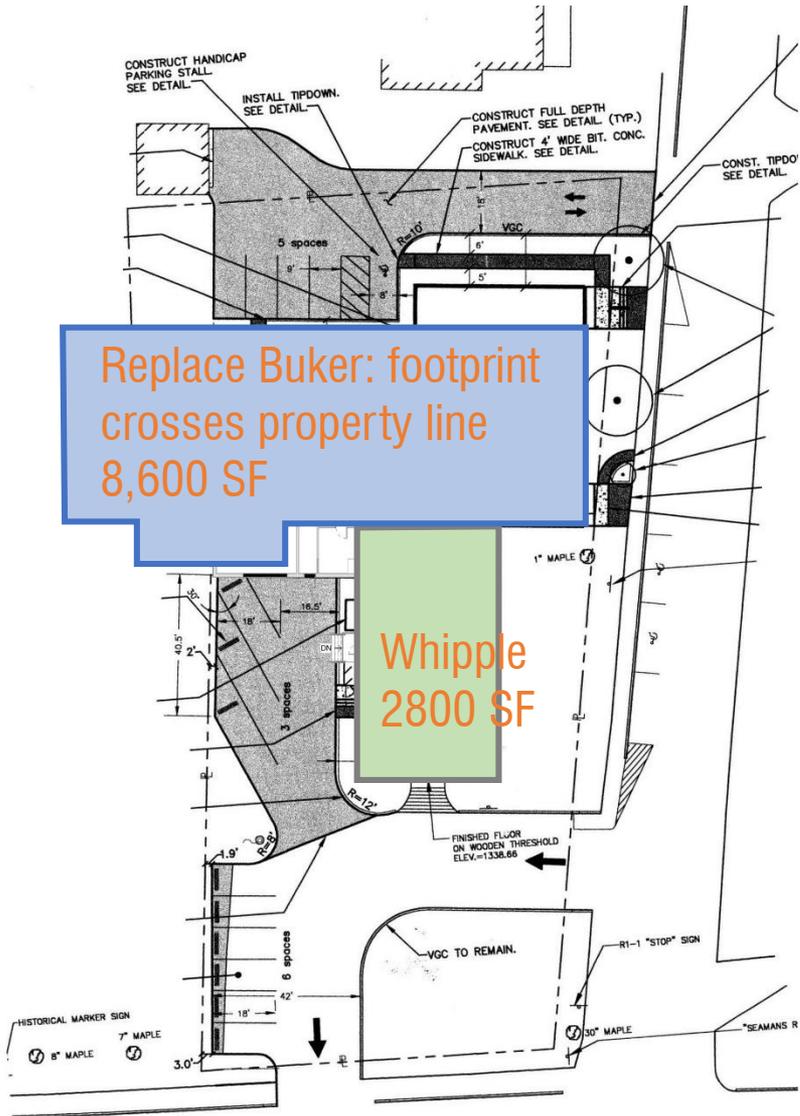
NEW LONDON, NH
ZONING SETBACK
SUMMARY HARRIMAN
AUGUST 2018 jn 18495



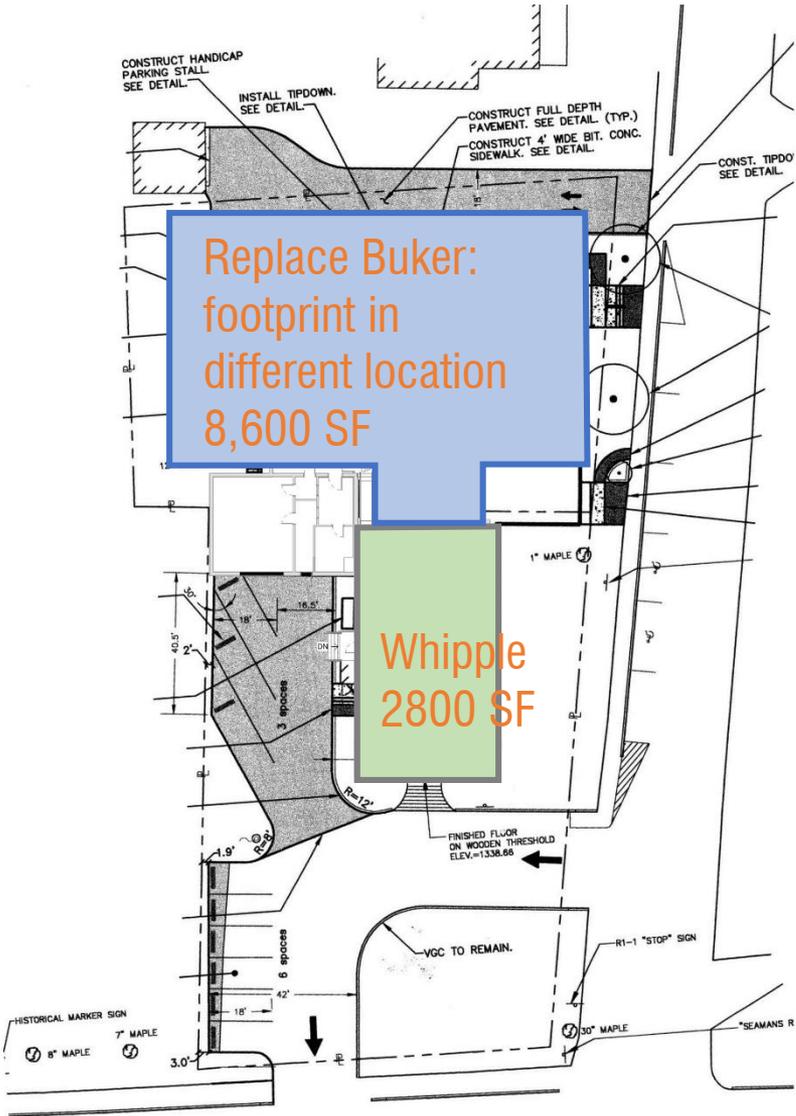
- LEGEND
- EXISTING SIGN
 - PROPERTY LINES
 - DECIDUOUS TREE
 - PROPOSED FULL DEPTH PAVEMENT
 - PROPOSED CONCRETE PAD/STAIRS
 - NC NOT IN CONTRACT



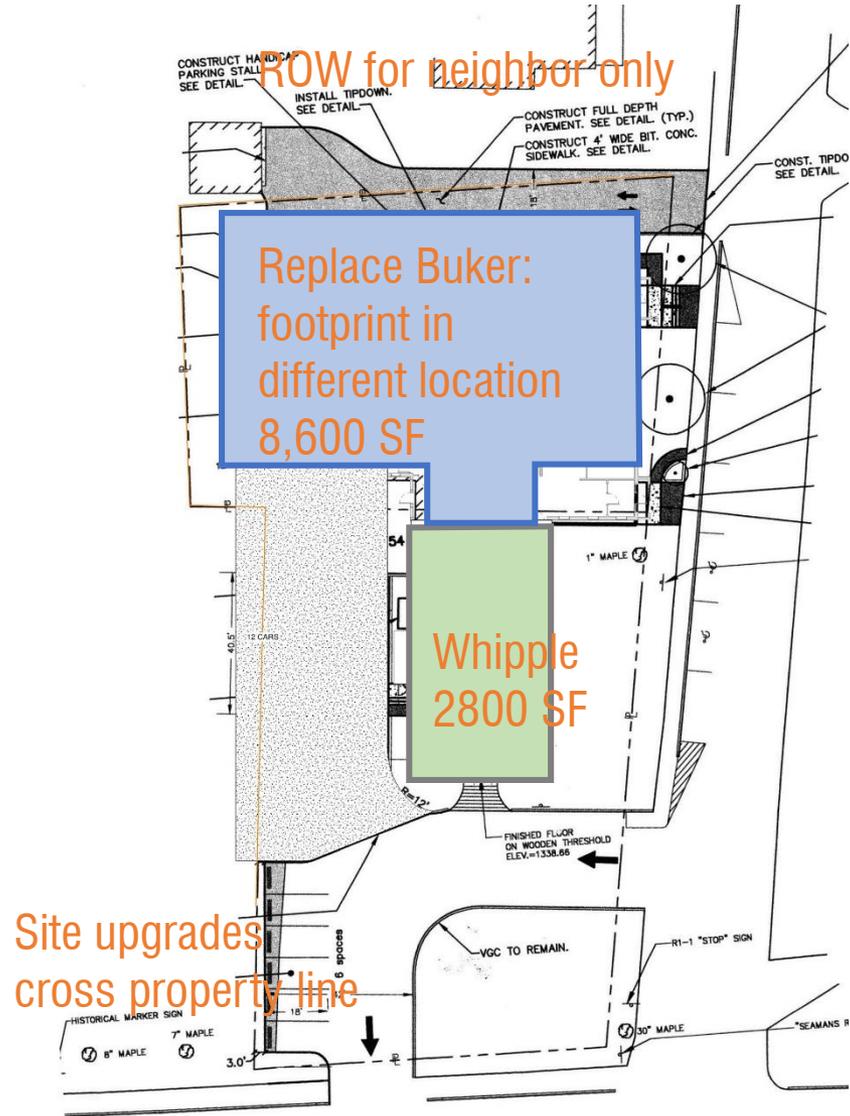
Preliminary Blocking Diagrams – Option 1



Preliminary Blocking Diagrams – Option 2

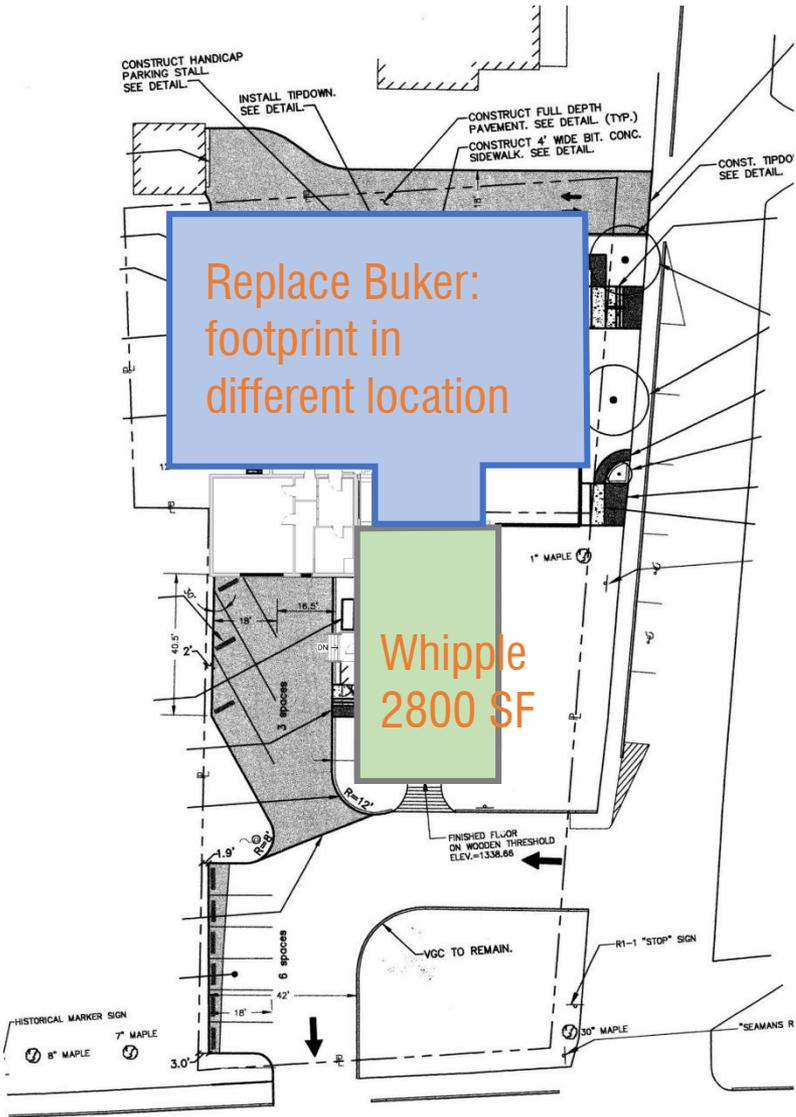


1 FIRST FLOOR PLAN
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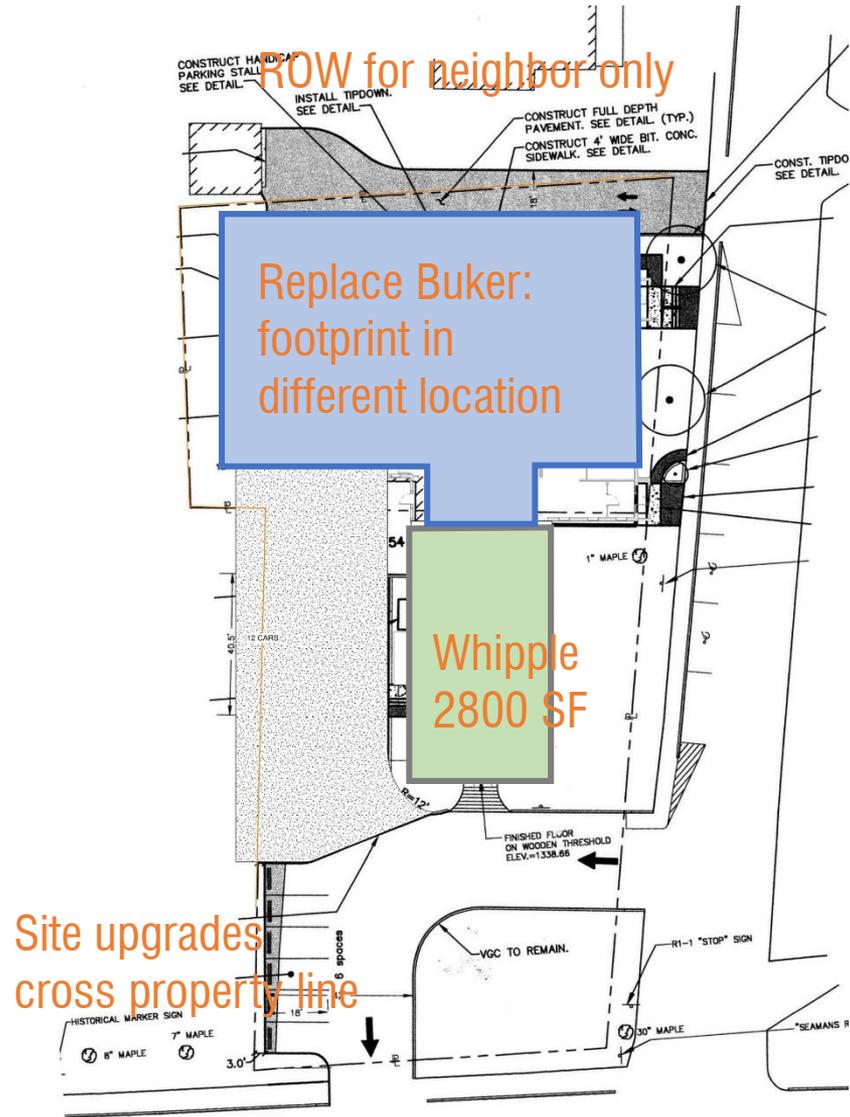


2 SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

Preliminary Blocking Diagrams – Option 3

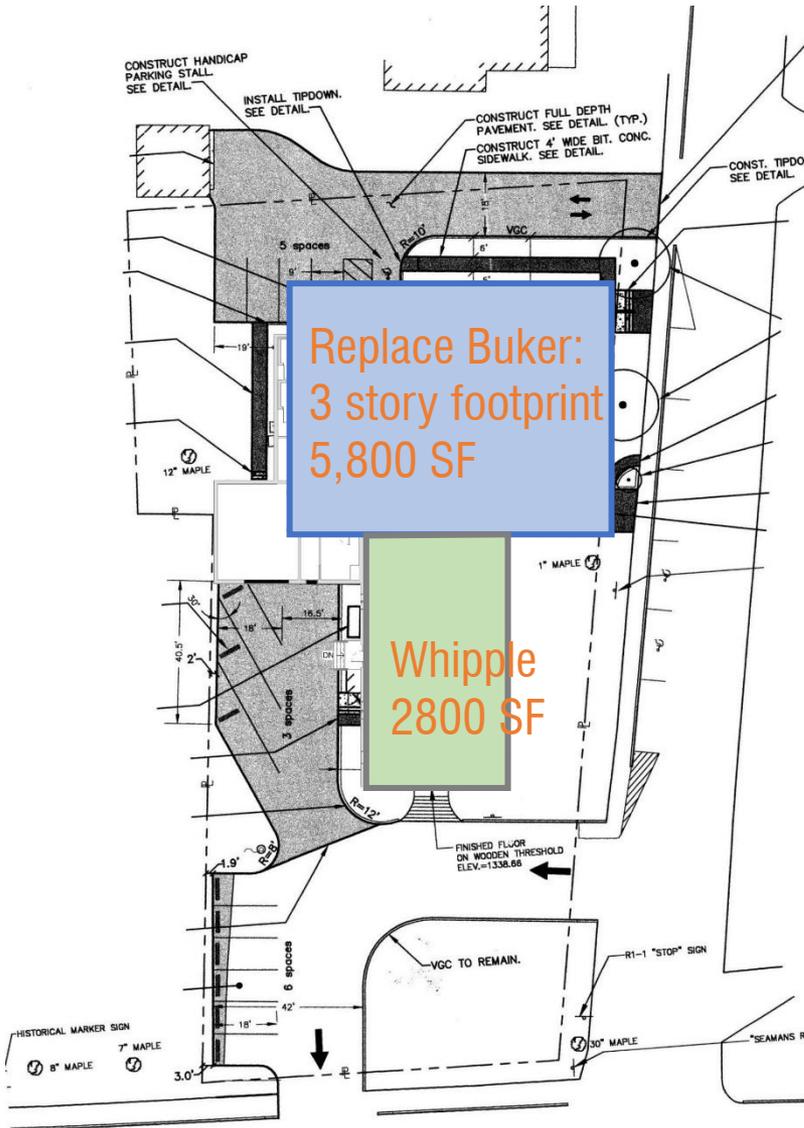


1 FIRST FLOOR PLAN
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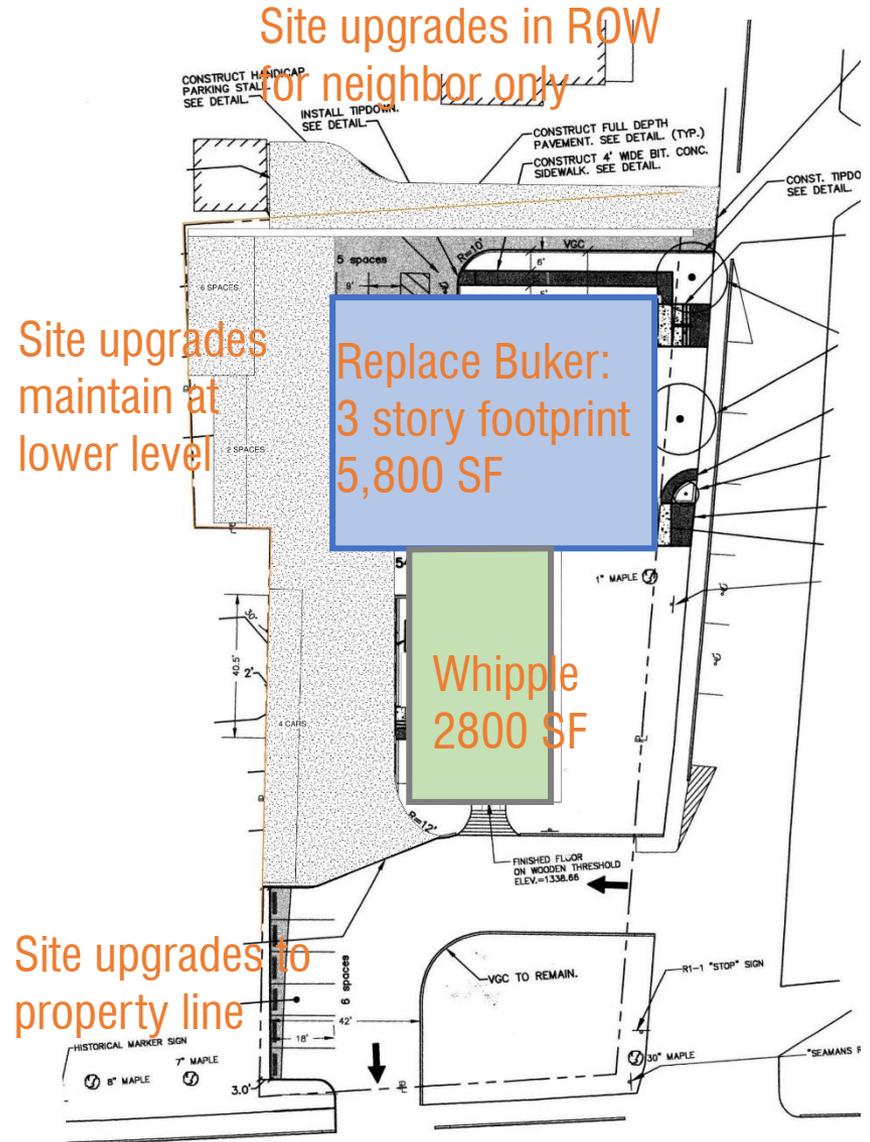


2 SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

Preliminary Blocking Diagrams



1 FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"



2 SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

Questions

