

AUGUST 27, 2015

VILLAGE FIRE DEPARTMENT FIRE STATION No. 1

FEASIBILITY STUDY





DESIRED FACILITIES

Building Design program

8/27/2015

	PROGRAM NEED	RECOMMENDED FLOOR AREA (square feet)	NUMBER OF ROOMS	APPROX. DIMENSIONS (feet)	OCCUPANTS	FUNCTION	ADJACENCY	SPECIAL REQUIREMENTS / NOTES
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PUBLIC	Entry / Lobby	168	1	12	14	4	Reception for guests	Public Restrooms	Articulated
	Treatment Room	75	1	7.5	10	0	Area to treat patients	Apparatus Bay and Lobby	If space allows
	Public Handicap Restroom	128	2	8	8	1	Handicap accessible restroom for guests	Lobby	ADA

SUB-TOTAL	371
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ADMINISTRATION	Office	224	1	14	16	2	Private office area for administrative staff	Lobby	Phone, data, storage, desk, office chair, window into lobby
	Work Room	96	1	8	12	Varies	Copy room and storage	Offices	Upper and lower cabinets
	Storage	90	1	9	10	1	General extra storage	Offices	Adjustable shelves
	Training Room	736	1	23	32	25	Classroom/lecture space for training presentations	Main corridor	Table and chairs, projector screen, television, connected storage
	Training Storage	80	1	8	10	0	Storage for the training room, tables, chairs, training material	Training room	Adjustable shelving
	Dispatch	279	1	15.5	18	1	Office space for dispatch employee		Break area with table and chairs, mini fridge, storage
	Dispatch Restroom	46	1	7	6.5	1	Private restroom for dispatch employee	Dispatch	Toilet, vanity
	Dispatch Server Closet	46	1	7	6.5	0	Space for housing 911 equipment	Dispatch	
	IT/Communications Room	80	1	8	10	0	House communications, ATS, MDP, and electrical equipment		Server, Data, & Phone Panels on opposite walls with UPS in the middle.
	Electrical Room	84	1	7	12	0	Room to store electrical equipment		
	Fire Marshal's Office	192	1	12	16	1	Office space	Main Corridor, closest to entrance	Phone, data, storage with gun locker, plan review area, security, table and chairs
	Watch Office	144	1	12	12	3	Shared office space to write reports	Apparatus bay	Large wrap around desk, upper shelving, data, phone, computers, office chairs
	Chief's Suite	451	1	20.5	22	1	Office space, private bathroom, sleeping quarters	Main Corridor	Phone, data, storage, small conference table, attached private bath
	Battalion Chief's Suite	360	1	18	20	1	Office space, sleeping quarters	Main corridor	Phone, data, storage, bed, lockers, desk, office chair

SUB-TOTAL	3,387
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SEMI-PRIVATE	Kitchen/Dining/Pantry	800	1	25	32	10 to 13	Kitchen, eating area, food storage	Main Corridor	Pantry, fridge, commercial stove, preparation space, table for 13
	Day Room	768	1	24	32	10 to 13	Entertainment & gathering space	Main corridor; semi-adjacent to Dining and Kitchen	Provide space for 13 Lounge Chairs; Built-In Wall Storage, Phone & Cable Outlets, Ceiling Fans.
	Weight Room	576	1	24	24	10	Workout & exercise room	Main Corridor	Rubber floor; TV monitors; Over-Sized Wall Mirrors
	Quartermaster	400	1	16	25	1	Office and Storage	Apparatus Bay	
	Utility Room	101	1	14	7.5	Varies	Laundry & clean up	Main Corridor	Washer, dryer, utility sink, cabinets and shelving

SUB-TOTAL	2,645
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PRIVATE	Captains' Offices	633	1	23	27.5	2	Office space, sleeping quarters, bathroom for the Captains to share	Shared Suite	Phone, data, shared bathroom attached
	Shared Bedroom (2)	1,006	5	12	17.5	1	Private sleeping quarter for the firefighters	Bathrooms	Bed, lockers, data, phone
	Private Bathroom	510	5	12	8.5	1	Bathroom	Bedrooms	Shower, vanity, toilet, ADA

SUB-TOTAL	2,148.8
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TRAINING	Tower	280	1	14	20	Varies	Training tower	Apparatus Bay	
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SUB-TOTAL	280
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VILLAGE FIRE DEPARTMENT

APPARATUS	Apparatus Bays	6,880	4	17.2	100	Varies	Garage for 3 ambulances, 2 engines, 1 ladder, 1 chief vehicle, 1 utility truck, 1 fire marshal vehicle	Support Spaces	Access from two air locks, exhaust fans
	EMS Storage	162	1	9	18	0	Storage	Apparatus Bay	Counter, storage cabinets, double lockable door, small refrigerator
	Decontamination Room	80	1	8	10	1	Spray off and hanging area for Gear	Apparatus Bay	Sink, metal shelving, floor drain for drying area with hanging rod, storage for biohazard
	Shop	126	1	9	14	0	Compressor and hose storage	Apparatus Bay	Upper and lower cabinets
	Generator Room	230	1	11.5	20	0	Separate space for housing generator	Apparatus Bay	Exterior wall
	Biohazard Room	35	1	7	5	0	Separate storage for bio hazardous material	Apparatus Bay	
	Bunker Room	374	1	17	22	Varies	Gear Storage	Apparatus Bay	Exhaust Fan, 20"x20" gear lockers, non-fluorescent lighting, extractor
	SCBA Room	108	1	9	12	0	Fill station and storage	Apparatus Bay	Near outside wall to ventilate
	Mechanical	180	1	10	18	0	Houses mechanical equipment	Apparatus Bay	
	Fire Sprinkler Tree Room	24	1	4	6	0	Space to house the fire sprinkler tree	Apparatus Bay	
	Lawn Equipment Storage	80	1	10	8	0	Storage for lawn equipment	Apparatus Bay	Outside access

SUB-TOTAL 8,279

SUB-TOTAL LIVING 8,832

Corridors (25% of living quarters) 2,208

SUB-TOTAL AUXILIARY 8,279

SUB-TOTAL NET SF 19,319

WALL THICKNESS (5% of Sub-NET) 966

TOTAL FLOOR AREA 20,285

square feet

LOBBY

FUNCTION:

This area will serve as the main entrance and public waiting area for guests of the Fire Station.

EXISTING CONDITIONS:

Not an existing space, currently the public enters directly into the administration office.

PLANNED AREA:

168

DIFFERENCE FROM EXISTING:

Increase of 168 sf

OCCUPANCY TYPE:

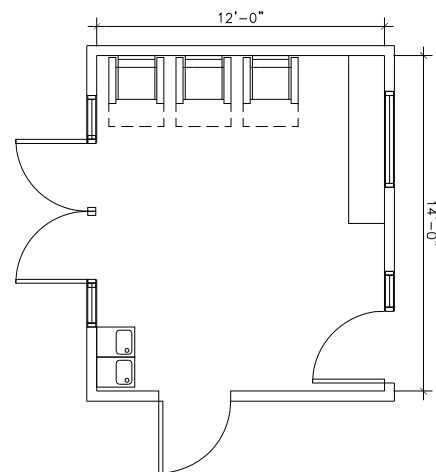
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NUMBER OF OCCUPANTS:

Varies

ADJACENCY:

Public Handicap Restroom, Reception Office



FINISHES

Floor: Ceramic Tile

Walls: Durable Finish-Such as Vinyl Wall Covering

Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (1) Data, (1) Voice

SPECIAL REQUIREMENTS:

Window to Reception Office

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Water Fountain

Display Cases

MOVEABLE EQUIPMENT/ FURNISHINGS:

(3) Guest Chairs

VILLAGE FIRE DEPARTMENT

TREATMENT ROOM

FUNCTION:

This area will serve as an area for treating walk in patients.

EXISTING CONDITIONS:

Not an existing space.

PLANNED AREA:

75

DIFFERENCE FROM EXISTING:

Increase of 75 sf

OCCUPANCY TYPE:

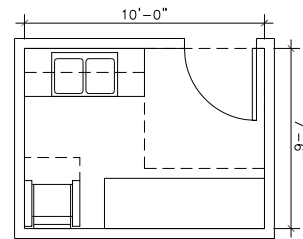
B

NUMBER OF OCCUPANTS:

Varies

ADJACENCY:

Apparatus Bay and Lobby



FINISHES

Floor: Sealed Concrete

Walls: Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Sink

Counter top

MOVEABLE EQUIPMENT/ FURNISHINGS:

(1) Patient chair

PUBLIC RESTROOM

FUNCTION:

This area will serve as unisex public restroom.

EXISTING CONDITIONS:

2 @ 25sf = 50sf (Does not meet ADA)

PLANNED AREA:

2 @ 64sf = 128 sf

DIFFERENCE FROM EXISTING:

Increase of 78 sf

OCCUPANCY TYPE:

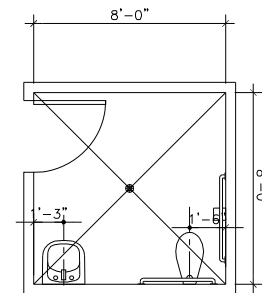
B

NUMBER OF OCCUPANTS:

1

ADJACENCY:

Lobby



FINISHES

Floor: Ceramic Tile

Walls: Ceramic Tile and Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(1) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

- (1) accessible lavatory
- (1) accessible water closet
- (1) Paper Towel Dispenser
- (1) Toilet Paper Rolls
- Waste Receptacles
- Grab Bars
- Mirror

VILLAGE FIRE DEPARTMENT

OFFICE

FUNCTION:

This area will serve as an designated office for administration and reception.

EXISTING CONDITIONS:

Existing office is 288 sf, however , it also currently doubles as the entry lobby

PLANNED AREA:

224 sf

DIFFERENCE FROM EXISTING:

Decrease of 64 sf

OCCUPANCY TYPE:

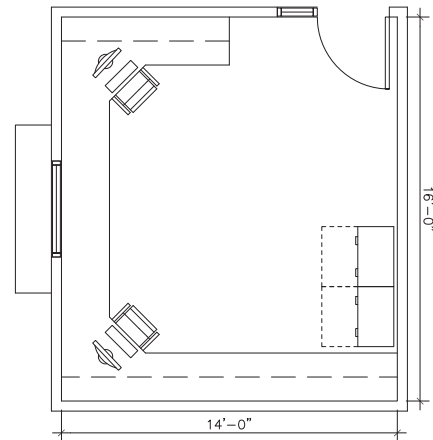
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NUMBER OF OCCUPANTS:

2

ADJACENCY:

Lobby



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(6) Duplex 120V, (2) Data, (2) Voice

SPECIAL REQUIREMENTS:

Phone and data outlets

Wireless capabilities

Reception window to lobby

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

(1) Desk

MOVEABLE EQUIPMENT/ FURNISHINGS:

(2) Office Chair

(2) Filing Cabinets

WORK ROOM

FUNCTION:

This area will serve as a work space and house copiers and fax machines.

EXISTING CONDITIONS:

Currently not an existing space

PLANNED AREA:

96 sf

DIFFERENCE FROM EXISTING:

Increase of 96 sf

OCCUPANCY TYPE:

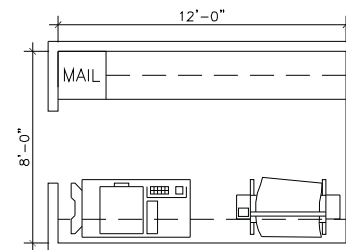
B

NUMBER OF OCCUPANTS:

Varies

ADJACENCY:

Offices & Apparatus Bay



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(10) Duplex 120V, (2) Data, (1) Voice

SPECIAL REQUIREMENTS:

Phone and data outlets

Wireless capabilities

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Upper and lower cabinets

MOVEABLE EQUIPMENT / FURNISHINGS:

Copier

Fax machine

Plotter

VILLAGE FIRE DEPARTMENT

STORAGE

FUNCTION:

This area will serve as a storage space for files and office supplies.

EXISTING CONDITIONS:

75 sf

PLANNED AREA:

90 sf

DIFFERENCE FROM EXISTING:

Increase of 15 sf

OCCUPANCY TYPE:

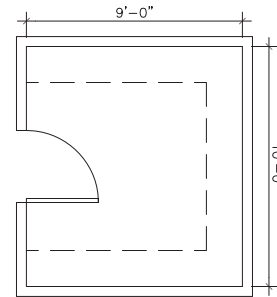
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NUMBER OF OCCUPANTS:

N/A

ADJACENCY:

Near Offices



FINISHES

Floor: Ceramic Tile

Walls: Drywall (Painted)

Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

MOVEABLE EQUIPMENT/ FURNISHINGS:

Adjustable shelves

TRAINING ROOM

FUNCTION:

This area will serve as a classroom and lecture space for training presentations.

EXISTING CONDITIONS:

Not an existing space

PLANNED AREA:

736 sf

DIFFERENCE FROM EXISTING:

Increase of 736 sf

OCCUPANCY TYPE:

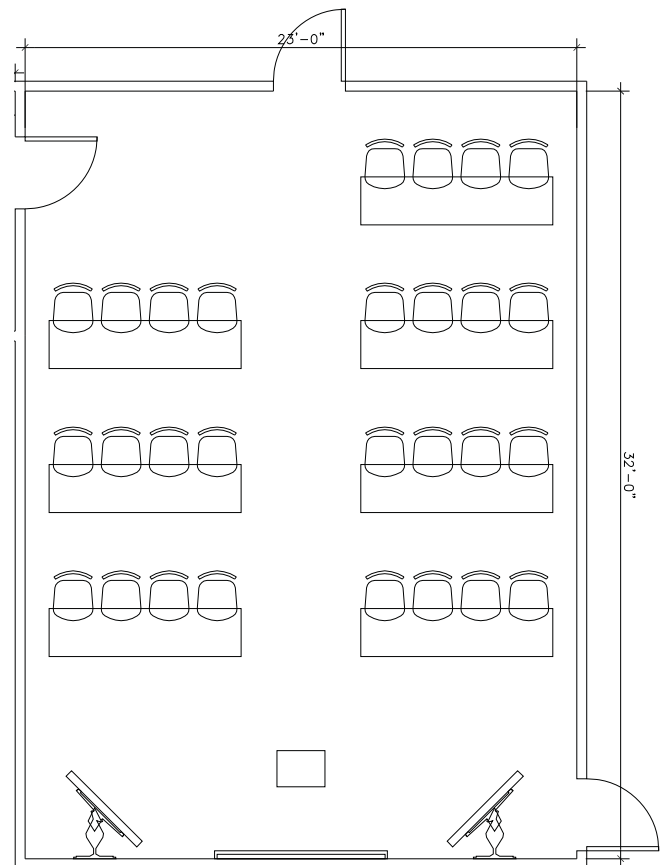
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NUMBER OF OCCUPANTS:

25

ADJACENCY:

Main Corridor



FINISHES

Floor: Carpet

Walls: Drywall (Unfinished)

Ceiling: Drywall (Unfinished)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(10) Duplex 120V, (4) Data, (4) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

(1) Marker Board

(1) Projection Screen

MOVEABLE EQUIPMENT/ FURNISHINGS:

(7) Tables

(28) Chairs

VILLAGE FIRE DEPARTMENT

TRAINING ROOM STORAGE

FUNCTION:

This area will serve as a general storage area for the training room.

EXISTING CONDITIONS:

51 sf located in conference room

PLANNED AREA:

80 sf

DIFFERENCE FROM EXISTING:

Increase of 29 sf

OCCUPANCY TYPE:

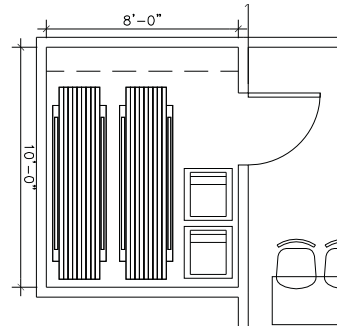
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NUMBER OF OCCUPANTS:

N/A

ADJACENCY:

Training Room



FINISHES

Floor: Ceramic Tile

Walls: Drywall (Painted)

Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(2) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

Racks for moveable tables and chairs

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Adjustable Shelving

MOVEABLE EQUIPMENT/ FURNISHINGS:

None

DISPATCH

FUNCTION:

This area will serve as office space for dispatch employees.

EXISTING CONDITIONS:

264 sf (Does not meet ADA)

PLANNED AREA:

279 sf

DIFFERENCE FROM EXISTING:

Increase of 15 sf

OCCUPANCY TYPE:

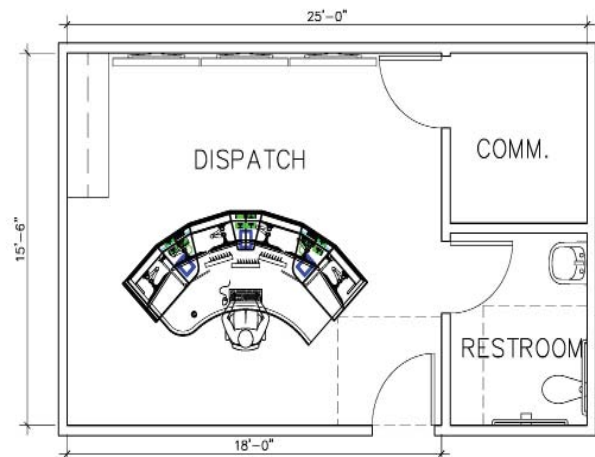
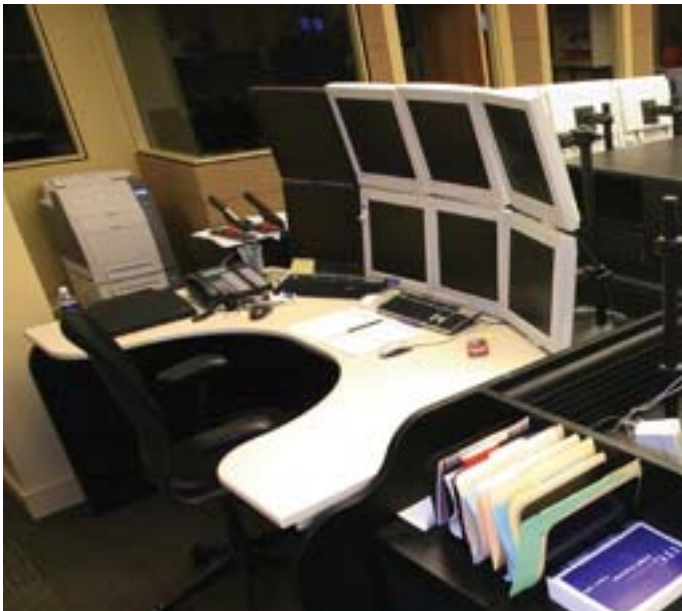
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NUMBER OF OCCUPANTS:

1

ADJACENCY:

2nd Floor



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(6) Duplex 120V, (6) Data, (2) Voice

SPECIAL REQUIREMENTS:

Raised Floor

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

(1) Deck

MOVEABLE EQUIPMENT / FURNISHINGS:

(1) Office Chair

(3) Wall Mounted Televisions

DISPATCH RESTROOM

FUNCTION:

This area is a self contained restroom for dispatch employees.

EXISTING CONDITIONS:

29 sf (Does not meet ADA)

PLANNED AREA:

46 sf

DIFFERENCE FROM EXISTING:

Increase of 17 sf

OCCUPANCY TYPE:

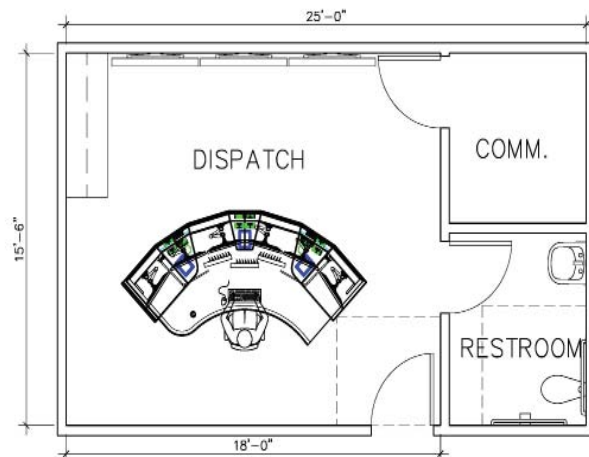
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NUMBER OF OCCUPANTS:

1

ADJACENCY:

Dispatch Room



FINISHES

Floor: Ceramic Tile

Walls: Ceramic Tile and Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(1) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

- (1) accessible lavatory
- (1) accessible water closet
- (1) Paper Towel Dispenser
- (1) Toilet Paper Rolls
- Waste Receptacles
- Grab Bars
- Mirror

DISPATCH SERVER ROOM

FUNCTION:

This area will serve as a storage space and communication room for 911 equipment

EXISTING CONDITIONS:

52 sf

PLANNED AREA:

46 sf

DIFFERENCE FROM EXISTING:

Decrease of 6 sf

OCCUPANCY TYPE:

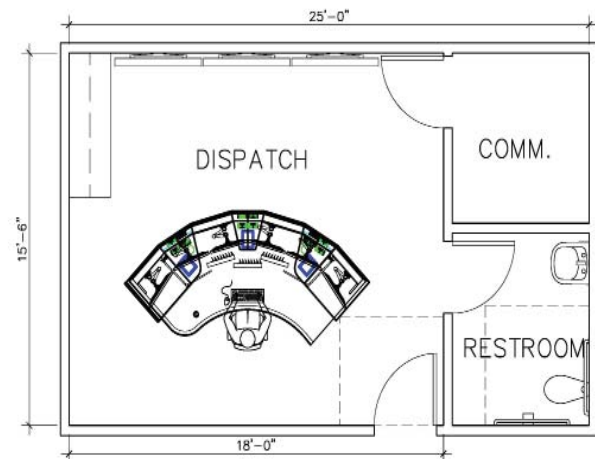
B

NUMBER OF OCCUPANTS:

1

ADJACENCY:

Centrally Located



FINISHES

Floor: Sealed Concrete

Walls: Drywall (Painted)

Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(6) Duplex 120V, (3) Data, (1) Voice

SPECIAL REQUIREMENTS:

Individual A/C System

Receptacles shall be Isolated Ground

Phone and data outlets

Wireless capabilities

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

(1) Server Racks

MOVEABLE EQUIPMENT/ FURNISHINGS:

None

VILLAGE FIRE DEPARTMENT

IT/COMMUNICATION ROOM

FUNCTION:

This area will serve as a storage space for radio equipment and server racks.

EXISTING CONDITIONS:

52 sf

PLANNED AREA:

80 sf

DIFFERENCE FROM EXISTING:

Increase of 28 sf

OCCUPANCY TYPE:

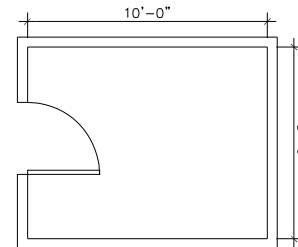
B

NUMBER OF OCCUPANTS:

1

ADJACENCY:

Centrally Located



FINISHES

Floor: Sealed Concrete

Walls: Drywall (Painted)

Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(6) Duplex 120V, (3) Data, (1) Voice

SPECIAL REQUIREMENTS:

Individual A/C System

Receptacles shall be Isolated Ground

Phone and data outlets

Wireless capabilities

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

(1) Server Racks

MOVEABLE EQUIPMENT/ FURNISHINGS:

None

ELECTRICAL ROOM

FUNCTION:

This area will serve as storage for electrical equipment.

EXISTING CONDITIONS:

Not an Existing space (shared with Mechanical)

PLANNED AREA:

84 sf

DIFFERENCE FROM EXISTING:

Increase of 84 sf

OCCUPANCY TYPE:

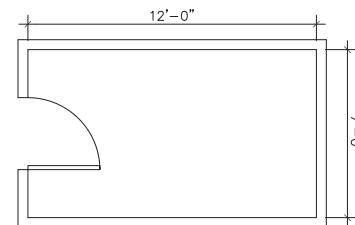
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NUMBER OF OCCUPANTS:

N/A

ADJACENCY:

Centrally Located



FINISHES

Floor: Sealed Concrete

Walls: Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (2) Data, (0) Voice

SPECIAL REQUIREMENTS:

Individual A/C System

Receptacles shall be Isolated Ground

Phone and data outlets

Wireless capabilities

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Electrical Panels

MOVEABLE EQUIPMENT/ FURNISHINGS:

None

VILLAGE FIRE DEPARTMENT

FIRE MARSHAL'S OFFICE

FUNCTION:

This area will serve as office space for the Fire Marshal.

EXISTING CONDITIONS:

255 sf

PLANNED AREA:

192 sf

DIFFERENCE FROM EXISTING:

Decrease of 63 sf

OCCUPANCY TYPE:

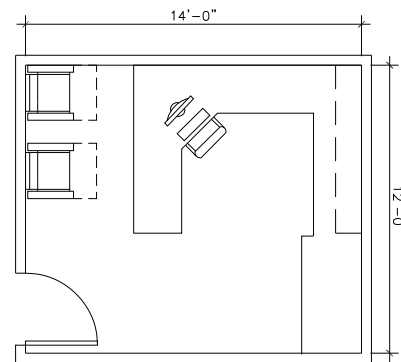
B

NUMBER OF OCCUPANTS:

1

ADJACENCY:

Other Administration Offices



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(6) Duplex 120V, (2) Data, (2) Voice

SPECIAL REQUIREMENTS:

Phone and data outlets

Wireless capabilities

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Built-in desk

MOVEABLE EQUIPMENT/ FURNISHINGS:

(1) Office Chair

(2) Guest chairs

WATCH OFFICE

FUNCTION:

This area will serve as a report writing room for EMS staff.

EXISTING CONDITIONS:

Not an Existing space

PLANNED AREA:

144 sf

DIFFERENCE FROM EXISTING:

Increase of 144 sf

OCCUPANCY TYPE:

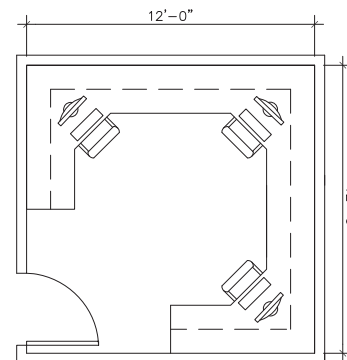
B

NUMBER OF OCCUPANTS:

3

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(5) Duplex 120V, (5) Data, (2) Voice

SPECIAL REQUIREMENTS:

Phone and data outlets

Wireless capabilities

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Built-in desk

MOVEABLE EQUIPMENT / FURNISHINGS:

(3) Office Chairs

CHIEF'S SUITE

FUNCTION:

This space serves as office space, sleeping quarters, and a private bathroom for the Chief.

EXISTING CONDITIONS:

232 sf (Currently does not have sleeping accommodations)

PLANNED AREA:

451 sf

DIFFERENCE FROM EXISTING:

Increase of 219 sf

OCCUPANCY TYPE:

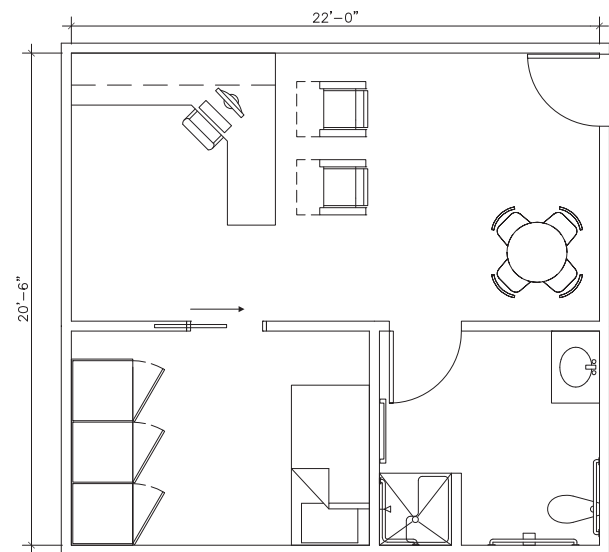
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NUMBER OF OCCUPANTS:

1

ADJACENCY:

Other Administration Offices



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Acoustic Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(3) Duplex 120V, (2) Data, (1) Voice

SPECIAL REQUIREMENTS:

Phone and data outlets

Wireless capabilities

Ceiling Fan

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Wardrobe Closet

Shower, lavatory, toilet, grab bars

Built-in desk

MOVEABLE EQUIPMENT / FURNISHINGS:

(1) Bed

(1) Desk Chair

(1) Table and (4) four chairs

(2) Guest Chairs

BATTALION CHIEF'S SUITE

FUNCTION:

This space serves as office space and sleeping quarter for the Battalion Chief.

EXISTING CONDITIONS:

194 sf

PLANNED AREA:

360 sf

DIFFERENCE FROM EXISTING:

Increase of 166 sf

OCCUPANCY TYPE:

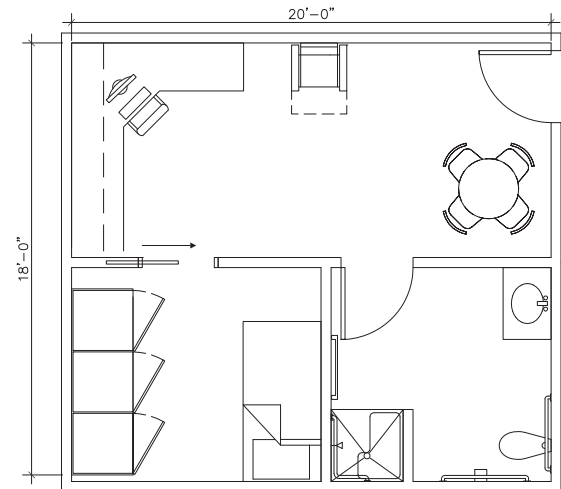
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NUMBER OF OCCUPANTS:

1

ADJACENCY:

Off of the main corridor



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Acoustic Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(2) Duplex 120V, (2) Data, (1) Voice

SPECIAL REQUIREMENTS:

Phone and data outlets

Wireless capabilities

Ceiling Fan

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

3 Wardrobe Closet

Shower, lavatory, toilet, grab bars

Built-in desk

MOVEABLE EQUIPMENT/ FURNISHINGS:

(1) Bed

(1) Desk Chair

(1) Guest Chairs

(1) Table and (4) four chairs

VILLAGE FIRE DEPARTMENT

CONFERENCE ROOM

FUNCTION:

This area will serve gathering space for meetings.

EXISTING CONDITIONS:

390

PLANNED AREA:

336 sf

DIFFERENCE FROM EXISTING:

Decrease of 54 sf

OCCUPANCY TYPE:

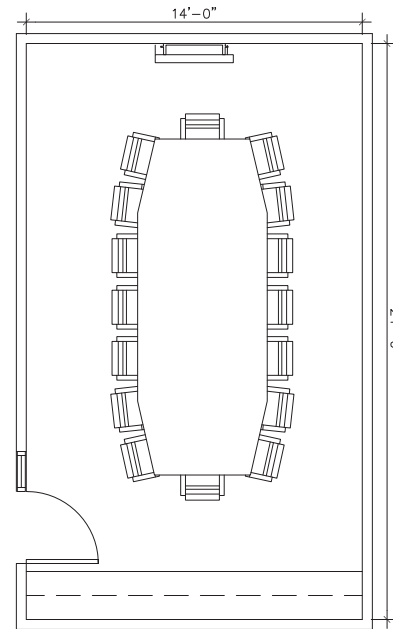
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NUMBER OF OCCUPANTS:

Varies but up to 16 comfortably at the table

ADJACENCY:

Other Administration Offices



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Acoustic Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (4) Data, (1) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Upper and lower cabinets

MOVEABLE EQUIPMENT/ FURNISHINGS:

(1) Conference table

(16) Chairs

(1) Wall Mounted Televisions

BREAK ROOM

FUNCTION:

This area will serve as a break room for the firefighters and administrative staff.

EXISTING CONDITIONS:

Not and Existing Space

PLANNED AREA:

144 sf

DIFFERENCE FROM EXISTING:

Increase of 144 sf

OCCUPANCY TYPE:

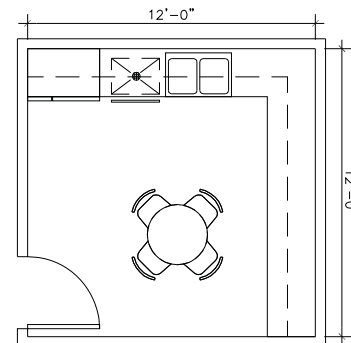
B

NUMBER OF OCCUPANTS:

Varies

ADJACENCY:

Administration Offices and Apparatus Bay



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (1) Data, (1) Voice

SPECIAL REQUIREMENTS:

Meet ADA Standards

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Upper and lower cabinets

Sink

Refrigerator

Microwave

MOVEABLE EQUIPMENT/ FURNISHINGS:

(1) Table

(4) Chairs

VILLAGE FIRE DEPARTMENT

KITCHEN/PANTRY/DINING/DAY ROOM

FUNCTION:

This area will serve as a cooking, eating, and relaxation area for all fire personnel.

EXISTING CONDITIONS:

938 sf

PLANNED AREA:

1,568

DIFFERENCE FROM EXISTING:

Increase of 630 sf

OCCUPANCY TYPE:

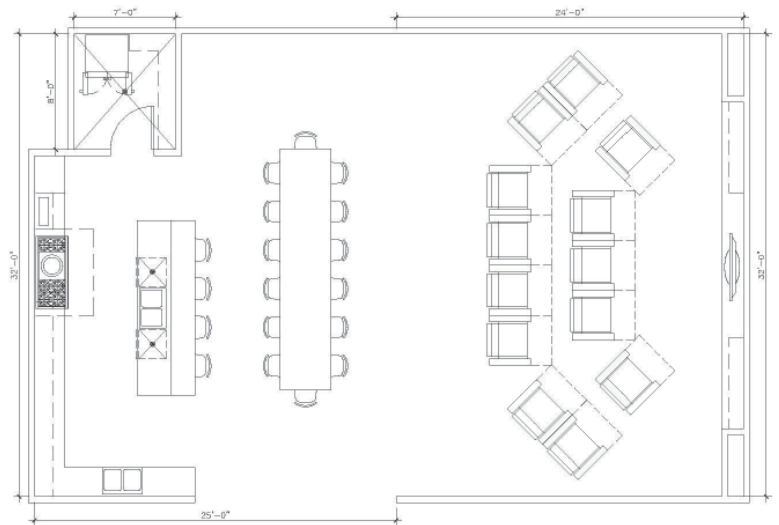
R-2

NUMBER OF OCCUPANTS:

10-13

ADJACENCY:

Centrally Located



FINISHES

Floor: Ceramic Tile and Carpet

Walls: Drywall (Painted)

Ceiling: Drywall (Painted) and Acoustic Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(6) Duplex 120V, (2) Data, (2) Voice

SPECIAL REQUIREMENTS:

1 Pantry

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Commercial Range and Hood

(2) Sinks

Microwave

Refrigerator

Cabinet Storage (Accessible)

MOVEABLE EQUIPMENT/ FURNISHINGS:

Table and Chairs (for 10)

10 Recliners

(1) Wall Mounted Televisions

WEIGHT ROOM

FUNCTION:

This area will serve as a fitness room for the Fire Department.

EXISTING CONDITIONS:

263 sf

PLANNED AREA:

576 sf

DIFFERENCE FROM EXISTING:

Increase of 313 sf

OCCUPANCY TYPE:

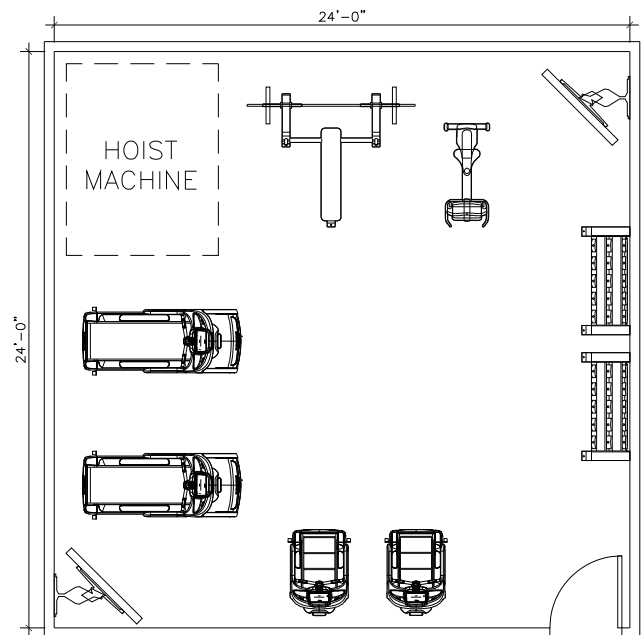
R-2

NUMBER OF OCCUPANTS:

Varies - approximately 10

ADJACENCY:

Off of the main corridor.



FINISHES

Floor: 9mm Rubber Floor

Walls: Drywall (Painted)

Ceiling: Acoustical Tiles

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(10) Duplex 120V, (1) Data, (1) Voice
Numerous Wall and Floor Outlets

SPECIAL REQUIREMENTS:

Ceiling Fans

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Mirrors

Water Fountains

MOVEABLE EQUIPMENT / FURNISHINGS:

(2) Treadmills

(1) Stationary Bike

(2) Step machine

(1) Adjustable Benches

(2) Dumbbell Rack

(2) Wall Mounted Televisions

VILLAGE FIRE DEPARTMENT

UTILITY ROOM

FUNCTION:

This area will serve as utility and storage for janitorial equipment.

EXISTING CONDITIONS:

52 sf

PLANNED AREA:

84 sf

DIFFERENCE FROM EXISTING:

Increase of 32 sf

OCCUPANCY TYPE:

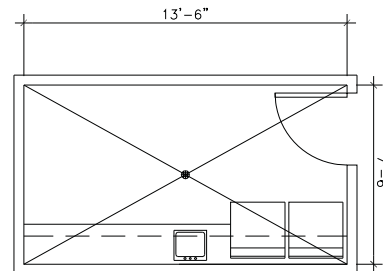
R-2

NUMBER OF OCCUPANTS:

None

ADJACENCY:

Centrally Located



FINISHES

Floor: Sealed Concrete

Walls: Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(1) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

(1) Mop Sink

Adjustable shelving

Equipment Hooks

MOVEABLE EQUIPMENT/ FURNISHINGS:

Washer

Dryer

QUARTERMASTER

FUNCTION:

This area will function as office space and storage for the quartermaster.

EXISTING CONDITIONS:

Not an existing space

PLANNED AREA:

400 sf

DIFFERENCE FROM EXISTING:

Increase of 400 sf

OCCUPANCY TYPE:

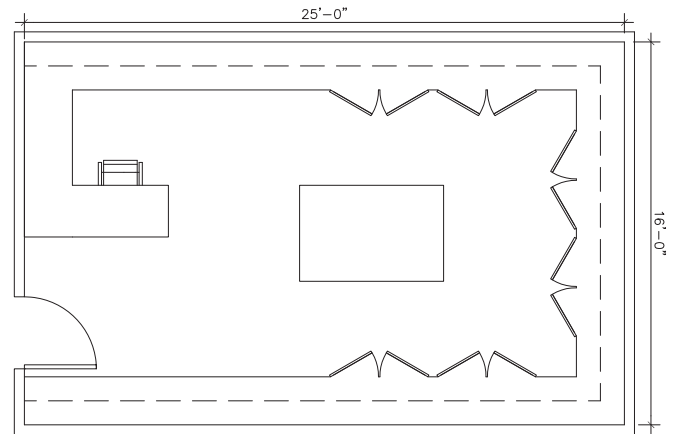
B

NUMBER OF OCCUPANTS:

1

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Sealed Concrete

Walls: Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (1) Data, (1) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Wardrobe

Shelving

Cabinets

Built-in desk

MOVEABLE EQUIPMENT/ FURNISHINGS:

(1) Office chair

VILLAGE FIRE DEPARTMENT

CAPTAIN'S OFFICES AND SHARED SUITE

FUNCTION:

This space serves as office space and sleeping quarter for the Captains with a shared bathroom attached.

EXISTING CONDITIONS:

115 sf + 184 sf = 299

(Does not include shower room)

PLANNED AREA:

633

DIFFERENCE FROM EXISTING:

Increase of 334 sf

OCCUPANCY TYPE:

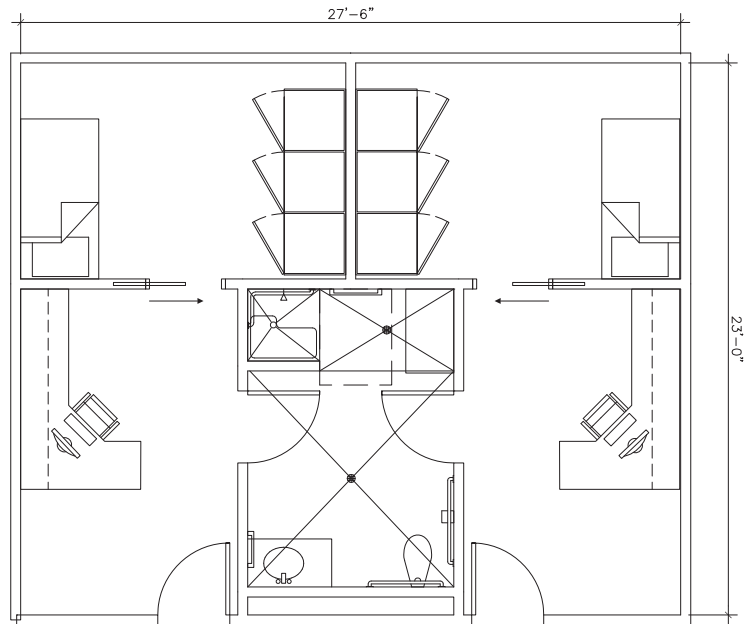
B

NUMBER OF OCCUPANTS:

2

ADJACENCY:

Off of the main corridor



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Acoustic Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(2) Duplex 120V, (1) Data, (1) Voice per office

SPECIAL REQUIREMENTS:

Phone and data outlets

Wireless capabilities

Ceiling Fan

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

3 Wardrobe Closets per room

Built-in desk(1) accessible lavatory

(1) accessible water closet

(1) Paper Towel Dispenser

(1) Toilet Paper Rolls

Waste Receptacles

Grab Bars

Mirror

Shower

MOVEABLE EQUIPMENT/ FURNISHINGS:

(2) Bed

(2) Desk Chair

SHARED BEDROOM (2)

FUNCTION:

This area will function as shared sleeping quarters for the firefighters.

EXISTING CONDITIONS:

2 Dorm rooms = 694 sf

PLANNED AREA:

201 each x 5 = 1,005 sf

DIFFERENCE FROM EXISTING:

Increase of 311 sf

OCCUPANCY TYPE:

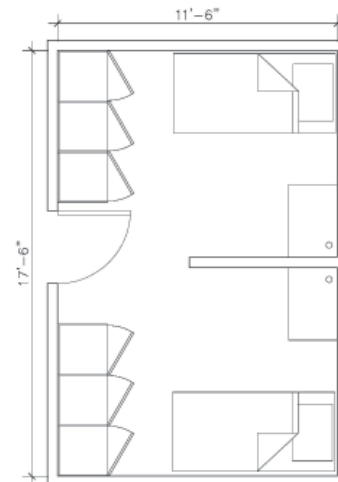
R-2

NUMBER OF OCCUPANTS:

2 each

ADJACENCY:

Bathrooms, off of the main corridor



FINISHES

Floor: Carpet

Walls: Drywall (Painted)

Ceiling: Acoustic Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (2) Data, (2) Voice

SPECIAL REQUIREMENTS:

Phone and data outlets

Wireless capabilities

Ceiling Fan

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

6 Wardrobe Closets per room

Built-in desk

MOVEABLE EQUIPMENT/ FURNISHINGS:

(2) Bed

(2) Desk Chair

VILLAGE FIRE DEPARTMENT

PRIVATE BATHROOM

FUNCTION:

This area will serve as an individual bathroom and shower room.

EXISTING CONDITIONS:

464 sf
(shared locker room)

PLANNED AREA:

108 each x 5 = 540 sf

DIFFERENCE FROM EXISTING:

Increase of 76 sf



FINISHES

Floor: Ceramic Tile

Walls: Ceramic Tile and Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(1) Duplex 120V, (0) Data, (0) Voice

OCCUPANCY TYPE:

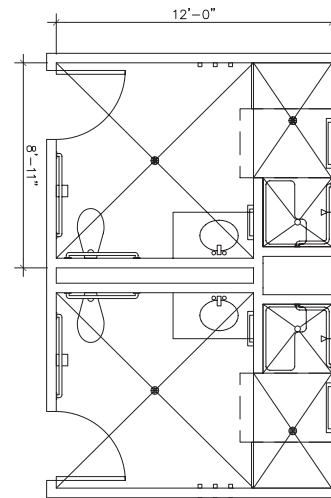
R-2

NUMBER OF OCCUPANTS:

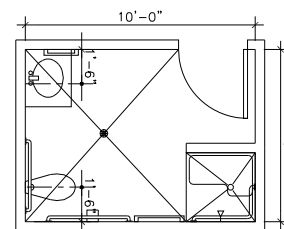
1

ADJACENCY:

Bedrooms



OR



SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

- (1) accessible lavatory
- (1) accessible water closet
- (1) Paper Towel Dispenser
- (1) Toilet Paper Rolls
- Waste Receptacles
- Grab Bars
- Mirror
- Shower

APPARATUS BAY

FUNCTION:

This area will serve as storage for Apparatus.

EXISTING CONDITIONS:

4,159 sf

PLANNED AREA:

6,867 sf

DIFFERENCE FROM EXISTING:

Increase of 2,708 sf

OCCUPANCY TYPE:

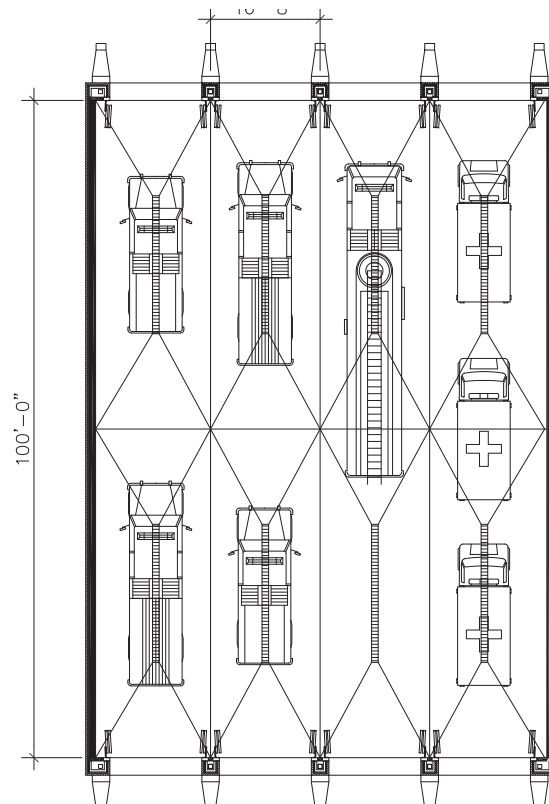
S-2

NUMBER OF OCCUPANTS:

Varies

ADJACENCY:

Centrally Located



FINISHES

Floor: Polished Concrete (non-slip)

Walls: CMU (Epoxy Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (2) Data, (2) Voice

(6) 30 Amp Cord Reels with Kusmel Ejectors

SPECIAL REQUIREMENTS:

Mechanical Wall-Mount Exhaust Fans

Trench Drains

(8) Sectional Doors

VEHICLES:

3 ambulances

2 engines

1 ladder

1 chief vehicle

1 utility truck

1 fire marshal vehicle

EMS STORAGE

FUNCTION:

This area will serve as storage space for EMS

EXISTING CONDITIONS:

96 sf
(shared locker room)

PLANNED AREA:

162 sf

DIFFERENCE FROM EXISTING:

Increase of 66 sf

OCCUPANCY TYPE:

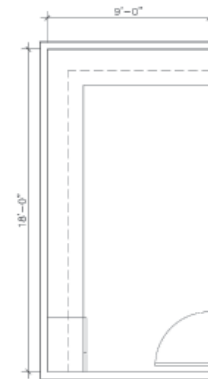
S-2

NUMBER OF OCCUPANTS:

1

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Sealed Concrete
Walls: Drywall (Painted)
Ceiling: Acoustical Tile

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(2) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Adjustable metal shelving

MOVEABLE EQUIPMENT/ FURNISHINGS:

Mini Refrigerator

DECONTAMINATION ROOM

FUNCTION:

This area will serve as a wash room for contaminated materials.

EXISTING CONDITIONS:

Not an existing space

PLANNED AREA:

80 sf

DIFFERENCE FROM EXISTING:

Increase of 2,708 sf

OCCUPANCY TYPE:

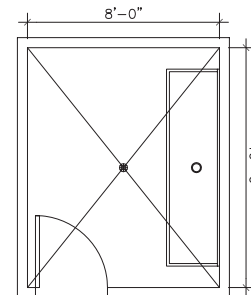
S-2

NUMBER OF OCCUPANTS:

1

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Sealed Concrete

Walls: CMU (Epoxy Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(1) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

Floor Drain

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

8' Long Utility Sink for washing backboards.

Adjustable metal shelving

MOVEABLE EQUIPMENT/ FURNISHINGS:

None

VILLAGE FIRE DEPARTMENT

SHOP

FUNCTION:

This area will serve as a shop and storage for vehicle maintenance equipment and vehicle oil.

EXISTING CONDITIONS:

161 sf

PLANNED AREA:

126 sf

DIFFERENCE FROM EXISTING:

Decrease of 35 sf

OCCUPANCY TYPE:

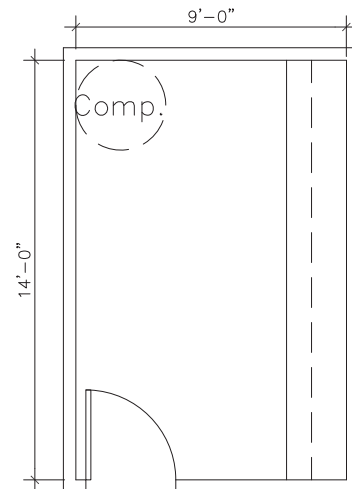
S-2

NUMBER OF OCCUPANTS:

1

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Sealed Concrete

Walls: CMU (Epoxy Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (1) Data, (1) Voice

SPECIAL REQUIREMENTS:

Unconditioned space

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Durable Counter top

Built in storage shelving

MOVEABLE EQUIPMENT/ FURNISHINGS:

None

GENERATOR ROOM

FUNCTION:

This area will serve as a separate storage area for the generator.

EXISTING CONDITIONS:

108 sf
(shared with Biohazard)

PLANNED AREA:

230 sf

DIFFERENCE FROM EXISTING:

Increase of 122 sf

OCCUPANCY TYPE:

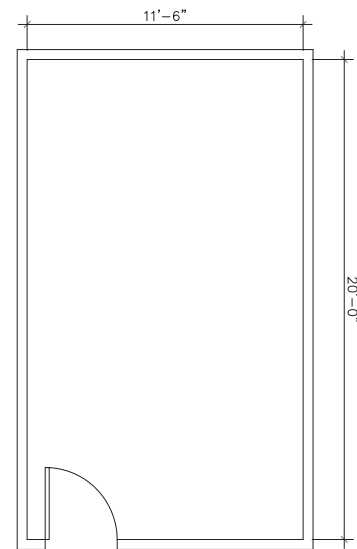
S-2

NUMBER OF OCCUPANTS:

None

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Sealed Concrete
Walls: Drywall (Painted)
Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

Exterior wall

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Generator

MOVEABLE EQUIPMENT/ FURNISHINGS:

None

VILLAGE FIRE DEPARTMENT

BIOHAZARD ROOM

FUNCTION:

This area will serve as storage for hazardous materials,.

EXISTING CONDITIONS:

Not an existing space (shared with Generator)

PLANNED AREA:

35 sf

DIFFERENCE FROM EXISTING:

Increase of 35sf

OCCUPANCY TYPE:

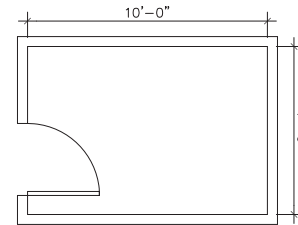
S-2

NUMBER OF OCCUPANTS:

None

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Sealed Concrete

Walls: Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(1) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

None

MOVEABLE EQUIPMENT/ FURNISHINGS:

None

TURNOUT ROOM

FUNCTION:

This area will serve as turnout gear storage.

EXISTING CONDITIONS:

153 sf
(shared with Biohazard)

PLANNED AREA:

374 sf

DIFFERENCE FROM EXISTING:

Increase of 221 sf

OCCUPANCY TYPE:

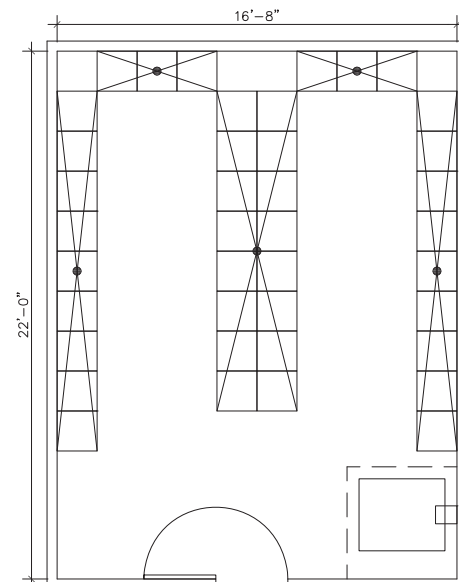
S-2

NUMBER OF OCCUPANTS:

Varies

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Sealed Concrete
Walls: Drywall (Painted)
Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

Lockers for 40

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Work Bench
Adjustable shelving

MOVEABLE EQUIPMENT / FURNISHINGS:

None

VILLAGE FIRE DEPARTMENT

S.C.B.A.

FUNCTION:

This area will house the SCBA compressor and serve as a repair shop for breathing equipment.

EXISTING CONDITIONS:

64 SF

PLANNED AREA:

108 sf

DIFFERENCE FROM EXISTING:

Increase of 44 sf

OCCUPANCY TYPE:

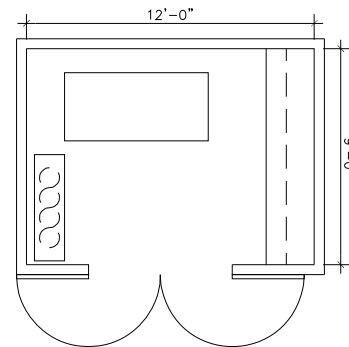
S-2

NUMBER OF OCCUPANTS:

1

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Sealed Concrete

Walls: Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

Exterior wall

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Work Bench

Adjustable shelving

SCBA Equipment

MOVEABLE EQUIPMENT/ FURNISHINGS:

None

MECHANICAL

FUNCTION:

This area will serve as storage for mechanical equipment..

EXISTING CONDITIONS:

174 sf
(shared with Electrical)

PLANNED AREA:

180 sf

DIFFERENCE FROM EXISTING:

Increase of 6 sf

OCCUPANCY TYPE:

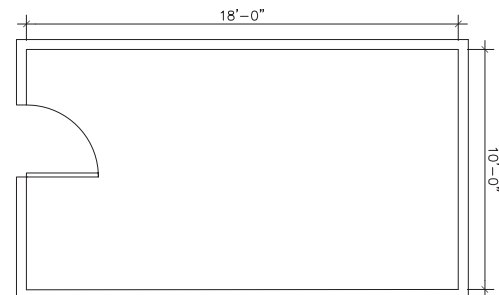
S-2

NUMBER OF OCCUPANTS:

N/A

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Sealed Concrete
Walls: Drywall (Painted)
Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

MOVEABLE EQUIPMENT / FURNISHINGS:

None

VILLAGE FIRE DEPARTMENT

FIRE SPRINKLER TREE ROOM

FUNCTION:

This area will serve as a space for the Fire Sprinkler Tree.

EXISTING CONDITIONS:

Not an existing space

PLANNED AREA:

24 sf

DIFFERENCE FROM EXISTING:

Increase of 24 sf

OCCUPANCY TYPE:

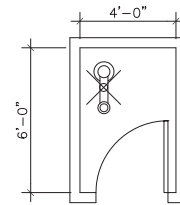
S-2

NUMBER OF OCCUPANTS:

1

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Seal Concrete

Walls: Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

None

NON-MOVEABLE EQUIPMENT / FURNISHINGS:

Fire Sprinkler Tree

MOVEABLE EQUIPMENT/ FURNISHINGS:

None

LAWN EQUIPMENT STORAGE

FUNCTION:

This area will serve as a storage space for lawn equipment.

EXISTING CONDITIONS:

54 sf

PLANNED AREA:

26 sf

DIFFERENCE FROM EXISTING:

Increase of 6 sf

OCCUPANCY TYPE:

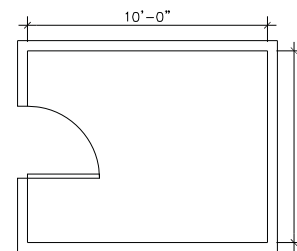
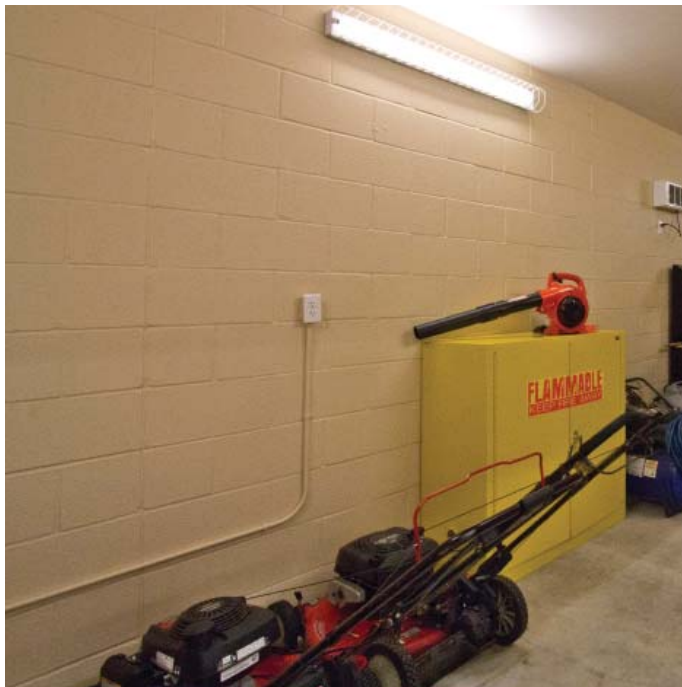
S-2

NUMBER OF OCCUPANTS:

N/A

ADJACENCY:

Apparatus Bay



FINISHES

Floor: Sealed Concrete

Walls: Drywall (Painted)

Ceiling: Drywall (Painted)

LIGHTING:

Non-glare Fluorescent Lighting

ELECTRICAL/DATA:

(4) Duplex 120V, (0) Data, (0) Voice

SPECIAL REQUIREMENTS:

None

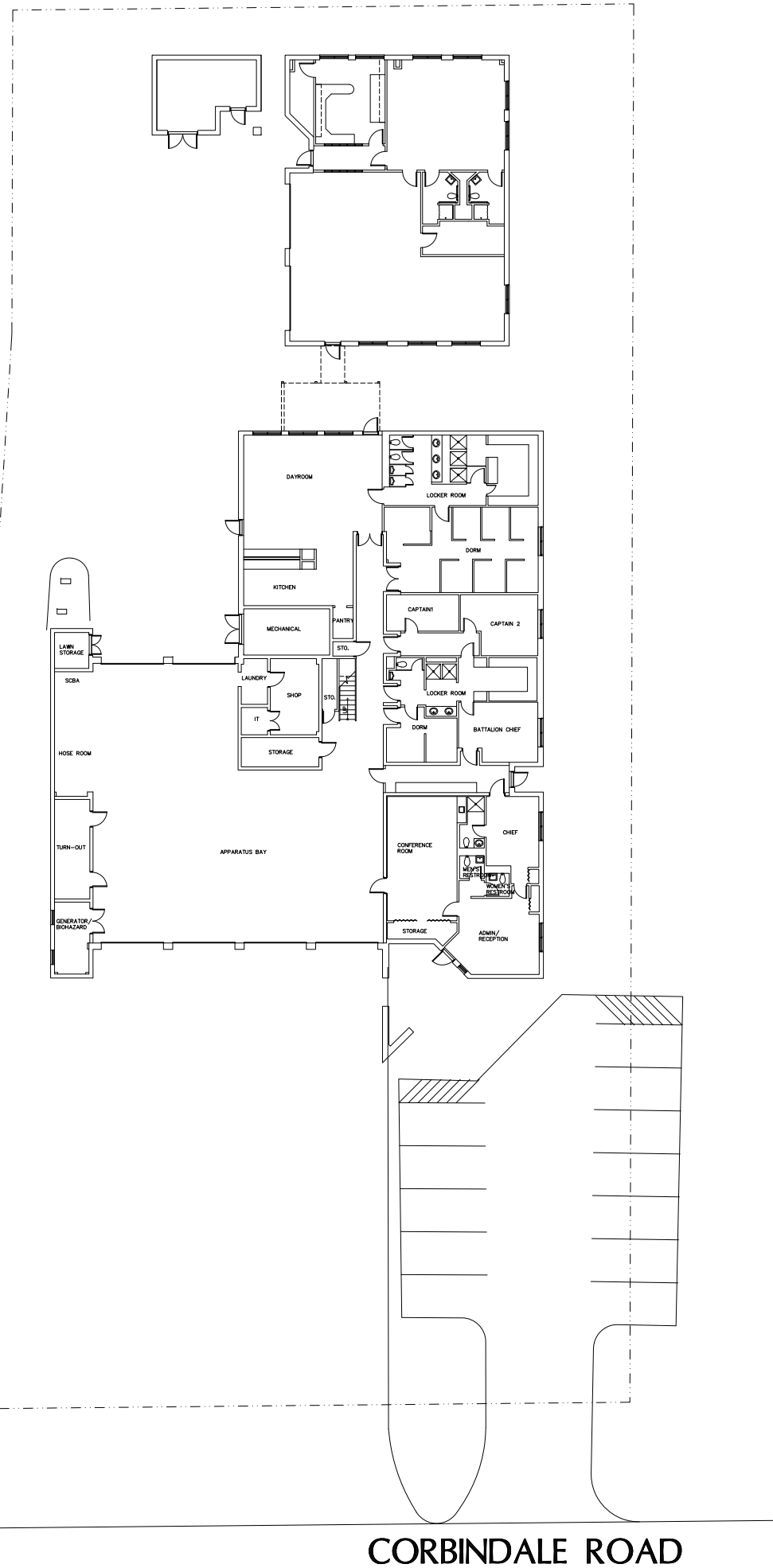
NON-MOVEABLE EQUIPMENT / FURNISHINGS:

None

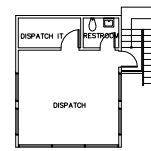
MOVEABLE EQUIPMENT/ FURNISHINGS:

EXISTING CONDITIONS

FIRST FLOOR & SITE PLAN



SECOND FLOOR



TOTAL SQUARE FOOTAGE:	
MAIN BUILDING:	9,545
BACK BUILDING:	<u>2,815</u>
TOTAL:	12,359 SF



EXISTING

SCALE: 1/32" = 1'-0"

2015 AUGUST 27

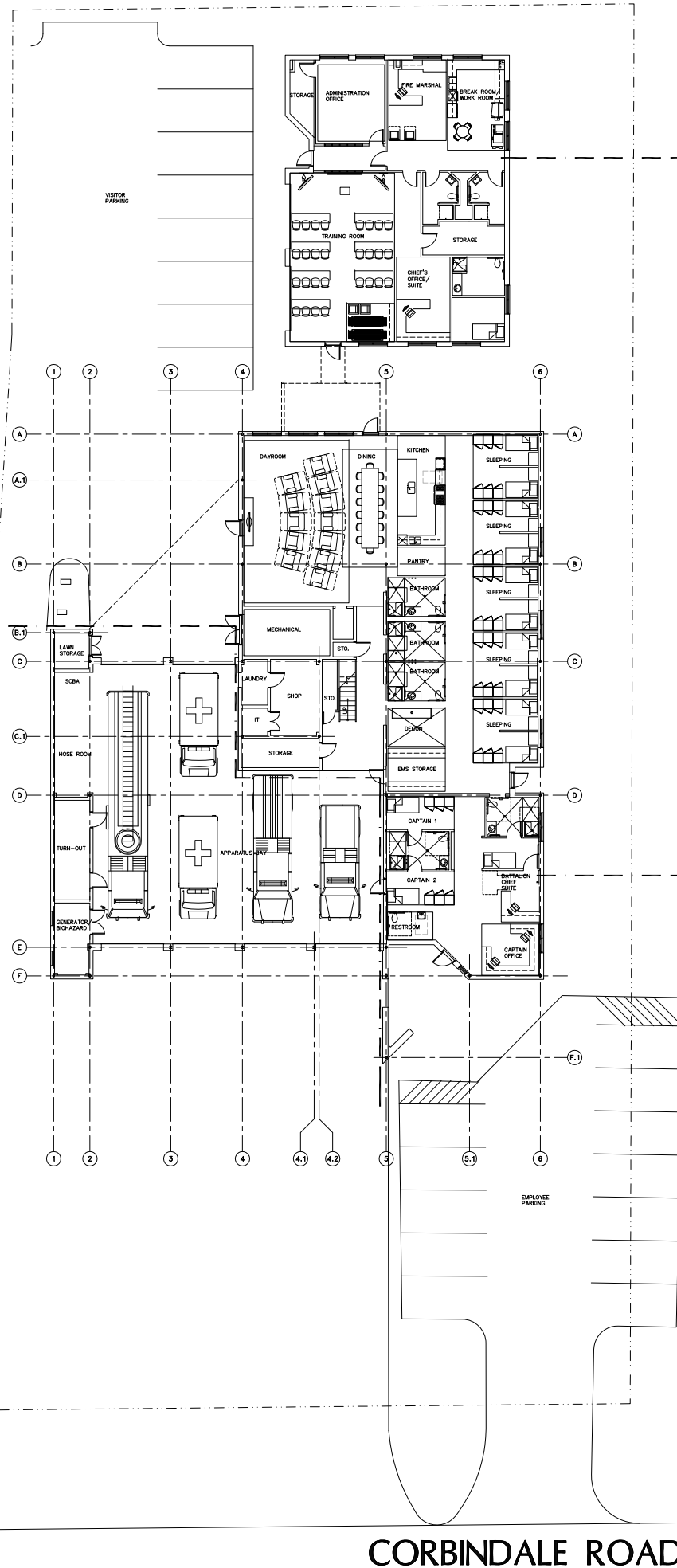
FEASIBILITY
STUDY
NOT FOR REGULATORY
APPROVAL, PERMITTING,
OR CONSTRUCTION
MARK WATFORD
TX REG. NO. 9241

VILLAGE FIRE DEPARTMENT
FIRE STATION No. 1

RENOVATION OF
EXISTING FACILITIES ONLY

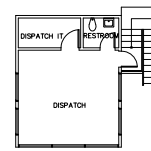
FIRST FLOOR & SITE PLAN

MINOR RENOVATIONS TO
APPARATUS BAY & SUPPORT AREAS:
3,651 SF X \$150 = \$547,650



MAJOR RENOVATIONS:
2,815 SF X \$250 = \$703,750

SECOND FLOOR



MAJOR RENOVATIONS TO
LIVING & OFFICE AREAS:
5,895 SF X \$250 = \$1,473,750

AREAS NOT INCLUDED DUE TO LACK OF
EXISTING SPACE:

- RESERVE APPARATUS
- CONFERENCE ROOM
- QUARTER MASTER
- TREATMENT ROOM
- WEIGHT ROOM
- WATCH OFFICE
- QA. 2 BATHROOMS

NOTE: MAINTAINED USE OF EXISTING
SPACES
BUT ARE CURRENTLY UNDERSIZED

FOR USE:

- GENERATOR STORAGE/ BIOHAZARD
ROOM
- DISPATCH
- TURNOUT GEAR ROOM
- UTILITY ROOM
- IT ROOM

TOTAL SQUARE FOOTAGE:	
MAIN BUILDING:	9,545
BACK BUILDING:	2,815
TOTAL:	12,359 SF

TOTAL APPROXIMATE COST: \$2,725,150



OPTION A
SCALE: 1/32" = 1'-0"
2015 AUGUST 27

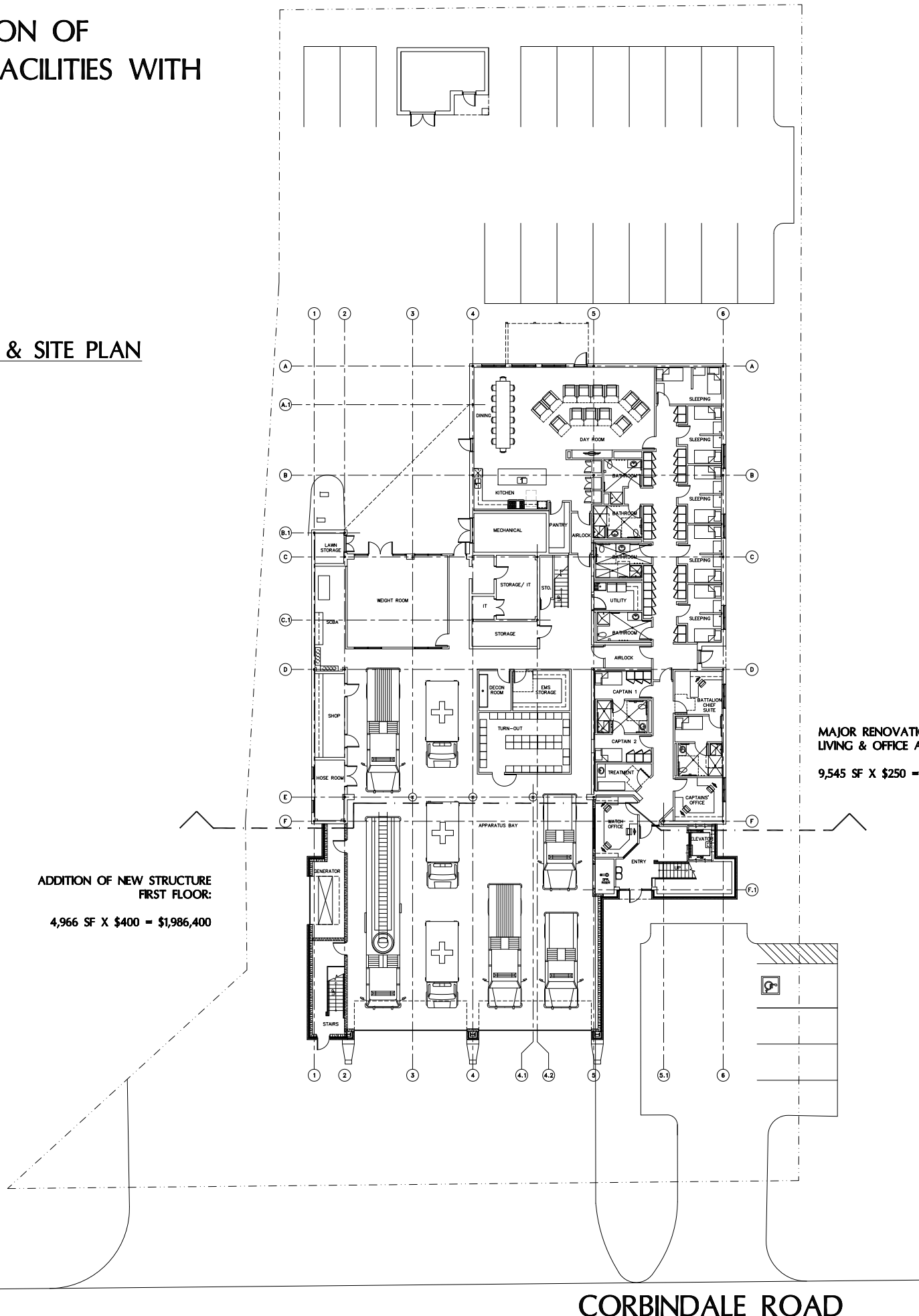
FEASIBILITY
STUDY
NOT FOR REGULATORY
APPROVAL, PERMITTING,
OR CONSTRUCTION
MARK WATFORD
TX REG. NO. 9241

VILLAGE FIRE DEPARTMENT
FIRE STATION No. 1

CORBINDALE ROAD

RENOVATION OF
EXISTING FACILITIES WITH
ADDITION

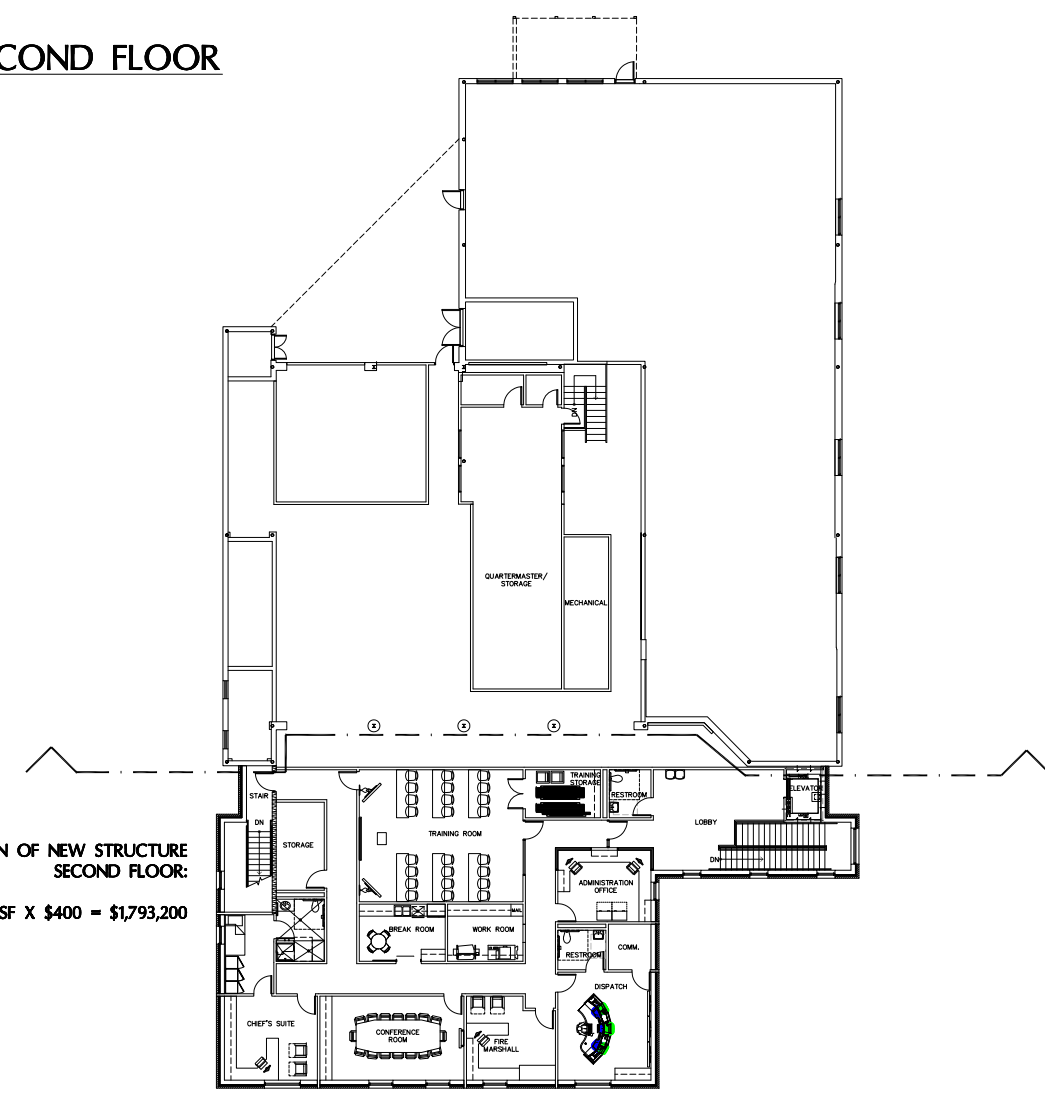
FIRST FLOOR & SITE PLAN



ADDITION OF NEW STRUCTURE
FIRST FLOOR:
4,966 SF X \$400 = \$1,986,400

MAJOR RENOVATIONS TO
LIVING & OFFICE AREAS:
9,545 SF X \$250 = \$2,386,250

SECOND FLOOR



ADDITION OF NEW STRUCTURE
SECOND FLOOR:
4,483 SF X \$400 = \$1,793,200

TOTAL SQUARE FOOTAGE:	
FIRST FLOOR (RENOVATION):	9,545
FIRST FLOOR (NEW):	4,966
SECOND FLOOR (NEW):	4,483
TOTAL:	18,994 SF

TOTAL APPROXIMATE COST: \$6,165,850



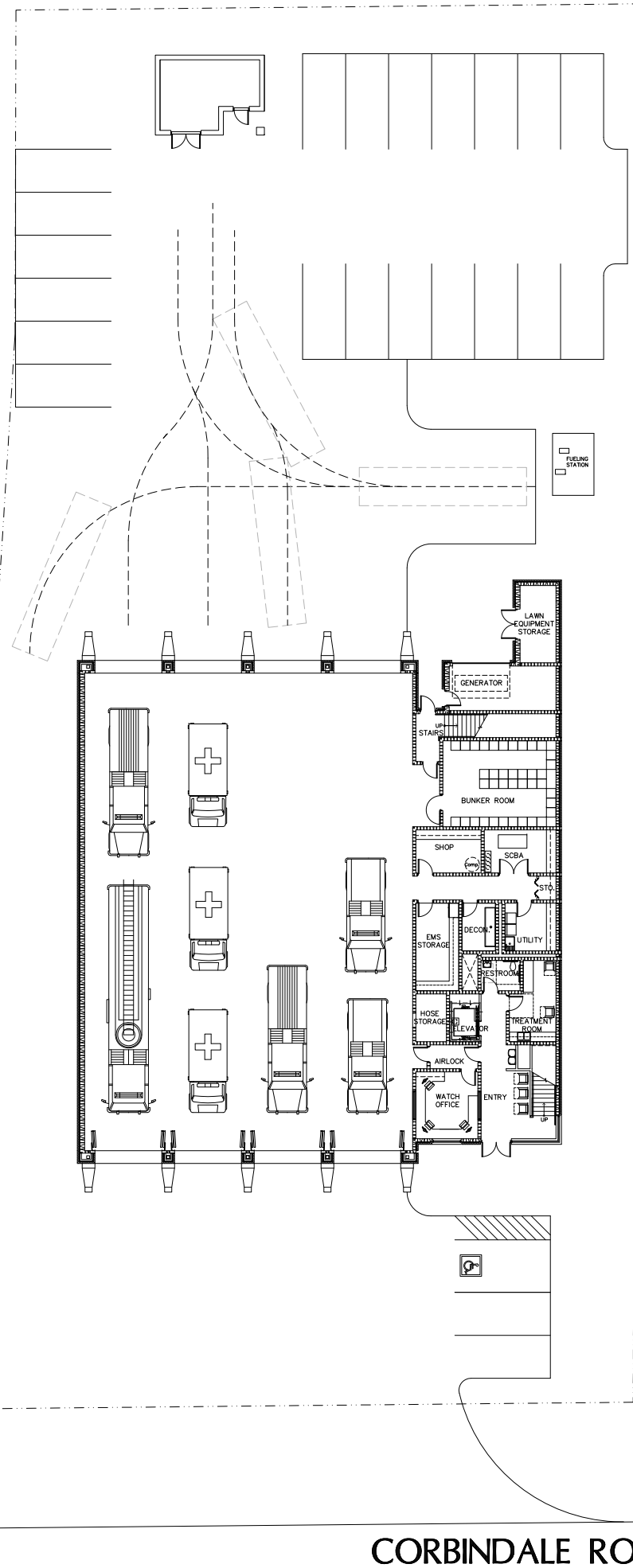
OPTION B
SCALE: 1/32" = 1'-0"
2015 AUGUST 27

FEASIBILITY
STUDY
NOT FOR REGULATORY
APPROVAL, PERMITTING,
OR CONSTRUCTION
MARK WATFORD
TX REG. NO. 9241

VILLAGE FIRE DEPARTMENT
FIRE STATION No. 1

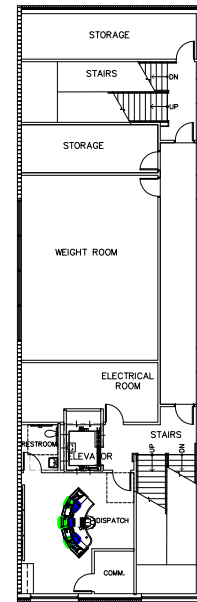
NEW STATION

FIRST FLOOR & SITE PLAN

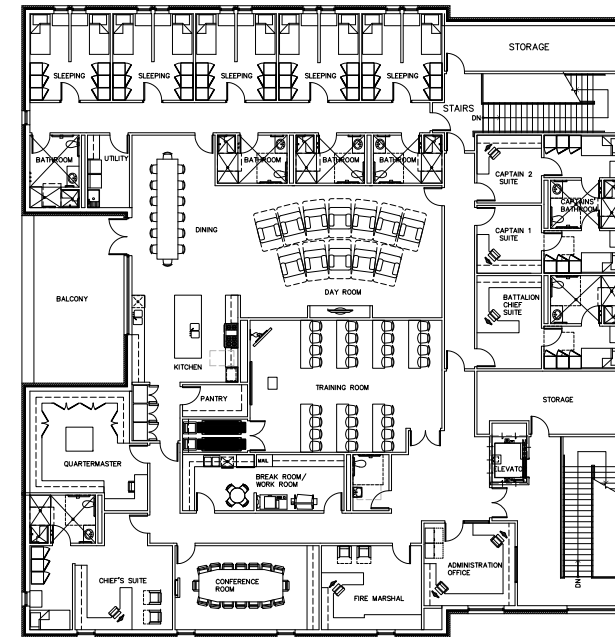


CORBINDALE ROAD

MEZZANINE



SECOND FLOOR



TOTAL SQUARE FOOTAGE:	
FIRST FLOOR:	10,675
MEZZANINE:	2,819
SECOND FLOOR:	9,515
TOTAL:	23,009 SF

TOTAL APPROXIMATE COST: @ \$350 SF = \$8,053,150



OPTION C

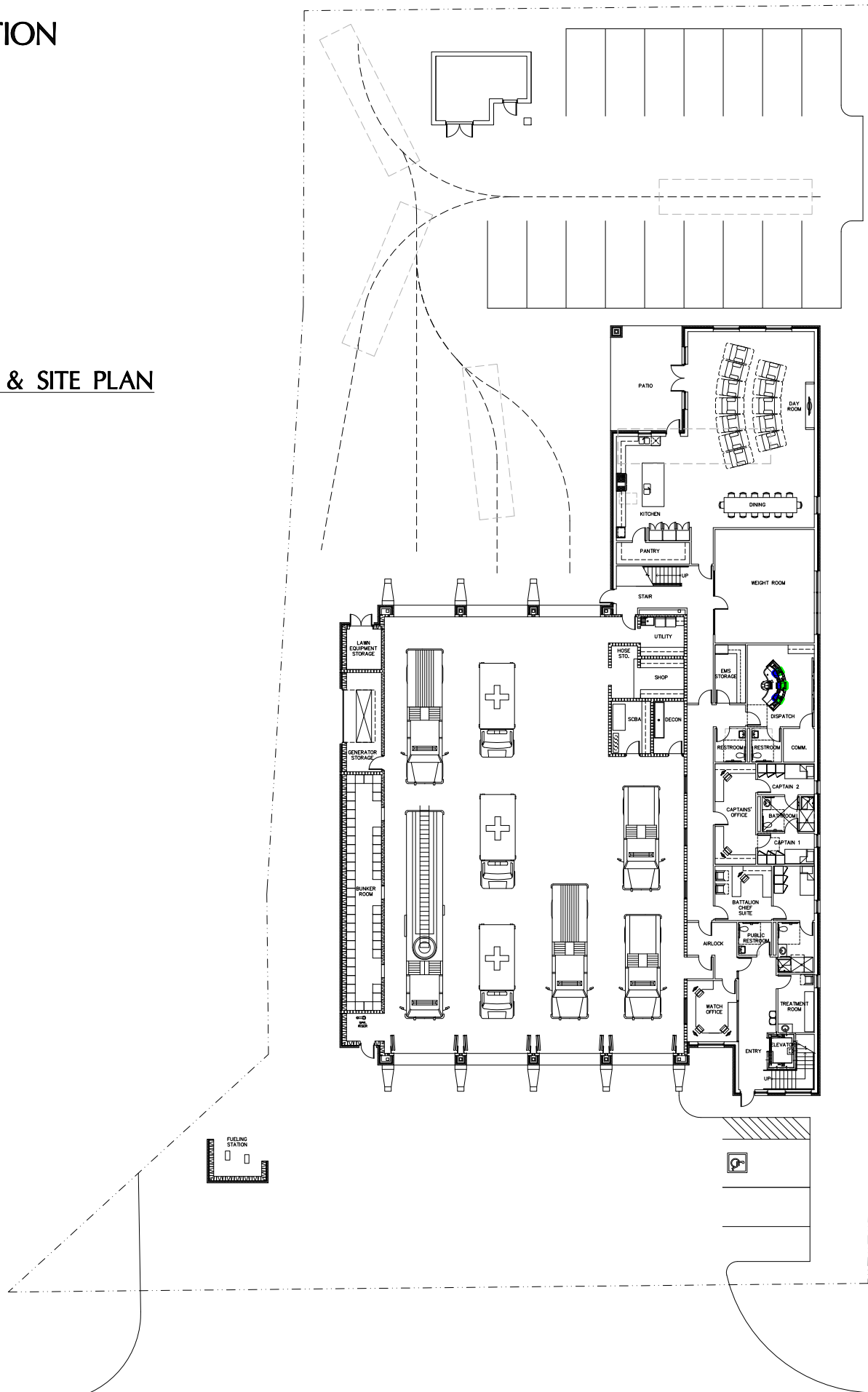
SCALE: 1/32" = 1'-0"
2015 AUGUST 27

FEASIBILITY STUDY
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MARK WATFORD
TX REG. NO. 9241

VILLAGE FIRE DEPARTMENT
FIRE STATION No. 1

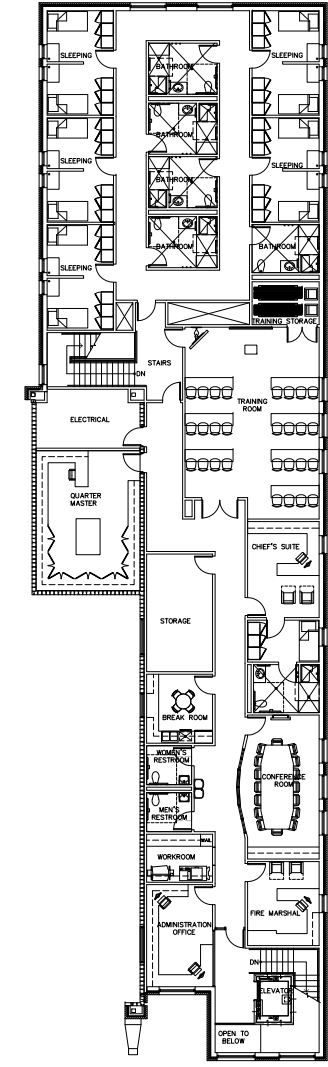
NEW STATION

FIRST FLOOR & SITE PLAN



CORBINDALE ROAD

SECOND FLOOR



TOTAL SQUARE FOOTAGE:	
FIRST FLOOR:	14,298
SECOND FLOOR:	6,528
TOTAL:	20,826 SF

TOTAL APPROXIMATE COST: @ \$350 SF = \$7,289,100



OPTION D
SCALE: 1/32" = 1'-0"
2015 AUGUST 27

FEASIBILITY STUDY
NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION
MARK WATFORD
TX REG. NO. 9241

VILLAGE FIRE DEPARTMENT
FIRE STATION No. 1



GESSNER
ENGINEERING

July 10, 2015

Mr. Ray Holliday, AIA, ASLA, APA, LI
Brown Reynolds Watford Architects
2700 Earl Rudder Freeway South, Suite 4000
College Station, Texas 77845

Re: Inspection Report
Village Fire Station
901 Corbindale Road
Houston, TX 77494
Gessner Engineering Job No.: 15-0234

Dear Mr. Holliday:

Gessner Engineering performed a visual inspection of the Village Fire Station located at 901 Corbindale Road in Houston, Texas on June 29, 2015. This inspection was requested to provide visual evaluation of the existing structure and to provide general recommendations for remediation as required. A full engineering analysis of the existing framing or engineering of specific additional structural elements is beyond the scope of this report. The items listed are not meant to represent a total or exhaustive list of defects which may be present. Gessner Engineering neither extends nor implies any warranty as a result of this inspection or any repair performed upon the facility. The results of this inspection are provided in the following paragraphs and are provided for the exclusive use of Brown Reynold Watford Architects.

Introduction

The existing fire station consists of three buildings. For purpose of discussion, the three areas will be referred to throughout the letter as follows: Building 1 will refer to the main structure on the south end of the site which includes the main apparatus bay, offices, locker rooms, sleeping areas, common areas, and second floor dispatch room. Building 2 will refer to the structure at the northeast corner of the site which includes the secondary apparatus bay, fire marshal's office, weight room, and second floor storage loft. Building 3 will refer to training tower at the northwest corner of the site. The results of the visual inspection of all three buildings and general recommendations for remediation are provided in the following paragraphs.

Building 1

Building 1 is a single story building with the exception of a second floor dispatch room below the northeast corner of the high apparatus bay roof framing. The roof framing of the steel framed structure consists of four bays of steel joists spanning east to west and supported on five steel frame lines running north to south. A 54" deep steel joist girder spanning approximately sixty feet from north to south over the center of the apparatus bay was also used to support the steel joists spanning east to west. The steel joists are spaced at approximately 4' -0" on-center and are approximately 16" deep over the office and apparatus bay and 10" deep over the west side of the apparatus bay. The structural roof deck is a metal deck spanning over and

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attached to the steel joists. The floor framing below the second floor dispatch room consists of steel joists spanning east to west and supported on steel frames.

Gessner Engineering noted the following deficiencies in Building 1 (Reference Figures 1 and 2 for locations):

- 1.1 Separation between CMU and adjoining light gauge wall
- 1.2 CMU and/or CMU grout cracking
- 1.3 Brick and/or mortar cracking
- 1.4 Sheetrock cracking and/or separation at sheetrock panel joints
- 1.5 Ceiling sheetrock cracking
- 1.6 Tile cracking and/or buckling
- 1.7 Window separation at the north most window on the east side of the building
- 1.8 Signs of leakage above the suspended ceiling in the administrator's office at the front of the building
- 1.9 Signs of leakage at multiple window locations around the building
- 1.10 Stucco cracking at the east corner of the entry parapet
- 1.11 Water ponding along the east side and at the northwest corner of the roof, and clogged primary and secondary roof drains on the east and west sides of the lower roof
- 1.12 Cracking on exterior face of concrete foundation beam
- 1.13 Minor spalling on exterior face of concrete foundation beam
- 1.14 Exposed reinforcement on exterior face of concrete foundation beam
- 1.15 Shrinkage and movement cracking throughout the apparatus bay slab
- 1.16 Poor site drainage on the east side of the building

The following remediation recommendations are numbered to correlate with the associated deficiency above. All foundation and site deficiencies noted above are discussed and addressed in the subsequent paragraphs.

- 1.1 Separation between the two wall types shall be sealed, patched, and re-finished. It should be noted that continued maintenance may be required as the brittle finishes reflect foundation movement.
- 1.2 CMU and/or CMU grout cracking shall be sealed with exterior grade sealant where exposed to weather to avoid possible moisture infiltration into the block.
- 1.3 Brick and/or mortar cracking located at the perimeter of the structure shall be sealed with exterior grade sealant to avoid possible moisture infiltration into the cavity between the brick and the light gauge stud wall.
- 1.4 Sheetrock damage in the walls shall be patched and re-finished. It should be noted that continued maintenance may be required as the brittle finishes reflect foundation movement.
- 1.5 Sheetrock cracking in the ceiling shall be patched and re-finished. It should be noted that continued maintenance may be required as the brittle finishes reflect foundation movement.
- 1.6 Where tile damage is present, Gessner Engineering recommends the tile be removed and replaced over an appropriate cleavage membrane installed between the mortar bed and the foundation. The cleavage membrane will help to minimize the reflection of foundation movement through the tile. Replacing and regrouting the tile at cracks is a less costly option; however this

- remediation does not improve the current condition and continued cracking is likely. The use of a membrane below the full tiled area will reduce the amount of cracking that is anticipated.
- 1.7 The separation noted at the north most window on the east side of the building shall be sealed with exterior grade sealant to avoid possible moisture infiltration into the cavity between the window and the light gauge stud wall.
 - 1.8 Due to the location of the leakage above the administrator's office, Gessner Engineering recommends that the roof drain piping above this area be tested for leaks and repaired as required.
 - 1.9 It is recommended that the owner consider modifications to the window framing and sealing as directed by a licensed architect to mitigate moisture infiltration issues.
 - 1.10 Stucco cracking shall be filled and re-finished. It should be noted that continued maintenance may be required as the brittle finishes reflect foundation movement.
 - 1.11 Test for stoppages and repair as required all primary and secondary roof drains. It is also recommended that the owner consider modifications to the roof as directed by a licensed architect to eliminate standing water.
 - 1.12 Exterior foundation cracks shall be patched and sealed with an exterior grade sealant to mitigate moisture infiltration to the reinforcement.
 - 1.13 Spalled areas of concrete shall be cleaned of all loose and deleterious material prior to repair. Gessner Engineering recommends the concrete be patched with Sika Armatec 110 EpoCem and SikaTop 121 Plus. The EpoCem is used as a bonding agent and to protect the exposed reinforcement, and the SikaTop is a hand applied grout that is applied over damaged areas. The selected products shall be installed in accordance with manufacturer specifications and procedures.
 - 1.14 Exposed reinforcement shall be patched and covered in accordance with the recommendations noted above for repair of concrete spalling.
 - 1.15 Where cracking is present in exposed concrete and conditions allow it, straight joints shall be cut into the slab. Joints and cracks shall be sealed with a traffic grade sealant. It should be noted that continued maintenance may be required as the exposed concrete will reflect foundation movement.
 - 1.16 Drainage remediation shall be performed at the east side of the structure by means of regrading to provide positive slopes away from the foundation per section 1804.3 of the IBC. Regrading to improve drainage shall not include filling to within six inches of finished floor or covering of masonry weep holes. Where existing downspouts discharge to a flat or almost flat condition, the downspouts shall be routed through pipes away from the foundation a minimum of ten feet and to a point with positive flow away from the building.

The foundation of the existing building is believed to be a slab-on-grade supported on under-reamed belled piers based on the original construction documents provided by the building owner. Elevations of the foundation system were measured by Gessner Engineering while onsite using a Zip Level Pro-2000 and are provided in Figure 1.

As a commercial structure, levelness of the floor system is subject to slope guidelines established by the Americans with Disabilities Act (ADA) for levelness. This maximum allowable slope is 2% in any direction. Based on the measurements taken by Gessner Engineering, the maximum noted overall slope across the

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CIVIL STRUCTURAL GEOTECHNICAL LAND SURVEYING CONSTRUCTION MATERIALS TESTING

building is 0.2% (Reference Figure 1), which is within the allowable limits described above. Upon further analysis, the maximum noted deflection of the foundation was approximately 0.9", resulting in a normalized deflection of L/630, where L is the length in inches over which the deflection occurs. According to the International Building Code (IBC), the maximum deflection due to dead and live loads for a floor member is limited to L/240. This standard is intended to limit the deflection of an individual member, and is not directly applicable to the entirety of the foundation. However, the IBC does state in section 1604.3, titled "Serviceability," "Structural systems and members thereof shall be designed to have adequate stiffness to limit deflections." While the above limit of L/240 does not directly correlate by code to limit the deflection of the "structural system", which in this case is the foundation system, Gessner Engineering believes the intent of the code is to ensure a serviceable structural system. Gessner Engineering, thus, believes the limit of L/240 provides a reasonable limit to the deflection of the overall foundation system to provide the code desired serviceability state, and adopts this limit for the evaluation of commercial foundations. With this understanding, the maximum noted foundation system deflection of L/630 is within the adopted limit of L/240. Therefore, based on the elevations shown on Figure 1 and the limited signs of distress in the structural elements, foundation remediation is not required at this time.

To help improve and maintain the foundation's performance, Gessner Engineering does recommend drainage remediation be performed on the east side of the structure, as described in remediation item 1.16 above. Although the measured elevations do not exceed tolerances, from the damage noted in finishes it is evident that this foundation flexes and the building will require continued maintenance as finishes reflect this seasonal movement. The drainage remediation recommended here is intended to reduce the frequency and magnitude of movement and subsequent need for repairs

Building 2

Similar to Building 1, Building 2 is single story building with a second floor loft below the southeast corner of the high apparatus bay roof framing. The building is a pre-engineered metal building consisting of purlins spanning approximately twenty-two feet between three main building frames that span north to south.

Gessner Engineering noted the following deficiencies in Building 2 (Reference Figure 2 for locations):

- 2.1 Separation between CMU and adjoining light gauge wall
- 2.2 CMU and/or CMU grout cracking
- 2.3 Brick and/or mortar cracking
- 2.4 Tile cracking and/or buckling
- 2.5 In the secondary apparatus bay there is a displaced CMU block at the top of the wall on the southwest corner of the storage room where the steel ridge beam penetrates the wall
- 2.6 Slab cracking throughout the secondary apparatus bay
- 2.7 Poor site drainage on the north and east sides of the building
- 2.8 Weep holes below top of existing soil along north side of building

The following remediation is numbered to correspond with the deficiencies noted above. All foundation and site deficiencies noted above are discussed and addressed in the subsequent paragraphs.

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- 2.1 Separation between the two wall types shall be sealed, patched, and re-finished. It should be noted that continued maintenance may be required as the brittle finishes reflect foundation movement.
- 2.2 CMU and/or CMU grout cracking shall be sealed with exterior grade sealant where exposed to weather to avoid possible moisture infiltration into the block.
- 2.3 Brick and/or mortar cracking located at the perimeter of the structure shall be sealed with exterior grade sealant to avoid possible moisture infiltration into the cavity between the brick and the light gauge stud wall.
- 2.4 Where tile damage is present, Gessner Engineering recommends the tile be removed and replaced over an appropriate cleavage membrane installed between the mortar bed and the foundation. This will minimize the reflection of foundation movement through the tile. Replacing and regrouting the tile at cracks is a less costly option; however this remediation does not improve the current condition and continued cracking is likely. The use of a membrane below the full tiled area will reduce the amount of cracking that is anticipated.
- 2.5 The displaced CMU block shall be removed and grouted in place to prevent a complete detachment and potential falling of the block
- 2.6 Where cracking is present in exposed concrete and conditions allow it, straight joints shall be cut into the slab. Joints and cracks shall be sealed with a traffic grade sealant. It should be noted that continued maintenance may be required as the exposed concrete will reflect foundation movement.
- 2.7 Drainage remediation shall be performed at the east side of the structure by means of regrading to provide positive slopes away from the foundation per section 1804.3 of the IBC. Regrading to improve drainage shall not include filling to within six inches of finished floor or covering of masonry weep holes. Where existing downspouts discharge to a flat or almost flat condition, the downspouts shall be routed through pipes away from the foundation a minimum of ten feet and to a point with positive flow away from the building.
- 2.8 Regrading performed in accordance with the drainage remediation recommendations above shall provide for adjacent grade to remain below masonry weep holes.

The foundation of the existing foundation is believed to be a slab-on-grade supported on under-reamed belled piers based on the original construction documents dated January 21, 2000, provided by the client. Elevations of the foundation system were measured by Gessner Engineering while onsite using a Zip-Level Pro-2000 and are provided in Figure 1.

Based on the measurements taken by Gessner Engineering, the maximum noted overall slope across the building is 0.1%, and the maximum noted deflection of the foundation is approximately 1.3", resulting in a normalized deflection of $L/380$, where L is the length in inches over which the deflection occurs (Reference Figure 1). Per the American with Disabilities Act (ADA) and International Building Code (IBC) standards mentioned previously, the foundation is performing within the allowable limits and does not require foundation remediation at this time.

To help improve and maintain the foundation's performance, Gessner Engineering does recommend drainage remediation be performed on the north and east sides of the structure, as described in remediation item 2.7 above. Although the measured elevations do not exceed tolerances, from the damage noted in

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CIVIL STRUCTURAL GEOTECHNICAL LAND SURVEYING CONSTRUCTION MATERIALS TESTING

finishes it is evident that this foundation flexes and the building will require continued maintenance as finishes reflect this seasonal movement. The drainage remediation recommended here is intended to reduce the frequency and magnitude of movement and subsequent need for repairs

Building 3

Building 3 is a four story tall steel framed tower consisting of stairs, landings, and two exterior balconies used for training. The stairs are framed with steel channel stringers and pre-cast concrete steps. The landings consist of a concrete deck supported on steel channel joists and a welded up steel tube frame.

Gessner Engineering noted the following deficiencies in Building 3:

- 3.1 Shrinkage cracking in the second floor balcony slab
- 3.2 Water enters the structure from the fourth floor balcony and drips down the steel tube framing causing members along the path of the water to rust and corrode.
- 3.3 Water stains on the brick below the east end of both exterior balconies
- 3.4 Poor site drainage on the north side of the building
- 3.5 Weep holes below top of existing soil along north side of building

The following remediation is numbered to correspond with the deficiencies noted above. All foundation and site deficiencies noted above are discussed and addressed in the subsequent paragraphs.

- 3.1 Slab cracking in exposed concrete slabs shall be sealed with an exterior grade sealant.
- 3.2 Gessner Engineering recommends spraying water at the base of the exterior wall of the fourth floor balcony in order to determine where the water is entering the structure. Upon determination, flashing or appropriate sealant shall be applied to prevent future water intrusion. Once the structure is adequately sealed, Gessner Engineering recommends the surface of all rusted steel be cleaned to meet The Society of Protective Coatings (SSPC) standard SP3. Remove all loose mill scale, loose rust, loose paint, and other loose detrimental foreign matter by power wire brushing, power sanding, power grinding, power tool shipping, and/or power tool descaling. Primer and paint shall then be applied to the steel. Primer shall be a lead and chromate free, non-asphaltic and rust-inhibiting primer. Paint shall be a high-zinc dust content paint with dry film containing not less than 93 percent zinc dust by weight, complying with SSPC. Do not begin application of coatings until substrates have been properly prepared. Apply all coatings with manufacture specifications in mind, using methods recommended by manufacturer. Regardless of the number of coats specified, apply as many coats as necessary for complete hide and uniform appearance. Gessner Engineering shall be notified of unsatisfactory conditions before proceeding. Proceed with work only after conditions have been corrected and approved by all parties.
- 3.3 Water stains may be power washed from the brick façade of the structure as desired by the building owner.
- 3.4 Drainage remediation shall be performed at the east side of the structure by means of regrading to provide positive slopes away from the foundation per section 1804.3 of the IBC. Regrading to improve drainage shall not include filling to within six inches of finished floor or covering of

masonry weep holes. Where existing downspouts discharge to a flat or almost flat condition, the downspouts shall be routed through pipes away from the foundation a minimum of ten feet and to a point with positive flow away from the building.

- 3.5 Regrading performed in accordance with the drainage remediation recommendations above shall provide for adjacent grade to remain below masonry weep holes.

The foundation of the existing foundation is believed to be a slab-on-grade supported on under-reamed belled piers based on the original construction documents dated January 21, 2000, provided by the client. Due to the intended foundation slopes created to accommodate floor drains within this structure, Gessner Engineering did not measure foundation elevations. Based on visual inspection of the slab and limited signs of distress in the structural elements and facade, Gessner Engineering does not recommend foundation remediation at this time.

To help improve and maintain the foundation's performance, Gessner Engineering does recommend drainage remediation be performed on the north side of the structure, as described in remediation item 3.4 above.

General Conclusion / Recommendations

In general, given the age of the structures, all three buildings are in average condition and appear to be performing adequately. Following the remediation of the items noted in this report, Gessner Engineering believes the structures will continue to provide the necessary stiffness and strength to support the anticipated loads. As expected with a slab-on-grade foundation system, some signs of foundation movement were seen in the brittle finishes throughout all three structures. Performing the drainage remediation as described in the report will help to create a more consistent moisture condition in the soils adjacent to the structures, and help to limit the potential for movement of the structures. With that being said, movement and continued maintenance to address its affects should be anticipated for the life of this structure.

We trust that this letter is responsive to your project needs. Please contact us if you have any questions or if we can be of further assistance.

Sincerely,
GESSNER ENGINEERING, LLC F-7451

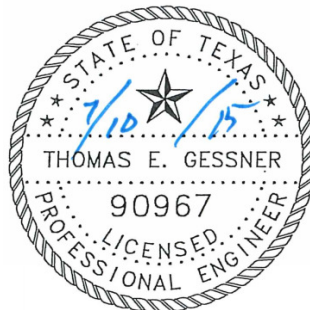
Drew Marsteller

Drew M. Marsteller, E.I.T.

Thomas E. Gessner

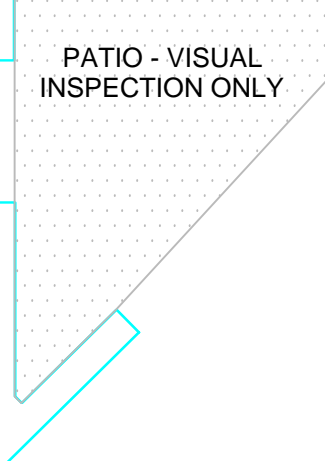
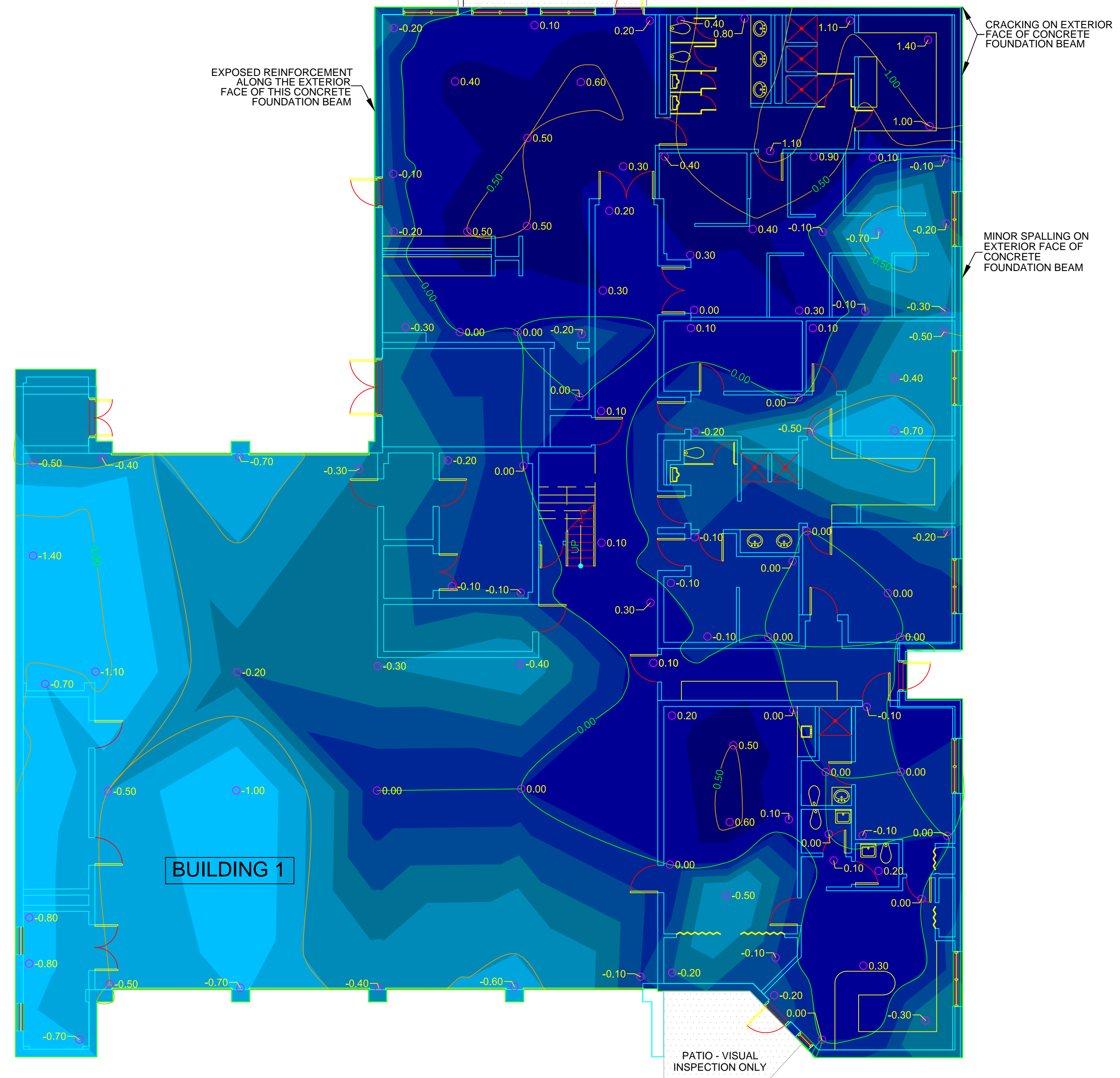
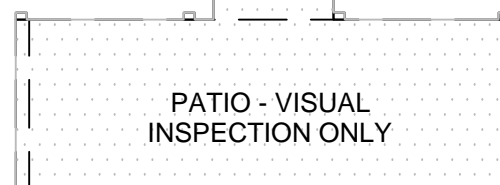
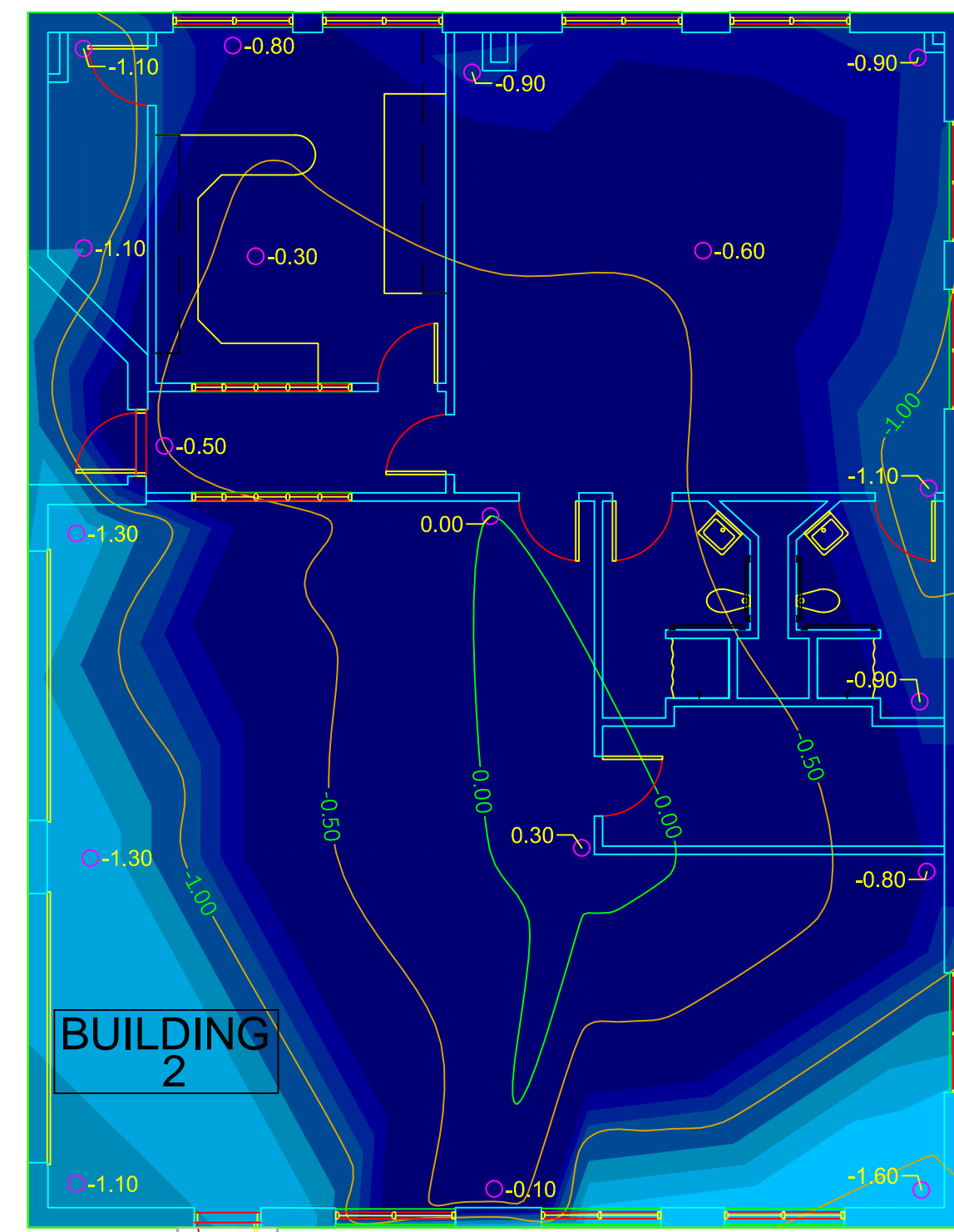
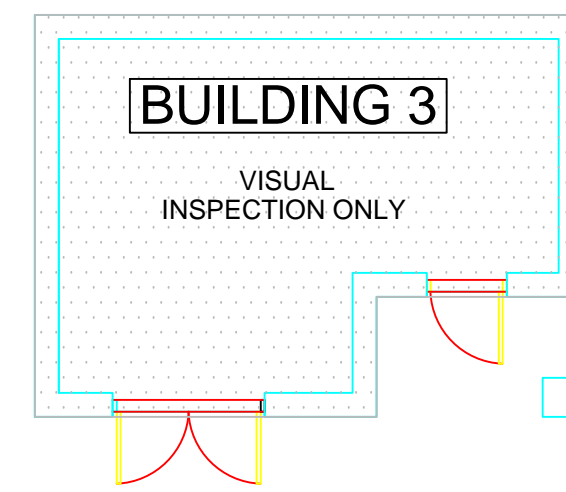
Thomas E. Gessner, P.E.

Enclosures: Figure 1 and Figure 2



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LEGEND	
	EXISTING CONTOURS
	MEASURED TOP OF SLAB ELEVATIONS (INCHES)

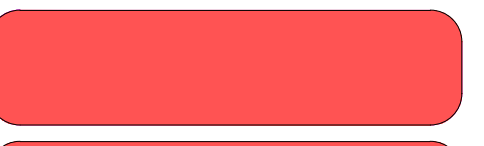
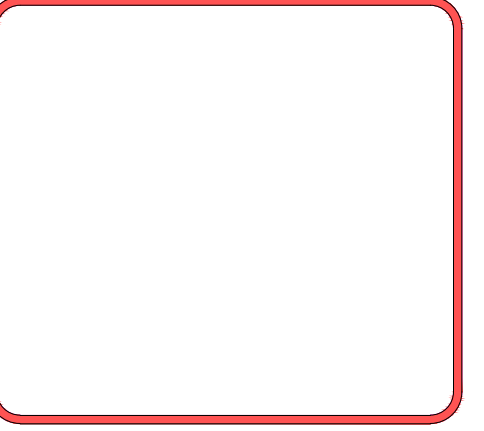
NOTES:
1. ELEVATIONS TAKEN BY GESSNER ENGINEERING ON JUNE 29, 2015.



GESSNER ENGINEERING
Corporate Office
2501 Ashford Drive
Suite 102
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FIRM REGISTRATION NUMBER:
TBPE F-7451, TBPLSF-10193910

COLLEGE STATION 979.680.8840
BRENNHAM 979.836.6855
FORT WORTH 817.887.8732
SAN ANTONIO 210.556.4124



VILLAGE FIRE DEPARTMENT
901 CORBINDALE ROAD
HOUSTON, TX

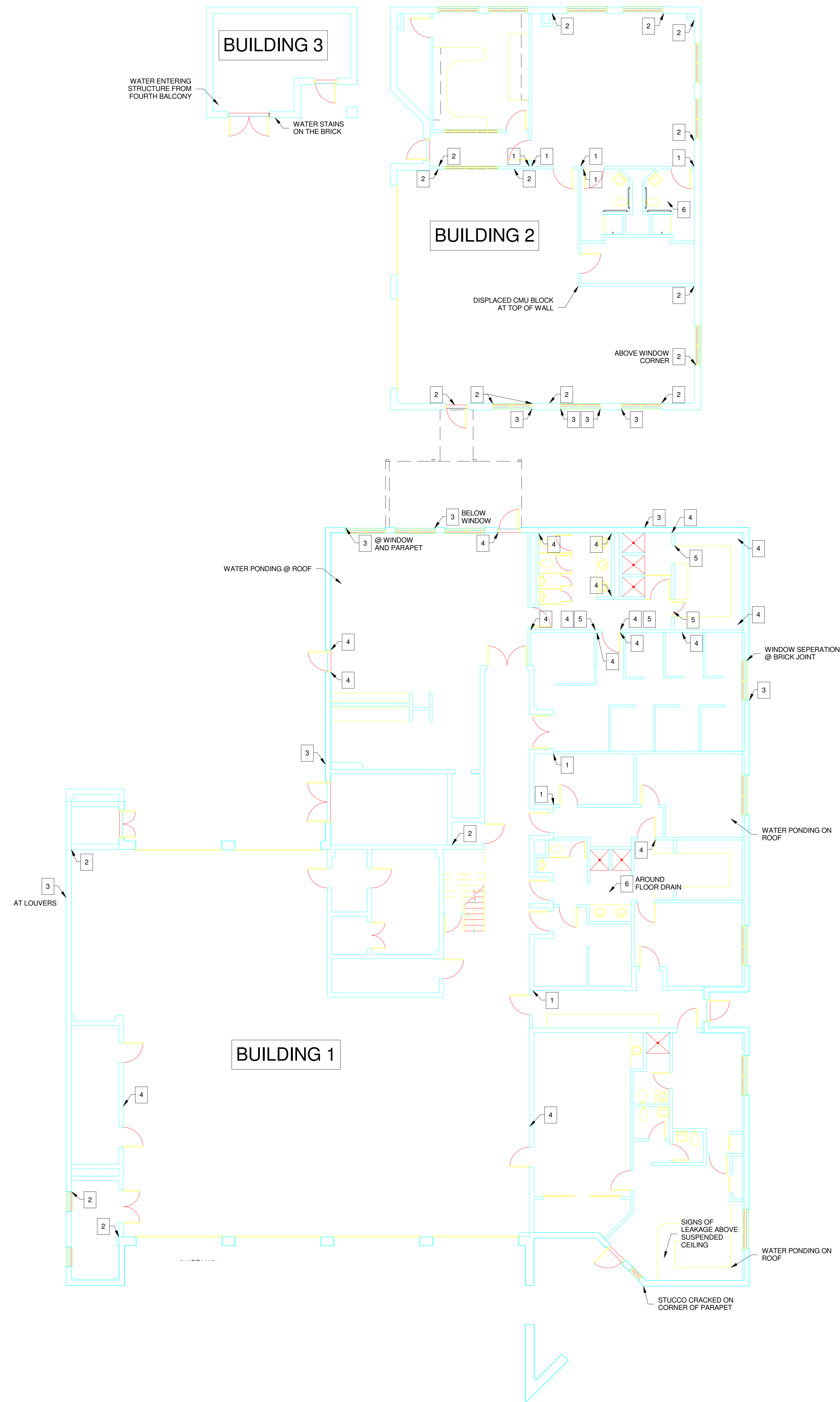
FIGURE 1 - FOUNDATION ELEVATIONS

Issue Date: 07.10.2015
Drawn By: AT
Checked By: DMM
Project Number: 15-0234

Revision
△
△
△
△
△

F1.0
Sheet: 1 of 2

FIGURE 1 - FOUNDATION ELEVATIONS
1/8" = 1'-0"



① FIGURE 2 - DEFECTS NOTED IN FRAMING AND FINISHES
1/8" = 1'-0"

FRAMING / FINISHES LEGEND	
1	SEPARATION BETWEEN CMU AND ADJOINING LIGHT GAUGE WALL
2	CMU AND/OR GROUT CRACKING
3	BRICK AND/OR MORTAR CRACKING
4	SHEETROCK CRACKING AND/OR SEPARATION AT SHEETROCK PANEL JOINT
5	CEILING SHEETROCK CRACKING
6	TILE CRACKING AND/OR BUCKLING



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FIRM REGISTRATION NUMBER:
TBPE F-7451, TBPLSF-10193910

COLLEGE STATION 979.680.8840
BREHAM 979.836.6855
FORT WORTH 817.887.8732
SAN ANTONIO 210.556.4124

PLAN | DESIGN | VERIFY

VILLAGE FIRE DEPARTMENT
901 CORBINDALE ROAD
HOUSTON, TX

FIGURE 2 - DEFECTS NOTED IN FRAMING AND FINISHES

Issue Date: 07.10.2015

Drawn By: JF

Checked By: DMM

Project Number: 15-0234

Revision
△ _____
△ _____
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△ _____

F1.1

Sheet: 2 of 2