Village of Northbrook

Board of Trustees

PUBLIC WORKS AND FACILITIES COMMITTEE AGENDA

SANDRA "SANDY" FRUM BOARD ROOM
VILLAGE HALL, 1225 CEDAR LANE
TUESDAY, FEBRUARY 28, 2023

6:00 PM

1. CALL TO ORDER

2. PUBLIC COMMENT TIME

Please Note - Members of the public wishing to respectfully share thoughts about any matter concerning the Northbrook Board of Trustees may do so by coming to a meeting and speaking during the "Public Comment" time on general matters, or by speaking if and when comment is called during debate on a specific matter that is listed on the agenda. Members of the public can also submit a written comment via the Village's website. Each written comment submitted on the website will be delivered to each member of the Village Board prior to the meeting, but will not be read out loud at the meeting. Please note that while the Village Board will not immediately respond to public comments at the meeting, or engage in a back and forth discussion during the meeting, we are of course actively listening to all comments, thoughts and suggestions. Thank you for your understanding and taking the time to contribute to the success of our community.

4. DISCUSSION TOPICS

A. Facilities Space Needs Review

5. ADJOURN

The Village of Northbrook is subject to the requirements of the Americans with Disabilities Act of 1990. Individuals with disabilities who plan to attend this meeting and who require certain accommodations in order to allow them to observe and/or participate in this meeting, or who have questions regarding the accessibility of this meeting or the facilities, are requested to contact Debbie Ford (847-664-4013) promptly to allow the Village of Northbrook to make reasonable accommodations for those persons. Hearing impaired individuals may call the TDD number, 847-564-8645, for more information.

Johannah Hebl, Chair
Public Works and Facilities Committee

Members: Trustee Israel
Trustee Pepoon

VILLAGE OF NORTHBROOK
COOK COUNTY, ILLINOIS
Tuesday, February 28, 2023

MEMORANDUM
VILLAGE OF NORTHBROOK
PUBLIC WORKS

TO: CARA PAVLICEK, VILLAGE MANAGER

FROM: KELLY HAMILL, PUBLIC WORKS DIRECTOR

DATE: FEBRUARY 28, 2023

SUBJECT: FACILITIES PLAN UPDATE

At February 28, 2023, Public Works and Facilities Committee Meeting of the Village Board, a comprehensive update will be presented on the work to date evaluating renovation/replacement of the following facilities: Fire Station 11/Administration Office, Fleet Maintenance Garage and the Police Station.

As you may recall, on November 8, 2022, the Village Board approved contracts with Leopardo Companies and FGM Architects for professional service to prepare a Facilities Plan for the specific facilities noted above.

We are on schedule to present the final draft of the Facilities Plan on May 23, 2023. At this time, staff and the consultant team of Leopardo Companies and FGMA have a status update to present which will address the following:

1. Verification of Space Needs and Facilities Conditions
2. Initial Work on Solutions Design
3. Development of preliminary Facilities Plan Master Schedule

The Committee is not required to formally recommend anything to the full Village Board at this time, however, the meeting is intended to provide an opportunity to answer any questions and receive feedback on the three items noted above.

We will additionally identify the next steps staff will be working on with the consulting team.

Included with this Meeting Materials for the February 28, 2023 Public Works and Facilities Committee Meeting are the Draft Space and Condition Reports for each facility and a Draft Facilities Master Plan schedule. A power point presentation will be made as a part of the meeting as well.

For historical background, the Village Board has discussed and/or taken action on these facilities previously as follows:

1. October 25, 2022 Committee of the Whole, the Village Board continued their discussion concerning the goal for advancement of the replacement/renovation of the facilities and the Board was introduced to the Consultant teams of Leopardo Companies that would be providing Construction Manager Services and FGM Architects (FGMA) who would be providing facility plan services.
2. November 8, 2022, the Village Board approves contracts with Leopardo Companies and FGM Architects for professional services.

3. August 17, 2022, a Request for Qualifications is issued seeking a qualified firm for professional architectural services to assist in the planning process for future construction or modifications to three Village facilities.
4. August 9, 2022, the Village Board is presented with a status update on Facilities Project related to the future renovation/replacement of three Village Facilities: Fire Station 11/Administration, Police Station and Public Works Fleet Maintenance Garage. The following facility goals are highlighted:
    a. Welcoming workplace for all employees, visitors;
    b. Incorporation of sustainable practices in use of materials and long term operations;
    c. Technology that is flexible to accommodate present and future needs;
    d. Attention to employee wellness, especially for shift workers as each facility is a 24/7/365 operation;
    e. Structural and Operational Requirements as each facility is core to Northbrook's public safety responsibilities
5. May 1, 2022, the FY22/23 Fiscal Year begins and the adopted Budget includes for the first time a Facility Capital Project Fund.
6. May 2022, Village Manager engages Leopard Companies, Inc. for Owner's Representative/Construction Management Services for the three facilities.
7. December 21, 2021, a Request for Qualifications is issued seeking Owner's Representative/Construction Management Services for the three facilities.
8. November 9, 2021, the Village Board is provided a report/review of prior work to move forward with policy considerations related to Fire Station 11/Administration Office, Fleet Maintenance Garage and the Police Station.
9. March of 2019 the Village receives a Facilities Conditions Assessment and Report Card and a Facility Needs Assessment was completed by Healy Bender for Fire Station 11/Administration Office, Fleet Maintenance Garage and the Police Station.
10. In 2016/2017, an Ad Hoc Facilities Committee of the Board of Trustees directed staff to have facility assessments done for Fire Station 11, the Police Station and the Public Works Fleet Maintenance Garage.

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1211 W. 22nd Street, Suite 700
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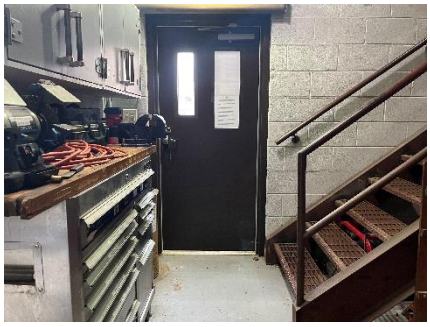
fgmarchitects.com

SECTION 4
FIRE STATION

SECTION 4.1
ANALYSIS OF SPACE NEEDS

Main entry of fire station



Storage within designated spaces

Inadequate bathroom facilities for women

Summary of Analysis

The Northbrook Fire Department Station 11 is the department's headquarters station that houses the department's administrative function, the fire prevention bureau, and the daily fire operations. Although there is not a large need for growth in terms of personnel, the current station lacks the adequate size for its current operations not to mention any future growth.

The space needs analysis looked at the immediate need and then the long-term need. The immediate need is 28,904 sq.ft. and that 30,058 sq. ft. of space is necessary for the long term needs of the fire department to operate effectively. The existing fire station is only 21,719 sq.ft. This means the department is currently operating at a 28% sq.ft. deficit to its long term needs. The proper size building will provide the optimum amount of space for the department and includes provisions for long-term growth.

With the immediate space needs of 28,904 sq.ft. it does not warrant the consideration of a short-term solution for this facility. The ultimate long-term needs are just too close to what the short-term solution would be.

There are several notable space deficiencies within the existing facility.

1. Inefficient organization of spaces: Many of the administration spaces are scattered throughout the building and the fire prevention bureau that is most visited by the public is located on the second floor.

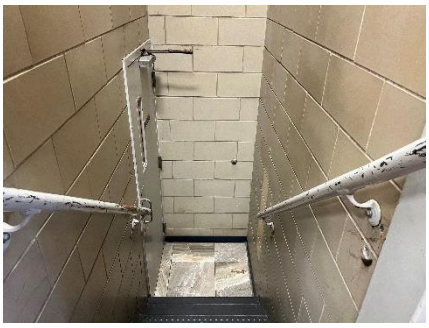
2. Inadequate space for all basic functions: Many of the spaces are no longer adequate to meet the current needs. Basic operational support spaces either are inefficient or do not exist at all.

3. Absence of dedicated space to support female personnel: A modern facility provides appropriate spaces for both male and female personnel as the profession has evolved over the years.

4. Poor building circulation: The facility must support the emergency response time for its personnel. With the varied levels in the existing building, traveling up and down stairways increases the time for push out and response.

In addition to the space issues, the building also fails in the following areas:

1. Safety and Security: The building is located directly adjacent to the railroad tracks. However unlikely, a critical public safety building should not be located that close to a potential threat, i.e. a train derailment that could potentially strike the building. There is little protection for the building occupants if a threatening visitor were to enter the building. In addition, two large watermains run directly adjacent to the station under the access drive which could be detrimental if one should break.



Building has a multi-split level

2. Public Interaction: The entry to the building is not clearly identified due to the way the building is located on the site. The public must come to the back of the building down the access drive to get to where the main public entrance is located, and it is not indicated well. The shared drive mixes the public and fire personnel which is not ideal.

3. Recruitment, Retention, and Employee Pride: The Northbrook Fire Station has not had any significant remodeling work since 2000. The building looks old and tired. These issues affect recruitment and retention, which are serious issues facing public safety agencies throughout the nation. A well-designed fire station can help significantly with employee pride as well as recruitment and retention.

4. Building Infrastructure : Later in the report under the facilities analysis many deficiencies will be indicated.

SECTION 4.2
SPACE AND OPERATIONAL ISSUES

Patio area accessed from below grade and within a small fenced area

Dayroom

Space and Operational Issues

Currently, the existing building does not have enough space and is not designed in a manner that allows the fire department to operate safely and effectively. There are many reasons why the building does not function as an effective fire station. Notable reasons are as follows:

1. Inefficient Organization of Space

    - The administration portion of the building is unorganized in that offices that should be located in close proximity to each other are on opposite sides and even other floors of the building.

    - The fire prevention bureau which has the most exposure to the public is located on the second floor which requires occupants and visitor to travel up and down. The bureau would be better served on the main level.

    - Due to the lack of space within the building, some storage areas that should be located within the facility are now remotely located. Throughout the building storage is within numerous operable spaces where it doesn't belong.

    - The patio is accessed from the dining room a half floor below grade. Personnel must climb the stairs and the patio is a small fenced in enclosed space that is very unappealing.

2. Inadequate space for all basic functions

    - Existing support areas for Fire Station 11 currently are inadequate with no means for expansion in the present building configuration.

    - Lack of sufficient areas for storage support is forcing the diversion of some Apparatus equipment, materials and supplies to improvised locations, impairing operational efficiency.

    - The daytime living quarters of the station (kitchen, dining and dayroom) are insufficient in size and are located a half floor below grade creating a very unpleasant environment.

    - The hose tower is being used for all types of storage. This is due to the fact that it is one of the only spaces directly off the apparatus floor and no other storage rooms exist.

    - Protective fire gear storage is currently within the electrical equipment room, Thus it is overcrowded and lacking in its ability to meet the needs it is intended to serve. Proper gear ventilation is not provided.

Locker Room

Apparatus Bay circulation

- The Bunk/Sleeping area is congested and is also being used for storage of bedding as well.

- The Men's Locker Room is insufficient in size and lacking space to accommodate officer uniforms, boots and other needed items. The lockers are too small, forcing staff to improvise with the use of cubicles above the lockers. These are too high and difficult to access.

3. Absence of dedicated space to support female personnel:

   - The existing facility does not have accommodations for both male and female personnel. Female shower and toilet facilities are improvised within other areas of the facility.

   - The areas that female personnel are using are on the opposite side of the sleeping quarters of the staff thus creating separation among them.

4. Poor building circulation:

   - The support areas for Station 11 are insufficient in size to meet the current needs. They are also dysfunctional being located on two different levels and at opposite sides of the Apparatus Bays.

   - The apparatus bays have inadequate circulation space around the vehicles for personnel movement.

   - All the fire operations are located either a half floor above or below the apparatus bays which inhibits response time. These spaces are also split by the apparatus bays in the middle.

   - The stairs are too narrow for proper movement with equipment and gear. All functions require use of stairs for their access.

SECTION 4.3
ANALYSIS OF SPACE NEEDS PROGRAM

Following this page is the Fire Department Space Needs Program referenced in this section.

Fire Department Space Needs Program Pages 1-4

Note that Space Needs Programs attempt to compare the size of existing space to space required. In many cases, it is difficult to provide an “apples to apples” comparison because many spaces accommodate more than one function in the existing building. Therefore, we suggest using the space comparison as a general comparison only.

Village of Northbrook
Fire Department

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FGMARCHITECTS

Space Needs Program

February 6, 2023
FGM Project No. 23-3665.01

Item	Room/Area/Space	Counts	Sq.ft.			Counts	Notes
		Current Staffing	Existing Space	Current Required	Future Required	Future Capacity	
A.	PUBLIC ENTRY/TRAINING/COMMUNITY ROOM						
1.0	Public Entry Vestibule		76	80	80		Entrance vestibule
2.0	Public Lobby		120	300	300		Wall for dept photos, provide seating
3.0	Display Cases			40	40		Small area for historical memorabilia
4.0	Training/Commmunity Room (backup EOC)		891	1,800	1,800		Training room to accommodate (60) persons in classroom setting, dividable.
5.0	Kitchenette		-	50	50		Alcove within training room for food service
6.0	A/V Closet			24	24		Dedicated closet for A/V room equipment
7.0	Storage - General		162	150	150		Store 50% of tables and chairs
8.0	Fire Training Equipment Storage			100	100		CPR training equipment
9.0	EOC Equipment Storage			50	50		Secure storage room
10.0	Public Toilets		-				
11.0	Men's Toilet Room			200	200		(2) toilets, (3) urinals, (2) lavatories
12.0	Women's Toliet Room		43	200	200		(40) toilets, (2) lavatories
13.0	**Public Entry / Training Room Sub-Total**			**2,994**	**2,994**		
14.0	**Circulation, Wall, and Mechanical Shaft Space (25%)**			749	749		
15.0	PUBLIC ENTRY, TRAINING/COMMUNITY ROOM TOTAL			3,743	3,743		
B.	ADMINISTRATION						
1.0	Fire Chief's Office	1	250	350	350	1	Provide desk, credenza, conferecne table for (6), soft seating, book case, files
2.0	Coat Closet			10	10		
3.0	Deputy Chief's Office - Operations	1	221	300	300	1	Provide desk, credenza, small table, book case, files
4.0	Coat Closet			10	10		
5.0	Deputy Chief's Office - Administration	1		300	300	1	Provide desk, credenza, small table, book case, files
6.0	Coat Closet			10	10		
7.0	Battalion Chief's Office - Training and Safety	1	213	250	250	1	Provide desk, credenza, small table, book case, files
8.0	Coat Closet			10	10		
9.0	Management Analyst Office	1	128	150	150	1	
10.0	Clerk Office	1	120	120	120	1	
11.0	EMS Coordinator Office			-	120	1	
12.0	Emergency Management Office			-	120	1	
13.0	Future Flex Office			-	120	1	
14.0	Open Workstations (Training 7G)	4		144	144	4	6'x6' workstations
15.0	Receptionist	1		64	64	1	Open work area to monitor lobby
16.0	Waiting Area			75	75		Small Area inside Admin w/ two chairs
17.0	Coat Closet			10	10		
18.0	Small Meeting Room			225	225		Meeting space for (8)
19.0	Conference Room		315	400	400		Conference table for (12)
20.0	Breakroom/Lunchroom		164	300	300		Accommodate space for (12) - plenty counter space

Village of Northbrook
Fire Department

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FGMARCHITECTS

Space Needs Program

February 6, 2023
FGM Project No. 23-3665.01

Item	Room/Area/Space	Counts	Sq.ft.			Counts	Notes
		Current Staffing	Existing Space	Current Required	Future Required	Future Capacity	
21.0	Mail Copy - Workroom		100	150	150		Shared with Fire Prevention Bureau
22.0	Office Supply Closet		100	50	50		
23.0	Secure File Room		70	150	150		Pension/Training/Personel records - how many 42" cabinets? 6
24.0	Single User Restroom - 2			190	190		(1) WC, (1) lav each - (1) should have shower
25.0	Small Locker Area			125	125		Lockers for Admin and Fire Prevention
26.0	Janitor Closet/Supply Storage			100	100		
27.0	**Fire Prevention Bureau**						locate area close to public lobby
28.0	Fire Marshal Office	1	195	250	250	1	Provide desk, credenza, plan review table, book case, files
29.0	Coat Closet			10	10		
30.0	Fire Inspector	1	144	120	120	1	Provide desk, credenza, plan review table
31.0	Fire Inspector	1		120	120	1	Provide desk, credenza, plan review table
32.0	Fire Inspector	1		120	120	1	Provide desk, credenza, plan review table
33.0	Open Work Area (FPB 7G)	5		252	288	6	Provide (6) 6'x6' workstations w/ (2) stand up worksurface islands for plan review
34.0	File Storage			400	400		(22) file cabinets within area, need easy access
35.0	Fire Prevention Meeting Room		122	200	200		Room off lobby for staff to meet visitors - size for (6) - large table for plans
36.0	**Administration Sub-Total**	20		**4,965**	**5,361**	24	
37.0	**Circulation, Wall, and Mechanical Shaft Space (35%)**			1,738	1,876		
38.0	ADMINISTRATION TOTAL			6,703	7,237		
C.	RESIDENTIAL						
1.0	Dayroom for 9		438	600	600		Separate room from Kitchen/Dining
2.0	Kitchen/Dining for 12		298	700	700		Commercial stove, (3) friges, extra freezer, (3) pantires - combined or individual
3.0	Bunkrooms (8)	5	340	450	720	8	90 s.f. cubicle w/ bed, desk and 3 tier locker for bedding
4.0	Closets			25	25		Provide (2) closets - hanging space for dress uniforms
5.0	Open Locker Area		300	435	435		Provide (27) 2'x2' lockers - 3 detail/reassignment lockers included
6.0	Individual Toilet/Shower Rooms	3	150	330	440	4	Each w/ toilet, lav and shower
7.0	Open Sink Alcove			15	15		(2) additional sinks in open locker area
8.0	Batallion Chief's Office	1	288	300	300	1	Office with 3 desks - one for each Batallion Chief
9.0	B.C. Bunk			100	100		Bed, nighstand and lockers
10.0	B.C. Toilet Room		100	110	110		toilet, lav, shower
11.0	Captain's Office	1	275	150	150	1	Office with (1) shared desk
12.0	Lieutenant's Office			120	120		Office with (1) shared desk
13.0	Captain/Lieutenant Bunk			100	100		Bed, nighstand and lockers
14.0	Captain/Lieutenant Toilet Room			110	110		toilet, lav, shower
15.0	Station Office			350	350		(4) workstations along wall - table in middle - mailboxes
16.0	Wellness Room			100	100		Mothers room per IL code - stress management per NFPA recommendations

Village of Northbrook
Fire Department

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FGMARCHITECTS

Space Needs Program

February 6, 2023
FGM Project No. 23-3665.01

Item	Room/Area/Space	Counts	Sq.ft.			Counts	Notes
		Current Staffing	Existing Space	Current Required	Future Required	Future Capacity	
17.0	Exercise Room		650	1,250	1,250		Ideally located with outdoor area and access - some open area for stretching
18.0	Residential Laundry		120	125	125		Washer, dryer, laundry tub, cabinets and counter
19.0	Janitor Closet/Storage Supply		60	100	100		For supplies and cleaning equipment
20.0	**Residential Sub-Total**	10		**5,470**	**5,850**		
21.0	**Circulation, Wall, and Mechanical Shaft Space (30%)**			1,641	1,755		
22.0	RESIDENTIAL TOTAL			7,111	7,605		
D.	APPARATUS AREAS						
1.0	Apparatus Bays		4,160	6,660	6,660		(4) double deep bays - (2) 90'x17' and (2) 90'x20'
2.0	Hose Tower		289	400	400		Room in base for hose washing equipment - provide actual stairs
3.0	Hose Storage			24	24		8 lineal feet of rack
4.0	Turnout Gear			480	480		(40) lockers
5.0	Clean Gear Storage			125	125		Room to keep extra set of gear away from potential contaminants - storage shelving
6.0	Workroom			250	250		Tool bench, parts cleaner, extra fluids, flammable cabinet, equip chargers, misc supplie
7.0	SCBA/Equipment			150	150		Compressor, spare bottles, workbench - oxygen cascade
8.0	Decon/Wash Zone			200	200		Extractor, decon shower, gear dryer, sink
9.0	EMS Supply			50	50		Small room w/ shelving for supplies
10.0	Recessed Work Counter			25	25		Recessed area w/ counter - maps - chargers
11.0	Special Teams Supply			100	100		
12.0	Lawn/Seasonal Storage			125	125		
13.0	General Bay Storage			150	150		Ice Machine
14.0	Single User Bay Toilet			80	80		
15.0	Mezzanine			-	-		Potential mezzanine space above support room for additioinal storage
16.0	**Apparatus Areas Sub-Total**			**8,819**	**8,819**		
17.0	Circulation, Wall, and Mechanical Shaft Space (15%)			1,323	1,323		
18.0	APPARATUS AREAS TOTAL			10,142	10,142		
E.	SUPPORT/STORAGE						
1.0	Mechanical Room(s)			300	300		Assume roof top HVAC equipment
2.0	Electrical Service			150	150		
3.0	I.T. Room			150	150		Server racks - Alerting System -
4.0	Small Workstation			25	25		Workspace within room
5.0	Storage/Equipment			15	15		Shelving Unit
6.0	Water Service/Sprinkler			75	75		Plumbing and Fire Protection Equipment
7.0	Emergency Generator			-	-		Located Outside
8.0	General Building Storage			250	350		Maintenance supplies, attic stock of materials

Village of Northbrook
Fire Department

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FGMARCHITECTS

Space Needs Program

February 6, 2023
FGM Project No. 23-3665.01

Item	Room/Area/Space	Counts Current Staffing	Existing Space	Sq.ft. Current Required	Sq.ft. Future Required	Counts Future Capacity	Notes
9.0	Support/Storage Sub-Total		-	965	1,065		
10.0	Circulation, Wall, and Mechanical Shaft Space (25%)			241	266		
11.0	SUPPORT/STORAGE TOTAL			1,206	1,331		
			21,719				
F.	BUILDING AREA SUBTOTAL			28,904	30,058		
G.	MULTI-STORY CIRCULATION FACTOR (assume one story)				-		Add 1,000 square feet per floor if multiple floors
H.	TOTAL BUILDING AREA REQUIRED			28,904	30,058		
I.	Stand Alone Storage Building		2,920	3,650	3,650		Add 25% for future growth
J.	EXTERIOR REQUIREMENTS						
1.0	Entry Plaza				500		Fallen Firefighter Memorial plaza
2.0	Flagpole Area				50		
3.0	Outdoor Covered Patio				200		
4.0	Electrical Transformer				100		
5.0	Generator				300		
6.0	Trash Enclosure				150		
7.0	Provide an extra 2 acres of site for future training opportunities						
K.	PARKING REQUIREMENTS				Spaces		
1.0	Public Parking				40		Spaces for visitors (include handicap stalls)
2.0	Staff Parking				10		Spaces for admin staff
3.0	Department Parking				10		Staff Chiefs - Training truck - Investigator and bureau (ideally under cover)
4.0	Shift Parking				20		Spaces for shift personel - (times two)
5.0	TOTAL PARKING REQUIRED				80		Total Spaces - locate for expansion

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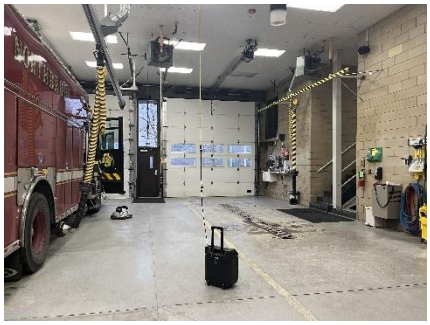
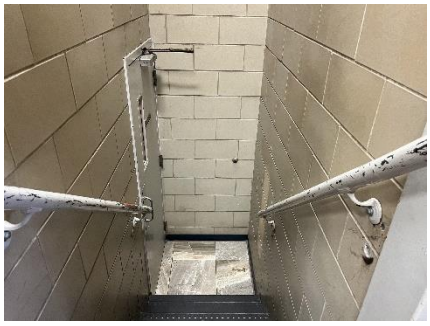
SECTION 4.4
EXISTING BUILDING PLANS

SECTION 4.5
EXISTING FACILITY REVIEW

Parking lot at rear of building



Apparatus Bay interior



Non-compliant stair to lower level living quarters

Summary

Existing Condition Analysis
A prior study of the Fire Station No. 11 facility was completed for the Village of Northbrook in 2019 by Healy Bender / Moyer Associates. The report included an assessment of existing exterior and interior conditions, and notable physical deficiencies. This document was provided to FGMA for reference. Per FGMA review of the study, the team corroborates many of the findings regarding the current condition of Fire Station No. 11 and items that are deficient and/or require repair.

Existing Conditions
Presently, there are numerous operational, space, safety and security and system issues. Since the fire station was constructed, minimal improvements have been made to accommodate the changing needs of the department. Currently, the building is negatively affecting operations.

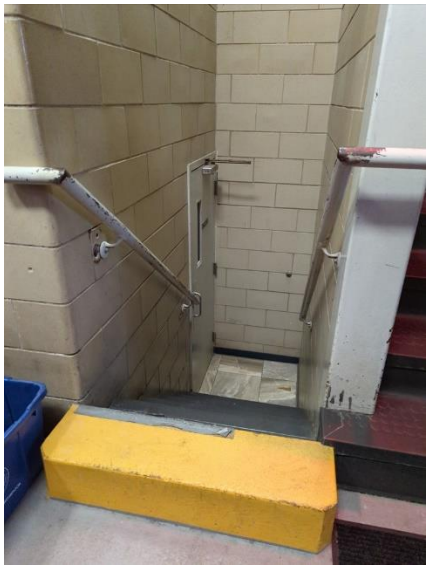
At the time of the site visit, existing drawings of the facility had not yet been made available. Therefore, the opinions and recommendations noted are based solely upon visual observations.

Site and Parking
The Fire Department Station No. 11 and Administration Building is located east of downtown Northbrook on a site of approximately 1.5 acres. The building is located at 740 Dundee Road and is bordered by Ballantrae Drive to the west, Water Filtration Plant to the north and the Union Pacific freight railroad line directly to the east.

The multi-level facility has a total of approximately 21,719 sq. ft. Originally constructed in 1971 as a standalone fire station, an addition to the facility was completed in 1990, to allow for Fire Department Administration to also occur within the same building.

Fire station operations occur on the south side of the building in a split-level structure, with administrative functions in a conventional multi-level structure comprised of main level, basement level and upper level.

Accessibility
The existing building was designed at a time when accessibility was not a significant concern. Laws governing accessibility requirements have since been enacted, including the Americans with Disabilities Act (ADA) adopted in 1990 (with subsequent revisions) and the Illinois Accessibility Code, which has been in effect since 1997 (with subsequent revisions).
The laws apply to municipalities and are intended to provide equal access to services and functions for the public which include visitors, employees, vendors and other users.



Narrow stair with built up curb in Apparatus Bay

Locker Room toilet area

Single user toilet room in administration wing

The laws are applicable to fire departments as there may be an administrative employee with a disability or staff on light duty with a temporary disability. These laws require more space for accessible routes (entries, corridors and stairways), workspaces and support spaces (toilet and locker rooms).

Publicly owned buildings are held to a higher standard for accessibility than privately owned buildings. While there are many rules that govern when a space needs to be brought into compliance with accessibility standards, generally, if a space is renovated it will be required to be brought into compliance with the Accessibility Codes and the ADA. Non-compliance with the requirements can subject the Village to a lawsuit by the U.S Department of Justice or the Illinois Attorney General, who has been aggressively enforcing compliance on municipalities.

Throughout the entirety of the original fire station building, a myriad of elements do not comply with current codes and accessibility requirements, rendering this whole portion of the building inaccessible according to modern standards.

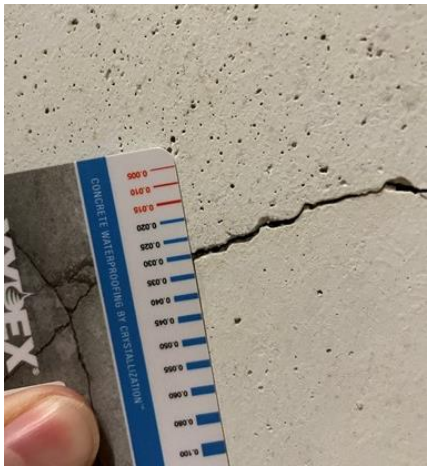
There are many instances throughout the building of improper door swings, lack of appropriate push and pull clearances as required and doors that need adjustments to hardware types to meet code.

Due to the multiple levels, numerous stairways are provided within the fire station, none of which are compliant. Stairs are consistently narrow in width, severely lacking in adequate landing areas and are not equipped with handrail extensions. At some stair locations off the bay floor, an additional curb has been built up at the top of the stair to prevent water infiltration to the lower levels below. In addition to being incompliant, these also pose a safety and tripping hazard. Significant modifications would be required to make the stair areas compliant, however there is insufficient physical space available to do so.

Occupied staff areas cannot be reached from an accessible route, as the majority of the fire station support spaces are located across multiple split levels.

Per the original building design, a single toilet/shower and locker room area was incorporated, and the station is currently lacking in separate, dedicated facilities for each gender. Insufficient maneuvering clearances are provided in all of these areas and both the toilet and shower areas are lacking an accessible stall. The remainder of the single user toilet facilities within the fire station are cramped and need to be brought into compliance with code.

On the administration side of the building, additional deficiencies with ADA and IAC guidelines were noted, particularly in the toilet areas. It is possible that the appropriate accessibility clearances might have been in place at the time of the initial construction of the addition, however these areas are no longer fully



Minor concrete crack at basement wall

Concrete cracks and spalls at the apparatus bay slab on grade

Thru-block crack at masonry wall in stairwell

compliant with current codes. If this portion of the building were to be renovated in the future, modifications would be required in order to meet compliance requirements. Toilet rooms would need to be increased in size and adjusted in configuration in order to provide greater clearances to fixtures as required.

Environmental Issues
This investigation did not include environmental testing. No vinyl asbestos floor tile was observed in the building, but other things such as pipe insulation and pipe joint coverings may contain asbestos. Also, due to the age of this facility lead paint may be present. Should any renovations or remodeling to the facility occur, testing of materials should be performed prior to any new construction.

Structural Analysis

General Observations
The following discusses, and is limited to, our observations and conclusions in regard to the structural elements visible at the time of our observation. We have not performed a full structural analysis of any building as a whole, nor shall our review be misconstrued as a guarantee, expressed or implied, of any specific structural element.

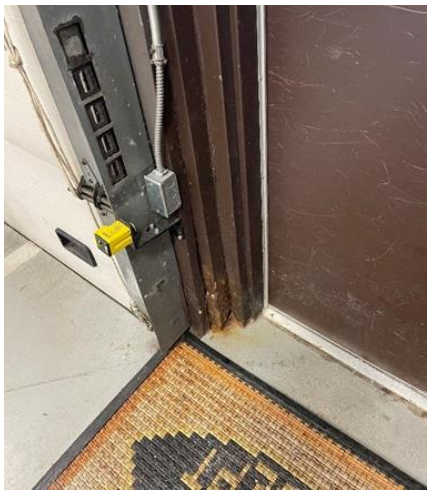
We observed a two-story structure consisting of steel bar joist roof framing supported on load bearing masonry walls. A partial basement and hose-tower were also observed. We made our observations from the interior, exterior, and roof elevation.

The foundation walls were in variable condition. We observed minor cracks in the EOC basement. However, we observed more significant cracks at the concrete wall adjacent to the basement stair. We also observed minor concrete cracks and spalls in the apparatus bay of the fire station, specifically at the trench drains.

We observed minor step and thru-block cracks at both the interior and exterior masonry walls. We did not observe evidence of water infiltration at the cracks.

We also observed significant corrosion at the base of the steel columns in the apparatus bay.

General Conclusions and Recommendations
We recommend that the concrete cracks at the basement stair be repaired. The cracks in the basement wall, as well as the cracks in the CMU, should be monitored for any future movement or worsening condition. We recommend crack monitors be installed and reviewed on a quarterly basis to provide a historical data set.



Significant corrosion at base of steel column in the Apparatus Bay

Thru-block crack at hose tower

Lower level mechanical room

It is our understanding that the steel framing in the apparatus bay has already been scheduled to be repaired and/or replaced. As the new steel will continue to be susceptible to the exterior elements and chemicals (e.g. de-icing salts), we recommend that the new steel be scraped, primed and painted with a rust inhibiting coating periodically, as part of a regular maintenance schedule in the future.

Mechanical and Plumbing Analysis

General Observations

The original station heating and cooling, including ventilation systems, are totally antiquated. The addition is nominal, at best, with respect to present day standards for comfort, ventilation, and remote access of systems. The apparatus bay is functional, but the rest of the station may be considered just usable in its current condition. Does not meet any standards of modern Fire Stations with respect to environmental conditions, ventilation, heating and cooling systems with nominal redundancy.

Summary

In general, the 2019 facility survey and report was well done. However, from the standpoint of what the current facility is, it is dated. The plumbing and mechanical systems are antiquated when compared to modern standards for the respective facilities they are installed in and serve.

Should any further renovation of the facility be under consideration, it would not be recommended to take the renovation of the facility to the extent of achieving net-zero or decarbonization goals, or making them all electric, as there is still no precedent in this extreme, and no funding programs for these alternatives that we are aware of at this time. There is a considerable lack of energy efficiency and compliance to modern and mainstream environmental control and adequate ventilation. It is likely not a good economic choice to upgrade the existing facility to meet the efficiency and environmental standards, as it would require complete system replacements.

From a mechanical/plumbing/fire protection consultant point of view, there is no logical way of updating this existing site to meet current standards.

Investigation of concealed areas within the building envelope was not performed during this analysis, however due to the age of the facility it is believed that the extent of insulation present within the wall and roof construction is inadequate to meet current energy efficiency standards. As a result, the thermal performance of the building is likely less than ideal and may also be contributing to inefficient operation of the HVAC systems.

Electrical services and generator, immediately west of train tracks

Fire alarm controls

Fire Station call desk

Original electrical service board

Electrical Analysis

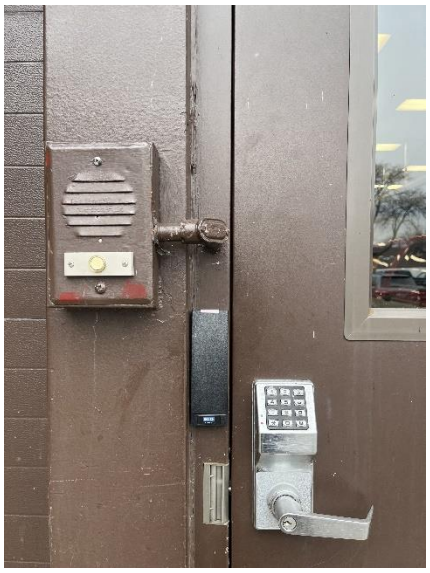
Service and Distribution
The electrical service is rated 1200 amperes at 208/120V-3Ph. The main service disconnect switch is located in the original 3-section ITE switchboard. The switchboard appears in fair condition however the 50+ year old electrical service equipment is nearing end of service life. Location of the service entrance is subject to train derailment damage. The distribution panels appear to be in fair condition. All branch panels are typical bolted circuit breaker type and appear to be anywhere from original and 50+ years of age to relatively new and in overall fair to good condition. Expansion capabilities are limited by physical breaker space and some older panels are serving as pass through wiring pull boxes. Relocation and replacement of the main electrical service entrance and associated equipment with new better protected service equipment is recommended.

Back-Up Power
The building has a permanently installed Cummins natural gas fired back-up generator set which powers the entire facility during power outages. Location of the generator equipment is adjacent the electrical service entrance and even more subject to train derailment damage than the service equipment. The generator system appears to be in overall fair condition. Relocation and replacement of the emergency generator and transfer switch and associated equipment with new better protected back-up generator equipment is recommended.

Emergency and Exit Lighting
Emergency and exit lighting appears to vary in age and general condition. All emergency lighting appears to be powered by the backup generator system and appears to be in overall fair condition. Updating of emergency exit signage equipment and locations is recommended.

Interior and Exterior Lighting
The interior lighting appears to have been updated to T5 lamped fluorescent in some areas and some areas retain screw base incandescent fixtures. Older fluorescent type fixtures still remain in some areas as well. The exterior lighting fixtures appear to be building mounted HID and LED and newer providing minimal lighting around the facility perimeter. The exterior lighting doesn't appear to meet uniformity standards. Upgrade of the interior lighting fixtures and controls throughout with new energy efficient LED fixtures and controls to meet IEC requirements is recommended. Updating of the exterior lighting systems with enhanced and uniform exterior LED lighting is recommended.

Fire Alarm System
Older EST 2 fire alarm system no longer current product offering in fair condition. Some coverage and annunciation appear to be lacking in the older sections of the building and the system is no longer a current product offering.



Access control to Apparatus Bay

Fire Administration Vestibule

Fire Station rooftop equipment

The system appears to have a wireless radio alarm communicator installed in the tower. Replacement of the existing fire alarm system and additional detections and annunciation device coverage in the older sections of the facility is recommended.

Telecommunications Systems
Telecommunication system is located on the second floor storage room. The room contains telephone, data and radio equipment. The equipment appears in working condition and adequate for its purpose. The majority of the cable lack organization, labels and identification. Consideration should be made to organize and label the cable for ease of maintenance.

Security Analysis

General System Observations
All Village facilities observed appear to be connected to an Avigilon video system and an Avigilon card access system. The sites are connected via fiber with other facilities such as Village Hall so video servers and programing for card access can be located at any location or multiple locations. There are no other security systems in place such as burglar alarms, duress systems, ETC. All sites seem to lack sufficient security for staff protection, inventory loss and incident tracking.

Building Security
Video surveillance cameras at about two or three locations on the exterior and about two locations on the interior appear to be provided. Access control via card readers is located on select areas of the exterior perimeter for building access as well as in select area of the building interior, about two total. Remote door control is only at the main lobby door with system controls located within the fire administration reception area. No building alarms are provided to secure the administration facility when unoccupied. The adjacent storage building on the site is not equipped with an alarm system or video monitoring capabilities.

Evaluation of 2019 Facility Study

Per the facility conditions assessment performed by Healy Bender / Moyer Associates in 2019, a building rating and Deficiency Notation Form was developed for each facility reviewed. According to the 2019 report, the rating system utilized was based on the ASTM E2018-15 standards and defined as follows:

- **Good Current**
  The system was built, renovated, or rehabilitated to equal or exceed the current nationally recognized standards addressing the item; it is functioning properly, and it appears to be properly maintained. Parts are readily available.

- **Good Dated**
  The system meets or exceeds the lawfully enforceable minimum standard but does not meet the corresponding current nationally recognized standard; it is functioning properly and appears to be properly maintained. Parts are readily available.

- **Fair**
  The system fails to meet minor lawfully enforceable minimum standards in one or more minor respects but is scheduled to be brought up to code. It is marginally functional or requires frequent repair to continue functioning and appears to be adequately maintained. Parts are becoming difficult to acquire and the system is nearing the end of its useful life.

- **Poor**
  The system fails to meet lawfully enforceable minimum standards in substantial respect; it does not function reliably and appears to be poorly maintained. Parts can no longer be acquired, and the system is beyond its useful life.

- **Very Poor**
  The system fails to meet lawfully enforceable minimum standards to such an extent as to pose an imminent threat to health or safety of building occupants or is completely nonfunctional.

Using the 'Deficiency Notation Form' as a guide, the FGMA study team referenced this document during the recent assessment of the facilities. The following is an updated assessment of existing building conditions.

EXISTING FACILITY DEFICIENCY NOTATION FORM Fire Station No. 11	2019 Study Documented Conditions	2023 Study Existing Condition Review

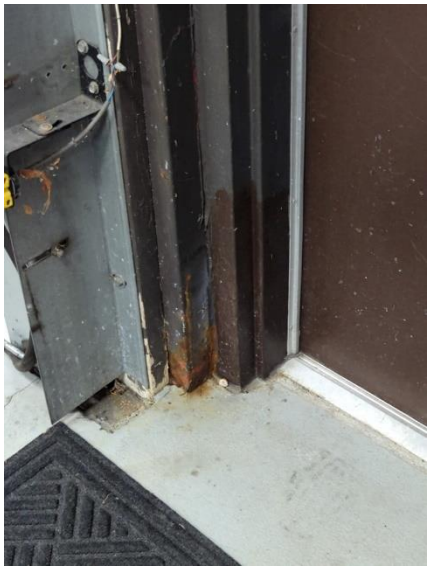
Item/ Issue		Rating	Assessment	Notes
SITE EVALUATION				
1.	Site Features	Good Current	REVISE - FAIR	Verify if sufficient public parking spaces available.
2.	Utilities	Good Current	REVISE - FAIR	Domestic and fire both non-current code compliant, lack reduced pressure backflow protection.
3.	Site Access	Good Current	REVISE – GOOD DATED	Parking & main entrance are accessed by a narrow shared drive
4.	Parking Lots, Site Maintainability	Good Dated	CONCUR	
STRUCTURAL EVALUATION				
1a.	Foundation (Basement Wall)	Fair	CONCUR	Recommend to monitor minor cracks observed in basement walls. Epoxy inject as required.
1b.	Foundation (Exterior Wall)	Fair	REVISE - POOR	Concrete crack repair required at wall of exterior basement stair
1c.	Slab on Grade	Fair	CONCUR	Recommend that the concrete cracks/spalls at apparatus bay should be sealed/patched.
2.	Floor Structural Systems	Good Current	CONCUR	
3.	Stairs, Ramps and Balconies	Good Current	CONCUR	
4.	Interior Bearing Walls	Good Current	REVISE - FAIR	Recommend to monitor sporadic CMU step and thru-block cracks.
5.	Exterior Bearing Wall	Fair	CONCUR	Recommend to monitor sporadic CMU step and thru-block cracks at both the station and storage building.
6.	Visible Steel Members	Poor	CONCUR*	It is our understanding repairs to the apparatus bay steel columns are scheduled. If completed, the assessment would be revised to GOOD CURRENT.
7.	Roof Structural Systems	Good Current	CONCUR	
BUILDING EGRESS / ACCESSIBILITY				
1.	Egress – Corridors	Poor	CONCUR	

2.	Egress – interior Doors	Very Poor	CONCUR	
3.	Egress – Exterior Doors	Fair	CONCUR	Overhead door operators and tracks well worn, in need of replacement; one door still original to 1971 building.
4.	Door Hardware	Poor	CONCUR	Hardware well worn throughout facility.
5.	Stairs, Landings, Handrails	Very Poor	CONCUR	
6.	Accessible Toilet Facilities / Lockers	Very Poor	CONCUR	
ARCHITECTURAL				
1.	Exterior Windows, Storefront, Curtainwall	Good Current	REVISE - FAIR	Windows on building addition In fair condition. Original windows in poor condition (single pane).
2.	Exterior Doors	Good Dated	REVISE - FAIR	HM Doors & Frames show signs of rust
3.	Exterior – Envelope and Miscellaneous Items	Good Dated	REVISE - FAIR	Moisture infiltration through CMU, Masonry wall cracks
4.	Roofing	Poor	CONCUR	
5.	Interior – Stairs & Ramps	Good Current	REVISE - FAIR	Narrow stairways, gas curb creates tripping hazard
6.	Interior – Toilet Rooms	Poor	CONCUR	
7.	Interior – Locker Room	Poor	CONCUR	
8.	Interior – Corridors, Lobby, Office	Fair	CONCUR	
9.	Interior – Apparatus Bays	Good Current	REVISE - FAIR	OH doors and epoxy floor finish show signs of wear
10.	Interior – Day Room	Good Current	REVISE – GOOD DATED	
11.	Interior – Kitchen	Good Dated	REVISE - FAIR	
12.	Interior – Bunk Room	Good Dated	REVISE - FAIR	Lack of adequate HVAC, lack of privacy & containment of infection
13.	Interior – Work Shop	Good Current	REVISE - FAIR	
MECHANICAL HVAC EVALUATION				
1.	Temperature Control System	Poor	CONCUR	Very poor.
2.	Heating Equipment / System	Poor	CONCUR	Single boiler, no back-up, compromised base-board heat, damaged or install too low to be effective. Hydronic piping from boiler corroding.

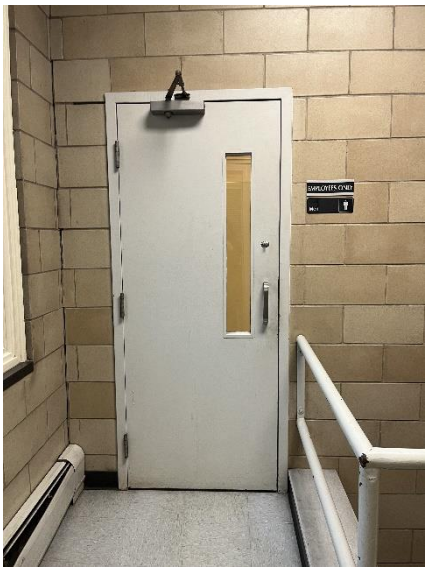
3.	Air Conditioning Equipment / System	Poor	CONCUR	
4.	Ventilation Equipment / System	Fair	CONCUR	Inadequate to today's standards.
5.	Exhaust System	Fair	CONCUR	General exhaust fans need up-dating, replaced with new.
6.	Miscellaneous Systems	Fair	CONCUR	Per original report, apparatus bay exhaust and make-up systems are not up to current standards.
PLUMBING EVALUATION				
1.	Domestic Water Piping	Fair	CONCUR	All domestic piping and fixtures are in need of up-dating and replacement. Multiple leaks in hot water piping due to corrosion throughout building reported by staff.
2.	Sanitary Waste Piping	Good Dated	REVISE - POOR	Dated and in need of replacement. Leaks in shower drains and backups in toilet main lines reported by staff.
3.	Storm Water Piping	Good Dated	CONCUR	Likely okay, but still dated and likely in need of replacement.
4.	Plumbing Pipe Insulation	Good Dated	BAD OR MISSING	Needs complete re-insulation.
5.	Domestic Water Heater	Good Dated	RECENTLY REPLACED	Replaced as needed.
6.	Sanitary Ejector Pump System	Good Current	CONCUR	Replaced recently.
7.	Storm / Drain Tile Ejector Pump System	Good Current	CONCUR	Replaced recently.
8.	Plumbing Fixtures	Fair	REVISE - POOR	Old flush tank, old fixtures and faucets, shower basin leaked, temporarily fixed, all in need of replacement and up-grades.
9.	Wall Hydrants and Hose Bibbs	Fair	REVISE - POOR	Original or older, with no vacuum breakers.
10.	Vehicle Bay Trench Drains	Poor	CONCUR	
FIRE PROTECTION EVALUATION				
1.	Fire Protection Incoming Service	Good Dated	CONCUR	Ddc not compliant with current code.
2.	Fire Protection / Sprinkler System	Good Dated	CONCUR	Main line routed thru existing fire station to feed addition.
ELECTRICAL EVALUATION				
1.	Electrical Service	Good Dated	REVISE - FAIR	50+ year old electrical service equipment end of service life.

				Location of service subject to train derailment damage.
2.	Electrical Distribution System	Fair	CONCUR	50+ year old electrical distribution equipment at end of service life still in place in some locations.
3.	Emergency Power System	Fair	CONCUR	Gas-fired Cummins back-up generator set powers entire facility.
4.	Emergency / Exit Lighting	Fair	CONCUR	Exit signage is nearing end of useful service life in some areas.
5.	Interior Lighting	Good Dated	REVISE - FAIR	Lighting mix of T5 fluorescent and screw base incandescent both inefficient compared to LED. Lack of IEC compliant controls.
6.	Exterior Lighting	Good Dated	REVISE - FAIR	Minimal and dated HID and LED doesn't appear to meet uniformity standards.
7.	Outlet Condition & Adequacy	Fair	CONCUR	Many older devices nearing end of useful service life otherwise quantity appears functional.
8.	Fire Alarm System	Good Current	REVISE - FAIR	Older EST 2 fire alarm system no longer current product offering. Coverage appears to be lacking in some areas.
9.	Telecommunication System	Fair	CONCUR	Lots of older unused telecom equipment and cabling abandoned in place.
10.	PA System	Good Dated	REVISE - FAIR	Older devices and exposed disheveled cabling.

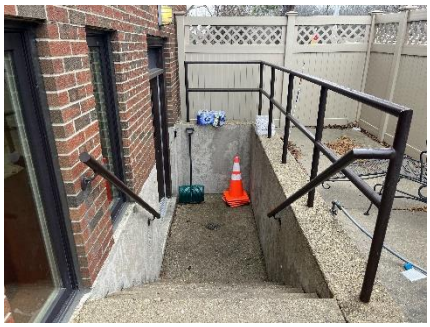
Significant concrete crack at basement stair



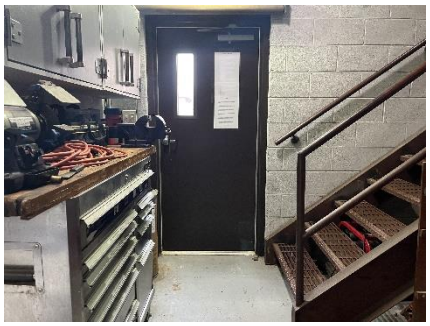
Significant corrosion at hollow metal door and frame



Cracking at corner of masonry wall, improper door clearances and railing condition



Fire Station exterior patio area



Reduced clearances at Hose Tower stair and exterior exit door

Corrosion at exterior steel lintels

Dated and inefficient exterior windows at Hose Tower

Deterioration at plastic laminate countertops and Interior cabinetry observed in numerous areas

Existing surface finish of roof

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SECTION 6
FLEET MAINTENANCE

SECTION 6.1
SUMMARY OF ANALYSIS

No Main Entry Designated for Fleet

No room on site for operations

Intermixed operations with public access

Summary of Analysis

The Northbrook Fleet Maintenance currently has staff of (1) Supervisor, (1) Administrative Clerk, (5) Mechanics, & (1) P/T Servicer. Currently the Department performs full-service maintenance, service, and modification services over 160 Village vehicles and small equipment. This includes buildouts of new acquisitions.

During this study, it is clear that the existing building is highly undersized and extremely inefficient. Lack or defined storage, lack of space overall, and lack support function for staff negatively impacts operations. It affects staffing morale and pride, and there affects staff recruitment and retention.

The current Fleet Services Garage was constructed in 1956, with an addition in 1966, and is about 11,994 sq.ft. in total size. This includes a very small storage mezzanine and basement.
The space needs analysis finds that 30,156 sq.ft. of space is necessary for Fleet Maintenance to operate effectively. The existing garage is only 11,994 sq.ft. This means that the Department is currently operating with a 18,162 sq.ft. deficit. Increasing the square footage of the building by 151% will provide the optimum amount of space for the Department and includes provisions for long-term growth.

Operationally, there is just no space to efficiently operate. Staff is constantly forced to shuffle vehicles during projects and to access equipment and/or tools. Another large issue is the lack of facilities for staff. The very limited toilet, breakroom, and meeting facilities do not allow adequate facilities for staff. No gender facilities currently exist in the garage.

It is unclear if a needs analysis was prepared at the time of the original building, or with the addition. Given the limited site available, it is assumed that the buildings were subject to what 'could' be completed within the existing parameters to 'better' operations. It is also unclear what level of maintenance was completed initially within the Fleet Maintenance for the Village. Current Fleet operations are full service, and as such, require a substantial amount of more room to function properly and serve its staff and equipment.

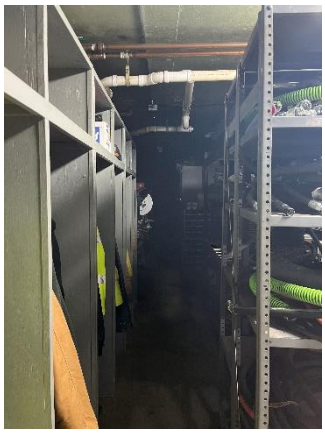
Currently, storage needs, equipment needs, and shear volume of work locks up multiple bays and contributes to the inefficiencies of the operations.

The issues of space and operations will be discussed further in this section.

The existing 11,994 sq.ft. fleet maintenance facility is located at 1227 Cedar Lane in Northbrook's downtown. The timeline for the project was as follows:

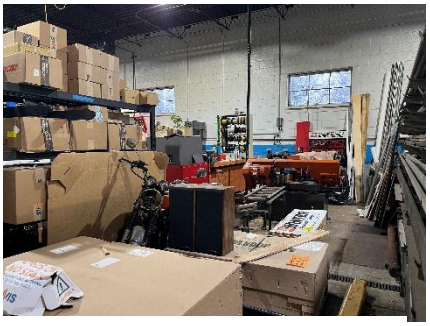
Original Building	1956
Addition	1966

SECTION 6.2
SPACE AND OPERATIONAL ISSUES



Clearance Issues

Clearance Issues



No dedicated storage/ equipment

Space and Operational Issues

Currently, the existing building does not have enough space and is not designed in a manner that allows the Fleet Maintenance to operate effectively. There are many reasons why the building does not function as an effective fleet maintenance garage.

1. **Clearance Issues: T**he height of the maintenance bays are low, and impeded by mechanical equipment and other obstructions, that reduce the heights to 16 feet or 13 feet, depending on which bay. This is inadequate to properly service fleet and heavy vehicles. Larger vehicles must be serviced outside year round. For example, aerial fire trucks must be repaired outside if cabs needs to be raised and their aerial can only be raised three feet for service in a specific location in the bays.

   In addition, bays are not sized independent of each other. Meaning, there are service bays that overlap each other depending upon the vehicle is service. This renders the second bay unusable.

   Work space around vehicles in the maintenance bays is cramped and doesn't allow for adequate room for materials, parts, tools, and other equipment. This is a function of the current facility being grossly undersized for operational needs.

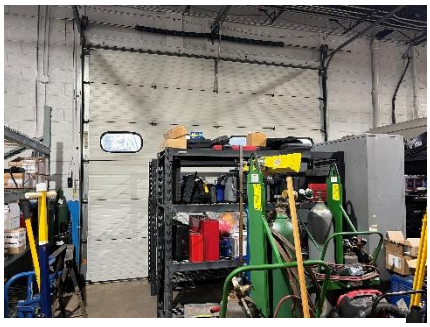
   Clearance issues equate to safety concerns, and therefore liability and risk for the Village.

2. **Village Program Storage:** The Fleet Maintenance has taken on Village programs merely by default. It may have started as perceived available space, it may have been by staffing oversight of the program, or it may have been simply assigned without full impact analysis. Regardless, the Village recycling program consumes maintenance bay space, which flexes during the year on quantity and need. Designated areas should be provided if this program will continue, that does not impede maintenance operations.

3. **Life Safety:** Emergency exit doors from the current facility are located within caged tool areas, which is a safety concern, especially in the type of operation that maintenance presents.

   No carbon-monoxide detection, or other code required emergency exhaust systems, are provided, putting occupants at risk.

   Even though a fire suppression system may not have been required at the time of initial construction of the facility, current operations and staff would benefit from the facility having a suppression system provided. Just from a risk mitigation approach of having multiple millions of dollars of vehicles in the maintenance shops, that would all be at risk if a fire were to occur, would offset the price for the systems installation. Having a



Piled Storage: fluids, gases, tools . . . – non-secure

Lack of designated storage

Inefficient storage in multiple places

suppression system would help to protect the occupants who are working in high-risk environment. Any new facility would require the inclusion of a suppression system.

4. **Storage:** Storage is a premium and limited. Storage puts combustibles (i.e. oxygen tanks, etc.) and other items in spaces that is not allowed by code or OSHA.

   Currently. one bay is permanently tied up being used for tire storage, impeding operations for maintenance. Permanent dedicated storage for items should be provided to keep operations open.

   The few dedicated storage areas in the facility are located on a mezzanine and in a basement. No mechanical assistance is provided for access. Heavy parts and equipment are currently kept in the basement, which is difficult to physically move things in and out of.

5. **Inefficiencies:** Due to storage issues and lack of space, circulation within the space revolves around where items fit. Therefore, staff must walk the majority of the facility to access parts, tools, and other necessities. This results in an excessive amount of travel time through the facility and making their operations very inefficient.

6. **Building Size and Deficiencies/ Lack of Space:**
   Only 2 bays out of the 5 in the addition are being used for maintenance/ service. The others are being used for storage, recycling, and changeover procedures. This requires additional time to rearrange projects and access equipment.

   Only 1 bay is being used for vehicle changeover, and timing requires longer wait time, tying up operational maintenance space. Change over operations should be kept independent from the maintenance bays due to the cleanliness required to complete changeover operations.

   Metal storage, fabrication equipment, and tools take up an entire service bay, impeding operations for maintenance.

   Lack of secure space for tools, shop equipment, police car changeover equipment, etc. Changeover equipment ordered months in advance due to uncertainty on supply chain availability (ETA).

   There are no female locker space or facilities within the building. The men's toilet room must be locked by personnel to be used for any female staff.

   Locker space for staff is located on a storage mezzanine, which is open to bay particulates, and does not provide any privacy. It is inaccessible and inadequately sized for staff operations.

Staff lockers located in storage area on mezzanine

Difficulty accessing storage from different levels

Entry direct into office area, with no security. No space for mechanics

Bays are used for recycling, vehicle changeovers and equipment, and tire storage/ service. This will change often, and may tie up operations and availability, depending upon needs.

There is only one long term service heavy truck bay, which ties up operations and availability.

Currently there is no quick service lane for unscheduled repairs to vehicles in operation. So current projects must be moved and relocated in order to quickly service in-service vehicles, which require immediate attention.

With no dedicated space for fluids, there is no secure space for for oils and chemicals, which makes inventory difficult.

Given the amount of maintenance that the Fleet Department is accountable for, it is difficult to believe that they have no overhead crane for lifting heavy equipment.

Welding and fabrication work occurs wherever space is available, and has no designated area. As such, improper ventilation/ no ventilation is provided, putting occupants as risk.

The limited toilet facility within the building ends up being a high traffic washroom, used by police and maintenance workers on the road, due to convenience or proximity. It is undersized for Department staff, not including the additional stress from other Village staff.

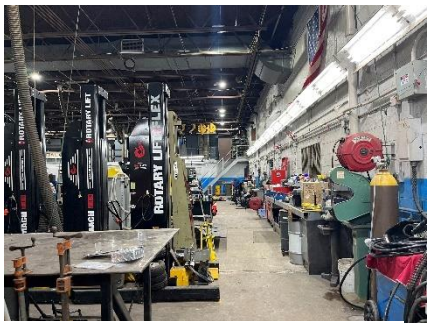
There is NO office privacy. They are currently open and available to anyone who wanders into the facility.

Village Fleet vehicle replacement cycles have been extended. This results in additional work needed to maintain and service older vehicles.

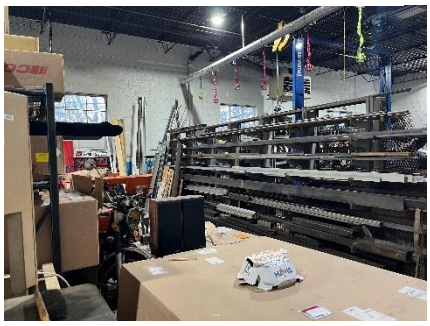
There are no spaces for the mechanics, other than a breakroom. This results in a lack of space for training, shop manuals, and meeting with vendors and staff. Meeting in the middle of a mechanics bay that it already lacking clearances puts staff in a safety risk.

There is no small equipment drop off area for repairs. Since the facility is remote from other Village departments, having a designated place for equipment to be serviced is critical for efficiencies and chain of custody. Having something like a loading dock, or delivery area would help to organize operations.

With the change in fleet operations (whether today or future), there is no space for alternative fuel equipment. This could be everything from



No dedicated fabrication area



No dedicated storage for fleet outfitting, resulting in loss of workspace

Breakroom is only space for staff, and is also used by other departments

Inadequate restrooms

chargers and battery equipment to whatever the next technology is. All of this equipment takes up space and needs to be considered for a future proofed building.

There is no air conditioning in the facility. Office functions and staff service areas should minimally provide cooling for operations. But, to be more competitive in recruitment and retention, providing air conditioned bays would be a great asset that would follow industry competitors, and should be considered.

7. **Post Pandemic Changes:**

The past couple of years have been a learning opportunity for many organizations. Operations were looked at with fresh eyes. But they were also time periods to experience and understand a whole different set of concerns that may need to be addressed.

The on-going supply chain issues slowed possibility of getting parts in a quick turnaround timeframe. As a result, bays were tied up for longer time periods with out of service vehicles due to parts shortages and non-common parts. This stretched onward for months at times, which hurt operations and efficiencies. Currently, times have even increased more due to continued supply chain issues.

Operations also experienced very long lead times for outside work due to world wide staffing shortages. As a result, less work is being contracted out, and adds to the in house work that the Department must absorb.

With on-going staffing shortages, having space to address and/or improve employee wellness and health must be factored in for employee retention. As stated earlier, municipal agencies are now having to compete for staffing, compete with other municipalities, for recruitment and retention.

The issues identified above provide an overview of some of the operational and space issues the existing building suffers from. Correcting these deficiencies will require additional space and a reorganization of the floor plans.

8. **Parking/ Site Analysis:**

As part of the needs analysis, it is necessary to determine the parking requirements for the entire building. To perform this analysis, we reviewed projected parking requirements and then compared the requirements with the actual parking counts.

Summary of Findings

The facility barely meets parking needs of actual staff. But given the nature of the operation, much more additional parking and yard space should be provided for efficient use.

Unsafe access from bays

Used fluids, scrap, mechanical, etc. all open and exposed to the neighborhood

Blind corner access, and difficult bay access for service

Providing additional bay space in the program will allow for waiting completed vehicles to be housed inside. This is a concern for something like a fire truck in the winter months where they are subject to damage if left to freezing temperatures. There is also additional space provided within the program to allow for staging of project vehicles that are waiting on parts and other short term needs that keep the project close and secure, but free up a maintenance bay for another vehicle.

Even with these interior vehicle staging spaces, exterior parking for fleet vehicles and equipment is necessary. Please note, some of these vehicles that are serviced should be secured. Not ever being able to know how many and at what time, we recommend providing a secure parking lot for staging of fleet vehicles and projects.

The current site has multiple issues:

- Metra traffic and parking restrict access & maneuverability of larger vehicles
- High speed commuter vehicle traffic and foot traffic inter-mixed with Department operations is a liability.
- Blind spots exist around the outer perimeters due to location immediately adjacent to drive and alleys.
- 24-hour plow truck and snow removal equipment service and “pit stops” prove difficult to service and maneuver on the limited site.
- Noise pollution to neighborhood from shop tools and equipment and vehicles year round
- Ice sheets falling off the immediately adjacent water tower cause damage to building, vehicles, and potentially staff.
- Since the current lot serves as a cut-through for public access, there is great liability between large vehicles and operations and children playing in snow banks or ice skaters walking through parking lot. Similarly, there is still liability in non-winter season when residents with children are walking and looking at vehicles parked outside and in shop during service.
- This type of facility is usually a ‘back of house’ commercial operation. Its type of operation is not something that is aesthetically pleasing to look at, or work around. Given the location and limited site, this facility is an eye sore
- There is NO outside secured storage. This means anything that would be required with its operation are subject to theft, public tampering, or increased damage. Outdoor storage of scrap metal, used oil filters, flammable absorbent pads are examples of potential risks.

- There is not enough parking, and hence a lack of outdoor equipment storage space and protected outdoor parking
- The vehicles being serviced are stored un-securely. Police cars and fire department vehicles are parked outside, which have sensitive equipment and expensive systems in them. Due to availability, these vehicles are sometimes picked up after working hours, meaning that they are subject to possible public tampering with no staff oversight on site.
- There is literally only eight parking spaces for staff.
- The Village recycling program generates high amounts of traffic during E-waste recycling. This makes operations difficult to access garage space and intermingles public and village traffic as an increased liability.
- The current site is extremely troublesome for deliveries. The must unload in alley and back semi-trucks to Cedar.
- There is routine work at the power station which blocks access to rear of garage and driveway without notice.
- The parking area must maintain access to the fields for the Park District, which limits function.
- The remote location of the department requires additional parking for out of service vehicles. It also requires multiple daily trips to other Village buildings to simply pick up out-of-service vehicles due to limited space. This is highly inefficient.
- Parking spaces need to be provided to house plows and V-boxes from trucks during the non-winter months. While these could be housed elsewhere in the Village, if fleet is responsible for maintenance of these pieces of equipment, and getting them on/off the trucks, they should be located near Fleet.

Minimum parking requirements for Fleet are as follows:

Fleet Maintenance Parking Requirements

Description	Spaces
• Fleet Visitor Parking (non-secure)	5
• Fleet Employee Parking	10
• Heavy Vehicle Parking	5
• Fleet Vehicle Parking	12
• V-Box Seasonal Storage Spaces	8

The total recommended spaces anticipate a full department while allowing for flexibility in operations.

SECTION 6.3
SPACE NEEDS PROGRAM

Following this page is the Fleet Maintenance Space Needs Program.

Fleet Maintenance Space Needs Program Pages 1-4

Note that Space Needs Programs attempt to compare the size of existing space to space required. In many cases, it is difficult to provide an "apples to apples" comparison because many spaces accommodate more than one function in the existing building. Therefore, we suggest using the space comparison as a general comparison only.

The following items are meant to highlight differences between current program (FGMA) and previous program (Healy-Bender - HB) for ease of understanding.

- The HB program based the need/ future data on available square footage at current location, not ideal for operations
- The HB program had the Administration square footage need less than the existing size, and they did not include records and additional future staff
- The HB program did not include training or fitness rooms
- The HB program did not include opportunity for employee health, well-being, recruitment or retention. For a future proofed facility, and to complete in the current market, this must be included to compete with other municipalities
- The HB program did not include bulk oil, chemicals, oils and gas cylinders storage
- The HB-program removed recycling from the program
- The HB program had storage needs less than ideally necessary.
- The HB program had the building support need about half of what is minimally necessary.
- The HB program did not include an express bay. This was discussed in programming as being a high necessity for operations. This allows for quick repairs during show removal events and other tasks so service bays would not disrupted. It would also be used as a wash bay, cleaning vehicles during services. As replacement cycles increase, rust prevention by means of washing and neutralizing corrosive compounds is critical.

Village of Northbrook
Fleet Department
Space Needs Program

DRAFT

FGMARCHITECTS
February 6, 2023

FGM Project No. 23-3665.01

Item	Room/Area/Space	Employee Counts	Sq.ft.			Employee Counts	Notes
		Current Staffing	Existing Space	Current Required	Future Required	Future Capacity	
A.	PUBLIC ENTRY						
1.0	Public Entry Vestibule		-		80		Entrance vestibule
2.0	Public Lobby		-		150		Provide seating for (3)
3.0	**Public Entry / Training / Community Room Sub-Total**		-		**230**		
4.0	**Circulation, Wall, and Mechanical Shaft Space**				58		
5.0	PUBLIC ENTRY		-		288		
B.	ADMINISTRATION						
1.0	Administrative Clerk Office	1	see total below		210	2	Desk, credenza, guest seating for (2), file - located near Fleet Supervisor. Window to lobby for reception. Counter space for a part-time staff member for future
2.0	Fleet Manager Office	1	see total below		180	1	Desk, credenza, guest seating for (2), file - located near Admin Clerk.
3.0	Office	0			120	1	Desk, credenza, guest seating for (2) - located near Admin Clerk.
4.0	Conference Room/ Training Room		-		450		To accomodate 8-10 people. Include a counter with (3) workstations for mechanics and flex. Include copier, library, & manuals. Located near Fleet Supervisor.
5.0	File Storage		see total below		120		Secure file storage room with (6) 42" lateral files
6.0	**Administration Sub-Total**	2	241		**1,080**	4	
7.0	**Circulation, Wall, and Mechanical Shaft Space**				378		
8.0	ADMINISTRATION TOTAL				1,458		
C.	STAFF SUPPORT AREAS						
1.0	Universal Locker Area	6	on bay flr		300	6	Provide (18) 24" wide lockers w/ foot drawer and bench area. Includes lockers for facilities
2.0	Single User Toilet/Shower Rooms		136		400		(4) single user rooms, each with (1) toilet, (1) lav, (1) shower, and (1) changing bench
3.0	Uniform Service Area				30		Supply lockers, laundry locker, that is accessible to all staff.
4.0	Lunchroom		323		600		To accommodate 8-10 people, but maximum up to 14 people for staff training and other PD or PW staff. Include large TV/monitor. Fridge, (3) microwaves, (3) toaster ovens, no stove, dishwasher, sink, ice machine, coffee station, vending machines, & bottle filler. Located away from shop. area for charging devices and equipment. Access to outside patio with grill.
5.0	Laundry Room		-		100		Washer, dryer, drying rack space or equipment dryer, slop sink.
6.0	Weather Gear Lockers		-		120		(10) lockers, located on way from bay to main locker room, but separate.
7.0	Fitness Area		-		200		(2) treadmills/ cardio units, free weights, stretching area.
8.0	**Staff Support Areas Sub-Total**				**1,750**		
9.0	Circulation, Wall, and Mechanical Shaft Space				613		
10.0	STAFF SUPPORT AREAS TOTAL				2,363		

Village of Northbrook
Fleet Department
Space Needs Program

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FGMARCHITECTS
February 6, 2023

FGM Project No. 23-3665.01

Item	Room/Area/Space	Employee Counts	Sq.ft.			Employee Counts	Notes
		Current Staffing	Existing Space	Current Required	Future Required	Future Capacity	
D.	FLEET						
1.0	Small Fleet Maintenance Bays		3,420		4,800		80' long, (1) 18' wide access lane to (4) 20'x30' work bays. (1) 12' staging lane off access lane for progress vehicles. (3) work bays with either 2 or 4 post overhead racks and (1) work bay with an in-ground lift. Room in work bays for mechanic tools, benches, and equipment. Provide 18' high-speed coiling OH door in/out each side.
2.0	Express Maintenance Lane		-		1,760		80' long, (1) 22' wide. Intended for in-service and quick service. To be also be used for overnight storage of vehicles for department pickup. Located near tools storage. Adjacent racks for plow blades, tools, benches, etc. equipment to allow bay to be used for wash of vehicles. Provide 18' wide high-speed coiling OH door in/out each
3.0	Large Fleet Maintenance Bays		4,711		4,680		(2) 90' long x 26' wide, (3) heavy vehicle work bays utilizing mobile lifts and (1) work bay with an in-ground lift. Room in work bays for mechanic tools, benches, mobile lift charging, and equipment. Provide multi-directional 5 ton hoist over entire Large Fleet Maintenance Bays and adjacent fabrication areas. Provide 18' high-speed coiling OH doors for each bay.
4.0	Bulk Oil & Gas Supply		628		1,000		Depressed containment. Bulk oil supply (3) large tanks (palette), bulk gas cylinder supply, (3) kinds of anti-freeze, drum fluid, hydraulic fluids, DEF, washer fluid drums, room for (12) drums, bottle Oxygen (possibly shift to Fire?), shelving with (1) 5-gallon pails, chemical/cleaner storage. To have direct access to exterior and shop. Room for empty drums until pickup.
5.0	Parts & Small Shop Tool Storage		700		800		Secured caged area. Immediate parts & shared hand tools, stand up counter for inventory and access.
6.0	Wash Area/ Boot Wash		-		150		Hose down equipment, boot wash unit, slop sink, equipment drying area. Connected to Laundry Room.
7.0	Emergency Shower/ Eye Wash Station		-		100		(2) 50 s.f. separate areas - one on either side of the bays for emergency convenience
8.0	Mezzanine Storage		692		2,000		Long term storage and large bulk storage. Includes vehicle seats/ panels, tires, bulk equipment, etc. Make capable of 225lbs loading. Hoist access.
9.0	Fabrication Area		in bays		600		Welding, steel rack, milling, drill press, welding table, & horizontal saw. Large enough for plow access. Open above to allow the 5-ton hoist from Large Fleet Maintenance Bays.
10.0	Wood Shop		parts stor		600		Located near the fabrication shop. Table saw, sanders, chop saw, drill press, etc. Sized to accommodate Facilities use of shop
11.0	New/Old Tire Storage		in bays		600		20'x30' - Racks for tires, with direct exterior access. Adjacent to a PD changeover bay for possible use on tire changing.
12.0	Small Equipment Workroom & Parts		parts stor		400		20'x20' - Secured caged area for equipment repair, bench, tools, etc.
13.0	Vehicle Changeover Bays		in bays		3,200		(4) 35' long x 21' wide bays, one with a 2 or 4 post rack that could be used for tire changeover. Extra space for large racking of police changover supply (lights, equipment, bars, etc.). Bay for storage of vehicles on long lead turnover.

Village of Northbrook
Fleet Department
Space Needs Program

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FGMARCHITECTS
February 6, 2023

FGM Project No. 23-3665.01

Item	Room/Area/Space	Employee Counts	Sq.ft.			Employee Counts	Notes
		Current Staffing	Existing Space	Current Required	Future Required	Future Capacity	
14.0	Recycling Storage Area		on bay flr		400		Palletized storage for Village recycling programs. Space for 15 floor accessed pallets and dumpster
15.0	Bay Toilet		-		160		(2) 80 s.f. separate rooms - one either side of the bays for convenience.
16.0	Facilities Storage		-		320		centralized storage for Village facilities needs.
17.0	General Storage		106		120		Miscellaneous storage
18.0	**Fleet Sub-Total**				**21,690**		
19.0	Circulation, Wall, and Mechanical Shaft Space				3,254		
20.0	FLEET TOTAL				24,944		
E.	BUILDING SYSTEMS AND MAINTENANCE SPACES						
1.0	Elevator		-		-		Assumed single story facility
2.0	Elevator Machine Room		-		-		Assumed single story facility
3.0	Emergency Generator		-		-		Located outside. Fully backed up facility.
4.0	Mechanical Room(s)		-		300		Plumbing and Fire Protection Equipment (assume roof top HVAC equipment)
5.0	Electrical Room		-		200		
6.0	Gas Service Room		-		-		In mechanical room
7.0	I.T. Server Room		-		120		Space for up to (1) server rack and (1) communications rack
8.0	Janitor's Closet		-		100		For supplies and cleaning equipment
9.0	Delivery Staging Area		-		200		Delivery staging area
10.0	**Building Systems and Maintenance Spaces Sub-Total**		-		**920**		
11.0	Circulation, Wall, and Mechanical Shaft Space				184		
12.0	BUILDING SYSTEMS AND MAINTENANCE SPACES TOTAL				1,104		
F.	BUILDING AREA SUBTOTAL		11994		30,156		
G.	MULTI-STORY CIRCULATION FACTOR		-		-		Assumed single story facility
H.	TOTAL BUILDING AREA REQUIRED		0		30,156		
I.	EXTERIOR REQUIREMENTS						
1.0	Flagpole Area				50		
2.0	Patio				250		Outdoor seating with hookup for grill, located off lunchroom.
3.0	Electrical Transformer				100		
4.0	Generator				300		Fully backed up facility.
5.0	Trash Enclosure				150		for (3) 4-yd dumpsters, cardboard, scrap, trash

Village of Northbrook
Fleet Department
Space Needs Program

DRAFT

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February 6, 2023

FGM Project No. 23-3665.01

Item	Room/Area/Space	Employee Counts	Sq.ft.			Employee Counts	Notes
		Current Staffing	Existing Space	Current Required	Future Required	Future Capacity	
6.0	Security fencing with power gates				-		
J.	**PARKING REQUIREMENTS**				Spaces		
1.0	Staff Parking				10		Spaces for personal vehicles on secured side
2.0	Visitor Parking				5		Spaces for visitors
3.0	Salt Spreader Storage Spaces				9		Spaces for box equipment on storage racks.
4.0	Large Vehicle Maintenance Parking				5		Parking for up to 40' long vehicles - Staging for maintenance projects
5.0	Covered/ Cold-Storage Fleet Vehicle Parking				6		Parking for 20' long vehicles - Weather-resistent storage for maintenance projects
6.0	Fleet Vehicle Maintenance Parking				12		Parking for 20' long vehicles - Staging for maintenance projects
7.0	**TOTAL PARKING REQUIRED**				47		Total Spaces
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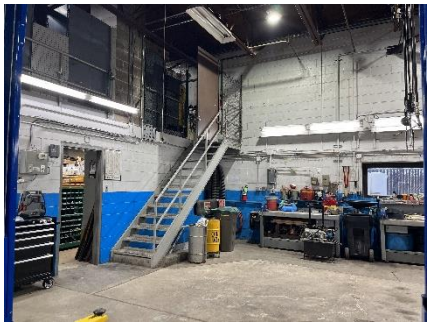
SECTION 6.4
EXISTING BUILDING PLANS

SECTION 6.5
EXISTING FACILITY REVIEW



Stair to Mezzanine

Basement level Parts Storage Room

Mezzanine level Locker Room and storage area

Summary

Existing Condition Analysis
A prior study of the Fleet Maintenance facility was completed for the Village of Northbrook in 2019 by Healy Bender / Moyer Associates. The report included an assessment of existing exterior and interior conditions, identification of operational issues and notable physical deficiencies. This document was provided to FGMA for reference. Per FGMA review of the study, the team corroborates many of the findings regarding the current condition of the Fleet Maintenance Facility and items that are deficient and/or require repair.

Existing Conditions
Presently, there are numerous operational, safety and security system issues. Since the maintenance garage was constructed, very minimal improvements have been made to accommodate the changing needs of the department and vehicles that require servicing. The garage is significantly short of space compared to what is expected for fleet maintenance operations.

At the time of the time of the site visit, existing drawings of the facility had not yet been made available. Therefore, the opinions and recommendations noted are based solely upon visual observations.

Site and Parking
The Fleet Maintenance Building is located near the heart of downtown Northbrook on a site of approximately 1.5 acres. The building is located at 1227 Cedar Lane and is bordered by the Northbrook Village Hall to the west, Northbrook Public Library to the north, residential neighborhood and commuter parking lot to the south, and water tower site and Metra commuter railroad line to the east.

The single level facility has a total of approximately 11,994 sq. ft. Originally constructed in 1956, a subsequent addition to the facility was added in 1966, and the structure has remained unchanged since. Primary operations occur at the ground level, and on the north side of the original building, a partial basement level and mezzanine are also provided. Mechanical equipment and storage are located in the basement with additional storage and staff locker areas located on the mezzanine level.

Accessibility
The existing building was designed at a time when accessibility was not a significant concern. Laws governing accessibility requirements have since been enacted. Including the Americans with Disabilities Act (ADA) adopted in 1990 (with subsequent revisions) and the Illinois Accessibility Code, which has been in effect since 1997 (with subsequent revisions).

The laws apply to municipalities and are intended to provide equal access to services and functions for the public which include visitors, employees, vendors and other users. The laws are applicable to public works departments as there

Toilet Room

Suspected asbestos floor tile

Deterioration at basement concrete wall

may be an employee with a disability or staff on light duty with a temporary disability. These laws require more space for accessible routes (entries, corridors and stairways), workspaces and support spaces (toilet and locker rooms).

Publicly owned buildings are held to a higher standard for accessibility than privately owned buildings. While there are many rules that govern when a space needs to be brought into compliance with accessibility standards, generally, if a space is renovated it will be required to be brought into compliance with the Accessibility Codes and the ADA. Non-compliance with the requirements can subject the Village to a lawsuit by the U.S Department of Justice or the Illinois Attorney General, who has been aggressively enforcing compliance on municipalities.

Within the Fleet Maintenance building, numerous elements of the facility do not comply with current codes and accessibility requirements. Adequate toilet and locker rooms within the facility are severely lacking. Only one multi-user toilet room is provided within the building that is currently shared among all employees, regardless of gender. The toilet room appears to have been originally designed for men's use only, with no separate dedicated facilities provided for female use only. Attempts to provide accessible features within the toilet room appear to have been made over the years, however, full compliance with all necessary clearances, positioning of fixtures and design requirements within the toilet room is not present.

Located on the mezzanine level, the locker room is entirely inaccessible and significantly deficient in adequate clear overhead height from the top of the floor to the underside of the exposed roof structure. Roof joists are precariously low in this area and can pose a hazard to staff that occupy this level.

There are many instances throughout the building of improper door swings, lack of appropriate push and pull clearances as required and doors that need adjustments to hardware types to meet code.

Existing stairs are not equipped with adequate landing areas and handrail extensions are not provided at any of the stair runs.

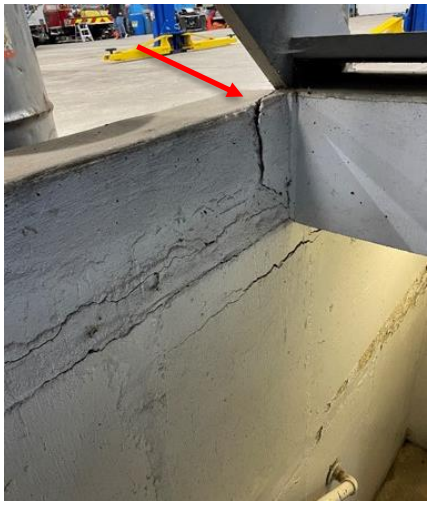
Environmental Issues

This investigation did not include environmental testing. During the field observation, it was reported by staff that asbestos floor tile is believed to be present in the building. Should any renovations or remodeling to the facility occur, testing of any material suspected of containing asbestos should be performed prior to any new construction.

In the partial basement area, evidence of prior water infiltration is visible in numerous areas. Efflorescence at the concrete wall near the basement stair was observed, and deterioration of the concrete basement foundation wall

Concrete crack at basement stair

Efflorescence at basement stair



Significant concrete crack at base of mezzanine stair

surface is visible along a lengthy portion of the upper east wall, presumably due to seepage of some form.

Structural Analysis

General Observations

The following discusses, and is limited to, our observations and conclusions in regard to the structural elements visible at the time of our observation. We have not performed a full structural analysis of any building as a whole, nor shall our review be misconstrued as a guarantee, expressed or implied, of any specific structural element.

We observed a one-story structure consisting of steel bar joist roof framing supported on load bearing masonry walls with a brick veneer. A small mezzanine and basement structure were also observed. We made our observations from both the interior and exterior. We did not observe the structure from the roof.

We observed localized areas of the foundation which were in poor condition. We observed moderate concrete cracks and minor efflorescence at the concrete wall adjacent to the basement stair. The most significant crack was observed at the base of the mezzanine stair. Localized areas of efflorescence were also found in the basement wall adjacent to the maintenance bays.

The slab-on-grade was in poor condition. We observed significant cracks and spalling globally throughout the maintenance bays.

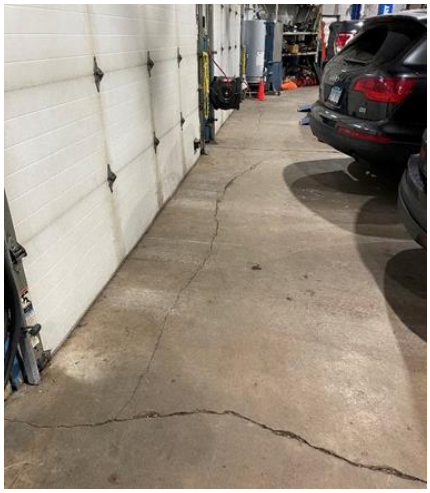
Along the exterior of the building, we observed several areas of damage. At the man-door in the southeast corner of Service Building #2, we observed significant step cracking and displacement of the concrete masonry (CMU) and clay brick masonry. We also observed deterioration and/or missing mortar at the base of the walls.

We observed water staining at the gypsum roof in Service Building #1. The damage was observed primarily around the skylights, but localized areas were also observed elsewhere.

General Conclusions and Recommendations

It is our opinion that structural repairs of the concrete walls are required. Additionally, we recommend that the slab-on-grade be repaired or replaced, with special attention paid to the slope of the slab so as to mitigate any drainage/water infiltration causing efflorescence at the basement walls.

We also recommend that the lintel over the aforementioned man-door be exposed, scraped, primed and painted with a rust-inhibiting coating. If section loss is found to be significant, we recommend the lintel be replaced. The masonry at each bearing end should be rebuilt in-kind, toothed in and flush



Global concrete cracks and spalls in the slab on grade

Missing / deteriorated mortar at exterior wall

Step cracks and masonry displacement

with the adjacent masonry.

Finally, we recommend that the roof membrane be reviewed and repaired or replaced as necessary to mitigate any future water infiltration at the gypsum deck.

Mechanical and Plumbing Analysis

General Observations

All the systems can be considered just sufficient to maintain minimum environmental conditions. It is obvious the facility is insufficient to house all that the Village needs in terms of maintenance and storage. Does not meet the standards of modern Fleet Maintenance facilities with respect to maintaining environmental conditions for the safe and efficient servicing of various vehicles and in the support of the staff which works there. No redundancy in the various ventilation, heating and cooling systems. No way to remotely connect to the systems and check on the operational status.

Summary

In general, the original 2019 facility survey and report was well done. However, from the standpoint of what the current facility is, it is dated. The plumbing and mechanical systems are antiquated when compared to modern standards for the respective facilities they are installed in and serve.

Should any further renovation of the facility be under consideration, it would not be recommended to take the renovation of the facility to the extent of achieving net-zero or decarbonization goals, or making them all electric, as there is still no precedent in this extreme, and no funding programs for these alternatives that we are aware of at this time. There is a considerable lack of energy efficiency and compliance to modern and mainstream environmental control and adequate ventilation. It is likely not a good economic choice to upgrade the existing facility to meet the efficiency and environmental standards, as it would require complete system replacements.

From a mechanical/plumbing/fire protection consultant point of view, there is no logical way of updating this existing site to meet current standards.

Electrical Analysis

Service and Distribution

The electrical service is rated 600 amperes at 208/120V-3Ph. 30+ years of age undersized for a facility of this size with welding stations. Only adequate due to there being no air conditioning in the building. The main service disconnect switch is located in a Siemens fusible distribution panel that was manufactured in 1992. The distribution panel appears in fair condition. Power is distributed from the main distribution panel to a number of branch circuit panels. All

Basement level Mechanical Room

Electrical service panels

Electric service and generator plug

panels are typical bolted circuit breaker type and appear to be in fair overall condition. Expansion capabilities are limited by physical breaker space. A larger updated electrical service with integrated on site emergency generator back-up system is recommended.

Back-Up Power
The building does not have a permanently installed back-up generator set and the portable generator set allotted for the facility is being utilized elsewhere at current. As such the facility is without power and of little functional use during power outages. A permanent on site back-up genitor system for the facility is recommended to allow continued functionality during outages.

Emergency and Exit Lighting
Exit signage is older and beyond useful service life. Emergency lighting is minimal and insufficient without generator back-up. Updating of existing emergency exit signage and emergency lighting systems is recommended.

Interior and Exterior Lighting
The interior lighting appears to have been retrofitted but not updated. Older fluorescent type fixtures still remain. The exterior lighting fixtures appear to be building mounted and newer providing minimal lighting around the facility perimeter. Replacement of interior lighting fixtures and controls with new IEC compliant LED fixtures and controls is recommended.

Fire Alarm System
Basic IFP-50 Silent Knight fire alarm system in good condition however some coverage and annunciation appears to be lacking and the system is no longer a current product offering. updating of existing fire alarm system to a newer fully addressable fire alarm system with expanded annunciation capabilities is recommended.

Telecommunications Systems
Telecommunication system is provided to support office functions and some library functionality per staff. The equipment rack is located in the office area and appears to be adequate for the facilities needs. Equipment appears minimal and cabling is installed open air. Some of the cabling appears to be out dated. Updating the rack and cabling plant with new secured high speed infrastructure is recommended.

Security Analysis

General System Observations
All Village facilities observed appear to be connected to an Avigilon video system and an Avigilon card access system. The sites are connected via fiber with other facilities such as Village Hall so video servers and programing for card access can be located at any location or multiple locations. There seems to be very little other security like burglar alarms, duress systems, ETC. All sites

Access control at main entry door / Inaccessible door hardware

Cracks and spalls at exterior wall

Cracking at overhead door concrete apron

seem to lack sufficient security for staff protection, inventory loss and incident tracking.

Building Security

Specifically within the Fleet Maintenance Facility, video surveillance cameras at about three locations appear to be provided, with two cameras monitoring the adjacent water tower site. No cameras were observed near the building entries, not allowing the opportunity to verify who is entering the building or where individuals are going or doing inside. Access control via card readers are located on select areas of the exterior perimeter for building access, but are not used consistently at all entry locations. No building alarms appear to be provided to secure the facility when unoccupied, rendering the building vulnerable to potential vandalism and/or theft.

Evaluation of 2019 Facility Study

Per the facility conditions assessment performed by Healy Bender / Moyer Associates in 2019, a building rating and Deficiency Notation Form was developed for each facility reviewed. According to the 2019 report, the rating system utilized was based on the ASTM E2018-15 standards and defined as follows:

- **Good Current**
  The system was built, renovated, or rehabilitated to equal or exceed the current nationally recognized standards addressing the item; it is functioning properly, and it appears to be properly maintained. Parts are readily available.

- **Good Dated**
  The system meets or exceeds the lawfully enforceable minimum standard but does not meet the corresponding current nationally recognized standard; it is functioning properly and appears to be properly maintained. Parts are readily available.

- **Fair**
  The system fails to meet minor lawfully enforceable minimum standards in one or more minor respects but is scheduled to be brought up to code. It is marginally functional or requires frequent repair to continue functioning and appears to be adequately maintained. Parts are becoming difficult to acquire and the system is nearing the end of its useful life.

- **Poor**
  The system fails to meet lawfully enforceable minimum standards in substantial respect; it does not function reliably and appears to be poorly maintained. Parts can no longer be acquired, and the system is beyond its useful life.

- **Very Poor**
  The system fails to meet lawfully enforceable minimum standards to such an extent as to pose an imminent threat to health or safety of building occupants or is completely nonfunctional.

Using the 'Deficiency Notation Form' as a guide, the FGMA study team referenced this document during the recent assessment of the facilities. The following is an updated assessment of existing building conditions.

EXISTING FACILITY DEFICIENCY NOTATION FORM
Fleet Maintenance Garage

2019 Study Documented Conditions

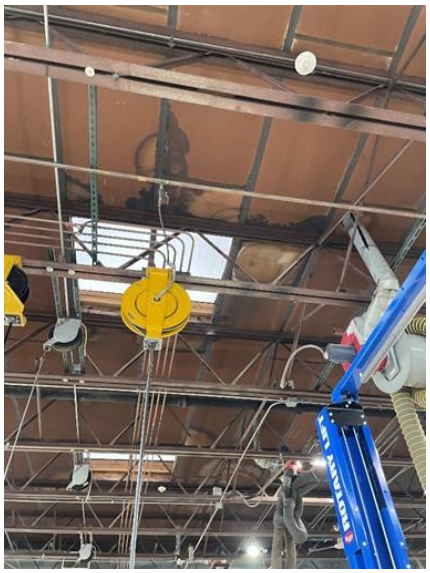
2023 Study Existing Condition Review

Item/ Issue		Rating	Assessment	Notes
SITE EVALUATION				
1.	Site Features	Good Dated	CONCUR	
2.	Utilities	Fair	CONCUR	No security at storage yard area.
3.	Site Access	Poor	CONCUR	Insufficient staff parking. Site circulation shared with public with no dedicated access drives for staff or facility use.
4.	Parking Lots, Site Maintainability	Good Dated	REVISE - FAIR	Visible cracking in asphalt pavement observed throughout.
STRUCTURAL EVALUATION				
1a.	Foundation	Poor	CONCUR	Structural concrete repairs required at basement stair wall and mezzanine stair base support.
1b.	Slab on Grade	Poor	CONCUR	Recommend to review S.O.G. slope for proper drainage pattern. Recommend that existing cracks to be sealed/patched.
2.	Floor Structural Systems	Good Current	CONCUR	
3.	Stairs, Ramps and Balconies	Good Dated	CONCUR	
4.	Interior Bearing Walls	Good Current	CONCUR	
5.	Exterior Bearing Wall	Good Current	REVISE - FAIR	Lintel and Masonry Repair Required at southeast man-door of Service Building #2. Localized tuckpointing recommended at clay brick masonry.
6.	Visible Steel Members	Good Dated	CONCUR	
7.	Roof Structural Systems	Good Current	REVISE - FAIR	Sporadic water staining visible at gypsum deck and around existing skylights in Service Building #1. Recommend roof membrane evaluation/repair.
BUILDING EGRESS / ACCESSIBILITY				
1.	Egress – Corridors	Poor	CONCUR	No centralized circulation through facility provided.

2.	Egress – interior Doors	Poor	CONCUR	Inconsistent hardware types used throughout. Replacement of hardware to lever type, at main entrance in particular recommended.
3.	Egress – Exterior Doors	Good Dated	CONCUR	
4.	Door Hardware	Good Current	REVISE – GOOD DATED / FAIR	
5.	Stairs, Landings, Handrails	Poor	CONCUR	Inadequate landing space provided.
6.	Accessible Toilet Facilities / Lockers	Poor	CONCUR	Numerous deficiencies in configuration. No toilet facilities for Women provided.
ARCHITECTURAL				
1.	Exterior Windows, Storefront, Curtainwall	Fair	CONCUR	Single pane windows present on Service Building #2 side should be replaced.
2.	Exterior Doors	Poor	CONCUR	Visible wear and corrosion on select hollow metal doors and frames. Overhead doors in working condition, but lower than ideal height; broken seals observed in some locations.
3.	Exterior – Envelope and Miscellaneous Items	Fair	CONCUR	Cracking at concrete aprons.
4.	Roofing	Poor	CONCUR	Hardware is generally functional. Main entrance hardware does not meet accessibility requirements, thus FAIR.
5.	Interior – Stairs & Ramps	Good Dated	CONCUR	Components are secure, but with visible wear.
6.	Interior – Toilet Rooms	Poor	CONCUR	
7.	Interior – Staff Lounge	Fair	CONCUR	Interior cabinetry and counters dated and worn.
8.	Interior – Maintenance Bay Area #1	Very Poor	CONCUR	Restrictive clear interior height.
9.	Interior – Maintenance Bay Area #2	Very Poor	CONCUR	Restrictive clear interior height.
10.	Interior - Office	Good Dated	CONCUR	Insufficient clearances at access doorways. Exposed cabling in room. Visible corrosion at baseboard heater unit.
11.	Interior – Mezzanine Storage / Locker Room	Very Poor	CONCUR	Insufficient overhead clearance.
12.	Interior – Basement Storage	Good Dated	CONCUR	

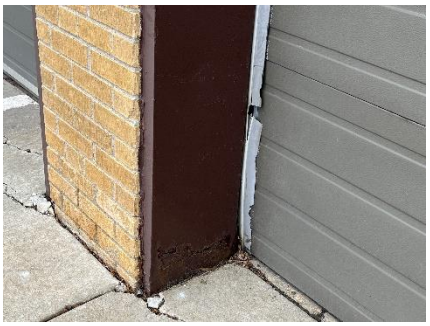
13.	Interior – New Equipment Storage Cage	Good Current	CONCUR	
14.	Interior – Parts Storage	Good Current	REVISE - FAIR	Floor tile in room deteriorating. Possibility of asbestos present in materials.
MECHANICAL HVAC EVALUATION				
1.	Temperature Control System	Good Dated	CONCUR	Should be updated to meet modern standards.
2.	Heating Equipment / System	Good Dated	CONCUR	Should be updated to provide constant pressurization.
3.	Air Conditioning Equipment / System	Fair	CONCUR	Should be updated to provide better comfort and ventilation.
4.	Ventilation Equipment / System	Fair	CONCUR	Should be updated to provide constant pressurization and environmental control.
5.	Exhaust System	Good Dated	CONCUR	Should be updated with adequate controls and interlock with make-up air.
6.	Miscellaneous Systems	Good Current	CONCUR	Carmon system is adequate with room for improvements.
PLUMBING EVALUATION				
1.	Domestic Water Piping	Fair	CONCUR	Time for complete re-piping of domestic cold and hot water.
2.	Sanitary Waste Piping	Fair	CONCUR	With reported need for underground repairs, the entire system should be replaced.
3.	Storm Water Piping	Good Dated	CONCUR	No major issues, just old.
4.	Plumbing Pipe Insulation	Good Dated	CONCUR	Should be all re-insulated with all matching materials.
5.	Domestic Water Heater	Good Dated	CONCUR	These are replaced as-needed and are likely due for a change.
6.	Sanitary Ejector Pump System	Good Dated	CONCUR	Typically replaced and/or repaired as needed.
7.	Plumbing Fixtures	Fair	CONCUR	Will need major renovation and replacement soon.
8.	Wall Hydrants and Hose Bibbs	Fair	CONCUR	All should be replaced with plumbing code compliant type.
9.	Vehicle Bay Trench Drains	Poor	CONCUR	Entire system of trench drains and separator need to be replaced.
FIRE PROTECTION EVALUATION				
1.	Fire Protection Sprinkler System	Good Dated NONE PRESENT	NONE REQUIRED WHEN ORIGINALLY CONSTRUCTED	No sprinkler system is present, but would be required if built today.

ELECTRICAL EVALUATION				
1.	Electrical Service	Good Dated	REVISE - FAIR	30+ years of age undersized for a facility of this size with welding stations. Only adequate due to there being no Air conditioning in the building.
2.	Electrical Distribution System	Fair	CONCUR	30+ years of age undersized for a facility of this size with welding stations. Only adequate due to there being no Air conditioning in the building.
3.	Emergency Power System	Fair	REVISE - POOR	No emergency generator installed and no portable generator currently available.
4.	Emergency / Exit Lighting	Good Dated	REVISE - FAIR	Exit signage is beyond useful service life. Emergency lighting is minimal and insufficient without generator back-up.
5.	Interior Lighting	Poor	CONCUR	Some fixtures have been retrofitted but most are older fluorescent type fixtures. Lack of IEC compliant controls.
6.	Exterior Lighting	Good Dated	CONCUR	Updated building mounted LED lighting minimal yet functional.
7.	Outlet Condition & Adequacy	Good Dated	REVISE – FAIR	Many older devices nearing end of useful service life otherwise quantity appears functional.
8.	Fire Alarm System	Good Dated	CONCUR	Basic IFP-50 Silent Knight fire alarm system in good condition however some coverage is lacking and the system is no longer current product offering.
9.	Telecommunication System	Good Dated	CONCUR	Minimal installed open air within office area yet functional. Some of the cabling is outdated.



Significant water staining at skylight

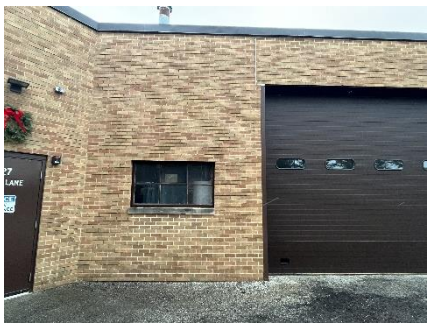
Cracking in concrete at stair to basement



Deterioration of steel at overhead door jamb / broken door seals

Displacement and gap at lintel

Unit heater



Single pane window / typical overhead door

Corrosion at hollow metal door and frame

Cracking in asphalt pavement

Typical deteriorated conditions at exterior wall and soffits

SECTION 6.6
CONCEPTUAL SOLUTIONS

TBD

SECTION 6.7
BUDGETS

TBD

SECTION 6.8
RECOMMENDATIONS

TBD

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SECTION 5
POLICE STATION

SECTION 5.1
ANALYSIS OF SPACE NEEDS

Main entry of police station

Evidence storage cage in parking garage

Unsecured police and staff entrance to east parking lot

Summary of Analysis

The Northbrook Police Department currently has authorized strength of 66 sworn police officers and 27 civilian employees. Future staff capacity has been factored into the space needs analysis for long term (30+ years) planning. The additional capacity includes space for 10 additional sworn officers and 4 civilian positions.

During the course of this study, it became clear that the existing building is working against the police department. Not only is the building too small, but the design of the building is negatively affecting the police department's operations.

The space needs analysis finds that 85,235 sq. ft. of space is necessary for the long term needs of the police department to operate effectively. The existing police station is only 45,115 sq.ft. This means the department is currently operating with a 40,120 sq.ft. deficit. Increasing the square footage of the building by 89% will provide the optimum amount of space for the department and includes provisions for long-term growth.

If only current needs are considered, 76,575 sq. ft. of space is required to meet the current needs of the police department. This is an increase of 31,360 sq. ft. or a 70% increase in space. The current needs do not include any provisions for future staff growth.

There are several reasons for why additional space is required. They can be categorized into three main areas.

1. Police Operations have Changed: There are spaces that do not exist for modern policing.

2. Existing Spaces are Inadequate: Many spaces are no longer adequate to meet current needs. As policing has changed, workspaces no longer meet operational requirements.

3. Accessibility Requirements have Changed: As accessibility requirements evolve, many areas require additional space to meet Federal and State laws.

The issues of space and other issues will be discussed further in this section below.

In addition to space issues, the building also fails in the following areas:

1. Safety and Security: The site and building have many security issues. Examples include staff parking areas are easily accessible to pedestrians and vehicles. Within the building, there is a lack of separation between police staff, the public, and suspect/detainee traffic. For example, a potential suspect being interviewed do not have easy access to toilet

Corridor to illustrate segregation of police functions

Corridor with patrol gear storage and postings is too narrow for multi-purpose use

Radio tower proximity is a risk to the police station

rooms, so they are escorted through police operational areas with sensitive information and materials, potentially compromising information, as well as safety concerns for both civilian and sworn personnel.

2. Operations: The building is designed in a segregated, compartmentalized manner. This negatively affects communication and sharing of information throughout the department. The sharing of information throughout the department is critical for effective policing. When all the workspaces are behind closed doors, this becomes more difficult.

3. Public Interaction: Often, when people come to a police station, it is because something bad happened. The reception and lobby report room offer little privacy for discussions with staff or officers. Even if a citizen comes for a class, to get to the classroom, they pass by operational areas and a breakroom which can be of concern.

4. Recruitment, Retention, and Employee Pride: The Northbrook Police Station has not had any significant remodeling work since 1996. The building looks old and tired. Adding the space issues, it is rodent infested. These issues affect recruitment and retention, which are serious issues facing law enforcement agencies throughout the nation. A well-designed police station can help significantly with employee pride as well as recruitment and retention.

5. Radio Tower Location: If the existing building is to be utilized as part of a solution, the current location of the radio tower is problematic. A police station is considered a critical facility, having a radio antenna next to the building is considered a hazard. For 911 center design, the best practice as per NFPA 1225 is not to have the building within the fall zone of the radio tower.

SECTION 5.2
SPACE AND OPERATIONAL ISSUES

Many police vehicles are parked outside which is detrimental to electronic equipment

Training room is too small to accommodate regional and federal training programs

Counseling Room

Space and Operational Issues

Currently, the existing building does not have enough space and is not designed in a manner that allows the police department to operate safely and effectively. There are many reasons why the building does not function as an effective police station. The reasons can be classified into three major categories as follows:

1. **Police Operations Changed** dramatically since the building was originally designed in 1974 as a public safety building with the police and fire departments together and renovated in 1996 for police only use after the fire department moved out. These changes include statutory (legal), technological, and procedural changes. Examples of areas affected by these changes include:

    - Parking Issues: It is now common to have secure parking for department and staff personal vehicles. This poses a potential security and safety issue and it has been noted by many staff members that pedestrians are often walking through staff parking and drives.

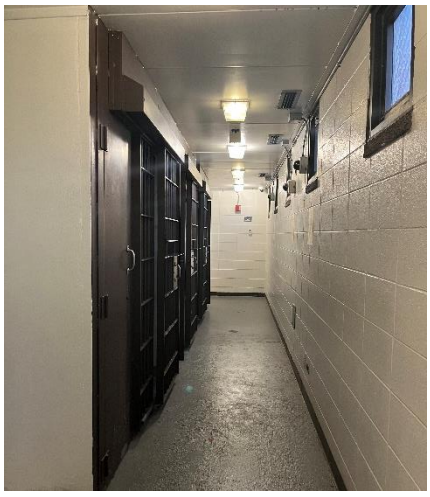
      Patrol vehicles are parked in an open parking lot with staff and public parking. This leaves the vehicles exposed to the elements as well as to vandalism. Today's patrol vehicles contain equipment that is very costly and sensitive to extreme temperatures. Furthermore, garage storage will reduce the wear and tear on vehicles from the extreme weather we have been experiencing and prolong their service life. As police vehicles continue to evolve and become more sophisticated, it is important to protect them. We recommend the police fleet be stored indoors.

    - Training Spaces: The amount of mandatory training required of police officers is increasing. State and Federal laws now require specific training on an annual, bi-annual and tri-annual basis and includes annual use of force and scenario-based training utilizing both simulator and live-fire methodologies. Training spaces need to provide greater flexibility for different types of training programs, including classroom, defensive tactics, simulator, and live fire scenario-based training.

    - Police departments are now responsible for more services to the community including social services/counseling. While the Northbrook Police Department is ahead of the curve in this issue, the need for Counseling Services has increasing. The current workspace is located within the police station just off the main lobby, which is not ideal for privacy when working with victims or persons in need of counseling. This space should have a separate reception and waiting area.

    - Officer Wellness: Spaces that promote mental and physical wellness has been of great importance in the past ten years. Research has

Booking Room



Narrow corridors in lock-up area

Evidence Technician's workspace is a converted storage room

shown that police officers and 911 telecommunicators are negatively affected by the stress of their jobs which includes early onset dementia, obesity, diabetes, and every shorter lifespans. To help promote wellness, spaces that promote stress relief, physical fitness, and camaraderie and now included in modern police facilities. The spaces include specially designed quiet rooms for destressing, physical fitness facilities, break areas, and common space that allows for interaction with peers.

- Holding Facility Issues: The sally port, booking room, male cells, and interview rooms are as designed when the building was first constructed in 1974.

  When the police station Lockup area was originally constructed in 1974, arrest procedures were much simpler and procedures such as Live scan fingerprinting, which is used to capture fingerprints electronically, was considered new technology and not widely used. As booking procedures changed with technology, more space became necessary.

  The booking room is very small and there is not enough space for an officer to maneuver if a detainee becomes violent. The police Department has experienced officers getting injured in the booking room during a struggle. In a modern police station, booking rooms have enough space to allow an officer to utilize defensive tactics training to safely restrain a detainee.

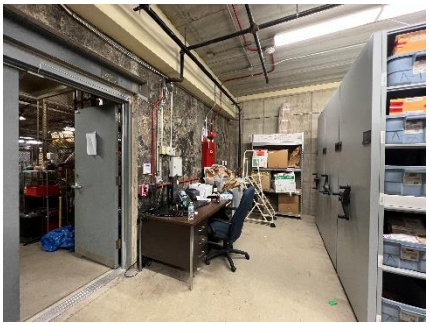
  Detainees are released through the lobby after bonding out. This procedure requires officers to escort a detainee though operational areas of the police station to be released into the lobby. Modern police stations have separate prisoner release and bond out areas, which release away from public spaces.

- Evidence Technicians Workspace: The existing workspace is very small and severely limits the capabilities of the Police Department. The location is off the garage and is not easily accessible. The need for scientific analysis of evidence continues to increase, and as processing of evidence becomes more sophisticated, significantly more space is required for items such as a fuming chamber, fume hood, drug testing stations, and photography workstations.

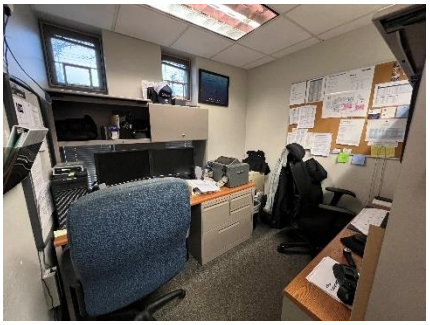
  The Evidence Processing function has no drying cabinet equipment space. This common feature allows a safe place to dry wet or blood-stained evidence versus just hanging it up in a room.

- Evidentiary Vehicle Processing. This is an area where a vehicle can be securely processed for latent fingerprints, searched, and photographed. The current area is a fenced in area with a retractable

Patrol Officer report writing and evidence packaging workspace



Main Evidence Storage Room



Computer Forensics and Community Engagement Officer Workspace

Patrol Sergeants Office

gate. In a modern police station this would be a separate room which is more secure and designed for evidentiary vehicle processing. The location of the area makes it difficult for a tow company to bring an impounded vehicle in for processing.

- There is no dedicated space to package evidence. Currently, evidence is packaged and entered into the evidence software system is the report writing area of within Investigations. The lack of a dedicated location for packaging evidence can jeopardize the chain of custody requirements.

- Evidence and Property Storage: Statutory changes have greatly increased the length of time that evidence must be kept; in some cases, evidence is now required to be kept forever. The increased retention requirements mean that police departments take in much more evidence on an annual basis than they are allowed to dispose of. The Northbrook Police Department is running out of evidence storage space.

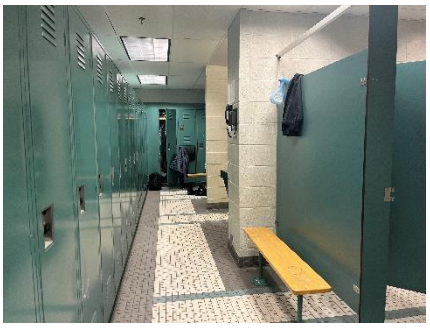
- Computer Forensics: Even after the building was remodeled in 1996, computer/cybercrime was unheard of. The current space where this work is performed is currently located within Investigations and shares space the Community Engagement Officer. The work is considered evidentiary, so it should be a separate secure space. It is also small with no additional space for emerging technology. The growth of cybercrime has been growing rapidly with damages expected to exceed $10.5 trillion globally by 2025. Policing is adapting with increasing use of specialized computers and equipment for data recovery, crime analysis, and on-line crime issues, which requires additional space.

2. There are many **Inadequate Spaces**. These include the following:

- Staff Work Areas: Many of the staff work areas, including patrol, investigations, and records have been outgrown and the existing spaces are now inadequate. There are many instances of adding a workspace to accommodate staff which has led to some functional areas not being where they should be located. Examples include Patrol Commanders not being in the same office and the Community Outreach Officer located within Investigations.

- Storage throughout the facility is an issue. With more community outreach programs and specialty equipment being utilized, more storage, properly designed, is required to support these functions.

- Locker Rooms: The men's and women's locker rooms have reached maximum capacity. Both the number and size of lockers are inadequate to accommodate uniforms, boots, and equipment



Locker rooms with narrow aisles

911 Communications Center

Makeshift sleeping quarters in Defensive Tactics Training Room

Firing Range

currently issued for officers. There is also no dedicated storage space for larger items including duty bags and tactical gear. Due to the lack of space, there are no lockers for civilian staff.

- Communications Center: Best practices in the design 911 Centers is to provide a training positions and break areas adjacent to the dispatch center but separated to reduce noise disruptions. Currently, the break area is very small and appears to be an afterthought and training occurs within the dispatch center.

- Defensive Tactics Training: The Defensive Tactics room is too small to accommodate the training requirements of the police department. The room should have padded walls without obstructions for safety during training exercises.

- Sleeping Quarters: Presently, officers that have morning court are sleeping in the storage room next to the defensive tactics training room. Separate and private sleeping quarters should be dedicated for officers who need to be in court in the early morning and are working night shift.

- Firing Range: The Firing Range is insufficient in its width and depth to accommodate the mandated scenario training activities using vehicles and other props. The original firing range bullet trap was replaced with more modern safer version, but that reduced the useable length of the range to less than 25 yards, which is a minimum standard. Range storage, preparation, and weapons cleaning areas are also insufficient to support training use.

- Training Room: The Training Room can comfortably accommodate 24 people in a training setting. While very tight, up to 30 people can fit. Organizations such as the North East Multi-Regional Training (NEMERT) requires a host agency to have seating for a minimum of 40 people with some federal agencies requiring even more. The benefit of hosting training is the host agency receives free training.

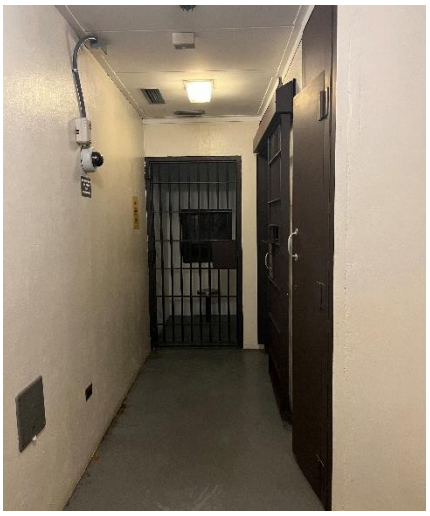
  The amount of required training is also increasing. For example, the Illinois Police and Community Relations Act, Public Act 099-0352, requires specific training on an annual, bi-annual, and tri-annual basis and includes annual use of force and scenario-based training. The Training Room needs to be larger to provide greater flexibility for different types of training programs.

  This room is also used for department and community meetings. Depending on the event, the space is often too small.

- Sally Port: A sally port is a secure garage used for safe transfer of detainees from a vehicle to the lockup area. The sally port lacks the

Sally Port is narrow and does not accommodate multiple vehicles

Booking area with Live Scan, booking bench and breathalyzer in same area



Attorney-client visiting room offers little privacy from other detainees

ability to accommodate multiple vehicles. It also lacks a "drive through" capability, requiring a vehicle to back out into a traffic drive.

- Booking Room Issues:

  The booking room lacks sufficient area to separate detainees during processing.

  Presently, secure interview rooms are located outside the holding area across the hall. This a security risk with an uncooperative detainee.

  Booking interviews are conducted on a bench.

  The booking area has various items on worksurfaces that can be used as weapons by detainees due to the close proximity and lack of design separation features between detainees and officer work areas.

  The fingerprint area is used both for arrestees and the general public fingerprinting services. Modern police facilities have these functions separated.

  The breathalyzer for testing blood alcohol levels is also located in the booking room. Best practices dictate that Breathalyzer testing be separated from other work areas to avoid potential air contamination.

- Holding / Lockup Facility Issues

  Corridors leading to the holding cells are very narrow. Like the booking room, officers need to have enough space to allow use of defensive tactics to safely restrain a detainee.

  The jail/lockup area design is non-compliant with contemporary standards and guidelines for prisoner holding.

  All holding cells and egress doors have manual locks, bringing liability exposure for life safety evacuation of occupants in an emergency when detainees need to be evacuated. Electronic locks with remote monitoring and operation are typical in modern holding facility design.

  There is a lack of appropriate confinement areas to isolate prisoners who require sight and sound separation. Needed separations include adult-juvenile and male-female. They are non-existent in the existing conditions.

  The existing cells have open steel bar cell fronts and doors which are unsafe as due to potential ligature risk (suicide by hanging) and the ability for detainees to spit and grab officers. The doors also lack any acoustic separation between prisoners requiring separate

Cell doors are open steel bar fronts with manual locks

Detainee interview rooms are across the hall from secure holding areas

Suspect interview rooms are adjacent to detective workstations

Officer report writing area is congested

confinement.

Only one cell is available for female prisoners.

Booking lacks an area to do a detainee searches out of view of the main booking area.

Family members and attorneys have to work through police operational areas to meet with prisoners in the attorney-client meeting room.

- Interview Rooms: The interview rooms located within Investigations are problematic. To access the interview rooms, one has to walk by the detectives workstations which may allow the person to see sensitive information. Secondly, the interview rooms are not soundproof, so discussions can be heard from within and outside the room. Third, if an interviewee requires the use of a toilet room, there is not one easily accessible.

- Citizen Report Room: This room is located off the main lobby and is used for on-station reports. The room offers no privacy making it uncomfortable for a person making a report.

- Report Writing Room is not of adequate size since it is also used for form storage and evidence packaging items. It is congested when more than four officers need to type reports. As noted above, separate space is needed for the evidence packaging function.

3. **Accessibility Requirements** have changed: The existing building was designed at a time when accessibility was not a significant concern. Laws governing the accessibility requirements have since been enacted, including the Illinois Accessibility Code, which has been in effect since 1997, and the Americans with Disabilities Act (ADA) adopted in 1990 (with subsequent revisions). These laws require more space for accessible routes (entries, corridors, and stairways), workspaces, support spaces (toilet and locker rooms), and even accessible holding cells.

   Many rules govern when compliance with accessibility standards is required. Generally, if a space is renovated, including any change in flooring, such as a carpet replacement, it is required to be brought into compliance with the Illinois Accessibility Code. Non-compliance with the requirements can subject the Village to a lawsuit by the U.S. Department of Justice or the Illinois Attorney General, who has been aggressively enforcing compliance on municipalities.

Our analysis shows that even if enough space existed in each of the functional areas, the floor plans of the existing building would still need to be revised to provide a building that will meet the needs of the Police Department.

SECTION 4
ANALYSIS OF SPACE NEEDS PROGRAM

Following this page is the Police Department Space Needs Program referenced in this section.

Police Department Space Needs Program Pages 1-11

Note that Space Needs Programs attempt to compare the size of existing space to space required. In many cases, it is difficult to provide an “apples to apples” comparison because many spaces accommodate more than one function in the existing building. Therefore, we suggest using the space comparison as a general comparison only.

Village of Northbrook
Police Department
Space Needs Program

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FGMARCHITECTS

January 31, 2023
FGM Project No. 23-3665.01

Item	Room/Area/Space	Employee Counts	Sq.ft.			Employee Counts	Notes
		Current Staffing	Existing Space	Current Required*	Future Required	Future Capacity	
A.	PUBLIC ENTRY, TRAINING/COMMUNITY/EOC ROOM						
1.0	Public Entry Vestibule		90	80	80		Entrance vestibule
2.0	Public Lobby		560	1,000	1,000		Provide seating for (8-10)
3.0	Citizen Report Room w/ Fingerprinting		92	100	100		Provide seating for (4) with counter for fingerprinting
4.0	Citizen Report Room (2) Required		-	160	160		Provide seating for (4)
5.0	Display Cases		7	20	20		Displays and memorials
6.0	Training, Community Room, and EOC		1,110	1,800	1,800		Training room to accommodate (60) persons in classroom setting, dividable.
7.0	Support Counter / Storage		-	80	80		Counter for training handouts, food service
8.0	EOC equipment Storage		-	50	50		Secure storage room
9.0	Training Storage		64	150	150		Table, chair, training supplies
10.0	Public Toilets		-				
11.0	Men's Toilet Room		43	180	180		(2) toilet, (2) urinals, (2) lavatories
12.0	Women's Toilet Room		43	165	165		(3) toilet, (2) lavatories
13.0	**Public Entry / Training / Community Room Sub-Total**		**2,009**	**3,785**	**3,785**		
14.0	**Circulation, Wall, and Mechanical Shaft Space**		819	1,136	1,136		
15.0	PUBLIC ENTRY, TRAINING/COMMUNITY ROOM TOTAL		**2,828**	4,921	4,921		Shared Public Space Total
B.	RECORDS / RECEPTION						
1.0	Police Station Reception (open to open office area)			100	100		Provide for (2) secure reception work areas with package pass-through
2.0	Private Reception Station (open to open office area)			70	70		Enclosed reception area for private discussions
3.0	Open Office Workstations						
4.0	Records Workstations	4		480	480	4	(4) "U" shaped workstations
5.0	Flexible Workstations			-	160		(2) "U" shaped workstations for light duty, interns, future growth
6.0	Active Files		525	170	170		(6) 42" lateral files for arrest, tickets, microfilm storage, etc. in file island
7.0	Supply Storage			-	-		Locate in Copy / Work Room below
8.0	Mobile Video Review Office			120	120	1	"U" shaped workstation
9.0	Copy / Work Room			120	120		Includes office supply storage cabinets and shredder
10.0	Coat Closet			10	10		
11.0	Coffee Area			40	40		
12.0	Records Supervisor's Office	1	147	150	150	1	"U" shaped workstation w/ (2) guest chairs, files
13.0	Archive File Storage		338	288	288		Storage for (300) boxes
14.0	**Records / Reception Sub-Total**	5	**1,010**	**1,548**	**1,708**	6	
15.0	**Circulation, Wall, and Mechanical Shaft Space**		412	542	598		
16.0	SUPPORT SERVICES TOTAL		**1,422**	2,090	2,306		
C.	ADMINISTRATION						

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1.0	Administrative Waiting Area		90	90	90		
2.0	Administrative Assistant Office		132	140	140	1	"L" shaped workstation with file storage
3.0	Closet		8	10	10		
4.0	Administrative Conference Room		360	480	480		Seating for (16) with credenza
5.0	Coat Closet		-	10	10		
6.0	Chief of Police Office	1	429	350	350	1	Desk, credenza, conference table for (6), soft seating, book case, files
7.0	Closets		29	10	10		
8.0	Toilet Room		40	65	65		Single user toilet room
9.0	Deputy Chief of Field Operations Office	1	319	300	300	1	Desk, credenza, conference table for (4), book case, files
10.0	Closet		23	10	10		
11.0	Deputy Chief of Technical Services Office	1	235	300	300	1	Desk, credenza, conference table for (4), book case, files
12.0	Closet		23	10	10		
13.0	Sergeant of Training and Planning Office	1	192	180	180	1	"U" shaped workstation w/ (2) guest chairs, files
14.0	Closet		23	10	10		
15.0	Finance / Budget / Purchasing / Grants Office	1	185	220	220	1	"U" shaped workstation w/ conference table for (4), file cabinet
16.0	Administrative Assistant / AP-AR / Billing Office	1	154	150	150	1	"U" shaped workstation w/ (2) guest chairs, files
17.0	Quartermaster / General Storage		198	200	200		
18.0	Copy/ Work Room		218	120	120		Includes supply storage
19.0	Secure File Storage			120	120		Secure file storage room with (6) 42" lateral files
20.0	Administration Toilet Room		-	65	65		Single user toilet room
21.0	Coffee Area		-	40	40		
22.0	**Administration Sub-Total**	6	**2,658**	**2,880**	**2,880**	7	
23.0	**Circulation, Wall, and Mechanical Shaft Space**		1,084	1,008	1,008		
24.0	**ADMINISTRATION TOTAL**		**3,742**	3,888	3,888		
D.	**PATROL**						
1.0	Patrol Commanders Office	4	462	483	483	4	(4) "L" shaped workstations with file storage
2.0	Patrol Sergeants Open Office Workstations	8	524	560	560	8	(8) "L" shaped workstations with file storage
3.0	Patrol Officers	37				45	
4.0	Roll Call / Briefing Room		395	480	480		Seating for (14-16) in conference setting. Video setup for training
5.0	Report Writing Workstations - Open Office		189	225	225		(3) report writing workstations
6.0	Report Writing Workstations - Separate room			96	96		(2) report writing workstations in enclosed room for privacy
7.0	Patrol Conference Room			150	150		Seating for (4-6) people
8.0	Patrol Equipment Charging / Mail Box Area			48	48		Locate just outside Roll Call / Briefing Room
9.0	Secure Storage Closet		-	80	80		Equipment storage and checkout
10.0	Interview/Juvenile Temporary Holding Rooms		-	160	160		(2) Temporary holding rooms visible from Report Writing

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11.0	Holding Toilet		-	65	65		
12.0	Report Writing / Quiet / Meeting Rooms (3) required		-	300	300		Multi-purpose room for report writing, wellness, etc.
13.0	Line Up Room		-	-	-		See Holding Areas below
14.0	Interview Rooms		124	-	-		Share with Investigations
15.0	Soft Interview Room						
16.0	Duty Bag Storage		40	184	184		Provide(46) double height lockers for duty bags and rifles near patrol entry
17.0	Canine		-				
18.0	Canine Storage		105	100	100		Training supplies (bite suits, sleeves, narcotics search board, luggage, etc.)
19.0	Canine Care Area		-	240	240		Workstation, bathing station, grooming table, storage shelving
20.0	Canine Kennel		-	40	40		With flushing floor drain
21.0	Canine Therapy Dog Kennel			40	40		Limited viewing in softer environment, separate area from kennel above
21.0	Canine Dog Run		-	-	-		See outdoor space requirements below
22.0	Copy / Work Room		144	120	120		
23.0	Secure Storage		-	64	64		
24.0	**Patrol Sub-Total**	49	**1,983**	**3,435**	**3,435**	57	
25.0	Circulation, Wall, and Mechanical Shaft Space		809	1,202	1,202		
26.0	**PATROL SECTION TOTAL**		**2,792**	**4,637**	**4,637**		
E.	**INVESTIGATIONS**						
1.0	Investigations Commander's Office	1	195	220	220	1	Desk, credenza, conference table for (4), filing storage
2.0	Closet		14	12	12		
3.0	Investigations Sergeant's Office (2) required	2	137	300	300	2	"U" shaped workstation with (2) guest chairs and file storage
4.0	Closet (2) required			20	20		One for each office
5.0	Investigations Workstations (open office)	9		880	1,040	11	(13) "U" shaped workstations (8) det., (1) SRO, (1) patrol, (3) future
6.0	Crime Analyst Workstation		1,014	80	80		"U" shaped workstation
7.0	Files			-	-		For file storage needs, see below
8.0	Secure Storage			24	24		Storage and equipment closet, rifle safe
9.0	Crime Analyst	1	160			1	Workstation included above, integrate with Investigations workstations
10.0	Interview Viewing/ AV Equipment			80	80		Secure room
11.0	Closet			16	20		Coat closet
12.0	In-Process Evidence Temporary Storage			80	80		Lockers for temporary evidence storage
13.0	Evidence Packaging Area						Work counters for packaging
14.0	File Storage						
15.0	Major Case Files			35	35		(2) 42" lateral files
16.0	Juvenile Files		69	45	45		(3) 36" lateral files
17.0	Cold Case Files			45	45		(3) 36" lateral files and (1) 36" storage cabinet
18.0	Supply Storage			72	72		Storage room with 2' deep shelving

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		Current Staffing	Existing Space	Current Required*	Future Required	Future Capacity	
19.0	Equipment Storage			72	72		Storage room with 2' deep shelving with electrical for charging equipment
20.0	Community Engagement Officer		78				Relocated to Community Relations below
21.0	Computer Forensics			120	120		Provide secure office with work counters for (2) for computers
22.0	Secure Storage			10	10		For storage of electronics and media within office
23.0	Major Case Conference Room		325	595	595		Conference Space for (16-18)
24.0	Coffee Area		24	96	96		Kitchenette with full size refrigerator
25.0	Interview Rooms		207				(3) existing rooms within Investigations
26.0	Standard Interview Rooms (4) required			400	400		With tables and chairs
27.0	Soft Interview Room (1) required		155	140	140		Soft seating, can share with Patrol
28.0	Hard Interview Rooms (2) required			-	-		Located in Holding Facility below
29.0	Children's Room		-	-	-		Use counseling room in Counseling Services
30.0	Toilet Room		26	65	65		Single user toilet room to support interview rooms
31.0	**Investigations Sub-Total**	13	**2,404**	**3,407**	**3,571**	15	
32.0	Circulation, Wall, and Mechanical Shaft Space		981	1,192	1,250		
33.0	**INVESTIGATIONS TOTAL**		**3,385**	**4,599**	**4,821**		
F.	**COMMUNICATIONS**						Need to locate close to Holding as they perform physical checks
1.0	Communication Supervisor's Office	1	171	150	150	1	"U" shaped workstation with (2) guest chairs
2.0	Lead Dispatcher Office		-	120	120		"L" shaped workstation with (2) guest chairs
3.0	Conference Room			-	-		Need access to conference room with seating for (6) - shared with others
4.0	Dispatch Center	12		960	960	12	(6) dispatch positions. Sized to utilize wrap around dispatch furniture
5.0	Public Reception Window		633	60	60		Service window with writing counters
6.0	Officer Service Window			60	60		Service window with writing counters
7.0	Files / Reference Manuals		50	50	50		(6) letter filing cabinets
8.0	Printer / Work Area		25	50	50		Printer, work counter, and storage
9.0	Training Positions			300	300		Provide (2) dispatch positions in separate but adjacent room to Dispatch Center
10.0	Real Time Situation Room		-	400	400		Video displays monitor events. Provide seating for (10-12)
11.0	Break Area		80	200	200		Kitchenette with refrigerator, table w/seating for (2-4), and soft seating
12.0	Toilet Room		40	65	65		Single user toilet room
13.0	Staff Lockers		-	84	84		(12) 12"x24" lockers (also have locker in locker room)
14.0	Storage Closet		16	64	64		Supply storage
15.0	Radio Equipment		230	230	230		Space for up to server racks and clean agent fire suppression
16.0	Radio Equipment Mechanical Room			80	80		Space for CRAC units
17.0	**Communications Sub-Total**	13	**1,245**	**2,873**	**2,873**	13	
18.0	Circulation, Wall, and Mechanical Shaft Space		508	1,006	1,006		
19.0	**COMMUNICATIONS TOTAL**		**1,753**	**3,879**	**3,879**		

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G.	**COMMUNITY RELATIONS**						
1.0	Supervisor's Office	1	154	150	150	1	"U" shaped workstation with (2) guest chairs
2.0	Closet			10	10		
3.0	Community Engagement Officer Office	1		120	120	1	"L" shaped workstation with (2) guest chairs
4.0	Closet			10	10		
5.0	Community Service Officer's Work Area	2	325	160	240	2	(3) "U" shaped workstations
6.0	Mini-Refrigerator and Storage			40	40		For staff event use
7.0	Animal Control Officer	1	67	120	120	1	"L" shaped workstation with storage
8.0	Animal Control Storage		214	120	120		Secure storage for cages
9.0	Animal Control Work Room (not visible to others)		-	120	120		Secure workroom with lock box, equipment storage, work table, sink
10.0	Community Relations Storage		150	80	80		Additional storage us located off garage - see Fleet below
11.0	Crossing Guard Storage						
12.0	**Community Relations Sub-Total**	5	910	930	1,010	5	
13.0	Circulation, Wall, and Mechanical Shaft Space		371	326	354		
14.0	**COMMUNITY RELATIONS TOTAL**		1,281	1,256	1,364		
H.	**COUNSELING SERVICES**						
1.0	Counseling Lobby / Reception			200	200		Soft seating for (4) with a desk area to fill out forms
2.0	Counseling Rooms						
3.0	Large Soft Counseling Room		-	180	180		Soft seating with book case and storage
4.0	Counseling Room (2) required		148	150	300		Soft seating with book case and storage
5.0	Coffee Area			40	40		For clients and staff
6.0	Toilet Room			65	65		
7.0	Director's Office	1	254	180	180	1	"U" shaped workstation w/ (2) guest chairs, files, book case
8.0	Social Workers	2		240	320	3	(4) "U" shaped workstations
9.0	Reference Library Area		199	30	30		Book cases
10.0	Printer / Work Area			80	80		
11.0	Supply Closet		28	30	30		Currently shared with Community Relations
12.0	**Counseling Services Sub-Total**	3	629	1,195	1,425	4	
13.0	Circulation, Wall, and Mechanical Shaft Space		257	418	499		
14.0	**COUNSELING SERVICES TOTAL**		886	1,613	1,924		
I.	**EVIDENCE PROCESSING**						
1.0	Evidence Garage		-				Currently use Sally Port
2.0	Vehicle Processing / Storage Bay		345	560	560		Includes winch to aid in vehicle movement

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3.0	Drying Cabinets		-	120	120		Provide space for (2) double drying cabinets and 8' layout area
4.0	Emergency Eyewash/Shower		-	25	25		
5.0	Temporary Large Evidence Storage		-	100	100		
6.0	Forensic Processing Lab						
7.0	Drug Testing			20	20		Work areas with dusting chambers, sinks, and storage
8.0	Fuming Chamber			20	20		
9.0	Fume Hood			30	30		
10.0	Specialty Drug Chamber		197	20	20		
11.0	Evidence Bullet Collection Chamber			50	50		To collect firearms projectiles for testing (locate in alcove)
12.0	Refrigerator			14	14		Provide space for (1) refrigerator
13.0	Worktables and Counters			120	120		Includes packaging area
14.0	Photography Workstation			60	60		8' workstation with computer and printer
15.0	Workstations			45	45		6' workstation with computer
16.0	Temporary Evidence Lockers			30	30		Provide space for temporary evidence storage - multi-tier lockers
17.0	Fire Investigator's Storage Closet			12	12		Storage room for fire investigator's equipment - locate off garage
18.0	Dirty Gear Storage Closet			12	12		
19.0	Equipment Storage Closet		-	15	15		For storage of ET supplies
20.0	**Evidence Processing Sub-Total**		**542**	**1,253**	**1,253**		
21.0	Circulation, Wall, and Mechanical Shaft Space		221	439	439		
22.0	**EVIDENCE PROCESSING TOTAL**		**763**	**1,692**	**1,692**		
J.	**EVIDENCE AND PROPERTY STORAGE**						
1.0	Property Custodian Office		97	120	120	1	"U" shaped workstation
2.0	Evidence Packaging (existing in Report Writing)		-				(2) packaging areas with computer workstation
3.0	In-Process Evidence Temporary Storage		-	168	168		Evidence return lockers
4.0	Worktable and Barcoding		-				Large counter, storage for supplies, sink
5.0	Evidence Drop Lockers						(4) sets pass-thru lockers (12')
6.0	Evidence Intake Area/Work Area		326	60	60		Work Area with sink
7.0	Valuables/Money Vault			20	20		Existing mixed in with general evidence
8.0	Narcotics Storage			45	45		100% exhaust ventilation (existing mixed in with general evidence)
9.0	Large Evidence Storage		200	200	200		Estimated area required
10.0	General Evidence Storage			1,000	3,000		Assumes a growth rate for 30 years (typ. intake of 1,600 pcs per year)
11.0	Open Floor Area			64	64		Floor working space
12.0	Refrigerated Storage		648	10	10		Allow space for (1) refrigeration unit
13.0	Destruction Holding Area			20	20		Area with shelving
14.0	Firearms Storage			112	112		Storage for (500) guns in high density storage ((2) 15" wide units x 16')
15.0	Explosives Storage			-	-		See outdoor spaces below - Remote Evidence Storage

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16.0	Found Bike Storage		225	200	200		Storage for (15) bicycles
17.0	Evidentiary Vehicles		-	-	-		Stored offsite
18.0	**Evidence and Property Storage Sub-Total**		**1,496**	**2,019**	**4,019**	1	
19.0	Circulation, Wall, and Mechanical Shaft Space		610	606	1,206		
20.0	**EVIDENCE AND PROPERTY STORAGE TOTAL**		**2,106**	**2,625**	**5,225**		
K.	**HOLDING FACILITY**						
1.0	Sally Port		1,153	980	1,456		(2) car double deep car sally port in drive through configuration (28'x52')
2.0	Eyewash and Emergency Shower			25	25		
3.0	Prisoner Search and Personal Effects Lockers		-	70	70		Include sorting counters and (8) double tiered lockers
4.0	Vestibule Area		44	50	50		Secure entry to lockup areas
5.0	Processing Area						
6.0	Cuff Benches						Keep (3) detainees separated - locate away from Booking Station
7.0	Temporary Holding Rooms (2) required						"Bird cage" holding rooms
8.0	Fingerprint Area		309	740	740		For ink fingerprinting, with sink and eyewash
9.0	Live Scan/Suspect Photography						Include photo area
10.0	Sobriety Testing						Work area for Breathalyzers
11.0	Booking Station						Size to allow processing of (2) detainees
12.0	Hard Interview Rooms (3) required		-	240	240		Hard interview room
13.0	Line-Up Room		125	150	150		Relocated from Patrol - locate in secure corridor for viewing
14.0	Toilet		21	65	65		Single user detention grade toilet
15.0	Janitors Closet		-	40	40		Secure storage of cleaning supplies
16.0	Secure Storage		-	20	20		For detention supplies (blankets, jumpsuits, etc.)
17.0	Cells		1,101	820	820		(8) Cells total in (4) sets of (2) cells, Incl. (1) Accessible Cell
18.0	Shower			60	60		
19.0	Attorney/Client Room		41	72	72		
20.0	Bond Out Vestibule		-	100	100		For bonding out detainees from holding area
21.0	**Holding Facility Sub-Total**		**2,794**	**3,432**	**3,908**		
22.0	Circulation, Wall, and Mechanical Shaft Space		1,140	1,201	1,368		
23.0	**HOLDING FACILITY TOTAL**		**3,934**	**4,633**	**5,276**		
L	**INFORMATION SYSTEMS**						
1.0	Server Room			163	163		Same size as existing, clean agent fire suppression
2.0	Workspace with Storage			50	50		Counter and 3'x2' storage cabinet in server room
3.0	Server Room Mechanical Equipment		163	80	80		Space for CRAC units
4.0	IDF Room Allowance			120	120		Allow for (2) IDF closets with 2 post racks

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5.0	D-Mark Closets (2) required			60	60		For incoming services
6.0	Storage Area			-	-		Not required
7.0	**Information Systems Sub-Total**		**163**	**473**	**473**		
8.0	Circulation, Wall, and Mechanical Shaft Space		66	166	166		
9.0	**INFORMATION SYSTEMS TOTAL**		**229**	639	639		
M.	**TRAINING AND WELLNESS**						
1.0	Training Office		-	-	-		Not required, see Sgt. of Training and Planning in Administration above
2.0	Defensive Tactics		540	1,200	1,200		Large mat room with video screen, adjustable lighting, light bar
3.0	Gun Locker		-	10	10		Area outside room for (15) gun lockers
4.0	Storage / Bunk / Tactical Equipment		228	200	200		Equipment Storage (bunk rooms below in Staff Support Areas)
5.0	Simulator Training			500	500		Assume use of a virtual simulator
6.0	Storage			20	20		For storage of simulator equipment
7.0	Simunition Training Room			800	800		Room for simunition training with reconfigurable walls
8.0	Prep Room / Storage			200	200		For instruction and storage of simunition guns
9.0	Prop Storage			200	200		Equipment Storage (bunk rooms below in Staff Support Areas)
10.0	Physical Fitness / Wellness Room		966	1,700	1,700		Space for stretching, strength, and cardio fitness equipment.
11.0	Lockers			30	30		Small area (6) lockers for temporary patrol equipment storage
12.0	Gun Locker Storage			6	6		Area for (6) gun lockers
13.0	Quiet Room		-	-	-		See Resilience Rooms in Staff Support Areas below
14.0	Firing Range with vehicle access		1,852	5,124	5,124		(10) lane 25 yard firing range with prep table in the range
15.0	Range Control Room		39	80	80		
16.0	Weapons Cleaning / Maintenance Area		80	200	200		Area adjacent to the range with (4-5) cleaning stations, observation window
17.0	Armory Storage						
18.0	Ammunition Storage		153	120	120		storage for 50,000 rounds of ammunition
19.0	Weapons Storage						(10) shotguns / rifles, (8) handguns, (10) older weapons, holsters, and tazers
20.0	Armorer / Weapons Maintenance		-	126	126		Weapons repair
21.0	**Firearms Range Management Sub-Total**		**3,858**	**10,516**	**10,516**		
22.0	**Circulation, Wall, and Mechanical Shaft Space**		1,574	3,155	3,155		
23.0	**FIREARMS RANGE MANAGEMENT TOTAL**		**5,432**	13,671	13,671		
N.	**STAFF SUPPORT AREAS**						
1.0	Mud Room / Wet gear Storage		-	64	64		
2.0	Male Locker Area		1,240	1,340	1,500		Provide (75) 24" wide lockers
3.0	Toilet/Sinks/Shower Areas		230	280	280		(2) toilets, (2) urinals, (2) lavs, (2) showers
4.0	Female Locker Area		298	560	600		Provide (30) 24" wide lockers

Village of Northbrook
Police Department
Space Needs Program

DRAFT

FGMARCHITECTS

January 31, 2023
FGM Project No. 23-3665.01

Item	Room/Area/Space	Employee Counts	Sq.ft.			Employee Counts	Notes
		Current Staffing	Existing Space	Current Required*	Future Required	Future Capacity	
5.0	Toilet/Sinks/Shower Areas		146	180	180		(2) toilets, (2) lavs, (1) shower
6.0	Changing Room			30	30		Also used for nursing mothers
7.0	NIPAS / Field Force Storage			120	120		(5) 36" lockers
8.0	Lunchroom with Kitchenette		429	800	800		Break area with (3) tables of four
9.0	Break Room		398				(3) Vending Machines
10.0	Peer Support Information Resources			16	16		Wall space for information
11.0	Storage			60	60		Canteen supply storage
12.0	Resilience / Bunk / Nursing Room (4) rooms req'd		-	360	360		Used for mental wellness, resting, nursing, and other uses
13.0	Staff Toilets Allowance		658	500	500		For toilet rooms throughout the building
14.0	General Building Storage			500	500		
15.0	**Staff Support Areas Sub-Total**		**3,399**	**4,810**	**5,010**		
16.0	Circulation, Wall, and Mechanical Shaft Space		1,386	1,684	1,754		
17.0	**STAFF SUPPORT AREAS TOTAL**		**4,785**	**6,494**	**6,764**		
0	**FLEET STORAGE**						
1.0	Indoor Parking Garage						Prepare for future electric vehicle charging
2.0	Department Vehicles			11,286	13,662		Current Fleet (38), (46) in future.
3.0	ATV		5,244	297	297		
4.0	Trailers			795	795		(3) trailers
5.0	Animal Control Van (sprinter van)			352	352		22' long sprinter van
6.0	Wash Area			-	-		Provide area to rinse off vehicles - use drive aisle
7.0	General Storage		488	500	500		
8.0	Bike Patrol						Storage for (10) bikes - assume vertical storage racks
9.0	Gear Lockers			225	225		(18) 12" opening triple tier locker
10.0	Bicycle Rack Storage						Bicycle rack storage
11.0	Maintenance Area			80	80		Area with small work bench and storage cabinet
12.0	Motorcycle Parking			297	297		Parking for (2) motorcycles
13.0	Locker Area						(8) lockers for helmets and boots
14.0	Storage			96	96		Provide 36" storage cabinet
15.0	Dressing Booth						Dressing booth
16.0	Community Relations Storage		328	150	150		Storage Room for Community Relations (currently shared with others)
17.0	Specialty Vehicle Storage			-	1,360		Provide an 80' long bay to store NIPAS / NORTAF vehicles (currently at NIPSTA)
18.0	Open Storage		148	150	150		Open garage floor storage
19.0	**Fleet Storage Sub-Total**		**6,208**	**14,228**	**17,964**		
20.0	Circulation, Wall, and Mechanical Shaft Space		2,532	2,134	2,695		
21.0	**FLEET STORAGE TOTAL**		**8,740**	**16,362**	**20,658**		

Village of Northbrook
Police Department
Space Needs Program

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January 31, 2023
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Item	Room/Area/Space	Employee Counts	Sq.ft.			Employee Counts	Notes
		Current Staffing	Existing Space	Current Required*	Future Required	Future Capacity	
P.	BUILDING SYSTEMS AND MAINTENANCE SPACES						
1.0	Emergency Generator		156	-	-		Locate outside
2.0	Mechanical Room(s)		220	800	800		Plumbing and Fire Protection Equipment (assume roof top HVAC equipment)
3.0	Electrical Room		262	500	500		
4.0	Gas Service Room		-	-	-		In mechanical room
5.0	Janitor's Closet		98	100	100		For supplies and cleaning equipment
6.0	Maintenance Storage			100	100		Maintenance desk and supply storage
7.0	Mail and Package Delivery Room			60	60		Small room for deliveries and sorting
8.0	Delivery Area		-	200	200		Dock and temporary staging area
9.0	Building Systems and Maintenance Spaces Sub-Total		736	1,760	1,760		
10.0	Circulation, Wall, and Mechanical Shaft Space		300	352	352		
11.0	BUILDING SYSTEMS AND MAINTENANCE SPACES TOTAL		1,036	2,112	2,112		
Q.	BUILDING AREA SUBTOTAL		45,115	75,108	83,773		
R.	MULTI-STORY CIRCULATION FACTOR			2,000	2,000		Add 1,000 square feet per floor. Assumed two-story building
S.	EXISTING BUILDING AREA		45,115				
P.	TOTAL BUILDING AREA REQUIRED			77,108	85,773		
Q.	EXTERIOR REQUIREMENTS						
1.0	Entry Plaza			1,000	1,000		
2.0	Flagpole Area			50	50		
3.0	Outdoor Patio			400	400		Seating and area for grill. Partially covered for greater use.
4.0	Outdoor Seating Area			100	100		Semi-private space for wellness use
5.0	Basketball Hoop			-	-		Potentially locate in area off parking lot
6.0	K-9 Agility Training			5,000	5,000		Fenced area
7.0	Remote Evidence Storage			120	120		Small remote building for hazardous evidence and explosives magazine
8.0	Electrical Transformer			100	100		
9.0	Generator			300	300		
10.0	Trash Enclosure			150	150		
11.0	Temporary Truck Parking			1,540	1,540		Parking for overweight violations (55'x14" stalls)

Village of Northbrook
Police Department
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January 31, 2023
FGM Project No. 23-3665.01

Item	Room/Area/Space	Employee Counts	Sq.ft.			Employee Counts	Notes
		Current Staffing	Existing Space	Current Required*	Future Required	Future Capacity	
R.	PARKING REQUIREMENTS			Spaces	Spaces		
1.0	Staff Parking			42	46		Spaces for personal vehicles
2.0	Police Department Vehicle Parking			-	-		(46) Spaces for department vehicles located in garage
3.0	Visitor / Training Parking			50	50		Spaces for visitors
4.0	TOTAL PARKING REQUIRED			92	96		Total Spaces

NOTES

* Current required spaces does not accommodate any personnel growth, additional vehicles, and evidence storage requirements for 30 years.

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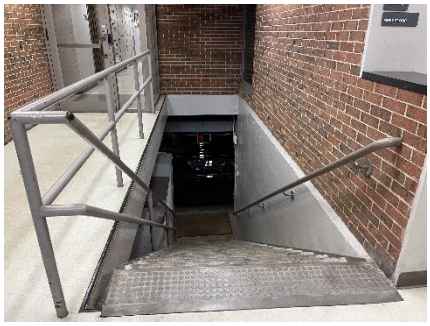
SECTION 5.4
EXISTING BUILDING PLANS

SECTION 5.5
EXISTING FACILITY REVIEW

Discolored ceiling tiles throughout



Inadequate guardrail and handrails at stair to garage

Deterioration in surface condition of concrete in garage

Summary

Existing Condition Analysis
A prior study of the Police Station facility was completed for the Village of Northbrook in 2019 by Healy Bender / Moyer Associates. The report included an assessment of existing exterior and interior conditions, identification of operational issues and notable physical deficiencies. This document was provided to FGMA for reference. Per FGMA review of the study, the team corroborates many of the findings regarding the current condition of the Police Station facility and items that are deficient and/or require repair.

Existing Conditions
Presently, there are numerous operational, safety and security system issues. Since the last renovation to the building was performed, minimal improvements have been made to accommodate the changing needs of the department and fully respond to the operational needs that are expected for modern police facilities.

At the time of the time of the site visit, existing drawings of the facility had not yet been made available. Therefore, the opinions and recommendations noted are based solely upon visual observations.

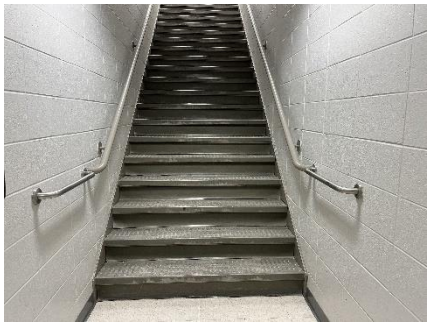
Site and Parking
The Police Station is located due west of downtown Northbrook on a site of approximately 3.5 acres. The building is located at 1401 Landwehr Road and is bordered by Walters Avenue on the north, and residential neighborhoods to the east and south.

The multi-level facility has a total of approximately 45,115 sq. ft. Originally constructed as a combined public safety facility in 1974, the last major renovation to the building was performed in 1996, at which point the operation of the facility was adjusted for the exclusive use of the Police Department.

Accessibility
Since the building was constructed and last renovation of the Police Department completed, accessibility requirements have changed with the Americans with Disabilities Act and the Illinois Accessibility Code. The laws apply to municipalities and are intended to provide equal access to services and functions for all members of society and the public including visitors, employees, vendors and other users. The laws are applicable to police departments as there may be a civilian employee with a disability or staff on light duty with a temporary disability. These laws require more space for accessible routes (entries, corridors and stairways), workspaces and support spaces (toilet and locker rooms).

Publicly owned buildings are held to a higher standard for accessibility than privately owned buildings. While there are many rules that govern when a space needs to be brought into compliance with accessibility standards,

Single user toilet room, non-compliant with current standards



Retrofitted stair handrail extensions

Gas curb and change in floor level to support room adjacent to garage

generally, if a space is renovated it will be required to be brought into compliance with the Accessibility Codes and the ADA. Non-compliance with the requirements can subject the Village to a lawsuit by the U.S Department of Justice or the Illinois Attorney General, who has been aggressively enforcing compliance on municipalities.

Violations observed are varied, ranging from minor issues to larger problems that would require significant renovation work.

There are instances throughout the building of improper door swings and lack of appropriate push and pull clearances as required. There are numerous instances where objects protrude out more than 4" into the path of egress. Most notably in the Men's Locker Room, the location of the roof access ladder impedes the clear circulation path through the room.

At the single user toilet rooms, it is possible that the appropriate accessibility clearances may have been in place at the time of the last renovation to the facility, however these areas are no longer fully compliant with current codes. If any further renovations were to occur, toilet rooms would need to be increased in size and adjusted in configuration in order to provide greater clearances to fixtures as required. In all toilet and shower rooms, additional vertical grab bars should be provided at accessible stalls, and the locker rooms are missing an accessible changing bench.

Sinks in the break/kitchen/lunchroom areas are not accessible.

Accessible ramps are missing in multiple locations where changes in floor finish level occur. Areas include the presentation platform in the Training Room, range control room and at multiple rooms throughout the lower level adjacent to the garage, where existing gas curbs occur.

Some interior stairs have been retrofitted with handrail extensions where they were once lacking, however the handrails are not continuous as required by code. Insufficient guardrail and handrail extensions missing at stair to garage.

In some rooms, furniture has been placed within required clear floor spaces, blocking access to a person in a wheelchair from being able to open the door.

Environmental Issues

This investigation did not include environmental testing. No vinyl asbestos floor tile was observed in the building, but other things such as pipe insulation and pipe joint coverings may contain asbestos. Should any renovations or remodeling to the facility occur, testing of any material suspected of containing asbestos should be performed prior to any new construction.

In some areas, the acoustic ceiling tiles are stained due to roof leaks and/or piping leaks. Occasional leaks have also been observed and reported on the main floor in various areas. Continual water infiltration is of concern, as it

Column cracking adjacent to garage door

Foundation cracking at building addition

Previously patched foundation cracking at building addition

promotes opportunities for mold growth and can be damaging over the long term. Concealed areas should be inspected for such prior to any remodeling or renovation work, should it occur.

There may also be issues with rodent infiltration within the building that need to be investigated further and addressed. While no activity was observed during the time of the visit, noises and movement of mice from within the above ceiling space throughout the building has been reported by staff on multiple occasions.

Structural Analysis

General Observations

The following discusses, and is limited to, our observations and conclusions in regard to the structural elements visible at the time of our observation. We have not performed a full structural analysis of any building as a whole, nor shall our review be misconstrued as a guarantee, expressed or implied, of any specific structural element.

We observed a one-story steel framed police station with a partial basement. The roof framing consisted of steel bar joists supported on structural steel beams and load bearing masonry walls. The first floor was supported by concrete beams and columns. The building envelope consisted of CMU and brick veneer. The basement walls were cast-in-place concrete.

We observed localized foundation cracking. Moderate concrete cracks were observed in a concrete column adjacent to the basement garage door. Minor cracking was also observed from the exterior at construction joints where building additions had previously been constructed. Cracking was also observed at the base of an interior column in the garage space.

The slab on grade in the garage was pitted and deteriorated; however, previous repair patches were observed in a few locations within the garage. Cracking and spalling were most severe adjacent to existing trench drains.

We observed minor corrosion to the steel framing in several locations. It is our understanding the roof was replaced within the last 10 years, and any existing water damage may have occurred prior to that. Additionally, existing piping and plumbing is being reviewed to determine if leaks are present. Corrosion was observed at stair framing at the southeast corner of the building. Corrosion was also observed on roof joists in the Server Room and over the Sally Port door. Exterior lintels also showed signs of corrosion.

General Conclusions and Recommendations

We recommend that the cracking in concrete walls and columns be repaired. The cracks at the additions should be monitored for future movement or worsening condition. We recommend crack monitors be installed and

Column cracking at garage column

Concrete spalling at garage trench drain

Corroded stair framing

reviewed on a quarterly basis to provide a historical data set.

We recommend that the garage slab-on-grade be repaired or replaced, particularly in areas adjacent to the trench drains. We also recommend existing trench drains be scraped, primed, and painted with a rust inhibiting coating to mitigate future corrosion.

We recommend maintenance be performed on existing steel framing and lintels to remove corrosion via scraping, priming, and painting with a rust inhibiting coating to mitigate future corrosion.

We also recommend any areas of water infiltration or leakage be repaired to prevent additional moisture from affecting the building framing.

Mechanical and Plumbing Analysis

General Observations

The original building was adequate for a small Village Police Station. The renovation added some additional life span, but it currently falls short of a modern law enforcement facility. Building systems do not meet any standards of a modern Police Station with respect to environmental conditions, ventilation, heating and cooling, with no system redundancy. Controls were updated during the last renovation, and do offer some but monitoring and remote connect, but the systems which they control are marginal based on current standards.

Summary

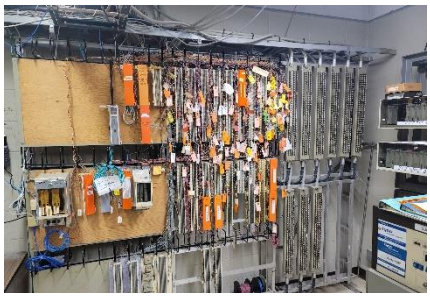
In general, the original 2019 facility survey and report was well done. However, from the standpoint of what the current facility is, it is dated. The plumbing and mechanical systems are antiquated when compared to modern standards for the respective facilities they are installed in and serve.

Should any further renovation of the facility be under consideration, it would not be recommended to take the renovation of the facility to the extent of achieving net-zero or decarbonization goals, or making them all electric, as there is still no precedent in this extreme, and no funding programs for these alternatives that we are aware of at this time. There is a considerable lack of energy efficiency and compliance to modern and mainstream environmental control and adequate ventilation. It is likely not a good economic choice to upgrade the existing facility to meet the efficiency and environmental standards, as it would require complete system replacements.

From a mechanical/plumbing/fire protection consultant point of view, there is no logical way of updating this existing site to meet current standards.

Rooftop equipment and screening

Older generator set



Antiquated alarm boards

Rooftop HVAC equipment

Electrical Analysis

Service and Distribution

The electrical service is rated 1600 amperes at 208/120V-3Ph. The main service disconnect switch is located in a free standing ITE switchboard that appears to be original to 1974.The switchboard appears in fair condition however the 50+ year old electrical service equipment is nearing end of service life and the built-in instrumentation no longer functions. The normal and emergency distribution panels appear to be in fair condition. All branch panels are typical bolted circuit breaker type and appear to be anywhere from original and 50+ years of age to relatively new and in overall fair to good condition. Expansion capabilities are limited by physical breaker space. Upgrade and replacement of the existing electrical switchboard and associated instrumentation including increased back-up generator supply size and integration is recommended.

Back-Up Power

The building appears to have a permanently installed Cummins natural gas fired back-up generator set in the basement which appears to power only select systems and a portion of the facility during power outages. The generator system appears to be in overall fair condition however the system is from 1997 and is 25+ years of age and nearing end of useful service life. The communications and call center appear to have a new UPS system recently installed which appears to be in good condition. Replacement of the existing generator system with a larger full building back-up system to allow full facility functionality during power outages is recommended.

Emergency and Exit Lighting

Emergency and exit lighting appears to vary in age and general condition. All emergency lighting appears to be powered by the backup generator system and appears to be in overall fair condition. Upgrade and replacement of older exit signage is recommended where applicable.

Interior and Exterior Lighting

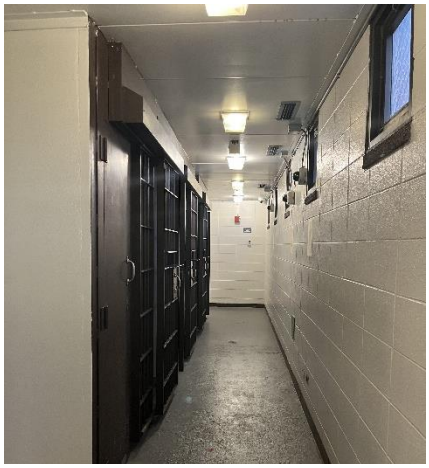
The majority of the interior lights have been replaced as part of previous renovation work and appear to be T8 fluorescent lamped. The holding cell area appear to be original to the building and contain incandescent fixtures or in some cells no lighting at all. The light levels appear to be adequate in most general areas, with the exception of the lower level vehicle garage and holding cell areas. The exterior lighting fixtures appear to be older pole mounted and building mounted HID in overall fair to poor condition with circuitry and corrosion issues. The exterior lighting doesn't appear to meet uniformity standards. Upgrade of the interior lighting fixtures and controls throughout with new energy efficient LED fixtures and controls to meet IEC requirements is recommended.

Fire Alarm System

Fire alarm system appears to have been replaced in the last few years with a new IFP-2100 model. Annunciation coverage appears to be lacking in some

Original electrical distribution panel

Booking area



Detention cell corridor

locations. The system appears to have a wireless radio alarm communicator installed.

Telecommunications Systems
Quite a bit of older and unused telecom equipment and cabling abandoned in place. Server room cabling is disheveled and cabling routing is haphazard incorrectly bundled in some areas of the facility. The majority of the cable lack organization, labels and identification. Consideration should be made to upgrade organize and label the cabling plant and server room for ease of maintenance.

Security Analysis

General System Observations
All Village facilities observed appear to be connected to an Avigilon video system and an Avigilon card access system. The sites are connected via fiber with other facilities such as Village Hall so video servers and programing for card access can be located at any location or multiple locations. There seems to be very little other security like burglar alarms, duress systems, ETC. All sites seem to lack sufficient security for staff protection, inventory loss and incident tracking.

Building Security
Video surveillance cameras monitoring exterior locations and interior locations mostly related to detention, holding, processing and transporting appear to be provided. Access control via card readers are located on the perimeter staff entrances to the facility as well as select areas of the building interior for public area separation, evidence security, 911 operations, etc. Panasonic interview system observed may be compatible to car video. Remote door control appears to be limited to few doors, with system controls located within the Records area, Sallyport garage door remote control located in 911 communications center. No building alarms appear to be provided for after hours application when only 911 staff is present in the facility.

Detention Area
The detention area was designed and constructed before the State of Illinois issued the first Municipal Detention Code in the late 1970's. As a result, this portion of the facility does not meet any current standard or practices, including but not limited to:

- Fire separation from building for walls and doors for those detained with no egress.
- Minimum cell sizes.
- Minimum lighting for cells.
- Smoke barriers.
- Electro-mechanical emergency release.

Detention cell

Typical non-compliant cell door

Access control at staff entry door

Access drive to Squad Garage

- Sight and sound separation for male, female, and juvenile.
- Booking, sallyport and hardened interview room not within detention area.
- Unsecure openings from detention area such as large Plexiglas window in visitation, opening windows with wire to pass items into detention.

Based upon site observations, should any further renovation of the facility be under consideration, there is very little in the existing detention area that can continue to be used. A new detention facility would be required to bring up to current codes and standards of a modern detention facility.

Evaluation of 2019 Facility Study

Per the facility conditions assessment performed by Healy Bender / Moyer Associates in 2019, a building rating and Deficiency Notation Form was developed for each facility reviewed. According to the 2019 report, the rating system utilized was based on the ASTM E2018-15 standards and defined as follows:

- **Good Current**
  The system was built, renovated, or rehabilitated to equal or exceed the current nationally recognized standards addressing the item; it is functioning properly, and it appears to be properly maintained. Parts are readily available.

- **Good Dated**
  The system meets or exceeds the lawfully enforceable minimum standard but does not meet the corresponding current nationally recognized standard; it is functioning properly and appears to be properly maintained. Parts are readily available.

- **Fair**
  The system fails to meet minor lawfully enforceable minimum standards in one or more minor respects but is scheduled to be brought up to code. It is marginally functional or requires frequent repair to continue functioning and appears to be adequately maintained. Parts are becoming difficult to acquire and the system is nearing the end of its useful life.

- **Poor**
  The system fails to meet lawfully enforceable minimum standards in substantial respect; it does not function reliably and appears to be poorly maintained. Parts can no longer be acquired, and the system is beyond its useful life.

- **Very Poor**
  The system fails to meet lawfully enforceable minimum standards to such an extent as to pose an imminent threat to health or safety of building occupants or is completely nonfunctional.

Using the 'Deficiency Notation Form' as a guide, the FGMA study team referenced this document during the recent assessment of the facilities. The following is an updated assessment of existing building conditions.

EXISTING FACILITY DEFICIENCY NOTATION FORM Police Station	2019 Study Documented Conditions	2023 Study Existing Condition Review	

Item/ Issue		Rating	Assessment	Notes
SITE EVALUATION				
1.	Site Features	Poor	CONCUR	Regular maintenance required at garage access drive trench drain. Significant corrosion and deterioration at site light poles.
2.	Utilities	Good Dated	CONCUR	
3.	Site Access	Good Current	REVISE – GOOD DATED	Access to site reasonably clear. Police and staff parking area is unsecured, thus DATED.
4.	Parking Lots, Site Maintainability	Poor	CONCUR	Visible cracking in asphalt pavement. Multiple location of cracks and heaving in concrete sidewalks.
STRUCTURAL EVALUATION				
1.	Foundation and Slab on Grade	Good Dated	CONCUR	Visible walls were in generally good condition. Foundation cracks were also observed at locations where previous additions had been built. The garage slab was pitted and cracking, particularly around corroded trench drains. There were no visible signs of seepage.
2.	Floor Structural Systems	Good Current	CONCUR	
3.	Stairs, Ramps and Balconies	Good Dated	CONCUR	The materials used for the interior stairs are in good condition. Some treads and stringers require maintenance to remove surficial corrosion. There are no signs of deflection, torsion, or major deterioration.
4a.	Interior Bearing Walls	Good Current	CONCUR	
4b.	Interior Columns	N/A	POOR	One concrete column in the garage was observed to have cracking and spalling at its base. Corroded rebar observed
5a.	Exterior Bearing Wall	Good Current	CONCUR	
5b.	Exterior Columns	N/A	FAIR	One concrete column at garage entrance had significant concrete crack.

6.	Visible Steel Members	Good Dated	CONCUR	Most steel framing was not visible. Corrosion was observed on joists over the sally port door and in the server room. There were no signs of overloading in observable steel members.
7.	Roof Structural Systems	Good Current	REVISE - GOOD DATED	See response to Structural Item 6.
BUILDING EGRESS / ACCESSIBILITY				
1.	Egress – Corridors	Good Current	CONCUR	Corridors sufficient in width, with adequate circulation throughout.
2.	Egress – interior Doors	Good Dated	CONCUR	All components in adequate working condition
3.	Egress – Exterior Doors	Good Dated	CONCUR	All components in adequate working condition. Obstructions at lower level egress door on northeast side of garage.
4.	Door Hardware	Good Dated	CONCUR	
5.	Stairs, Landings, Handrails	Poor	CONCUR	Inadequate guardrail and handrail at stair to garage.
6.	Accessible Toilet Facilities / Lockers	Good Dated	REVISE - FAIR	Single user toilet rooms not compliant to current standards. No accessibility in detention area.
ARCHITECTURAL				
1.	Exterior Windows, Storefront, Curtainwall	Fair	CONCUR	If replaced, more thermally efficient systems available.
2.	Exterior Doors	Fair	CONCUR	Visible corrosion and deterioration at interior hollow metals doors and frames.
3.	Exterior – Envelope and Miscellaneous Items	Good Dated	CONCUR	Brick masonry in good condition. Tuckpointing needed in select areas.
4.	Roofing	Good Current	CONCUR	
5.	Interior – Stairs & Ramps	Good Dated	CONCUR	Floor finishes in reasonable condition. Replace floor base materials where needed.
6.	Interior – Secured Corridors	Fair	CONCUR	Interior finishes in need of replacement.
7.	Interior – Staff Lounge, Lunchroom, Multipurpose	Fair	CONCUR	Interior finishes in need of replacement. Millwork cabinetry and countertops old, damaged and delaminating.
8.	Interior – Toilet Rooms & Locker Rooms	Good Dated	CONCUR	Replace chipped or missing tile in select locations. Visible wear and delamination of countertop in areas near sinks.

9.	Interior – Lobby, Reception	Good Dated	CONCUR	
10.	Interior – Administration, Office	Fair	CONCUR	Interior finishes in need of replacement.
11.	Interior – Investigation	Fair	CONCUR	Interior finishes in need of replacement.
12.	Interior – Booking	Fair	CONCUR	
13.	Interior – Holding	Good Current	REVISE - POOR	Lockup and cells do not meet modern standards for detention area code requirements.
14.	Interior – Evidence	Fair	CONCUR	
15.	Interior – Range	Good Dated	REVISE - FAIR	Sound baffles delaminating from supports, deterioration of floor finish throughout.
16.	Interior – Sergeant, Roll Call	Fair	CONCUR	Interior finishes in need of replacement.
17a.	Interior – Records, Interview Shift Com	Fair	CONCUR	Interior finishes in need of replacement. Interview rooms used in conjunction with booking located outside of secure area.
17b.	Interior – Counseling	N/A	GOOD CURRENT	Interior finishes appear newer or may have been recently replaced. Review positioning of furniture in room to not impede accessibility.
18.	Interior – Fitness	Good Dated	REVISE - FAIR	Rubber flooring in reasonable condition. Remainder of Interior finishes in need of replacement. Sagging or discolored ceiling tiles throughout, missing wall base. Millwork cabinetry and countertops old, damaged and delaminating.
19.	Interior – Garage, Mechanical, Electrical, Storage	Good Current	CONCUR	Finishes appropriate for utilitarian areas. Deterioration in surface condition of concrete floor in garage.
MECHANICAL HVAC EVALUATION				
1.	Temperature Control System	Good Current	CONCUR	Needs equipment up-grades to be effective in actual control and sequencing.
2.	Heating Equipment / System	Good Dated	REVISE - POOR	Equipment is limited, no way of measuring actual ventilation rates. Precise control of environment is poor. Needs up-grade to modern system.
3.	Air Conditioning Equipment / System	Good Current	REVISE - POOR	Current system is incapable of providing sufficient control, lack of zoning and adequate control.

				Needs to be upgraded to modern system.
4.	Ventilation Equipment / System	Good Current	REVISE - POOR	Existing system was marginal when installed. Provided several more years of service for the building, but in need of code compliant modern system.
5.	Exhaust System	Good Dated	REVISE - POOR	Control of building pressurization is missing. No smoke control for lock-up as required by contemporary codes.
6.	Miscellaneous Systems	Good Dated	REVISE - POOR	Pistol range system, even though replaced, is inadequate.
PLUMBING EVALUATION				
1.	Domestic Water Piping	Fair	REVISE - POOR	A mix of original and renovated, mixed materials, lock-up does not meet modern codes.
2.	Sanitary Waste Piping	Good Dated	REVISE - FAIR	Currently no reported issues, but still much original.
3.	Storm Water Piping	Good Dated	REVISE - FAIR	There are some storm water related issues, system is original.
4.	Plumbing Pipe Insulation	Good Dated	REVISE - POOR	A mix of newer and original, some older material may contain asbestos.
5.	Domestic Water Heater	Good Dated	CONCUR	
6.	Sanitary Ejector Pump System	Good Dated	CONCUR	
7.	Storm / Drain Tile Ejector Pump System	Good Dated	CONCUR	
8.	Plumbing Fixtures	Fair	CONCUR	
9.	Wall Hydrants and Hose Bibbs	Good Dated	CONCUR	
10.	Vehicle Garage Trench Drains	Poor	CONCUR	
FIRE PROTECTION EVALUATION				
1.	Fire Protection Incoming Service	Good Dated	CONCUR	
2.	Fire Pump System	Good Dated	CONCUR	
3.	Fire Protection Sprinkler Piping	Good Dated	CONCUR	
4.	Fire Protection Sprinkler Heads	Good Dated	CONCUR	
ELECTRICAL EVALUATION				
1.	Electrical Service	Good Dated	REVISE - FAIR	Service original nearly 50 years of age instrumentation no longer

				works. Nearing end of useful service life.
2.	Electrical Distribution System	Fair	CONCUR	Distribution original nearly 50 years of age. Nearing end of useful service life.
3.	Emergency Power System	Good Dated	REVISE - FAIR	Generator set 25+ years of age nearing end of service life small unit doesn't backup entire facility.
4.	Emergency / Exit Lighting	Good Dated	REVISE - FAIR	Mix of newer and older exit signage. Emergency lighting not inclusive of entire facility.
5.	Interior Lighting	Fair	CONCUR	Older fluorescent and incandescent lighting fixtures inefficient and nearing end of useful service life. Lack of IEC compliant controls.
6.	Exterior Lighting	Fair	CONCUR	Older corroded and shorted lighting poles and heads at end of useful service life.
7.	Outlet Condition & Adequacy	Good Dated	REVISE - FAIR	Many older devices nearing end of useful service life quantity appears lacking in some areas where plug strips and extensions cords are utilized.
8.	Fire Alarm System	Fair	REVISE – GOOD DATES	Fire alarm system appears to have been replaced in the last few years with a new IFP-2100 model. Annunciation coverage appears to be lacking in some locations.
9.	Telecommunication System	Good Dated	REVISE - FAIR	Lots of older unused telecom equipment and cabling abandoned in place. Server room cabling is disheveled and cabling routing is haphazard.
10.	PA System	Good Dated	REVISE - FAIR	PA system equipment appears to be in fair condition but devices and cabling appears to be older.

Seepage at concrete wall near exterior entry to garage

Roof access ladder projecting into circulation area

Cracks / heaving in concrete sidewalk and deteriorating asphalt

Surface corrosion at joist bearing

Interview rooms outside of secure area

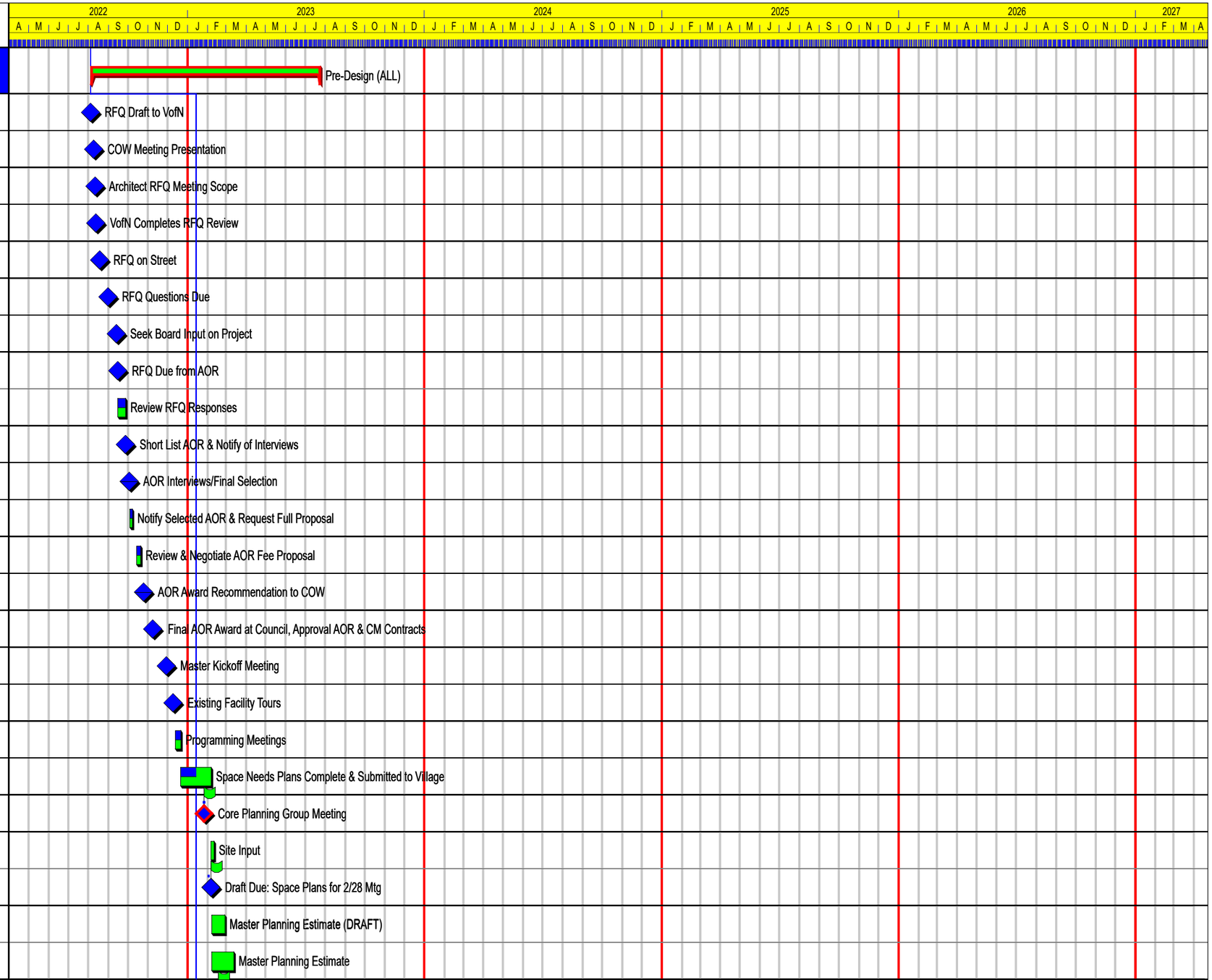
Significant corrosion at exterior site light poles

Concrete cracking at garage trench drain

Surface corrosion at exterior lintel

Sound baffles at range area delaminating from substrate

Line	Activity Description	Duration	Start	Finish
1	**Pre-Design (ALL)**	**248d**	**08/04/22 A**	**07/25/23**
2	RFQ Draft to VofN	0d	08/04/22 A	08/04/22 A
3	COW Meeting Presentation	0d	08/09/22 A	08/09/22 A
4	Architect RFQ Meeting Scope	0d	08/11/22 A	08/11/22 A
5	VofN Completes RFQ Review	0d	08/12/22 A	08/12/22 A
6	RFQ on Street	0d	08/18/22 A	08/18/22 A
7	RFQ Questions Due	0d	08/31/22 A	08/31/22 A
8	Seek Board Input on Project	0d	09/13/22 A	09/13/22 A
9	RFQ Due from AOR	0d	09/15/22 A	09/15/22 A
10	Review RFQ Responses	9d	09/15/22 A	09/27/22 A
11	Short List AOR & Notify of Interviews	0d	09/27/22 A	09/27/22 A
12	AOR Interviews/Final Selection	0d	10/03/22 A	10/03/22 A
13	Notify Selected AOR & Request Full Proposal	4d	10/04/22 A	10/07/22 A
14	Review & Negotiate AOR Fee Proposal	5d	10/14/22 A	10/20/22 A
15	AOR Award Recommendation to COW	0d	10/25/22 A	10/25/22 A
16	Final AOR Award at Council, Approval AOR & CM Contracts	0d	11/08/22 A	11/08/22 A
17	Master Kickoff Meeting	0d	11/29/22 A	11/29/22 A
18	Existing Facility Tours	0d	12/09/22 A	12/09/22 A
19	Programming Meetings	7d	12/13/22 A	12/21/22 A
20	Space Needs Plans Complete & Submitted to Village	34d	12/21/22 A	02/06/23
21	Core Planning Group Meeting	0d	01/26/23 *	01/26/23
22	Site Input	5d	02/06/23	02/10/23
23	Draft Due: Space Plans for 2/28 Mtg	0d	02/06/23 *	02/06/23
24	Master Planning Estimate (DRAFT)	15d	02/07/23	02/27/23
25	Master Planning Estimate	25d	02/07/23	03/13/23



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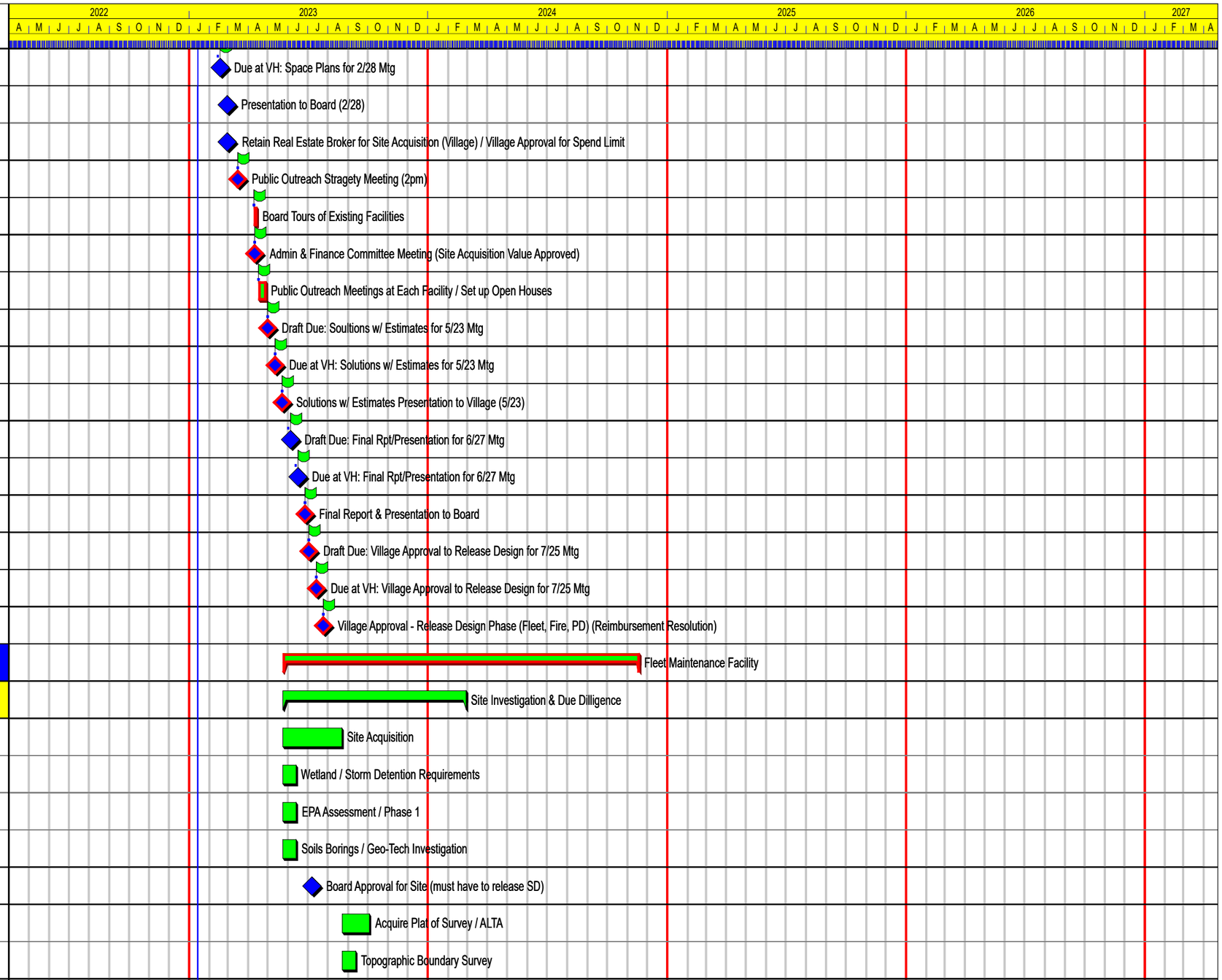
26	Due at VH: Space Plans for 2/28 Mtg	0d	02/17/23 *	02/17/23
27	Presentation to Board (2/28)	0d	02/28/23	02/28/23
28	Retain Real Estate Broker for Site Acquisition (Village) / Village Approval for Spend Limit	0d	02/28/23	02/28/23
29	Public Outreach Stragety Meeting (2pm)	0d	03/16/23 *	03/16/23
30	Board Tours of Existing Facilities	5d	04/10/23 *	04/14/23
31	Admin & Finance Committee Meeting (Site Acquisition Value Approved)	0d	04/11/23 *	04/11/23
32	Public Outreach Meetings at Each Facility / Set up Open Houses	10d	04/17/23 *	04/28/23
33	Draft Due: Soultions w/ Estimates for 5/23 Mtg	0d	05/01/23 *	05/01/23
34	Due at VH: Solutions w/ Estimates for 5/23 Mtg	0d	05/12/23 *	05/12/23
35	Solutions w/ Estimates Presentation to Village (5/23)	0d	05/23/23 *	05/23/23
36	Draft Due: Final Rpt/Presentation for 6/27 Mtg	0d	06/05/23 *	06/05/23
37	Due at VH: Final Rpt/Presentation for 6/27 Mtg	0d	06/16/23 *	06/16/23
38	Final Report & Presentation to Board	0d	06/27/23 *	06/27/23
39	Draft Due: Village Approval to Release Design for 7/25 Mtg	0d	07/03/23 *	07/03/23
40	Due at VH: Village Approval to Release Design for 7/25 Mtg	0d	07/14/23 *	07/14/23
41	Village Approval - Release Design Phase (Fleet, Fire, PD) (Reimbursement Resolution)	0d	07/25/23 *	07/25/23
42	**Fleet Maintenance Facility**	**390d**	**05/24/23**	**11/19/24**
43	**Site Investigation & Due Dilligence**	**201d**	**05/24/23**	**02/28/24**
44	Site Acquisition	65d	05/24/23	08/22/23
45	Wetland / Storm Detention Requirements	15d	05/24/23	06/13/23
46	EPA Assessment / Phase 1	15d	05/24/23	06/13/23
47	Soils Borings / Geo-Tech Investigation	15d	05/24/23	06/13/23
48	Board Approval for Site (must have to release SD)	0d	07/07/23	07/07/23
49	Acquire Plat of Survey / ALTA	30d	08/23/23	10/03/23
50	Topographic Boundary Survey	15d	08/23/23	09/12/23



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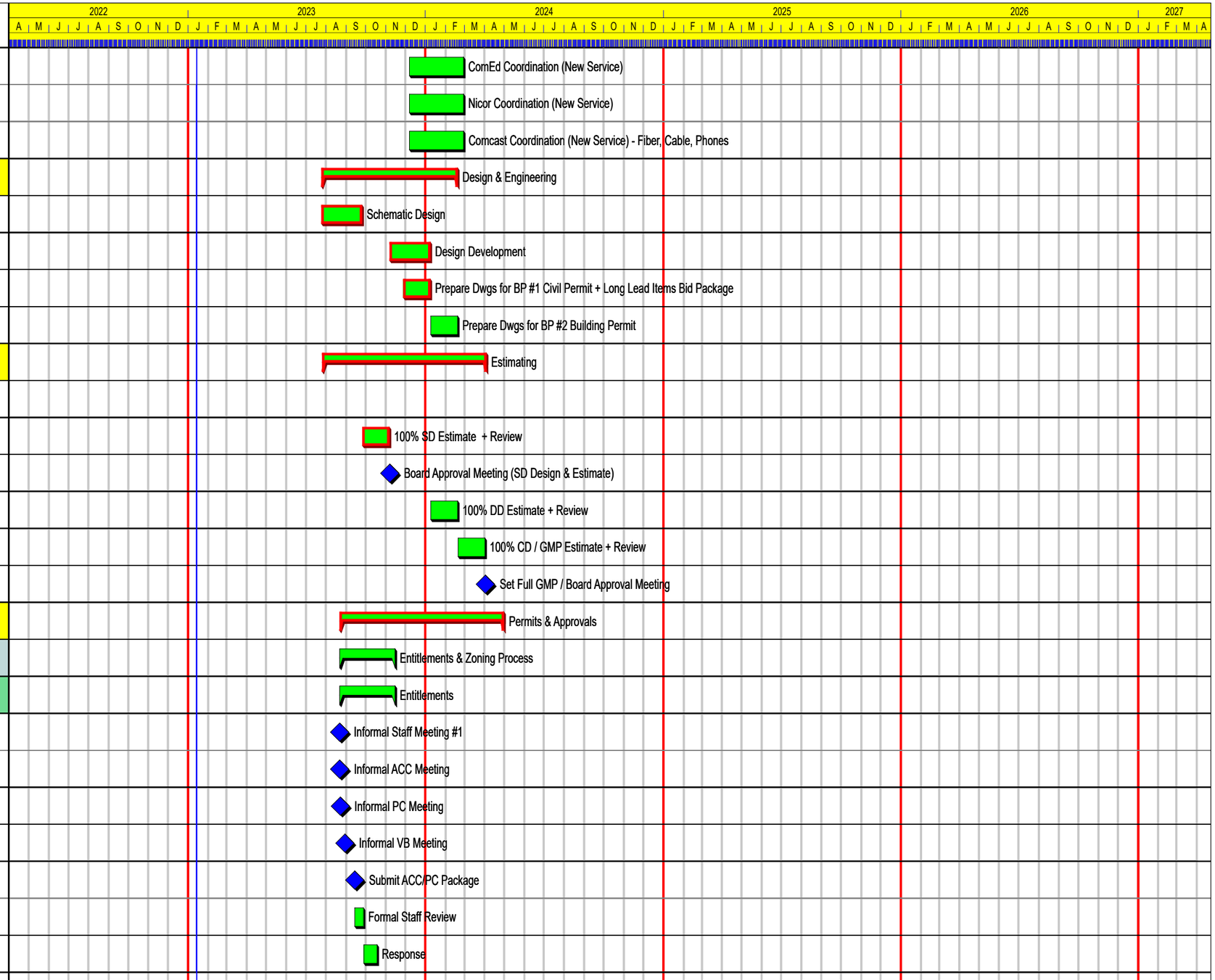
51	ComEd Coordination (New Service)	60d	12/07/23	02/28/24
52	Nicor Coordination (New Service)	60d	12/07/23	02/28/24
53	Comcast Coordination (New Service) - Fiber, Cable, Phones	60d	12/07/23	02/28/24
54	**Design & Engineering**	**150d**	**07/25/23**	**02/19/24**
55	Schematic Design	45d	07/25/23	09/25/23
56	Design Development	45d	11/07/23	01/08/24
57	Prepare Dwgs for BP #1 Civil Permit + Long Lead Items Bid Package	30d	11/28/23	01/08/24
58	Prepare Dwgs for BP #2 Building Permit	30d	01/09/24	02/19/24
59	**Estimating**	**135d**	**09/26/23**	**04/02/24**
60				
61	100% SD Estimate + Review	30d	09/26/23	11/06/23
62	Board Approval Meeting (SD Design & Estimate)	0d	11/07/23	11/07/23
63	100% DD Estimate + Review	30d	01/09/24	02/19/24
64	100% CD / GMP Estimate + Review	30d	02/20/24	04/01/24
65	Set Full GMP / Board Approval Meeting	0d	04/02/24	04/02/24
66	**Permits & Approvals**	**181d**	**08/22/23**	**04/30/24**
67	**Entitlements & Zoning Process**	**60d**	**08/22/23**	**11/15/23**
68	**Entitlements**	**61d**	**08/22/23**	**11/15/23**
69	Informal Staff Meeting #1	0d	08/22/23	08/22/23
70	Informal ACC Meeting	0d	08/22/23	08/22/23
71	Informal PC Meeting	0d	08/23/23	08/23/23
72	Informal VB Meeting	0d	08/30/23	08/30/23
73	Submit ACC/PC Package	0d	09/14/23	09/14/23
74	Formal Staff Review	10d	09/14/23	09/27/23
75	Response	15d	09/28/23	10/18/23



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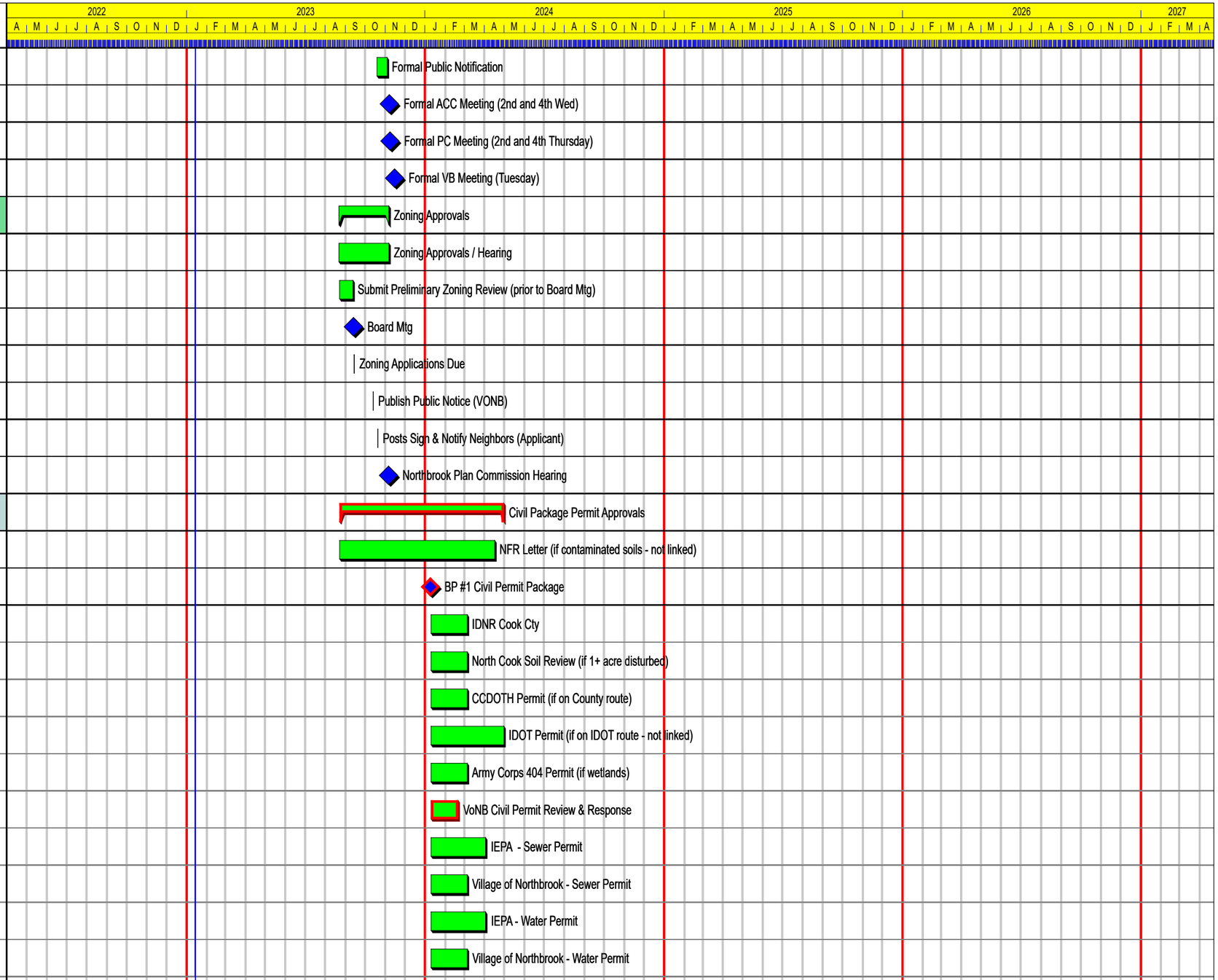
Line	Activity Description	Duration	Start	Finish
76	Formal Public Notification	12d	10/19/23	11/03/23
77	Formal ACC Meeting (2nd and 4th Wed)	0d	11/07/23	11/07/23
78	Formal PC Meeting (2nd and 4th Thursday)	0d	11/08/23	11/08/23
79	Formal VB Meeting (Tuesday)	0d	11/15/23	11/15/23
80	**Zoning Approvals**	**55d**	**08/22/23**	**11/06/23**
81	Zoning Approvals / Hearing	55d	08/22/23	11/06/23
82	Submit Preliminary Zoning Review (prior to Board Mtg)	15d	08/23/23	09/12/23
83	Board Mtg	0d	09/13/23	09/13/23
84	Zoning Applications Due	1d	09/14/23	09/14/23
85	Publish Public Notice (VONB)	1d	10/13/23	10/13/23
86	Posts Sign & Notify Neighbors (Applicant)	1d	10/20/23	10/20/23
87	Northbrook Plan Commission Hearing	0d	11/06/23	11/06/23
88	**Civil Package Permit Approvals**	**180d**	**08/23/23**	**04/30/24**
89	NFR Letter (if contaminated soils - not linked)	170d	08/23/23	04/16/24
90	BP #1 Civil Permit Package	0d	01/09/24	01/09/24
91	IDNR Cook Cty	40d	01/10/24	03/05/24
92	North Cook Soil Review (if 1+ acre disturbed)	40d	01/10/24	03/05/24
93	CCDOTH Permit (if on County route)	40d	01/10/24	03/05/24
94	IDOT Permit (if on IDOT route - not linked)	80d	01/10/24	04/30/24
95	Army Corps 404 Permit (if wetlands)	40d	01/10/24	03/05/24
96	VoNB Civil Permit Review & Response	30d	01/10/24	02/20/24
97	IEPA - Sewer Permit	60d	01/10/24	04/02/24
98	Village of Northbrook - Sewer Permit	40d	01/10/24	03/05/24
99	IEPA - Water Permit	60d	01/10/24	04/02/24
100	Village of Northbrook - Water Permit	40d	01/10/24	03/05/24



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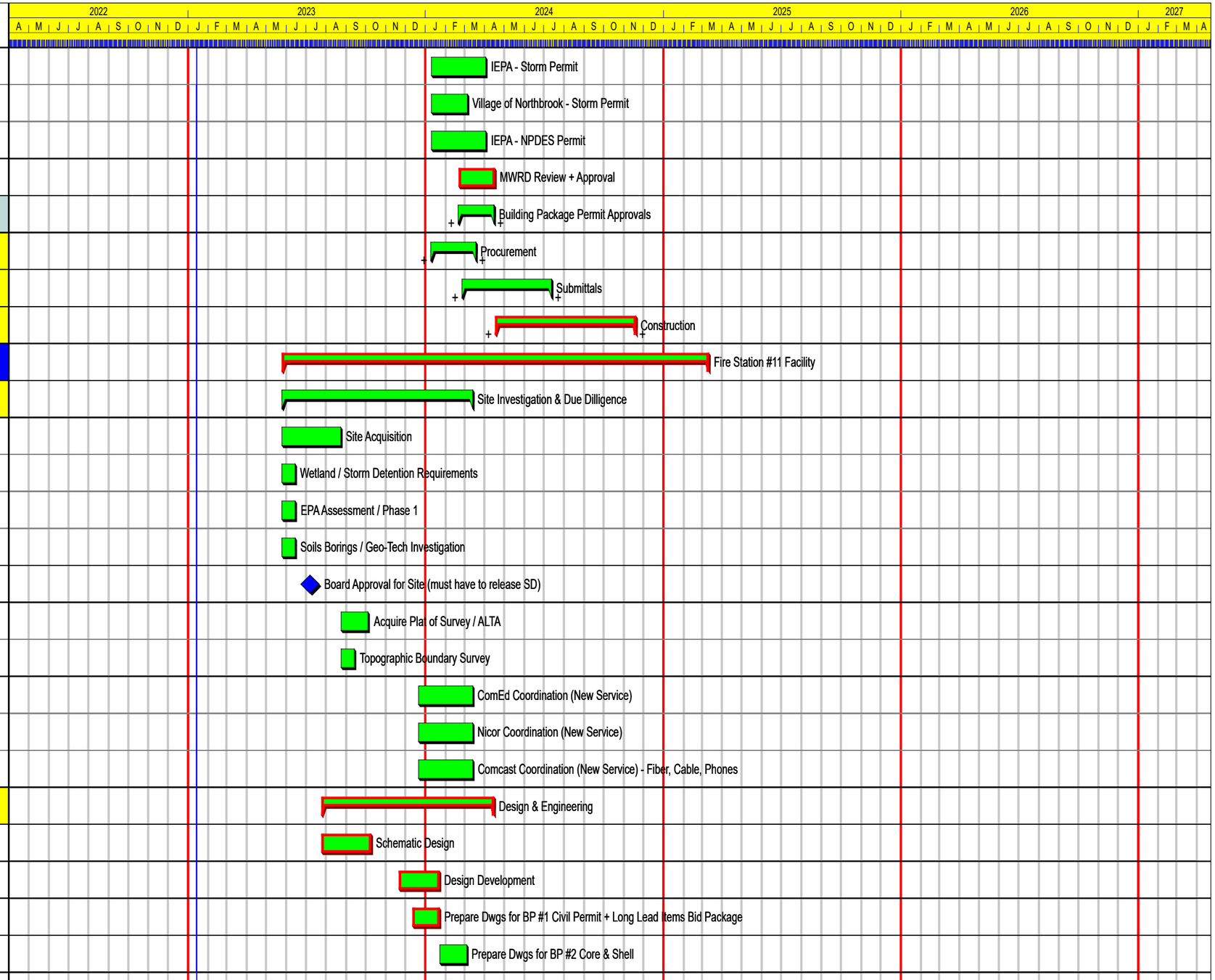
Line	Activity Description	Duration	Start	Finish
101	IEPA - Storm Permit	60d	01/10/24	04/02/24
102	Village of Northbrook - Storm Permit	40d	01/10/24	03/05/24
103	IEPA - NPDES Permit	60d	01/10/24	04/02/24
104	MWRD Review + Approval	40d	02/21/24	04/16/24
105	**Building Package Permit Approvals**	**40d**	**02/20/24**	**04/15/24**
106	**Procurement**	**50d**	**01/09/24**	**03/18/24**
107	**Submittals**	**100d**	**02/26/24**	**07/12/24**
108	**Construction**	**155d**	**04/17/24**	**11/19/24**
109	**Fire Station #11 Facility**	**457d**	**05/25/23**	**03/11/25**
110	**Site Investigation & Due Dilligence**	**210d**	**05/25/23**	**03/13/24**
111	Site Acquisition	65d	05/25/23	08/23/23
112	Wetland / Storm Detention Requirements	15d	05/25/23	06/14/23
113	EPA Assessment / Phase 1	15d	05/25/23	06/14/23
114	Soils Borings / Geo-Tech Investigation	15d	05/25/23	06/14/23
115	Board Approval for Site (must have to release SD)	0d	07/07/23	07/07/23
116	Acquire Plat of Survey / ALTA	30d	08/24/23	10/04/23
117	Topographic Boundary Survey	15d	08/24/23	09/13/23
118	ComEd Coordination (New Service)	60d	12/21/23	03/13/24
119	Nicor Coordination (New Service)	60d	12/21/23	03/13/24
120	Comcast Coordination (New Service) - Fiber, Cable, Phones	60d	12/21/23	03/13/24
121	**Design & Engineering**	**190d**	**07/25/23**	**04/15/24**
122	Schematic Design	55d	07/25/23	10/09/23
123	Design Development	45d	11/21/23	01/22/24
124	Prepare Dwgs for BP #1 Civil Permit + Long Lead Items Bid Package	30d	12/12/23	01/22/24
125	Prepare Dwgs for BP #2 Core & Shell	30d	01/23/24	03/04/24



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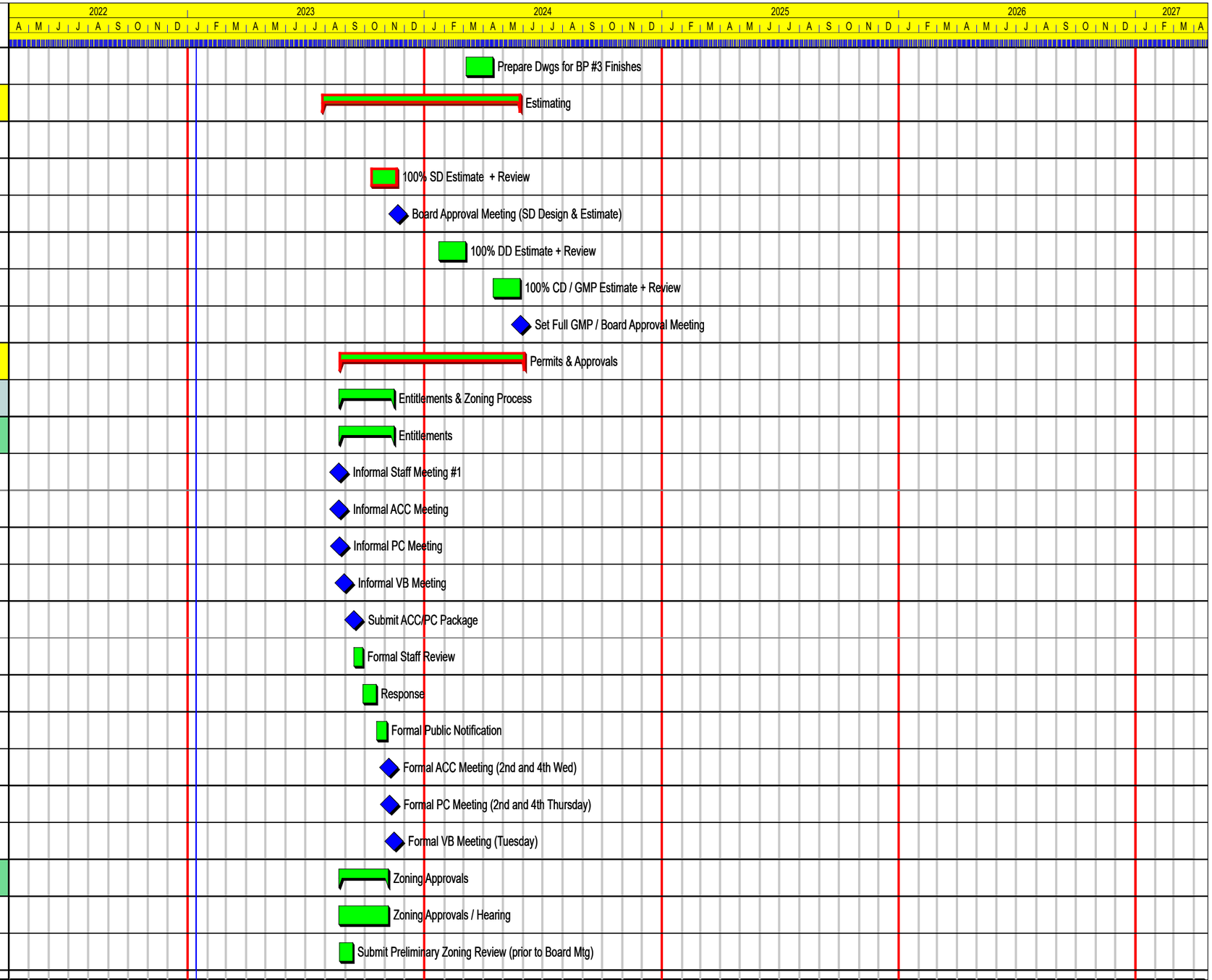
Line	Activity Description	Duration	Start	Finish
126	Prepare Dwgs for BP #3 Finishes	30d	03/05/24	04/15/24
127	**Estimating**	**165d**	**10/10/23**	**05/28/24**
128				
129	100% SD Estimate + Review	30d	10/10/23	11/20/23
130	Board Approval Meeting (SD Design & Estimate)	0d	11/21/23	11/21/23
131	100% DD Estimate + Review	30d	01/23/24	03/04/24
132	100% CD / GMP Estimate + Review	30d	04/16/24	05/27/24
133	Set Full GMP / Board Approval Meeting	0d	05/28/24	05/28/24
134	**Permits & Approvals**	**205d**	**08/22/23**	**06/04/24**
135	**Entitlements & Zoning Process**	**60d**	**08/22/23**	**11/15/23**
136	**Entitlements**	**61d**	**08/22/23**	**11/15/23**
137	Informal Staff Meeting #1	0d	08/22/23	08/22/23
138	Informal ACC Meeting	0d	08/22/23	08/22/23
139	Informal PC Meeting	0d	08/23/23	08/23/23
140	Informal VB Meeting	0d	08/30/23	08/30/23
141	Submit ACC/PC Package	0d	09/14/23	09/14/23
142	Formal Staff Review	10d	09/14/23	09/27/23
143	Response	15d	09/28/23	10/18/23
144	Formal Public Notification	12d	10/19/23	11/03/23
145	Formal ACC Meeting (2nd and 4th Wed)	0d	11/07/23	11/07/23
146	Formal PC Meeting (2nd and 4th Thursday)	0d	11/08/23	11/08/23
147	Formal VB Meeting (Tuesday)	0d	11/15/23	11/15/23
148	**Zoning Approvals**	**55d**	**08/22/23**	**11/06/23**
149	Zoning Approvals / Hearing	55d	08/22/23	11/06/23
150	Submit Preliminary Zoning Review (prior to Board Mtg)	15d	08/23/23	09/12/23



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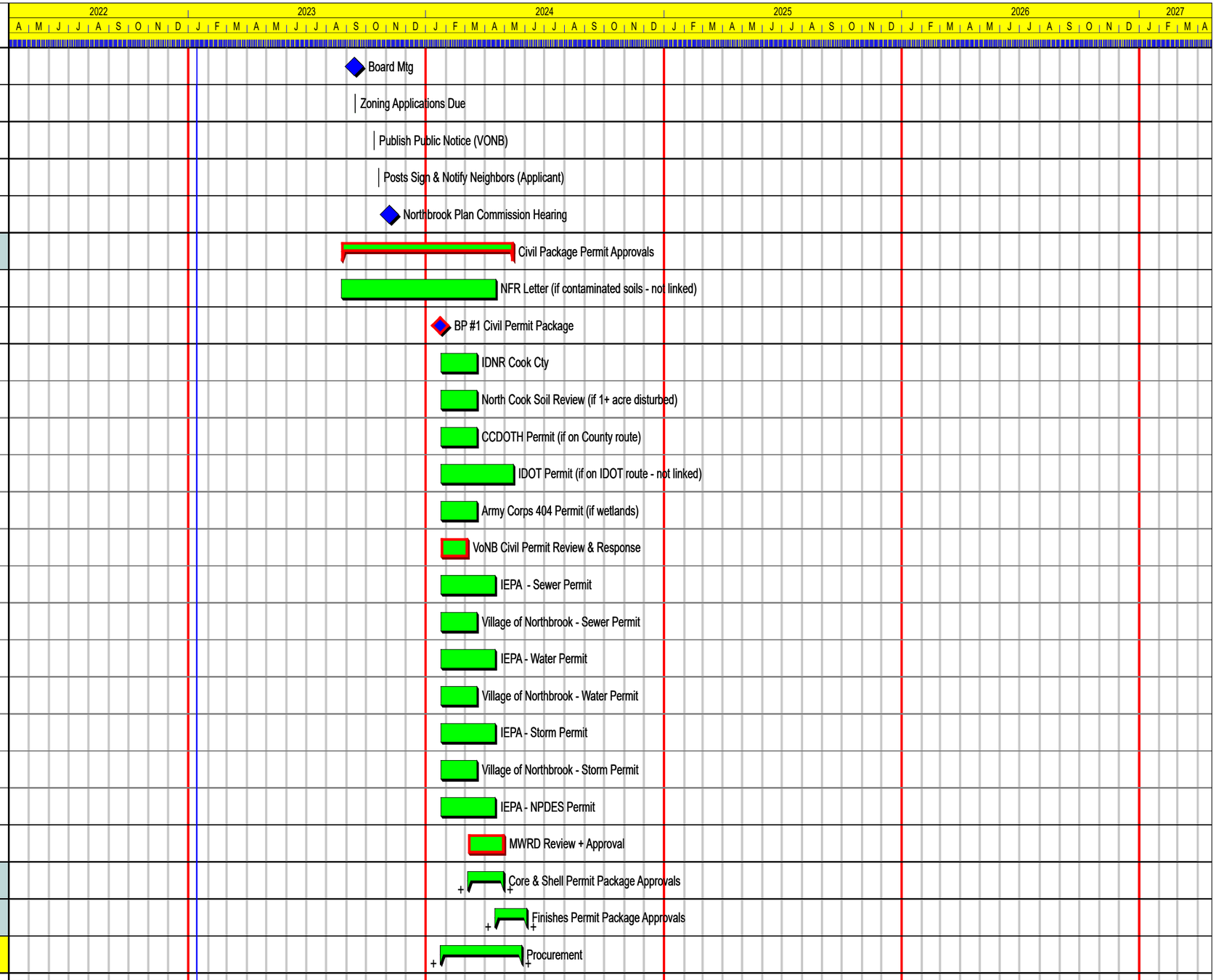
151	Board Mtg	0d	09/13/23	09/13/23
152	Zoning Applications Due	1d	09/14/23	09/14/23
153	Publish Public Notice (VONB)	1d	10/13/23	10/13/23
154	Posts Sign & Notify Neighbors (Applicant)	1d	10/20/23	10/20/23
155	Northbrook Plan Commission Hearing	0d	11/06/23	11/06/23
156	**Civil Package Permit Approvals**	**189d**	**08/24/23**	**05/14/24**
157	NFR Letter (if contaminated soils - not linked)	170d	08/24/23	04/17/24
158	BP #1 Civil Permit Package	0d	01/23/24	01/23/24
159	IDNR Cook Cty	40d	01/24/24	03/19/24
160	North Cook Soil Review (if 1+ acre disturbed)	40d	01/24/24	03/19/24
161	CCDOTH Permit (if on County route)	40d	01/24/24	03/19/24
162	IDOT Permit (if on IDOT route - not linked)	80d	01/24/24	05/14/24
163	Army Corps 404 Permit (if wetlands)	40d	01/24/24	03/19/24
164	VoNB Civil Permit Review & Response	30d	01/24/24	03/05/24
165	IEPA - Sewer Permit	60d	01/24/24	04/16/24
166	Village of Northbrook - Sewer Permit	40d	01/24/24	03/19/24
167	IEPA - Water Permit	60d	01/24/24	04/16/24
168	Village of Northbrook - Water Permit	40d	01/24/24	03/19/24
169	IEPA - Storm Permit	60d	01/24/24	04/16/24
170	Village of Northbrook - Storm Permit	40d	01/24/24	03/19/24
171	IEPA - NPDES Permit	60d	01/24/24	04/16/24
172	MWRD Review + Approval	40d	03/06/24	04/30/24
173	**Core & Shell Permit Package Approvals**	**40d**	**03/05/24**	**04/29/24**
174	**Finishes Permit Package Approvals**	**35d**	**04/16/24**	**06/04/24**
175	**Procurement**	**89d**	**01/23/24**	**05/27/24**



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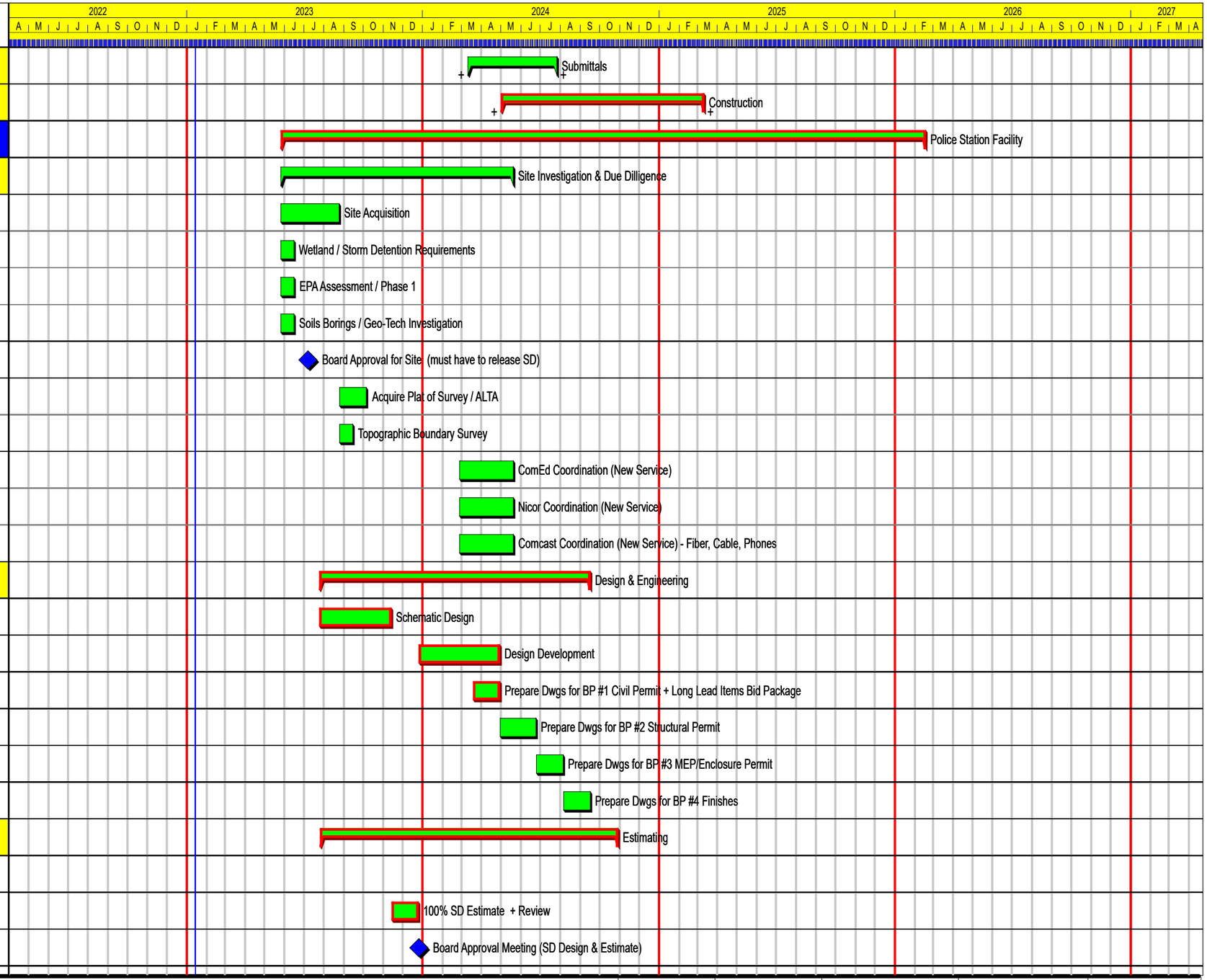
Line	Activity Description	Duration	Start	Finish
176	**Submittals**	**100d**	**03/11/24**	**07/26/24**
177	**Construction**	**225d**	**05/01/24**	**03/11/25**
178	**Police Station Facility**	**694d**	**05/26/23**	**02/17/26**
179	**Site Investigation & Due Dilligence**	**257d**	**05/26/23**	**05/20/24**
180	Site Acquisition	65d	05/26/23	08/24/23
181	Wetland / Storm Detention Requirements	15d	05/26/23	06/15/23
182	EPA Assessment / Phase 1	15d	05/26/23	06/15/23
183	Soils Borings / Geo-Tech Investigation	15d	05/26/23	06/15/23
184	Board Approval for Site (must have to release SD)	0d	07/07/23	07/07/23
185	Acquire Plat of Survey / ALTA	30d	08/25/23	10/05/23
186	Topographic Boundary Survey	15d	08/25/23	09/14/23
187	ComEd Coordination (New Service)	60d	02/27/24	05/20/24
188	Nicor Coordination (New Service)	60d	02/27/24	05/20/24
189	Comcast Coordination (New Service) - Fiber, Cable, Phones	60d	02/27/24	05/20/24
190	**Design & Engineering**	**300d**	**07/25/23**	**09/16/24**
191	Schematic Design	80d	07/25/23	11/13/23
192	Design Development	90d	12/26/23	04/29/24
193	Prepare Dwgs for BP #1 Civil Permit + Long Lead Items Bid Package	30d	03/19/24	04/29/24
194	Prepare Dwgs for BP #2 Structural Permit	40d	04/30/24	06/24/24
195	Prepare Dwgs for BP #3 MEP/Enclosure Permit	30d	06/25/24	08/05/24
196	Prepare Dwgs for BP #4 Finishes	30d	08/06/24	09/16/24
197	**Estimating**	**250d**	**11/14/23**	**10/29/24**
198				
199	100% SD Estimate + Review	30d	11/14/23	12/25/23
200	Board Approval Meeting (SD Design & Estimate)	0d	12/26/23	12/26/23



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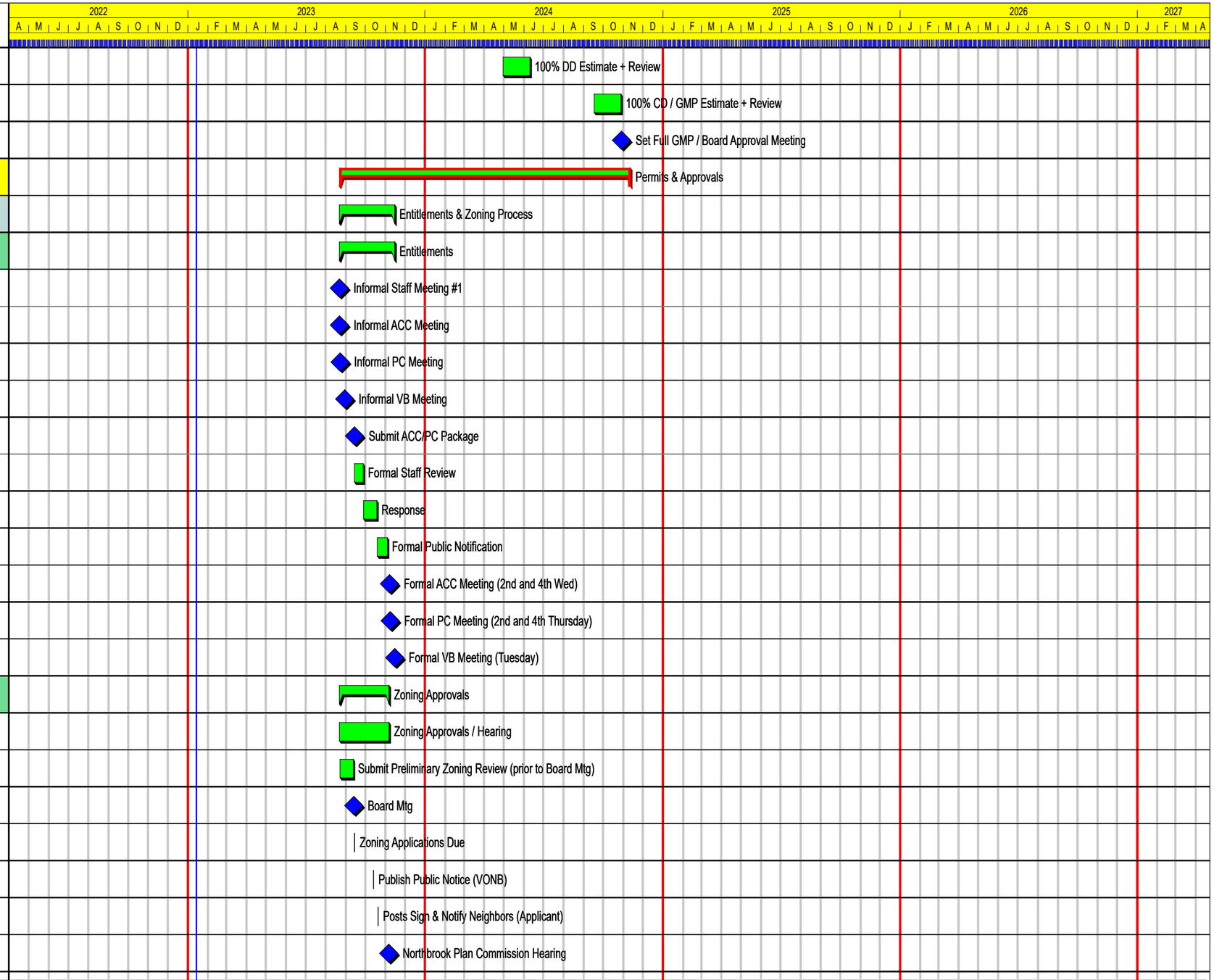
02/17/2023	001	Camille Trausch	

Line	Activity Description	Duration	Start	Finish
201	100% DD Estimate + Review	30d	04/30/24	06/10/24
202	100% CD / GMP Estimate + Review	30d	09/17/24	10/28/24
203	Set Full GMP / Board Approval Meeting	0d	10/29/24	10/29/24
204	**Permits & Approvals**	**320d**	**08/22/23**	**11/12/24**
205	**Entitlements & Zoning Process**	**60d**	**08/22/23**	**11/15/23**
206	**Entitlements**	**61d**	**08/22/23**	**11/15/23**
207	Informal Staff Meeting #1	0d	08/22/23	08/22/23
208	Informal ACC Meeting	0d	08/22/23	08/22/23
209	Informal PC Meeting	0d	08/23/23	08/23/23
210	Informal VB Meeting	0d	08/30/23	08/30/23
211	Submit ACC/PC Package	0d	09/14/23	09/14/23
212	Formal Staff Review	10d	09/14/23	09/27/23
213	Response	15d	09/28/23	10/18/23
214	Formal Public Notification	12d	10/19/23	11/03/23
215	Formal ACC Meeting (2nd and 4th Wed)	0d	11/07/23	11/07/23
216	Formal PC Meeting (2nd and 4th Thursday)	0d	11/08/23	11/08/23
217	Formal VB Meeting (Tuesday)	0d	11/15/23	11/15/23
218	**Zoning Approvals**	**55d**	**08/22/23**	**11/06/23**
219	Zoning Approvals / Hearing	55d	08/22/23	11/06/23
220	Submit Preliminary Zoning Review (prior to Board Mtg)	15d	08/23/23	09/12/23
221	Board Mtg	0d	09/13/23	09/13/23
222	Zoning Applications Due	1d	09/14/23	09/14/23
223	Publish Public Notice (VONB)	1d	10/13/23	10/13/23
224	Posts Sign & Notify Neighbors (Applicant)	1d	10/20/23	10/20/23
225	Northbrook Plan Commission Hearing	0d	11/06/23	11/06/23

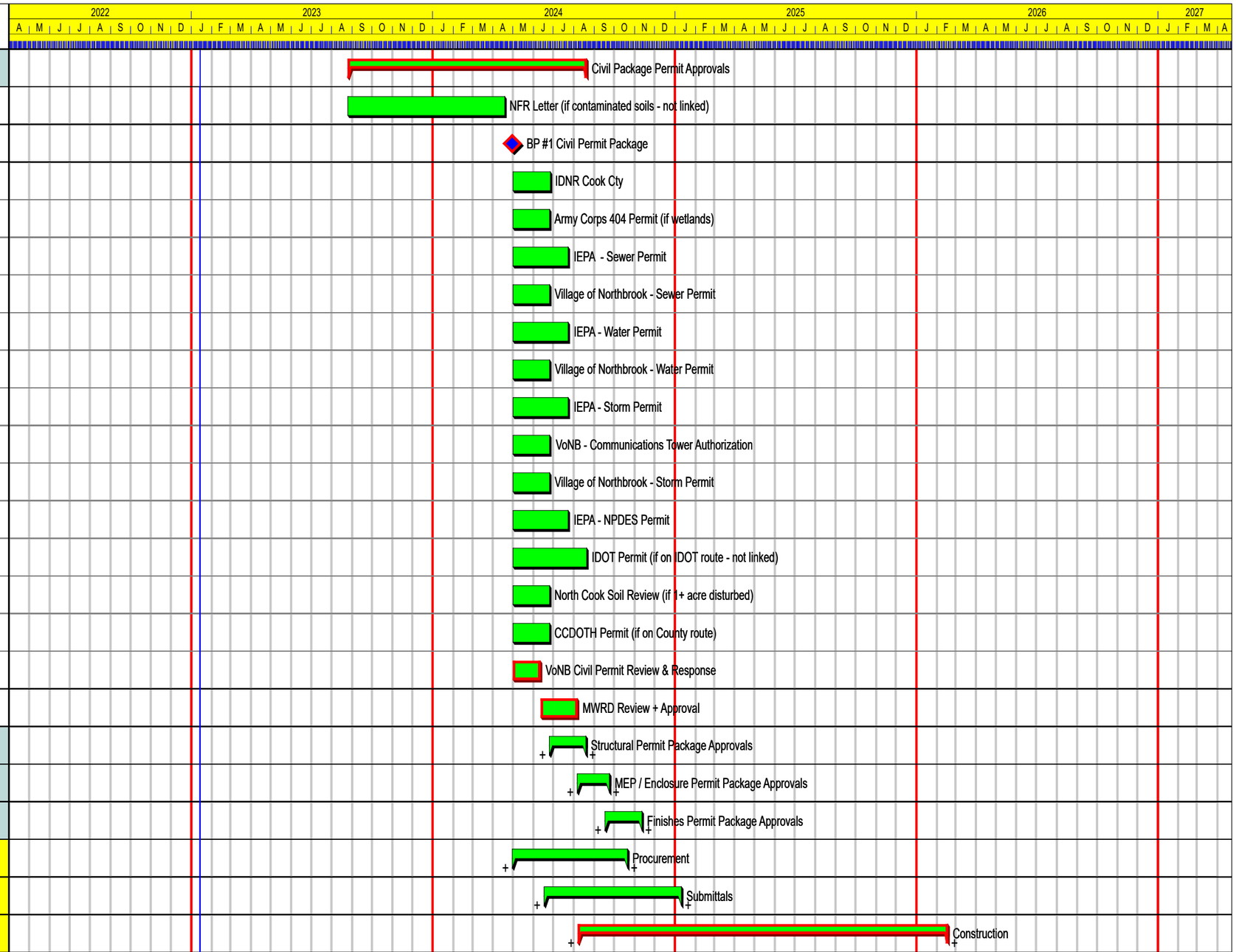


Activity Bar
Target Bar
Progress Bar
Critical Bar
Summary Bar
Milestone

22-1269 Northbrook Facilities Master Plan Overall Schedule_REV6A

Date	Revision	Checked	Approved
02/17/2023	001	Camille Trausch	

Line	Activity Description	Duration	Start	Finish
226	**Civil Package Permit Approvals**	**258d**	**08/25/23**	**08/20/24**
227	NFR Letter (if contaminated soils - not linked)	170d	08/25/23	04/18/24
228	BP #1 Civil Permit Package	0d	04/30/24	04/30/24
229	IDNR Cook Cty	40d	05/01/24	06/26/24
230	Army Corps 404 Permit (if wetlands)	40d	05/01/24	06/25/24
231	IEPA - Sewer Permit	60d	05/01/24	07/23/24
232	Village of Northbrook - Sewer Permit	40d	05/01/24	06/25/24
233	IEPA - Water Permit	60d	05/01/24	07/23/24
234	Village of Northbrook - Water Permit	40d	05/01/24	06/25/24
235	IEPA - Storm Permit	60d	05/01/24	07/23/24
236	VoNB - Communications Tower Authorization	40d	05/01/24	06/25/24
237	Village of Northbrook - Storm Permit	40d	05/01/24	06/25/24
238	IEPA - NPDES Permit	60d	05/01/24	07/23/24
239	IDOT Permit (if on IDOT route - not linked)	80d	05/01/24	08/20/24
240	North Cook Soil Review (if 1+ acre disturbed)	40d	05/01/24	06/25/24
241	CCDOTH Permit (if on County route)	40d	05/01/24	06/25/24
242	VoNB Civil Permit Review & Response	30d	05/01/24	06/11/24
243	MWRD Review + Approval	40d	06/12/24	08/06/24
244	**Structural Permit Package Approvals**	**40d**	**06/25/24**	**08/19/24**
245	**MEP / Enclosure Permit Package Approvals**	**35d**	**08/06/24**	**09/24/24**
246	**Finishes Permit Package Approvals**	**40d**	**09/17/24**	**11/12/24**
247	**Procurement**	**122d**	**04/30/24**	**10/21/24**
248	**Submittals**	**150d**	**06/17/24**	**01/10/25**
249	**Construction**	**400d**	**08/07/24**	**02/17/26**



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Critical Bar
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22-1269 Northbrook Facilities Master Plan Overall Schedule_REV6A

Date	Revision	Checked	Approved
02/17/2023	001	Camille Trausch	

Facilities Plan Update

Fire Station 11/Administration
Police Station
Fleet Maintenance Garage

February 28, 2023

Tonight's Discussion

- Goals for Village Facilities
- Update on Facilities Plan
- Next Steps and Timeline

Goals for All Village Facilities

Welcoming workplace for all employees, visitors

Incorporate sustainable practices in use of materials and long term operations as part of planned facility improvements

Plan for a facility (where applicable) that is considered a community space and a space for outside agency cooperation

Technology must be flexible to accommodate present and future needs

A workspace and community place that is forward thinking and supports a culture of innovation in the delivery of services

Space must be flexible to accommodate present and future needs as municipal operations can pivot and change (sometimes quickly as the pandemic has shown us)

Each facility is a 24/7/365 operation and employee wellness, especially for shift workers is necessary.

Each facility is core to Northbrook's public safety responsibilities and therefore, there will be Critical Facility Structural and Operational Requirements.

Facility Plan

Prioritize high-need Village Facilities that no longer meet the operational needs for their intended purpose, are not current with modern service delivery, and face many maintenance challenges.

Provide a process by which the Village will be able to make informed decisions to improve these facilities.

FACILITIES PLAN STEPS

Verification of Space → Solution Design → Final Facilities Plan

Step 1 – Verification of Space

- Review and Verification of the March 2019 Facilities Conditions Assessment and Report Card and the Facility Needs Assessment.
- Complete Program Verification for each needed facility based on current conditions and future expected growth
- Update the Space Needs and Facility Conditions Reports.
- Presentation to Village Board – Request Input and Direction. **(February 9, 2023)**

Step 2 – Solution Design

- Develop multiple solutions for each facility
- Prepare accurate, conceptual estimates of multiple options for facilities fits of multiple options including potential combined facilities solutions, phasing, and logistics.
- Site Analysis of existing Village sites and test fit potentially available site.
- Team will make solutions recommendations for each facility.
- Presentation to Village Board – Request Input and Direction. **(May 23. 2023)**

Step 3 – Creation of Final Facilities Plan

- Update and further detail the facilities development master plan and schedule with Village selected options and create a capital expenditure plan for consulting, design, and construction costs over the multi-year plan with appropriate escalations.
- Present the facilities plan to the Village Board and public for approval **(June 27, 2023)**

Facility Plan Team

Leopardo

- Leigh McMillen – Senior Vice President

FGMARCHITECTS

- Raymond Lee – Principal in Charge
- Raegan Porter – Interior Designer

Village Staff

Office of Village Manager:
- Cara Pavlicek
- Madeline Farrell

Police Department:
- Chief Kennedy
- DC Graf
- DC Metrick
- Commander Meents
- Sergeant Fainman

Information Technology:
- Lori Baker

Fire Department:
- Chief Carlson
- DC Schweihs
- DC Eaton

Public Works:
- Brian Andersen
- Jason Metler
- John Slivka

Space Verification and Facilities Conditions

Process

- Tours of the Facilities
- Face to Face Interview with Staff
- Space Program & Facilities Condition Reports

Fire Station 11 & Administration

Space Needs Analysis Summary of Findings

- The original building constructed in 1971 with an administrative addition in 1988
- Very little work has been done to the building since.

Fire Station 11 & Administration

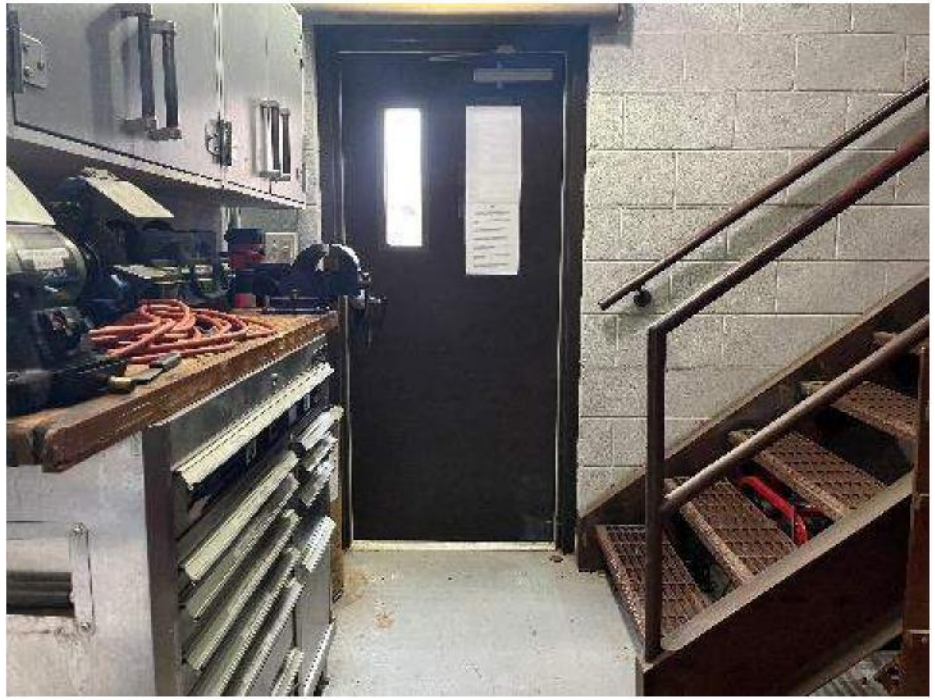
Space Needs Analysis Summary of Findings

- The analysis identifies 30,058 sq. ft. of space is necessary for the long term needs of the fire department.
- The existing fire station is only 21,719 sq.ft.
- The department is currently operating with a 8,339 sq.ft. deficit

Fire Station 11 & Administration

Space Needs Analysis Summary of Findings

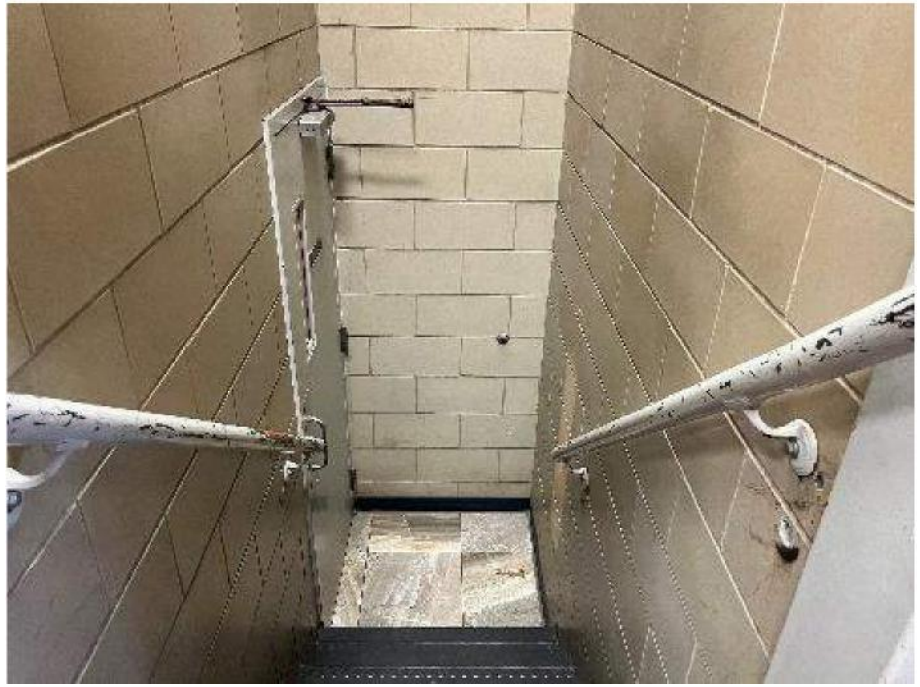
- Why More Space is Required
  - Inefficient Organization of Space
  - Inadequate Space for Basic Functions
  - Absence of dedicated space to support female personnel
  - Poor Building Circulation



Fire Station 11 & Administration

Space Needs Analysis Summary of Findings

- Additional Building Deficiencies
  - Safety and Security
  - Public Interaction
  - Recruitment, Retention, and Employee Pride
  - Building Infrastructure



Fire Station 11 & Administration

Existing Facility Conditions

Notable Deficiencies

- **Split-level configuration of building**
- Inadequate toilet room facilities and accessibility concerns throughout
- Miscellaneous structural deficiencies
- Deteriorating plumbing system components
- Electrical system components nearing end of service life

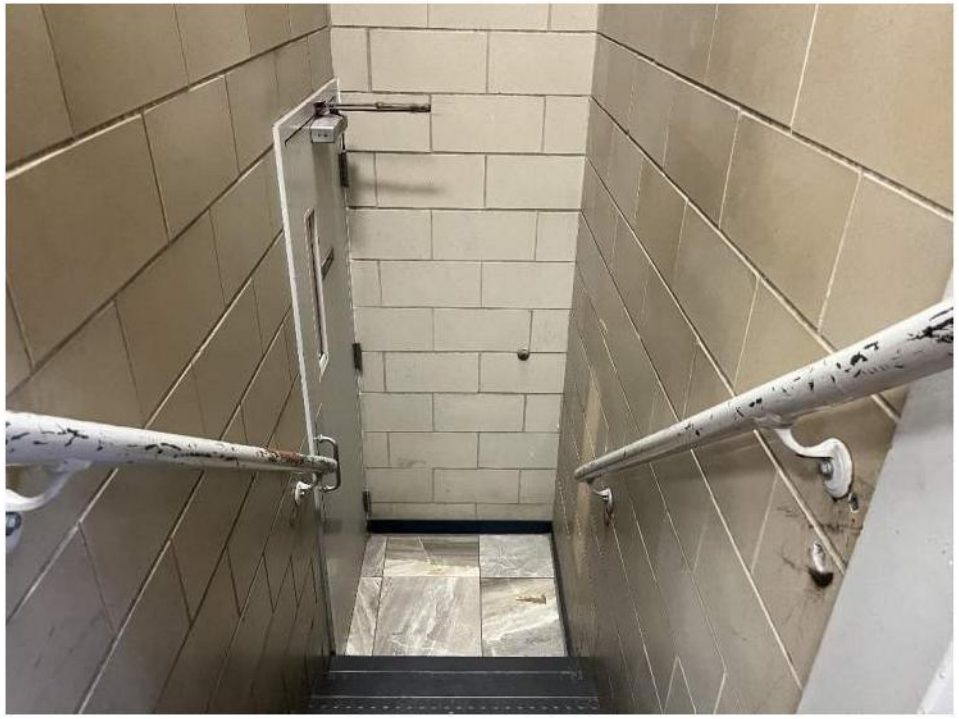
Apparatus Bay interior

Fire Station 11 & Administration

Existing Facility Conditions

Notable Deficiencies

- **Split-level configuration of building**
- Inadequate toilet room facilities and accessibility concerns throughout
- Miscellaneous structural deficiencies
- Deteriorating plumbing system components
- Electrical system components nearing end of service life



Non-compliant stair to lower level living quarters

Fire Station 11 & Administration

Existing Facility Conditions

Notable Deficiencies

- **Split-level configuration of building**
- Inadequate toilet room facilities and accessibility concerns throughout
- Miscellaneous structural deficiencies
- Deteriorating plumbing system components
- Electrical system components nearing end of service life

Narrow stair with built-up curb in Apparatus Bay

Fire Station 11 & Administration

Existing Facility Conditions

Notable Deficiencies

- Split-level configuration of building
- **Inadequate toilet room facilities and accessibility concerns throughout**
- Miscellaneous structural deficiencies
- Deteriorating plumbing system components
- Electrical system components nearing end of service life

Locker Room toilet area

Fire Station 11 & Administration

Existing Facility Conditions

Notable Deficiencies

- Split-level configuration of building
- **Inadequate toilet room facilities and accessibility concerns throughout**
- Miscellaneous structural deficiencies
- Deteriorating plumbing system components
- Electrical system components nearing end of service life

Single user toilet room in administration wing

Fire Station 11 & Administration

Existing Facility Conditions

Notable Deficiencies

- Split-level configuration of building
- Inadequate toilet room facilities and accessibility concerns throughout
- **Miscellaneous structural deficiencies**
- Deteriorating plumbing system components
- Electrical system components nearing end of service life

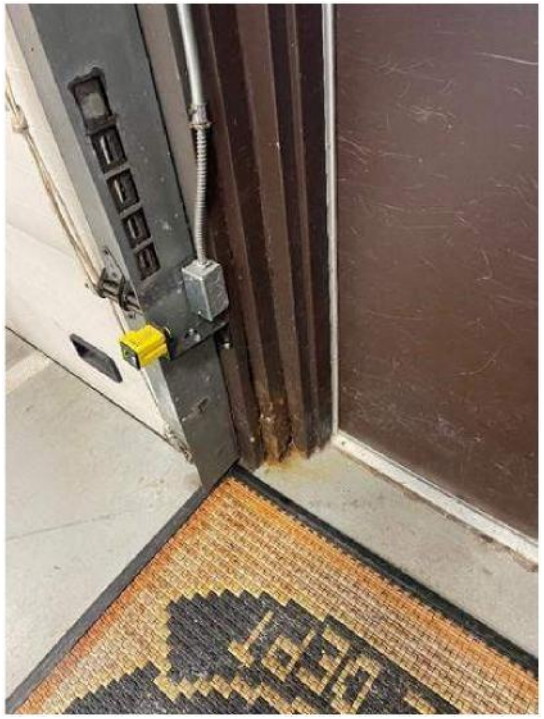
Significant concrete crack at basement stair

Fire Station 11 & Administration

Existing Facility Conditions

Notable Deficiencies

- Split-level configuration of building
- Inadequate toilet room facilities and accessibility concerns throughout
- **Miscellaneous structural deficiencies**
- Deteriorating plumbing system components
- Electrical system components nearing end of service life



Significant corrosion at base of steel column in the Apparatus Bay

Fire Station 11 & Administration

Existing Facility Conditions

Notable Deficiencies

- Split-level configuration of building
- Inadequate toilet room facilities and accessibility concerns throughout
- **Miscellaneous structural deficiencies**
- Deteriorating plumbing system components
- Electrical system components nearing end of service life

Cracking at interior masonry wall

Fire Station 11 & Administration

Existing Facility Conditions

Notable Deficiencies

- Split-level configuration of building
- Inadequate toilet room facilities and accessibility concerns throughout
- Miscellaneous structural deficiencies
- **Deteriorating plumbing system components**
- Electrical system components nearing end of service life

Significant corrosion on piping

Fire Station 11 & Administration

Existing Facility Conditions

Notable Deficiencies

- Split-level configuration of building
- Inadequate toilet room facilities and accessibility concerns throughout
- Miscellaneous structural deficiencies
- **Deteriorating plumbing system components**
- Electrical system components nearing end of service life

Deteriorating pipe insulation

Fire Station 11 & Administration

Existing Facility Conditions

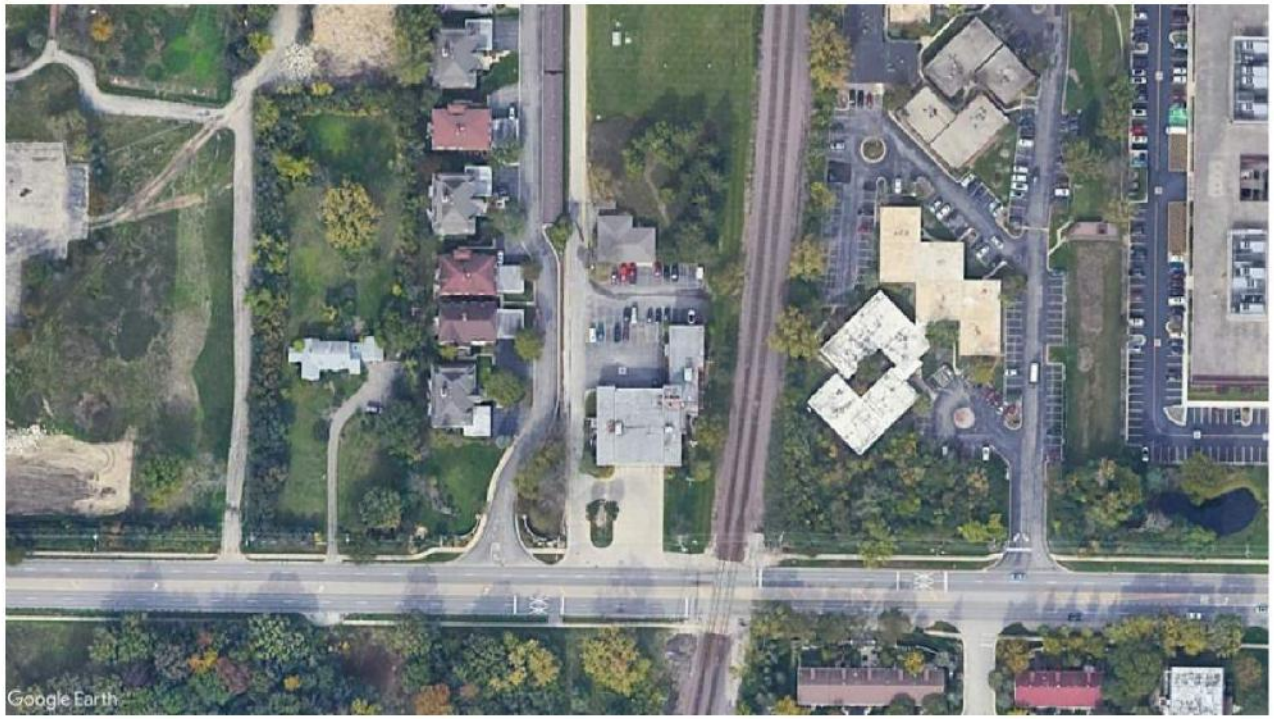
Notable Deficiencies

- Split-level configuration of building
- Inadequate toilet room facilities and accessibility concerns throughout
- Miscellaneous structural deficiencies
- Deteriorating plumbing system components
- **Electrical system components nearing end of service life**

Original electrical service board

Fire Station 11 & Administration

Questions and Discussion



Fleet Maintenance Garage

Space Needs Analysis Summary of Findings

- The original building constructed in 1956 with an addition added in 1966
- The building is extremely undersized and inefficient
- Lack of space, storage, and support function for staff negatively impacts operations.
- The existing facility affects staff morale and pride, and therefore affects staff recruitment and retention

Fleet Maintenance Garage

Space Needs Analysis Summary of Findings

- The analysis identifies 30,156 sq. ft. of space is necessary for the Fleet Maintenance to operate effectively.
- The existing facility is only 11,994 sq.ft.
- The department is currently operating with a 18,162 sq.ft. deficit’

Fleet Maintenance Garage

Space Needs Analysis Summary of Findings

- The original building constructed in 1956 with an addition added in 1966
- The building is extremely undersized and inefficient
- Lack of space, storage, and support function for staff negatively impacts operations
- The existing facility affects staff morale and pride, and therefore affects staff recruitment and retention

Fleet Maintenance Garage

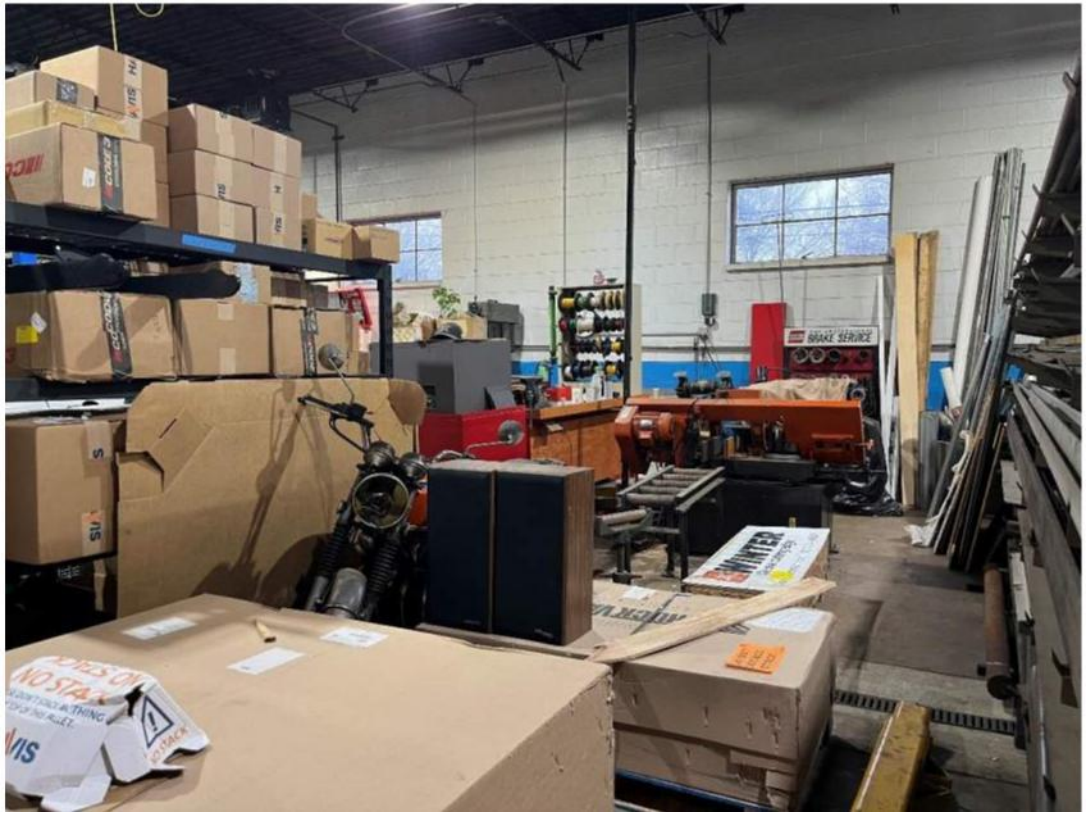
Space and Operational Issues

- **Clearance Issues**
- Village Program Storage
- Life Safety
- Storage
- Inefficiencies
- Building Size Deficiencies / Lack of Space
- Post Pandemic Changes

Fleet Maintenance Garage

Space and Operational Issues

- Clearance Issues
- **Village Program Storage**
- Life Safety
- Storage
- Inefficiencies
- Building Size Deficiencies / Lack of Space
- Post Pandemic Changes



Fleet Maintenance Garage

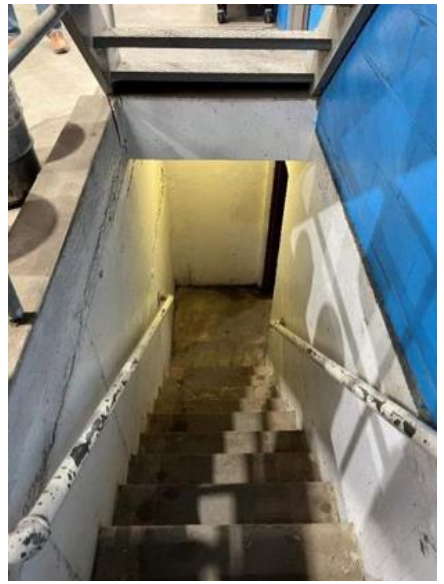
Space and Operational Issues

- Clearance Issues
- Village Program Storage
- **Life Safety**
- Storage
- Inefficiencies
- Building Size Deficiencies / Lack of Space
- Post Pandemic Changes

Fleet Maintenance Garage

Space and Operational Issues

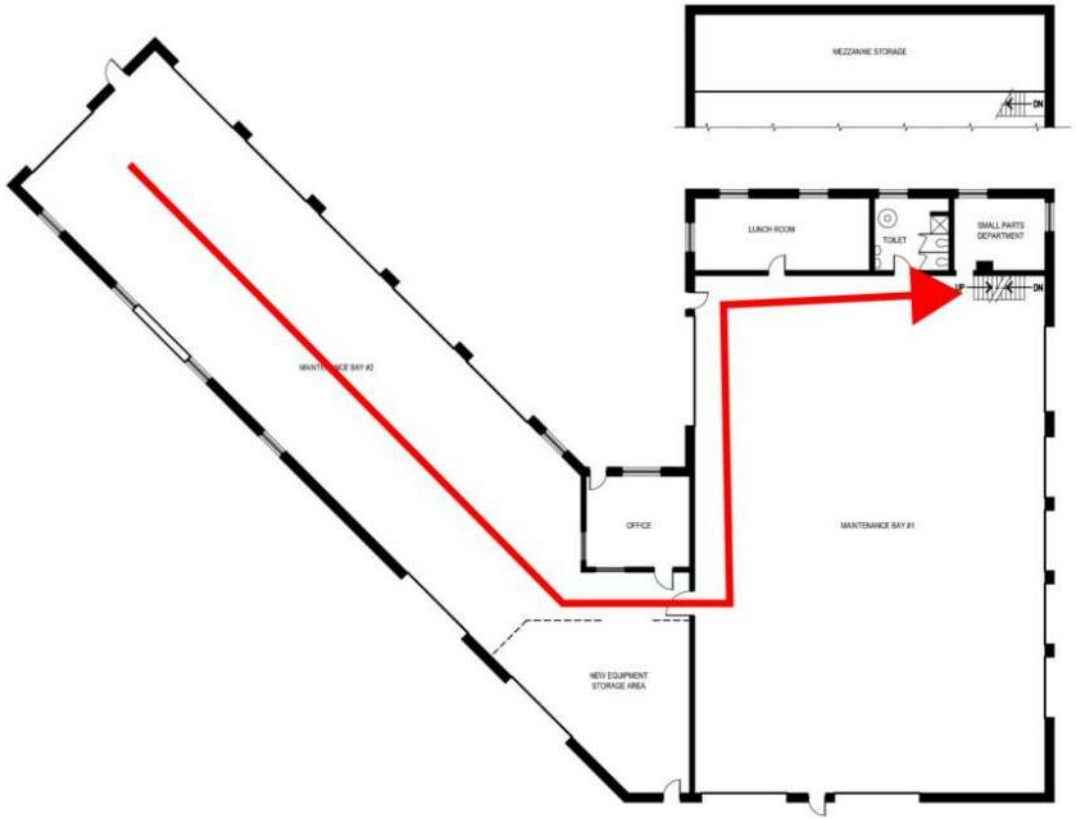
- Clearance Issues
- Village Program Storage
- Life Safety
- **Storage**
- Inefficiencies
- Building Size Deficiencies / Lack of Space
- Post Pandemic Changes



Fleet Maintenance Garage

Space and Operational Issues

- Clearance Issues
- Village Program Storage
- Life Safety
- Storage
- **Inefficiencies**
- Building Size Deficiencies / Lack of Space
- Post Pandemic Changes



Fleet Maintenance Garage

Space and Operational Issues

- Clearance Issues
- Village Program Storage
- Life Safety
- Storage
- Inefficiencies
- **Building Size Deficiencies / Lack of Space**
- Post Pandemic Changes

Fleet Maintenance Garage

Space and Operational Issues

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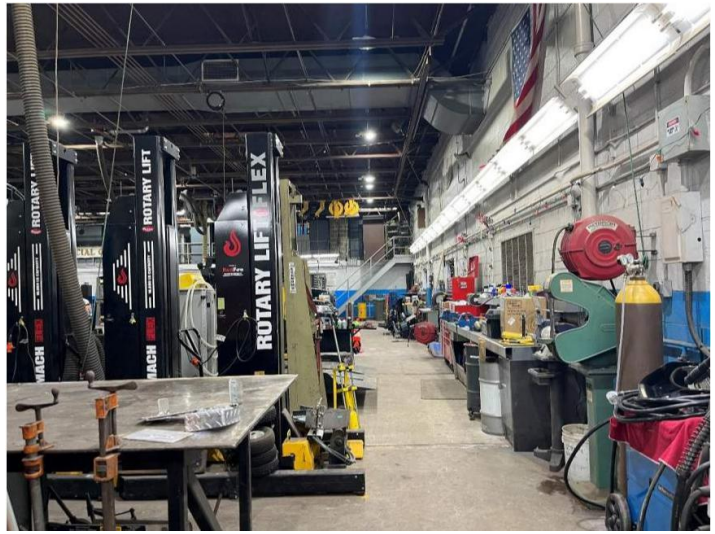
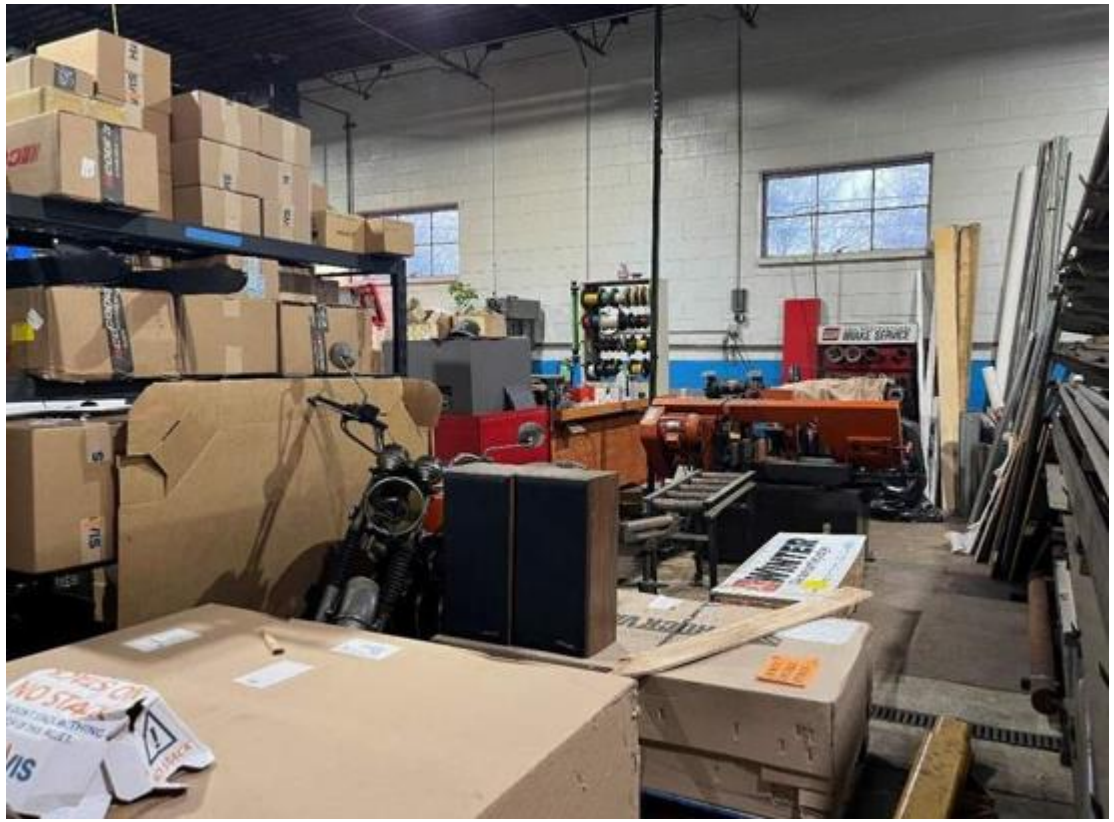
- **Building Size Deficiencies / Lack of Space**
- Post Pandemic Changes



Fleet Maintenance Garage

Space and Operational Issues

- Clearance Issues
- Village Program Storage
- Life Safety
- Storage
- Inefficiencies
- Building Size Deficiencies / Lack of Space
- **Post Pandemic Changes / Supply Chain**



Fleet Maintenance Garage

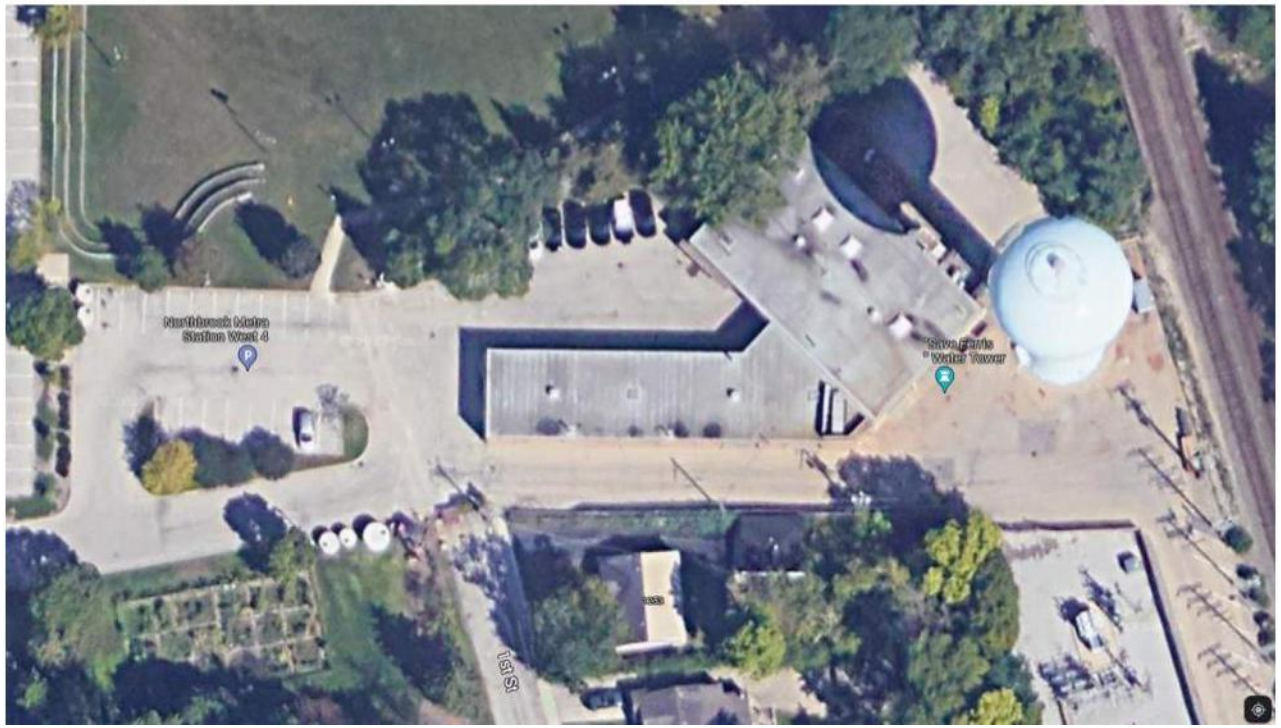
Site Issues

- **Parking**
- Secure Vehicle Storage
- Outdoor Equipment Storage
- Delivery Issues
- Metra Commuter Traffic and Parking
- Pedestrian Traffic

Fleet Maintenance Garage

Site Issues

- Parking
- **Secure Vehicle Storage**
- Outdoor Equipment Storage
- Delivery Issues
- Metra Commuter Traffic and Parking
- Pedestrian Traffic



Fleet Maintenance Garage

Site Issues

- Parking
- Secure Vehicle Storage
- **Outdoor Equipment Storage**
- Delivery Issues
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- Pedestrian Traffic

Fleet Maintenance Garage

Site Issues

- Parking
- Secure Vehicle Storage
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- Metra Commuter Traffic and Parking
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Fleet Maintenance Garage

Site Issues

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- Secure Vehicle Storage
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- **Metra Commuter Traffic and Parking**
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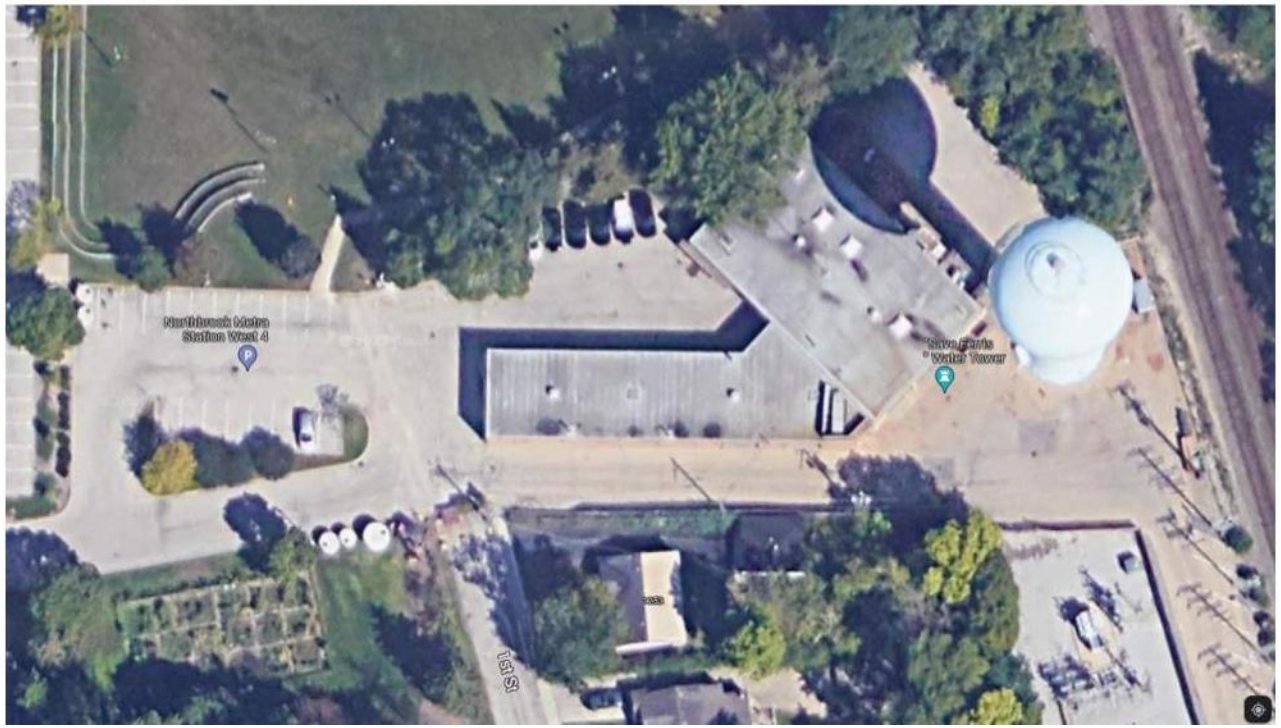


Fleet Maintenance Garage

Site Issues

- Blind Spots
- Noise Pollution
- Ice Falling from Water Tower
- Site Aesthetics
- Power Station Work
- **Recycling Program Traffic**

Fleet Maintenance Garage

Existing Facility Conditions

Notable Deficiencies

- **Inadequate clear overhead height at mezzanine**
- Asbestos material in floor tile suspected to be present
- Miscellaneous structural deficiencies
- Evidence of prior water infiltration
- Inadequate toilet room facilities and accessibility concerns

Hazardous positioning of roof joists

Fleet Maintenance Garage

Existing Facility Conditions

Notable Deficiencies

- Inadequate clear overhead height at mezzanine
- **Asbestos material in floor tile suspected to be present**
- Miscellaneous structural deficiencies
- Evidence of prior water infiltration
- Inadequate toilet room facilities and accessibility concerns

Parts Storage Room

Fleet Maintenance Garage

Existing Facility Conditions

Notable Deficiencies

- Inadequate clear overhead height at mezzanine
- Asbestos material in floor tile suspected to be present
- **Miscellaneous structural deficiencies**
- Evidence of prior water infiltration
- Inadequate toilet room facilities and accessibility concerns

Significant concrete cracking at stair

Fleet Maintenance Garage

Existing Facility Conditions

Notable Deficiencies

- Inadequate clear overhead height at mezzanine
- Asbestos material in floor tile suspected to be present
- **Miscellaneous structural deficiencies**
- Evidence of prior water infiltration
- Inadequate toilet room facilities and accessibility concerns

Concrete slab on grade cracking throughout

Fleet Maintenance Garage

Existing Facility Conditions

Notable Deficiencies

- Inadequate clear overhead height at mezzanine
- Asbestos material in floor tile suspected to be present
- **Miscellaneous structural deficiencies**
- Evidence of prior water infiltration
- Inadequate toilet room facilities and accessibility concerns

Step cracking at interior concrete masonry

Fleet Maintenance Garage

Existing Facility Conditions

Notable Deficiencies

- Inadequate clear overhead height at mezzanine
- Asbestos material in floor tile suspected to be present
- **Miscellaneous structural deficiencies**
- Evidence of prior water infiltration
- Inadequate toilet room facilities and accessibility concerns

Step cracking and brick masonry displacement

Fleet Maintenance Garage

Existing Facility Conditions

Notable Deficiencies

- Inadequate clear overhead height at mezzanine
- Asbestos material in floor tile suspected to be present
- Miscellaneous structural deficiencies
- **Evidence of prior water infiltration**
- Inadequate toilet room facilities and accessibility concerns

Deterioration at basement concrete wall

Fleet Maintenance Garage

Existing Facility Conditions

Notable Deficiencies

- Inadequate clear overhead height at mezzanine
- Asbestos material in floor tile suspected to be present
- Miscellaneous structural deficiencies
- **Evidence of prior water infiltration**
- Inadequate toilet room facilities and accessibility concerns

Efflorescence at basement stair

Fleet Maintenance Garage

Existing Facility Conditions

Notable Deficiencies

- Inadequate clear overhead height at mezzanine
- Asbestos material in floor tile suspected to be present
- Miscellaneous structural deficiencies
- Evidence of prior water infiltration
- **Inadequate toilet room facilities and accessibility concerns**

Toilet Room

Fleet Maintenance Garage

Existing Facility Conditions

Notable Deficiencies

- Inadequate clear overhead height at mezzanine
- Asbestos material in floor tile suspected to be present
- Miscellaneous structural deficiencies
- Evidence of prior water infiltration
- **Inadequate toilet room facilities and accessibility concerns**

Toilet Room

Fleet Maintenance Garage

Existing Facility Conditions

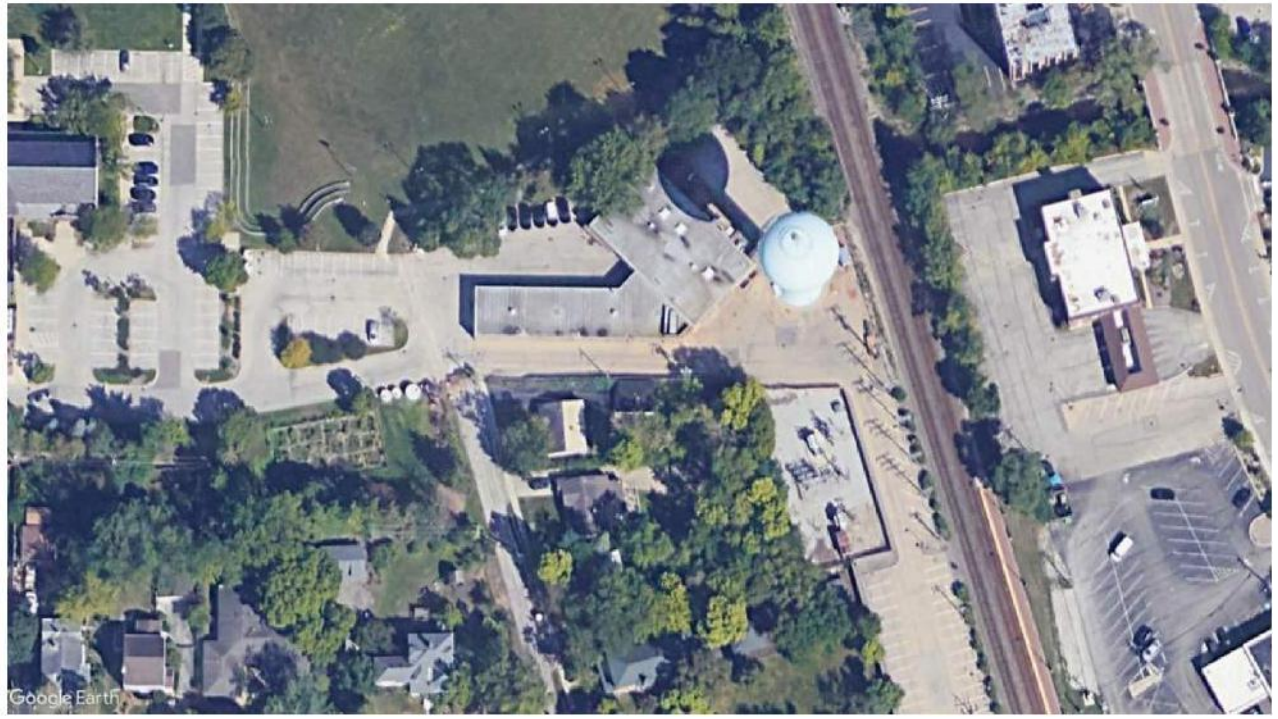
Notable Deficiencies

- Inadequate clear overhead height at mezzanine
- Asbestos material in floor tile suspected to be present
- Miscellaneous structural deficiencies
- Evidence of prior water infiltration
- **Inadequate toilet room facilities and accessibility concerns**

Inadequate clearances

Fleet Maintenance Garage

Questions and Discussion



Police Department

Space Needs Analysis Summary of Findings

- The original building constructed in 1974 as a joint police and fire station.
- The fire station moved out and the remaining space was remodeled for police station use in 1996
- Very little work has been done to the building since.

Police Department

Space Needs Analysis Summary of Findings

- The Northbrook Police Department currently has 66 police officers and 27 civilian employees.
- For this analysis, future staff capacity has been factored into the space needs analysis for long term (30+ years) planning.

Police Department

Space Needs Analysis Summary of Findings

- The analysis identifies 85,235 sq. ft. of space is necessary for the long term needs of the police department.
- The existing police station is only 45,115 sq.ft.
- The department is currently operating with a 40,120 sq.ft. deficit

Police Department

Space Needs Analysis Summary of Findings

- Why More Space is Required
  - Police Operations have Changed
  - Existing Spaces are Inadequate
  - Accessibility Requirements have Changed

Police Department

Police Operational Changes

- **Secure Parking**
- Training
- Social Services / Counseling
- Officer Wellness
- Holding Facility Issues
- Evidence Technicians Workspace
- Evidentiary Vehicle Processing
- Evidence Packaging
- Evidence and Property Storage
- Computer Forensics

Police Department

Police Operational Changes

- **Secure Parking**
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Police Department

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Police Department

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Police Department

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- Training
- Social Services / Counseling
- **Officer Wellness**
- Holding Facility Issues
- Evidence Technicians Workspace
- Evidentiary Vehicle Processing
- Evidence Packaging
- Evidence and Property Storage
- Computer Forensics

Police Department

Police Operational Changes

- Secure Parking
- Training
- Social Services / Counseling
- Officer Wellness
- **Holding Facility Issues**
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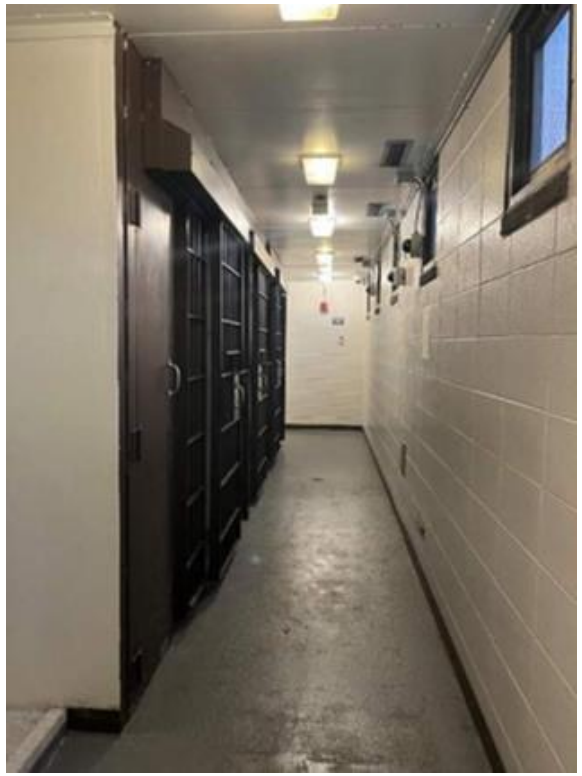

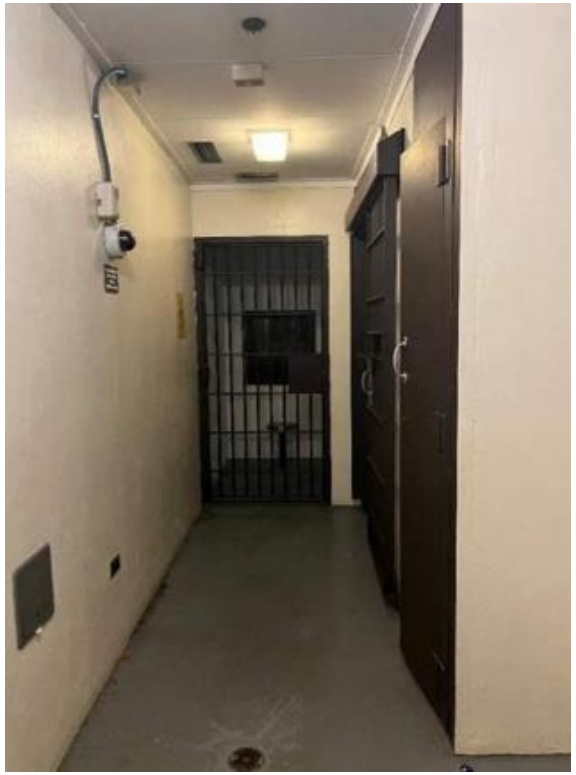

Police Department

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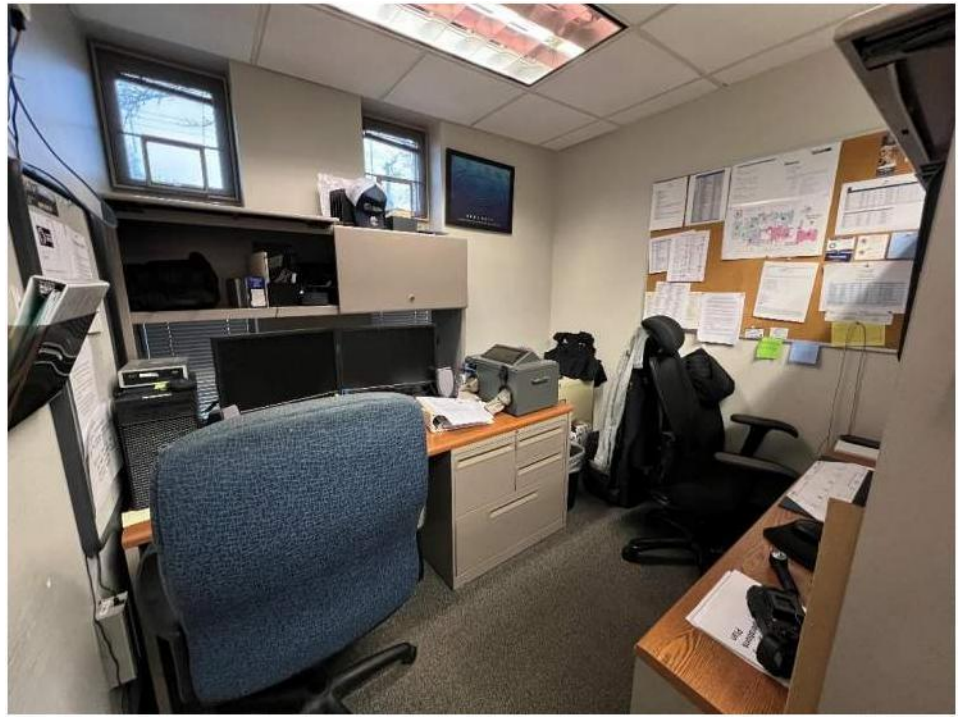

Police Department

Inadequate Spaces

- **Staff Work Areas**
- Storage
- Locker Rooms
- Communications Center
- Sleeping Quarters
- Sally Port
- Interview Rooms
- Report Writing Room

Police Department

Inadequate Spaces

- o Staff Work Areas
- o **Storage**
- o Locker Rooms
- o Communications Center
- o Sleeping Quarters
- o Sally Port
- o Interview Rooms
- o Report Writing Room

Police Department

Inadequate Spaces

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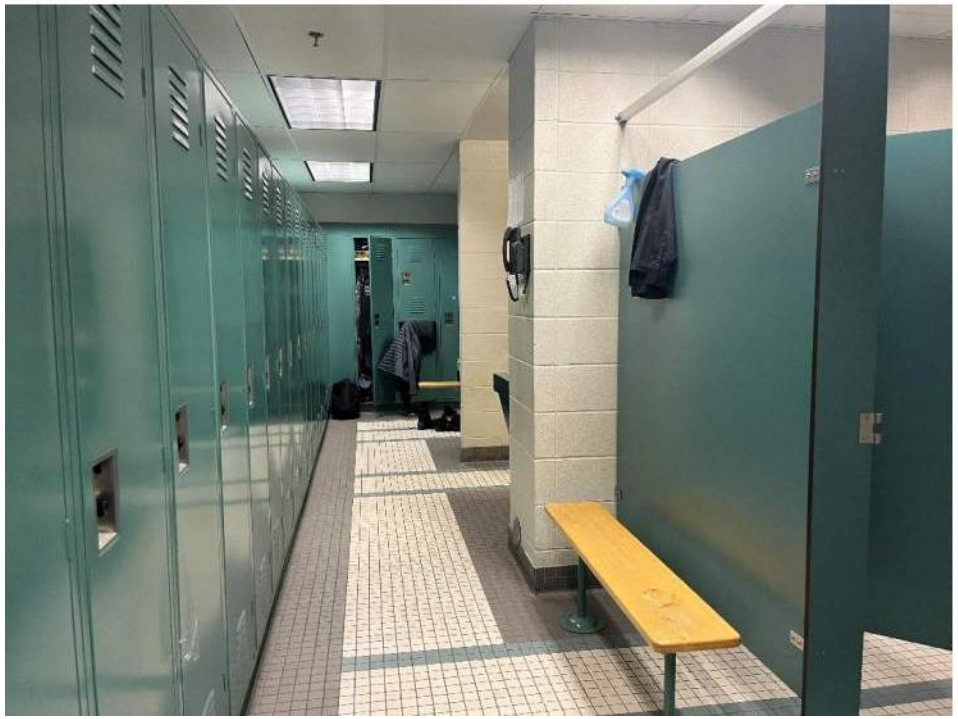

Police Department

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- o Storage
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- o **Communications Center**
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Police Department

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Police Department

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Police Department

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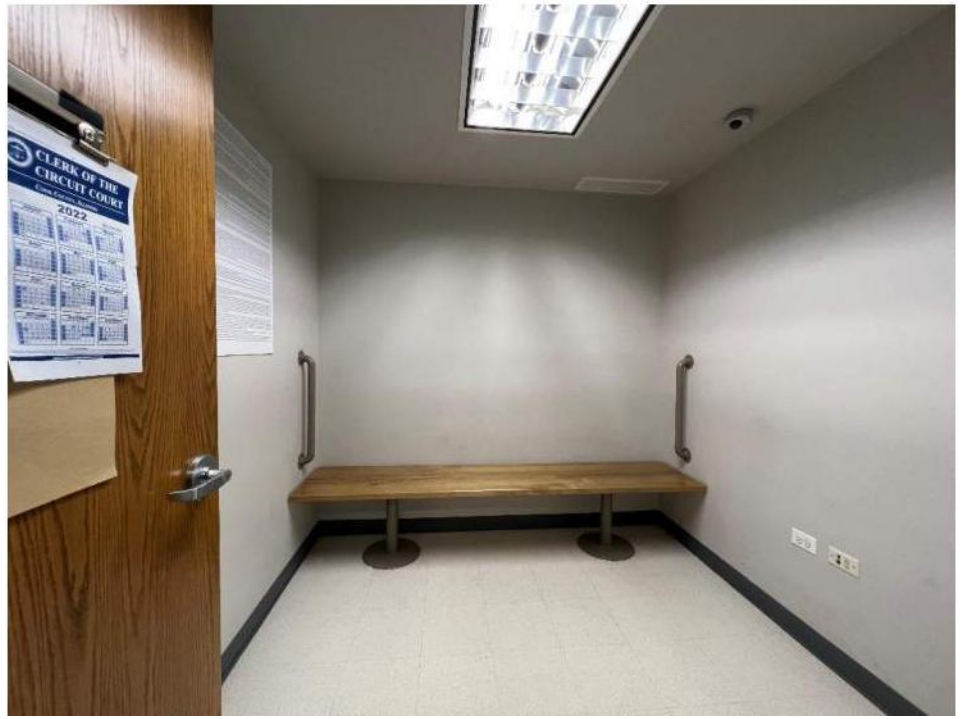


Police Department

Inadequate Spaces

- o Staff Work Areas
- o Storage
- o Locker Rooms
- o Communications Center
- o Sleeping Quarters
- o Sally Port
- o Interview Rooms
- o **Report Writing Room**

Police Department

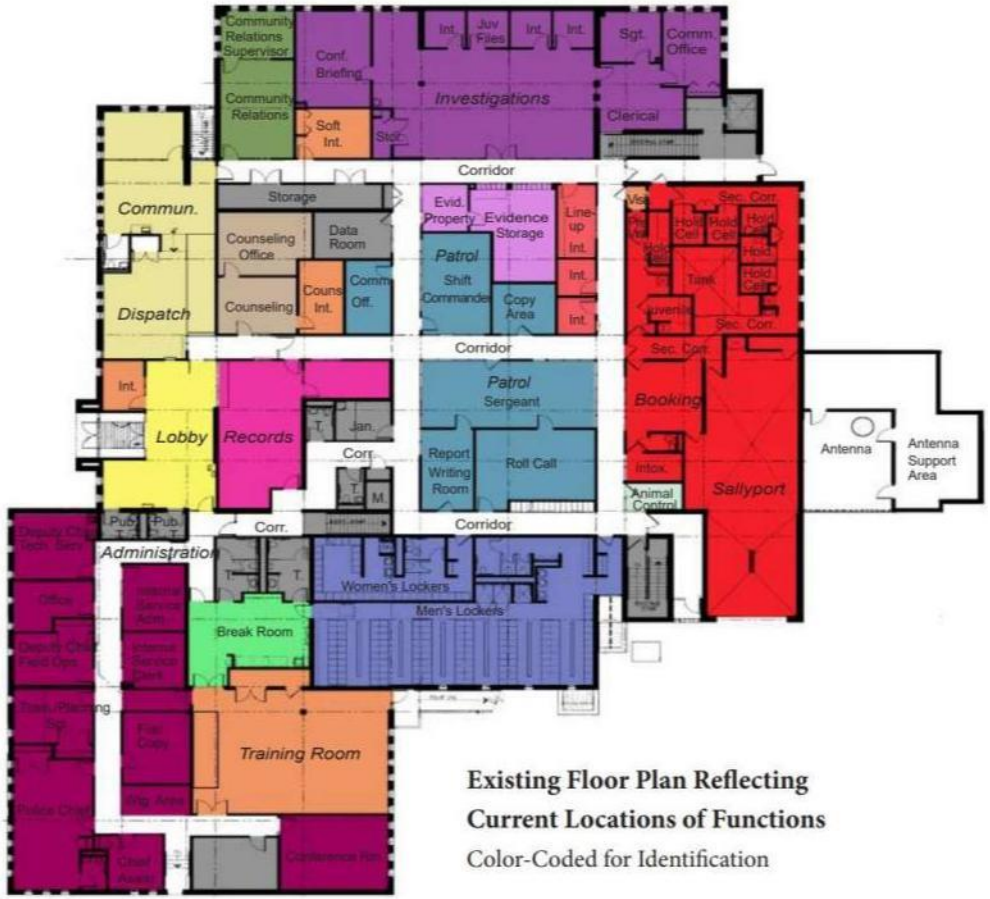
Accessibility Issues

- Many changes have taken place since the building was constructed and renovated

Police Department

Other Issues

- **Safety and Security**
- Operations
- Public Interaction
- Recruitment, Retention, and Employee Pride
- Radio Tower Location

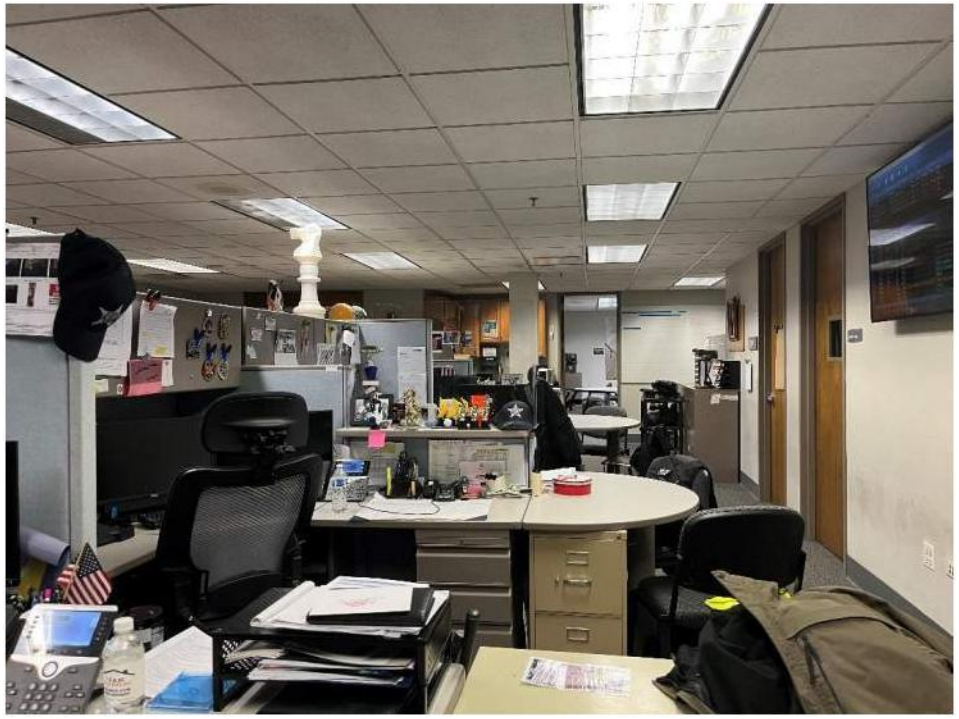


Existing Floor Plan Reflecting Current Locations of Functions
Color-Coded for Identification

Police Department

Other Issues

- **Safety and Security**
- Operations
- Public Interaction
- Recruitment, Retention, and Employee Pride
- Radio Tower Location



Police Department

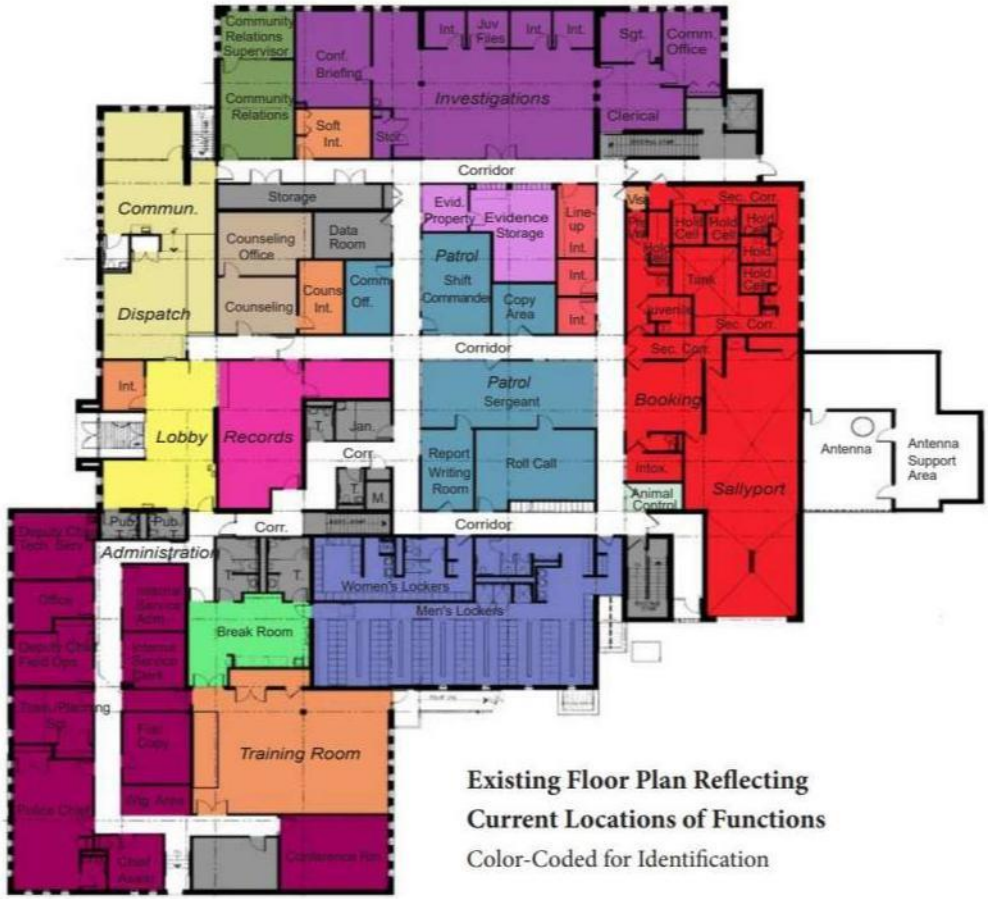
Other Issues

- **Safety and Security**
- Operations
- Public Interaction
- Recruitment, Retention, and Employee Pride
- Radio Tower Location

Police Department

Other Issues

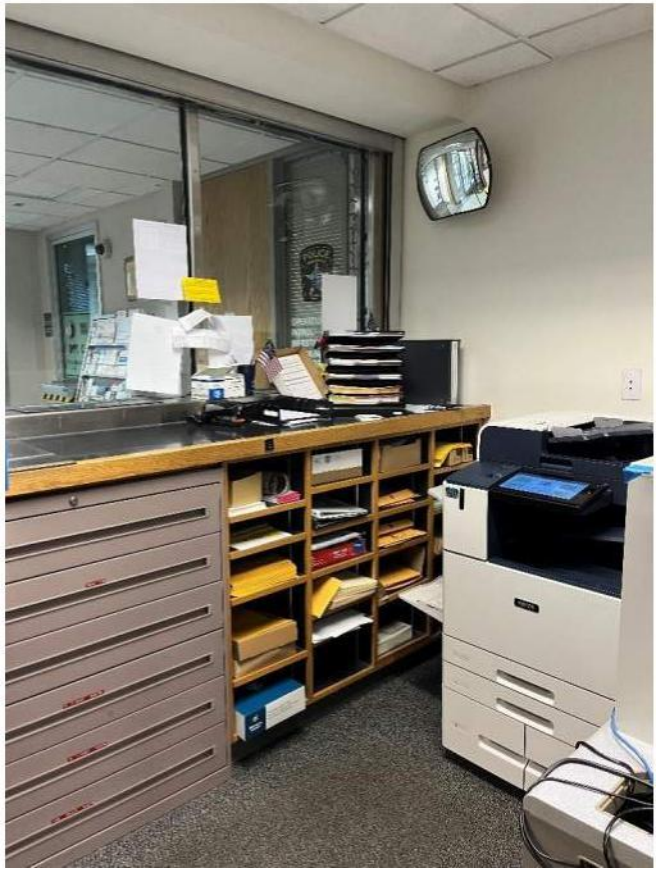
- Safety and Security
- **Operations**
- Public Interaction
- Recruitment, Retention, and Employee Pride
- Radio Tower Location



Police Department

Other Issues

- Safety and Security
- Operations
- **Public Interaction**
- Recruitment, Retention, and Employee Pride
- Radio Tower Location



Police Department

Other Issues

- Safety and Security
- Operations
- Public Interaction
- **Recruitment, Retention, and Employee Pride**
- Radio Tower Location

Police Department

Other Issues

- Safety and Security
- Operations
- Public Interaction
- Recruitment, Retention, and Employee Pride
- **Radio Tower Location**

Police Department

Existing Facility Conditions

Notable Deficiencies

- **Miscellaneous structural deficiencies**
- Evidence of water infiltration / ongoing piping and roof leaks
- Miscellaneous accessibility concerns
- Holding area concerns
- Electrical system components nearing end of service life

Column cracking at garage column

Police Department

Existing Facility Conditions

Notable Deficiencies

- **Miscellaneous structural deficiencies**
- Evidence of water infiltration / ongoing piping and roof leaks
- Miscellaneous accessibility concerns
- Holding area concerns
- Electrical system components nearing end of service life

Concrete cracking at garage trench drain

Police Department

Existing Facility Conditions

Notable Deficiencies

- **Miscellaneous structural deficiencies**
- Evidence of water infiltration / ongoing piping and roof leaks
- Miscellaneous accessibility concerns
- Holding area concerns
- Electrical system components nearing end of service life

Deterioration in surface condition of concrete in garage

Police Department

Existing Facility Conditions

Notable Deficiencies

- **Miscellaneous structural deficiencies**
- Evidence of water infiltration / ongoing piping and roof leaks
- Miscellaneous accessibility concerns
- Holding area concerns
- Electrical system components nearing end of service life

Column cracking adjacent to garage door

Police Department

Existing Facility Conditions

Notable Deficiencies

- **Miscellaneous structural deficiencies**
- Evidence of water infiltration / ongoing piping and roof leaks
- Miscellaneous accessibility concerns
- Holding area concerns
- Electrical system components nearing end of service life

Foundation cracking at building addition

Police Department

Existing Facility Conditions

Notable Deficiencies

- Miscellaneous structural deficiencies
- **Evidence of water infiltration / ongoing piping and roof leaks**
- Miscellaneous accessibility concerns
- Holding area concerns
- Electrical system components nearing end of service life

Discolored ceiling tiles throughout

Police Department

Existing Facility Conditions

Notable Deficiencies

- Miscellaneous structural deficiencies
- Evidence of water infiltration / ongoing piping and roof leaks
- **Miscellaneous accessibility concerns**
- Holding area concerns
- Electrical system components nearing end of service life

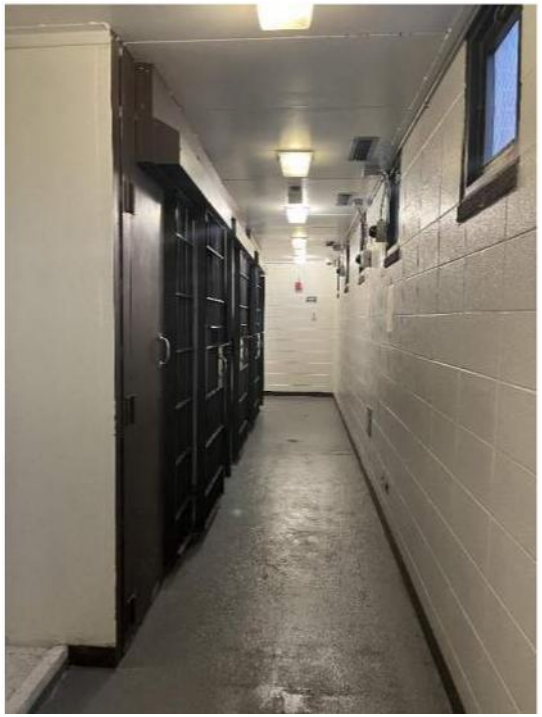
Single user toilet room

Police Department

Existing Facility Conditions

Notable Deficiencies

- Miscellaneous structural deficiencies
- Evidence of water infiltration / ongoing piping and roof leaks
- Miscellaneous accessibility concerns
- **Holding area concerns**
- Electrical system components nearing end of service life



Detention cell corridor

Police Department

Existing Facility Conditions

Notable Deficiencies

- Miscellaneous structural deficiencies
- Evidence of water infiltration / ongoing piping and roof leaks
- Miscellaneous accessibility concerns
- Holding area concerns
- **Electrical system components nearing end of service life**

Older generator set

Questions and Discussion

FACILITIES PLAN STEPS

Verification of Space → Solution Design → Final Facilities Plan

Step 1 – Verification of Space

- Review and Verification of the March 2019 Facilities Conditions Assessment and Report Card and the Facility Needs Assessment.
- Complete Program Verification for each needed facility based on current conditions and future expected growth
- Update the Space Needs and Facility Conditions Reports.
- Presentation to Village Board – Request Input and Direction. **(February 9, 2023)**

Step 2 – Solution Design

- Develop multiple solutions for each facility
- Prepare accurate, conceptual estimates of multiple options for facilities fits of multiple options including potential combined facilities solutions, phasing, and logistics.
- Site Analysis of existing Village sites and test fit potentially available site.
- Team will make solutions recommendations for each facility.
- Presentation to Village Board – Request Input and Direction. **(May 23. 2023)**

Step 3 – Creation of Final Facilities Plan

- Update and further detail the facilities development master plan and schedule with Village selected options and create a capital expenditure plan for consulting, design, and construction costs over the multi-year plan with appropriate escalations.
- Present the facilities plan to the Village Board and public for approval **(June 27, 2023)**

Solutions Design

- Estimated site sized based on Space Needs
- Review of existing Village Sites
- Site Analysis and fit testing
- Review other potential sizes
- Site Investigation – Property Acquisition (Broker)
- Conceptual Cost Estimate

Solutions Design – Fire Facility Site Size

- Existing – 1.1 Acre Site with 21,719 sq.ft. building
- Estimated – 3.55 Acre Site with 30,058 sq.ft. building

Village of Northbrook DRAFT FGMARCHITECTS
Fire Station 11
Lot Size Requirements
February 17, 2023
FGM Project No. 23-3665.01

A.	LOT SIZE REQUIREMENTS FOR POLICE STATION		
1.0	Zoning Assumptions		No more than 75% impervious coverage
2.0	Programmatic size of Police Station (sq.ft.)	30,058	Assumes two story building, includes parking
3.0	Stand Alone Storage Building (sq.ft.)	3,650	Assume Fleet Storage space will be at grade
4.0	Parking Spaces Required	80	
B.	SITE AREA REQUIREMENTS	Sq.Ft.	
1.0	Building and Site Amenities		
2.0	Assumed Footprint of Buildings	37,079	
3.0	Exterior Requirements	1,300	
4.0	Parking, Walkway and Drives		
5.0	Parking Lot Size	24,000	Allow 300 sq.ft. per space
6.0	Walkways	2,400	Allow for 10% of parking lot area in walks
7.0	Apparatus Bay Aprons	8,880	
8.0	(apparatus and parking drives)	7,200	Allow for 30% of parking lot area in drives
9.0	Miscellaneous Outdoor Space Contingency	4,043	5% of defined areas
10.0	**SUB-TOTAL BUILDING AND PAVED AREAS**	**84,902**	
C.	LOT SIZE CALCULATION		
	Site size to meet lot coverage requirements	113,202	
	Stormwater Detention	21,225	Assume 25% of Building and Paved Areas (impervious area)
D.	SUB-TOTAL LOT SIZE	134,428	
E.	SITE IRREGULARITY FACTOR (15%)	20,164	Allowance for site proportion variations
F.	CALCULATED LOT SIZE	154,592	Calculated FAR = .354
		3.55	Acres
G.	LOT SIZE BY ZONING ORDINANCE	105,939	Maximum permitted FAR for IB Zoning = .35
H.	MINIMUM RECOMMENDED SITE ACERAGE	3.55	Acres

NOTES
1. Lot size requirement assumes 75% maximum lot coverage by impervious areas
2. Recommended lot size assumes a fairly regular lot configuration
3. Recommended lot size assumes the parcel is buildable and does not contain restricted areas (floodways and wetlands)

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Solutions Design – Fleet Site Size

- Existing – .6 Acre Site with 11,994 sq.. building
- Estimated – 3.18 Acre Site with 30,156 sq.ft. building

Village of Northbrook DRAFT FGMARCHITECTS
Fleet Maintenance
Lot Size Requirements
February 17, 2023
FGM Project No. 23-3665.01

A.	LOT SIZE REQUIREMENTS FOR FLEET MAINTENANCE		
1.0	Zoning Assumptions		No more than 75% impervious coverage
2.0	Programmatic size of Fleet Maintenance (sq.ft.)	30,156	Assumes two story building, includes parking
3.0	Parking Spaces Required	47	
B.	SITE AREA REQUIREMENTS	Sq.Ft.	
1.0	Building and Site Amenities		
2.0	Assumed Footprint of Buildings	33,171	10% to program areas to allow for footprint configuration
3.0	Exterior Requirements	850	
4.0	Parking, Walkway and Drives		
5.0	Parking Lot Size	8,700	Allow 300 sq.ft. per space
6.0	Large Vehicle Parking	4,000	40' long spaces (800 sq.ft. per space)
7.0	Intermediate Size Vehicles	4,206	20' long spaces (350 sq.ft. per space)
8.0	Walkways	870	Allow for 10% of parking lot area in walks
9.0	Maintenance Bay Aprons	18,000	
10.0	(apparatus and parking drives)	2,610	Allow for 30% of parking lot area in drives
11.0	Miscellaneous Outdoor Space Contingency	3,620	5% of defined areas
12.0	**SUB-TOTAL BUILDING AND PAVED AREAS**	**76,027**	
C.	LOT SIZE CALCULATION		
1.0	Site size to meet lot coverage requirements	101,370	Allows for 25% of site to be landscape areas
2.0	Stormwater Detention	19,007	Assume 25% of Building and Paved Areas (impervious area)
D.	SUB-TOTAL LOT SIZE	120,377	
E.	SITE IRREGULARITY FACTOR (15%)	18,057	Allowance for site proportion variations
F.	CALCULATED LOT SIZE	138,433	Calculated FAR = .354
		3.18	Acres
G.	LOT SIZE BY ZONING ORDINANCE	94,774	Maximum permitted FAR for IB Zoning = .35
H.	MINIMUM RECOMMENDED SITE ACERAGE	**3.18**	Acres
	NOTES		
	1. Lot size requirement assumes 75% maximum lot coverage by impervious areas		
	2. Recommended lot size assumes a fairly regular lot configuration		
	3. Recommended lot size assumes the parcel is buildable and does not contain restricted areas (floodways and wetlands)		
	4. Recommended lot size assumes addiitonal land may be required due to bad or contaminated soils.		

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Solutions Design – Police Site Size

- Existing - 3.5 Acre Site with 45,115 sq.ft. building
- Estimated – 5.63 Acre Site with 85,773 sq.ft. building
-

Village of Northbrook DRAFT FGMARCHITECTS
Police Department
Lot Size Requirements
January 31, 2023
FGM Project No. 23-3665.01

A.	LOT SIZE REQUIREMENTS FOR POLICE STATION		
1.0	Zoning Assumptions		No more than 75% impervious coverage
2.0	Programmatic size of Police Station (sq.ft.)	85,773	Assumes two story building, includes parking
3.0	Fleet Storage (sq.ft.)	20,658	Assume Fleet Storage space will be at grade
4.0	Parking Spaces Required	96	
B.	SITE AREA REQUIREMENTS	Sq.Ft.	
1.0	Building and Site Amenities		
2.0	Assumed Footprint of Building	69,254	Allows for larger main level footprint
3.0	Exterior Requirements	8,760	
4.0	Parking, Walkway and Drives		
5.0	Parking Lot Size	28,800	Allow 300 sq.ft. per space
6.0	Walkways	2,880	Allow for 10% of parking lot area in walks
7.0	Drives	5,760	Allow for 20% of parking lot area in drives
8.0	Miscellaneous Outdoor Space Contingency	5,773	5% of defined areas
9.0	**SUB-TOTAL BUILDING AND PAVED AREAS**	**121,226**	
C.	LOT SIZE CALCULATION		
	Site size to meet lot coverage requirements	161,635	Allows for 25% of site to be landscape areas
	Stormwater Detention	30,307	Assume 25% of Building and Paved Areas (impervious area)
D.	SUB-TOTAL LOT SIZE	191,942	
E.	SITE IRREGULARITY FACTOR (15%)	28,791	Allowance for site proportion variations
F.	CALCULATED LOT SIZE	220,733	Calculated FAR = .354
		5.07	Acres
G.	LOT SIZE BY ZONING ORDINANCE	245,066	Maximum permitted FAR for IB Zoning = .35
H.	MINIMUM RECOMMENDED SITE ACERAGE	5.63	Acres
	NOTES		
	1. Lot size requirement assumes 75% maximum lot coverage by impervious areas		
	2. Recommended lot size assumes a fairly regular lot configuration		
	3. Recommended lot size assumes the parcel is buildable and does not contain restricted areas (floodways and wetlands)		
	4. Recommended lot size assumes addiitonal land may be required due to bad or contaminated soils.		

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FACILITIES PLAN STEPS

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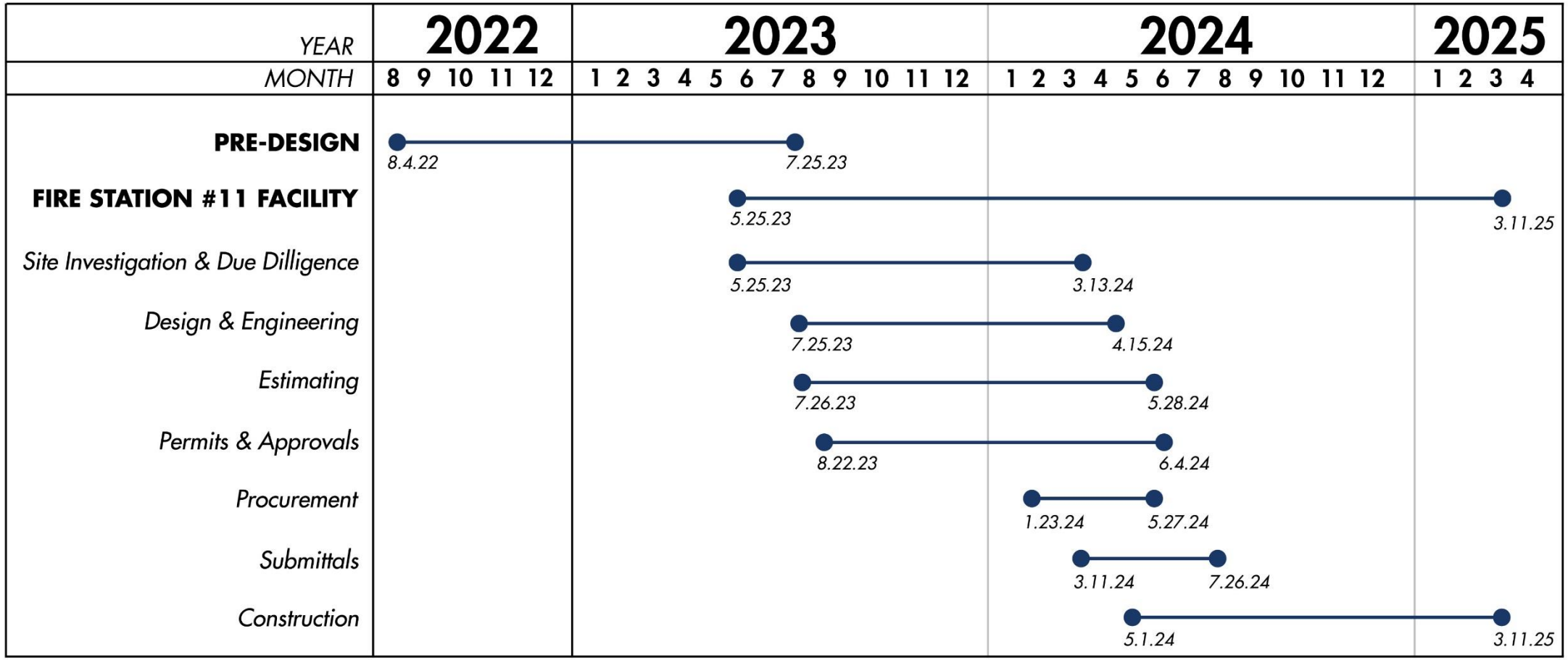
Step 3 – Creation of Final Facilities Plan

- Update and further detail the facilities development master plan and schedule with Village selected options and create a capital expenditure plan for consulting, design, and construction costs over the multi-year plan with appropriate escalations
- Present the facilities plan to the Village Board and public for approval **(June 27, 2023)**

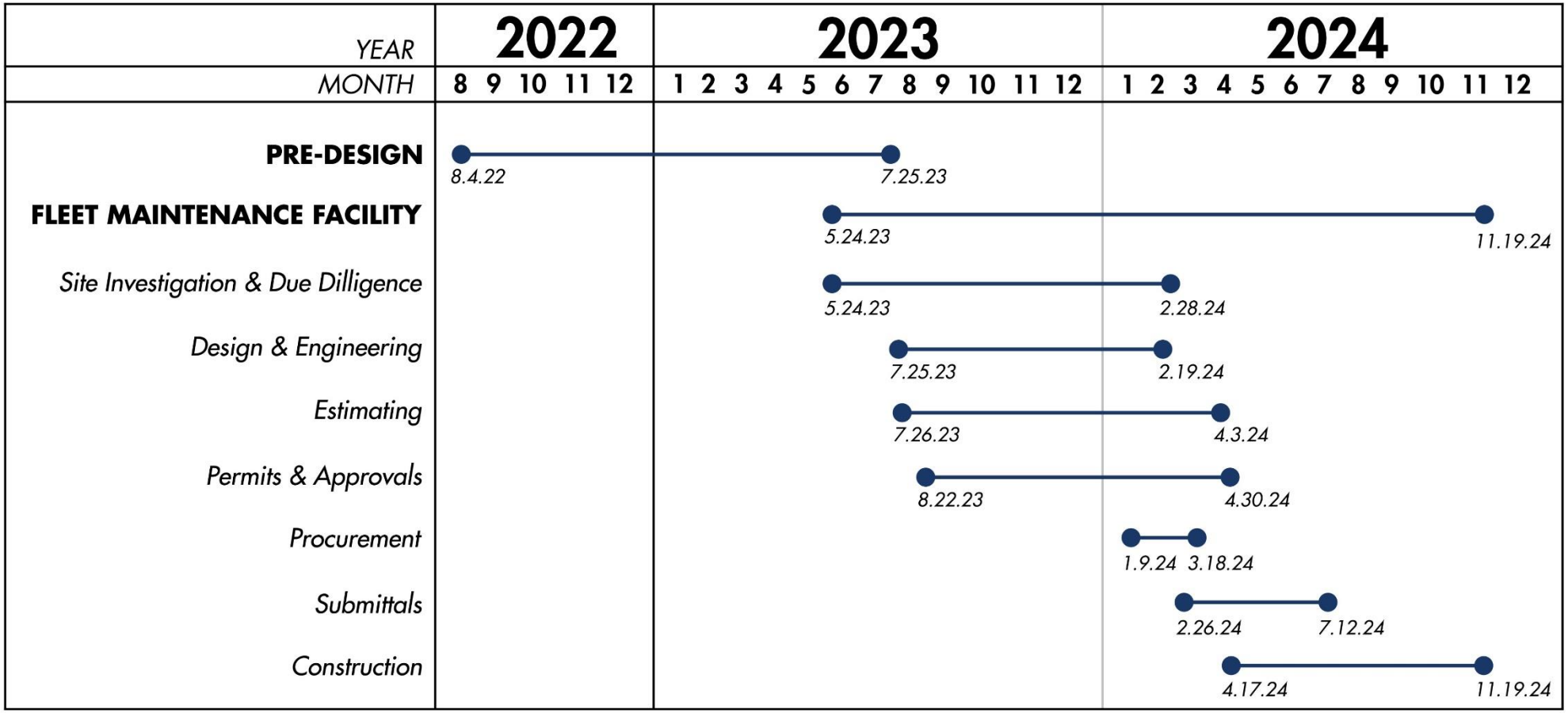
Facilities Master Plan Schedule

- Part of the Facilities Plan
- Establishes Tentative Schedules for all Future work and includes:
    1. Site Investigation and Due Diligence
    2. Design and Engineering
    3. Permits and Approval
    4. Estimating
    5. Procurement
    6. Submittals
    7. Construction

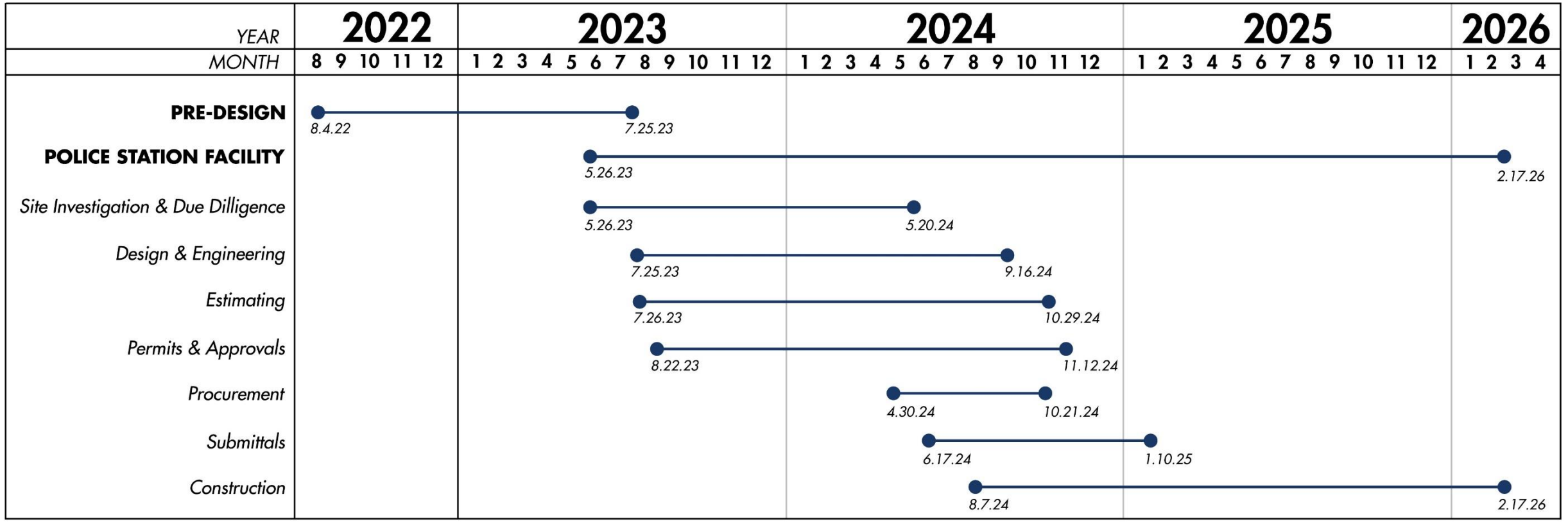
Facilities Master Plan Schedule - Fire



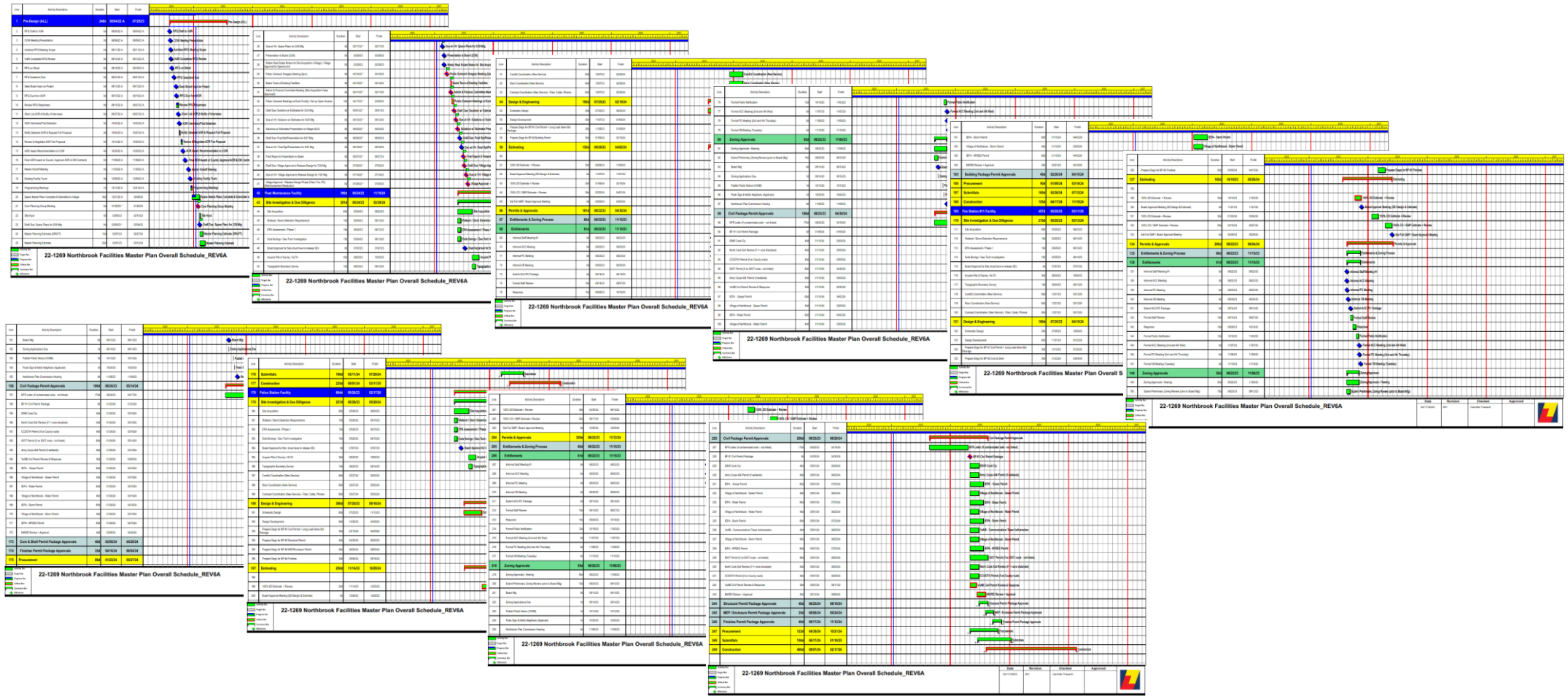
Facilities Master Plan Schedule - Fleet



Facilities Master Plan Schedule - Police



Facilities Master Plan Schedule



FACILITIES PLAN STEPS

<u>Administration and Finance Committee Meeting</u>

- Village Manager will present funding analysis in April 2023 to project 2024, 2025 and 2026 impacts and debt structure options

<u>Public Outreach and Tours</u>

- Host Open Houses at all three facilities allowing the public to observe the Space Needs and Conditions
- Participation by Facilities Team and Interested Trustees
- Tentatively Scheduled for the **Week of April 17, 2023**

Next Steps and Timeline

Ongoing Work:

- Continue to refine the Space Needs Program for Each Building
- Further Develop the Solutions Design for Recommendation
- Prepare Communication Plan for Public Outreach and Tour
- Prepare initial estimates for Budget and Future CIP
- Utilize Data from above steps to complete Final Facilities Plan

Next Milestone Dates:

- Public Outreach (such as open houses) - **Week of April 17, 2023**
- Solution Design – **May 23, 2023**
- Final Facilities Plan - **June 27, 2023**
- Village Approval for Design – **July 25, 2023**

Facilities Plan Update

Fire Station 11/Administration
Police Station
Fleet Maintenance Garage

February 28, 2023