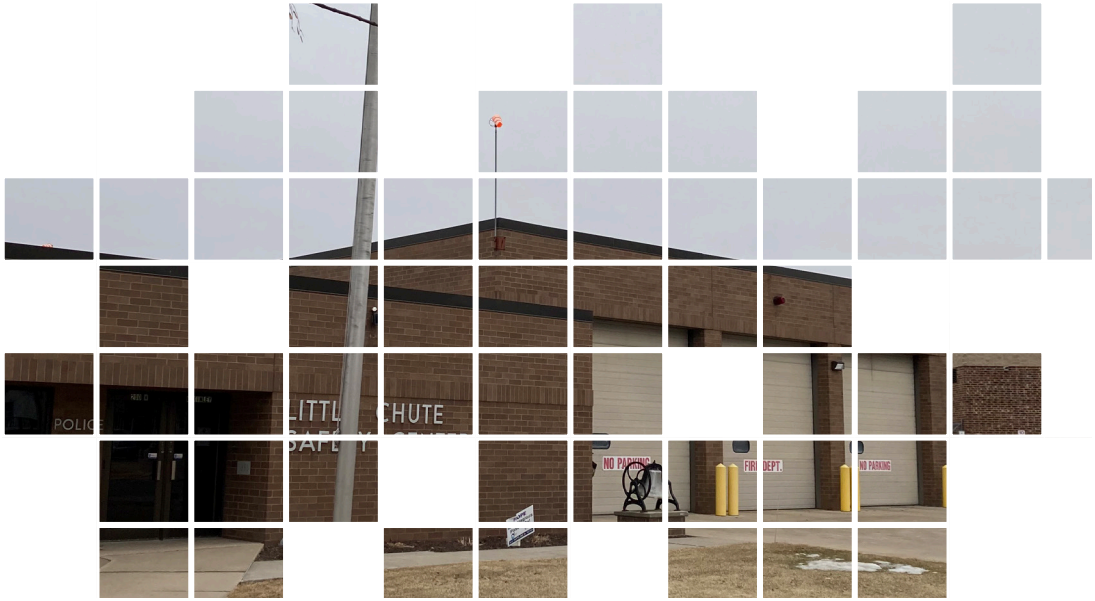

Little Chute
ESTABLISHED 1848

Village of Little Chute, Wisconsin

Fire Department Analysis and Recommendation
200 W. McKinley Ave., Little Chute WI 54140
May 2023

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EXECUTIVE SUMMARY

In March 2022 Short Elliott Hendrickson (SEH) was contracted by the Village of Little Chute to complete a study of the Village's fire station to determine the physical condition and make recommendations for improvements or replacement over the next several years. This facilities master plan will form the basis of long-term solutions to bring the Emergency Services Facilities into compliance and incorporate recent design trends and best practices as they relate to gender accommodation, cancer prevention, recruitment/retention, security and storage and station hardening.

As part of the collection of information the SEH consultant team held conversations with Village staff, members of the fire department's Fire Station Committee as well as Village Administration and Village Board members.

As a result of these conversations and data gathering, the SEH team was able to develop a long-range plan for the Little Chute Fire Department emergency services that included long-term solutions for their aging facilities as well as taking a long term look at future operations and phased facility replacement to accommodate capital expenditure cycles.

Fire and EMS stations are typically defined as commercial buildings, but many are designed using residential materials and components. Emergency services buildings are unique in the respect that they typically are expected to service a community between 40 and 50 years. They can see occupancy 24/7 by multiple occupants that cook, often train, participate in physical fitness, shower, sleep, and answer emergency calls. Over the course of 40 years, the cycle life of every item is tested. Fire and EMS garage doors cycle approximately 20,000 times in one year depending on the number of calls responded to by fire crews. Little Chute Fire is not unique in the respect that the personnel assigned to these facilities frequently do minor repairs and upkeep to keep operations running and have pride in where they work. This manifests into a point at which items can no longer be repaired, they need replacement.

This report independently analyzes the fire station noting the physical conditions, and recommendations based on criteria noted.

Since EMS services are delivered privately and through mutual aid agreements and private ambulance services with neighboring communities, the recommendations of this report treat that emergency service function as an extension of the Village assuming that future Fire/EMS based operations will incorporate EMS services. The intent is that a new facility will accommodate the growth opportunity to offer fire-based EMS services and equipment that will operate out of a single emergency services facility.

FIRE STATION OVERVIEW

This primary fire station houses 3271- 1997 Pierce Saber Equipment Squad, 3621- 2013 Pierce Impel Engine, 3622- 2004 Pierce Enforcer Engine, 3631- 2008 Chevrolet 1500 crew cab pickup truck, 3641- 2018 Pierce Truck 107' ladder, UTV- Kawasaki Mule LE with a total of 45 volunteer firefighters on call daily. There is a part-time fire inspector that performs bi-annual inspections on commercial and industrial properties in the Village. The call volume was 189 fire-related incidents in 2022.

The building appeared in fair condition for its age. Existing building drawings were obtained from the village for use during the condition assessment. The facility was constructed in 1982 and met the code requirements for building envelope performance at the time. There were some improvements and repairs made over the past several years but lacked routine maintenance and significant investment to extend the building's useful life. Noted deficiencies and areas of concern are identified in summation below. A more comprehensive look at these items will follow the overview.

Structural concerns that the consultant team identified were, a lack of appropriate space to house the rigs assigned to the station, adequate moisture and weather barriers and spalling concrete in the truck bay area. The windows are all single pane, the doors have a moderate amount of rust at the bottoms from age and wear and tear. The kitchen was constructed as a residential kitchen and lacks the amenities and fire protection system required in newer fire stations of commercial quality. The bathrooms were constructed in an era when female firefighters were non-existent and lack efficient systems operation and water conservation characteristics of conventional plumbing.

Photo 1 – Non-ADA compliant kitchen with residential grade cabinets and counter tops.

Operational Efficiency of the Station's physical layout does not allow for efficient work areas as there are no provisions for dedicated report writing and associated HIPPA concerns, "in-station" training provisions, gender neutrality, decontamination and properly sized gear washing areas.

The kitchen lacks accessibility based on requirements of the current code. Counter tops are set at 36" above the floor elevation and there is not proper knee space or accessible clearance under the cabinets specifically at the sink base locations. As mentioned below in the "Programming and Future Needs" section of this report, extending the life of the station 20 years warrants refacing the cabinets and dropping a portion of the countertop for accessibility purposes. Converting the kitchen at this station to a full commercial kitchen is not financially reasonable for a 20 year life extension. Future station design should accommodate commercial grade appliances, exhaust hood and base cabinets and counter tops.

There are no dormitory or accommodations for overnight stay at the current station. Any future change to operations and staffing should consider the ability to provide full time staff with the appropriate living facilities including sleeping areas, day room and fully functional kitchen.

Health and Safety concerns the consultant team noted are, a lack of decontamination areas, dedicated “clean areas” for employees to transition from emergency calls to non-emergency duties at the station, and turnout gear area in the truck-bays.

Photo 2 – The storage of turnout gear in the apparatus bay is not consistent with the recommendations of NFPA 1500 for carcinogen mitigation and cancer risk reduction

Other Related Concerns include ADA accessibility, building envelope thermal performance deficiencies, lack of Nursing Mother Room (NMR) provisions and added costs to add on or renovate the complex. The building lacks personal space and currently does not have provisions for female fire fighters and lacks gender neutrality. The workflow does not promote respect to “hot, warm, and cold” zones as there is currently no area to decontaminate of carcinogens or pathogens when returning from emergency calls. Commercial development, residential homes and controlled access roadways surround the site. Of particular concern is the proximity to Little Chute Elementary School that limits expansion on the current site and creates safety issues when responding apparatus comingle with students and other school hour traffic while rushing to response calls.

The **structural** components of this building will require a moderate amount of planning and money to bring into current building efficiency standards. The shell of the building was built prior to much of today’s standards as far as moisture intrusion and heat transfer. The thermal performance of the building envelope is not up to the current code required standards. The building was constructed with "insulated" concrete block with the face brick tight to the outside face of the block wall. This wall construction convention would not be allowed under current energy code. The wall would require a moisture barrier, in wall insulation, air space and cavity for proper drainage.

The current roof insulation configuration is 3” (R-15) Styrofoam under a built-up roof with inadequate ventilation. Current standard would require 6” of rigid insulation with an R value of 30. Wall construction would need to be comprised of 3” of rigid insulation over a

vapor barrier with a 1” airspace for ventilation and cavity wall drainage. This would only meet the minimum requirements for current building code thermal performance.

The apparatus floor trench drain concrete shows moderate spalling and a lack of maintenance will result in further damage to the concrete as well as the steel frame and grate components of the drain itself.

A lack of information on prior lead and asbestos assessments would indicate there is a high probability the elements are present in the construction of the building. As it was built during the period where changes were being made to federal requirements that ban many of these products, it should be assumed that any renovation or demolition as part of the project will include remediation of these hazards.

Operational Efficiency components that need attention are categorized into both emergency and non-emergency usage. The lay-out itself lends to a quick turn-out time as the physical footprint is small, however, The Station contains 5 apparatus and 1 UTV that require crews to back-in as drive through capabilities are not possible because of the physical footprint and layout on the site. The size of the apparatus floor is barely adequate for the existing number of apparatus and equipment. Consideration for storage of additional equipment and gear should be a priority in a new facility.

Photo 3 – Apparatus back in and do not provide a safe walking distance between the front of the rig and the overhead doors.

Photo 4 – Storage in the station utilized nearly every inch of wall and floor area

The majority of time spent by crews reporting to the station is occupied by tending to non-emergency tasks, such as fire training, equipment maintenance and operations meetings. The building is not conducive to tasks that are sensitive in nature or need privacy, such as medical incident reports, performance evaluations or private correspondence that may need to be protected by HIPPA requirement or department policy. The current office is shared by 4-5 fire personnel and is cramped and inefficient. It is difficult to plan training drills and conduct report writing for the fire inspections due to lack of desk space.

The open truck floor concept and lack of physical space requires nearly all activities be held in the training/meeting/kitchen space of the station. This multi-function room is well undersized for the number and frequency of activities held in it. When the department holds training or interviews, multiple impromptu meeting or training areas need to be set up throughout the station including the apparatus bays. During these large events, apparatus and equipment needs to be pulled out of the station and parked outside to accommodate the space needed for interior meeting and training areas.

Photo 5 – Office space is cramped and inefficient.

Photo 6 – All-purpose training room is not large enough to accommodate typical training or operations meetings with all fire staff present.

The limited footprint of the building coupled with the load bearing masonry construction of the majority of the interior walls dictate that any change of configuration would require an addition to the facility. Items like female/male bathroom and changing areas, nursing mother's federal requirements would be improbable with the current station outlay. The tight quarters has left staff to use every square inch of space for operational needs, thus leaving very little room for personal space, such as personal lockers and bunker gear storage. The bunker gear is laundered in an extremely small gear laundry room which contains a commercial extractor and dryer. There is a safety shower in the room but it is inaccessible due to the location of the laundry equipment. The gear laundry room is a catch all for other station equipment like spare turnout gear, the truck air compressor and general storage.

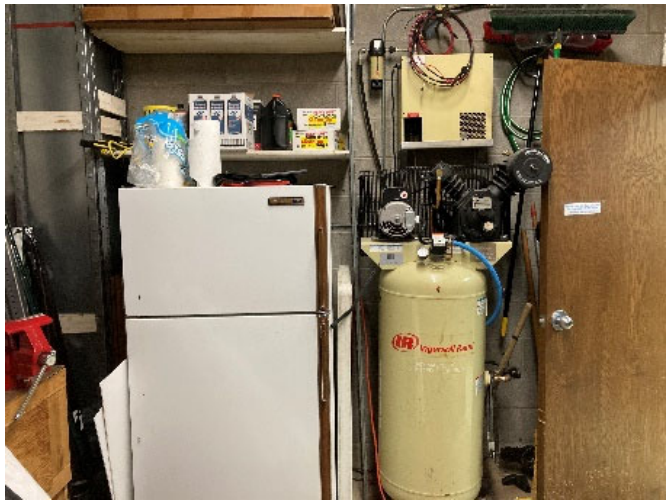


Photo 7 – The truck air compressor is in the same room as the gear laundry, computer server, and spare gear storage.

Photo 8 – Cramped conditions in the gear laundry room and non-functional emergency shower.

Health and Safety concerns could be also categorized into both emergency and non-emergency operations. While few of the trending safety concerns can be addressed by policy, many will require changes to the building. From the emergency standpoint, safe travels through the fire station to the rig as well as from the apparatus floor to the emergency location warrants consideration. Again, as noted earlier, because of the limited space, some areas are either compressed in their ability to handle operations or housing items or operations not initially intended. The congestion on the apparatus floor does assume some risk as the safe departure and return of rigs and crew is impacted by the lack of space. During non-emergency operations, safety and health concerns of both administrative staff and rank and file were pretty much synonymous in their desire to create "hot, warm and cold zones". The current configuration of the station does not allow for proper deconning of staff and equipment prior to staff and volunteers returning to their personal vehicles or to their homes. Within the restrictions of the current Station footprint, adding decontamination areas and showers and associated plumbing is not a practical option. The station does not currently have provisions to filter or capture exhaust gasses from all emergency response units. Diesel exhaust is a known carcinogen and can permeate clothing and other areas of the building. Provisions should be made to either add hardware to "scrub" the exhaust or add "source capture" hardware to eliminate the hazard completely. Currently exhaust capture is limited to only a few pieces of apparatus. An exhaust system to fully capture all of the rigs should be installed this equipment will be a standard feature in a new station.

Turnout gear is currently stored on the apparatus floor directly behind the response vehicles. There is no isolation from diesel exhaust and clean turnout gear is exposed to this carcinogenic diesel exhaust.

Mechanical ventilation on the apparatus floor does not meet minimum requirement and carbon monoxide (CO) and nitrogen dioxide (NO2) detection were not located but should be installed for the safety of the personnel occupying the station.

The fire station should incorporate best practices and NFPA guidelines for fire fighter safety. A few of the key considerations in station design that are not present but need to be implemented in a future design include:

NFPA 185 standards in reference to "protective assemblies" and include accommodations for HazMat suits, fire gear storage with negative pressure exhausting outside and LED/non-UV lighting sources used in turn out gear storage rooms that have physical separation from the apparatus floor and exposure to vehicle exhaust.

NFPA 1500, which includes occupation safety and health of employees through the inclusion of hot, warm and cold zones; separation of decontamination areas in the warm zone; inclusion of sauna rooms to remove carcinogens trapped in skin pores; and designing training adjuncts to promote safe practices.

NFPA 1710, which focuses on rapid deployment by developing station layouts with a "spaghetti diagram" to create foot paths and egress maps that are efficient when an emergency occurs.

This allows for the tracking of response times throughout the facility, as well as high population density target hazards (e.g. malls, mass gathering spaces, industrial areas), enabling the department to properly satisfy staffing and operations requirements in NFPA 1710.

Other Related Concerns could fall into categories such as “useable station life”, station security as well as potential liability issues. The fire station is currently at the end of its useful life. An assessment of what could be gained by remodeling or adding space should be assessed prior to any potential improvements.

Remodeling the building to expand the foot print and to accommodate some of the design and operational trends of current fire station design are not feasible in the current facility. The cost versus benefit of spending money to improve the building versus a replacement in the immediate area has shown that full replacement of the facility is the most fiscally responsible solution. There could be benefit of renovating the vacated portion of the fire department for Metro Police’s use. Conversion of the building for police operation may be more cost effective solution because modifications for police function will be less invasive and not require expansion of the building’s footprint.

Worth consideration as LCFD moves forward with any capital project is the competition for qualified candidates with similar sized fire departments regionally. The down-turn in the appeal of public safety employment has required municipalities to rethink recruitment and retention of employees. Most departments in this area lack a diversification of workforce that mirror the makeup of the local municipality. For Fire Departments to appeal to a broad range of applicants, fire departments must make the organization and buildings welcoming to a diverse demographic group.

Programming and Future Space Needs per operation expansion discussions with the LCFD chief and fire station committee members, the following is a programming document has been developed that includes the current and future programmed spaces necessary for the operation of a fire and future EMS station located in Little Chute. This document can be found on the pages following this section.

FIRE DEPARTMENT APPARATUS

Apparatus Room							7,393
Number of Bays		3	4	5	6	7	8
		Length					
		80	104	128	152	176	200
Depth	60	4,800	6,240	7,680	91,20	10,560	12,000
	80	6,400	8,320	10,240	12,160	14,080	16,000
	100	8,000	10,400	12,800	15,200	17,600	20,000

4,590	Total Apparatus Room

Fire Department Program	Length	x	Width	=	Sq. Ft.	Quantity	Totals	Notes
Engines	40	x	16	=	640	2	1280	
Ambulances	35	x	12	=	420	1	420	
Ladder/Snorkel	60	x	16	=	960	1	960	
Special Operations Vehicle	75	x	16	=	1200	0	0	Pick up coming in 2025
Boat/trailer	24	x	12	=	288	1	288	
Heavy Rescue	30	x	12	=	360	1	360	
Haz Mat	75	x	12	=	900	0	0	
ATV/trailer	24	x	12	=	288	1	288	
Staff Cars	25	x	12	=	300	1	300	
Fuel spill trailer	10	x	10	=	100	1	100	
Tanker/Tender	40	x	16	=	640	0	0	
Brush Buggy	20	x	10	=	200	0	0	
Survive Alive	25	x	12	=	300	0	0	
Dive Team Trailer	10	x	25		250	0	0	
Dive team Van	10	x	30	=	300	0	0	
Automated Truck Wash	50	x	20	=	1000	0	0	

3,996	Subtotal
3,397	Efficiency Ratio of 85%

7,393	Fire Department Program

FIRE DEPARTMENT OFFICE, ADMINISTRATIVE & LIVING SPACE								
	Length	x	Width	=	Sq. Ft.	Qty	Totals	Notes
Apparatus Bay Area								
Fire Turnout Gear	32	x	20	=	640	1	640	Gear for 100 Staff (Warm Zone)
Laundry Area	10	x	20	=	200	2	400	Hot zone and cold zone
Decon Area	10	x	12	=	120	1	120	near apparatus bay (Hot Zone) Steam Shower
Shop	15	x	20	=	300	1	300	Flam cab
Air Compressor	6	x	6	=	36	1	36	Truck Air only
SCBA Compressor (Fill Station) / Repair	12	x	10	=	120	1	120	On Mezz
Bunk Rooms	10	x	12	=	120	6	720	8-10 staff incl. future growth
Large EMS sttorage Room	10	x	12	=	120	1	120	Med storage
Hose Storage	15	x	3	=	45	1	45	Method of washing and drying (cabinets, hanging, hose washer?)
Fire Equipment storage	20	x	20	=	400	1	400	Mezzanine with trolly beam
Mechanical	0	x	0	=	0	0	0	TBD by Mech Eng- mezzanine area
Hand tool/work room	12	x	15	=	180	0	0	
Stairwell	5	x	25	=	125	1	125	Stair from mezzanine
Living Space Area						0		
Day Room	25	x	30	=	750	1	750	6 recliners
Crew Kitchen	20	x	25	=	500	1	500	Features?
Pantry	3	x	4	=	12	1	12	single shift
Dinning Area	16	x	25	=	400	1	400	included in kitchen area accommodate 10 people
Bathrooms						1		
Unisex locker room and shower rooms	15	x	35	=	525	1	525	Unisex accommodations
Men's Locker Room	20	x	25	=	500	0	0	
Public Unisex	8	x	7	=	56	0	0	
Public Women's	10	x	10	=	100	0	0	
Linen Closet	8	x	10	=	80	1	80	Floor to ceiling shelving
Janitor's Closet	8	x	8	=	64	2	128	Amenities?
Weight room						0		
Exercise/weight room	20	x	40	=	800	1	800	

FIRE DEPARTMENT OFFICE, ADMINISTRATIVE & LIVING SPACE								
Administrative Areas	Length	x	Width	=	Sq. Ft.	Qty	Totals	Notes
						0		
Reception Area	10	x	12	=	120	1	120	
Inspectors room	10	x	12	=	120	0	0	
Chief	10	x	15	=	150	1	150	
Officer's room	12	x	18	=	216	1	216	3 person
Line officers cubicles	8	X	10	=	80	0	0	
Fire Inspectors Office	10	x	12	=	120	1	120	
Engineer's room	15	x	12	=	180	1	180	2-3 people with file storage
Nursing Mother's room	8	x	8	=	64	1	64	Should it be accessible to the public yes
Lobby Floor Conference Room	14	x	16	=	224	0	0	
Conference Room	10	x	10	=	100	0	0	
Copy/Work Area	6	x	10	=	60	1	60	MFD and layout counter
Plans	6	x	12	=	72	1	72	
Clothing Storage	8	x	12	=	96	1	96	
Watch Desks								
Local Disp/Watch Desk	12	x	14	=	168	1	168	Adjacent to App bay
Radio Server / IT Room	10	x	11	=	110	1	110	
Training Area						0		
Large Training Room/community room	30	x	50	=	1500	1	1500	60 people
Restroom	10	x	6	=	60	2	120	Adjacent to large training room/EOC
Janitor's Closet	4	x	4	=	16	0	0	
Table/Chair Storage	12	x	15	=	180	1	180	Adjacent to large training room/Comm Room
AV Storage	6	x	10	=	60	1	60	Separate storage to restrict public access?
Pub Ed						0		?
Polling Equipment	10	x	15	=	150	0	0	
Lobby/History/ Bell Display/Antique engine?	2	x	10	=	20	1	20	
						0	9,457	Subtotal
							1,419	Efficiency Ratio of 15%
							10,876	Administration/Office Spaces

EMS PROGRAM

	Length	x	Width	=	Sq. Ft.	Quantity	Totals	Notes
EMS Drug/Medical Storage	10	x	14	=	140	0	**0**	
Paramedic Report Writing	8	x	8	=	64	0	**0**	
EMS chiefs office	12	x	12	=	144	0	**0**	

0	Subtotal
0	Efficiency Ratio of 15%
0	**EMS Program Total**

SITE PROGRAM

	Length	x	Width	=	Sq. Ft.	Quantity	Totals	Notes
On Duty Parking	32	x	10	=	320	60	**19200**	Vehicle charging
Public Parking	32	x	10	=	320	4	**1280**	With HC parking
Fire Apparatus Apron	80	x	100	=	8000	1	**8000**	
EMS Apparatus Apron	50	x	20	=	1000	1	**1000**	
Outdoor Patio	25	x	45	=	1125	1	**1125**	
Enclosed Dumpster	12	x	24	=	288	1	**288**	
Generator	20	x	10	=	200	1	**200**	
Storm Water Treatment	50	x	100	=	5000	1	**5000**	
Cold Storage	60	x	60	=	3600	0	**0**	
Training Pavement	32	x	100	=	3200	0	**0**	-
Live Burn tower/ burn box	32	x	100	=	3200	0	**0**	

36,093	Subtotal
3,609	Efficiency Ratio of 10%
39,702	**Site Program Total**

SUMMARY TOTAL	
Fire Department Apparatus	7,393
Fire Department Office, Administrative & Living Space	10,876
EMS Program	0
Site Program	39,702

18,269	Station footprint
57,971	Minimum Site Requirements

PROPOSED BUILDING AND SITE PLANS

Proposed Building and Site Plan Layout As part of the programming and long-term space needs for the of the LCFD, the consultant team developed a preliminary floor plan and test fit plans on 3 of the potential sites. The following illustrations are building floor plan and site plans used to determine the appropriate size and configuration of the building on the parcels. The test fit plans are also used to develop dialog around the amount of on- site parking and vehicle traffic flow as well as the impact on the response time mapping. The plans are schematic in nature and will evolve as the design progresses in future phases.

The proposed floor plan is laid out in such a way as to allow for phased construction of the initial budget for the station is not adequate to accommodate a full build-out. This floor plan illustrates the ability to construct the bunk rooms, day room and kitchen as a subsequent phase as department needs dictate.

1 A111 LEVEL 1 -OPTION 1
3/32" = 1'-0"
0 1" 2" 3" 6"

SEH

NOT FOR CONSTRUCTION

Project Owner

VILLAGE OF LITTLE CHUTE
LITTLE CHUTE FIRE

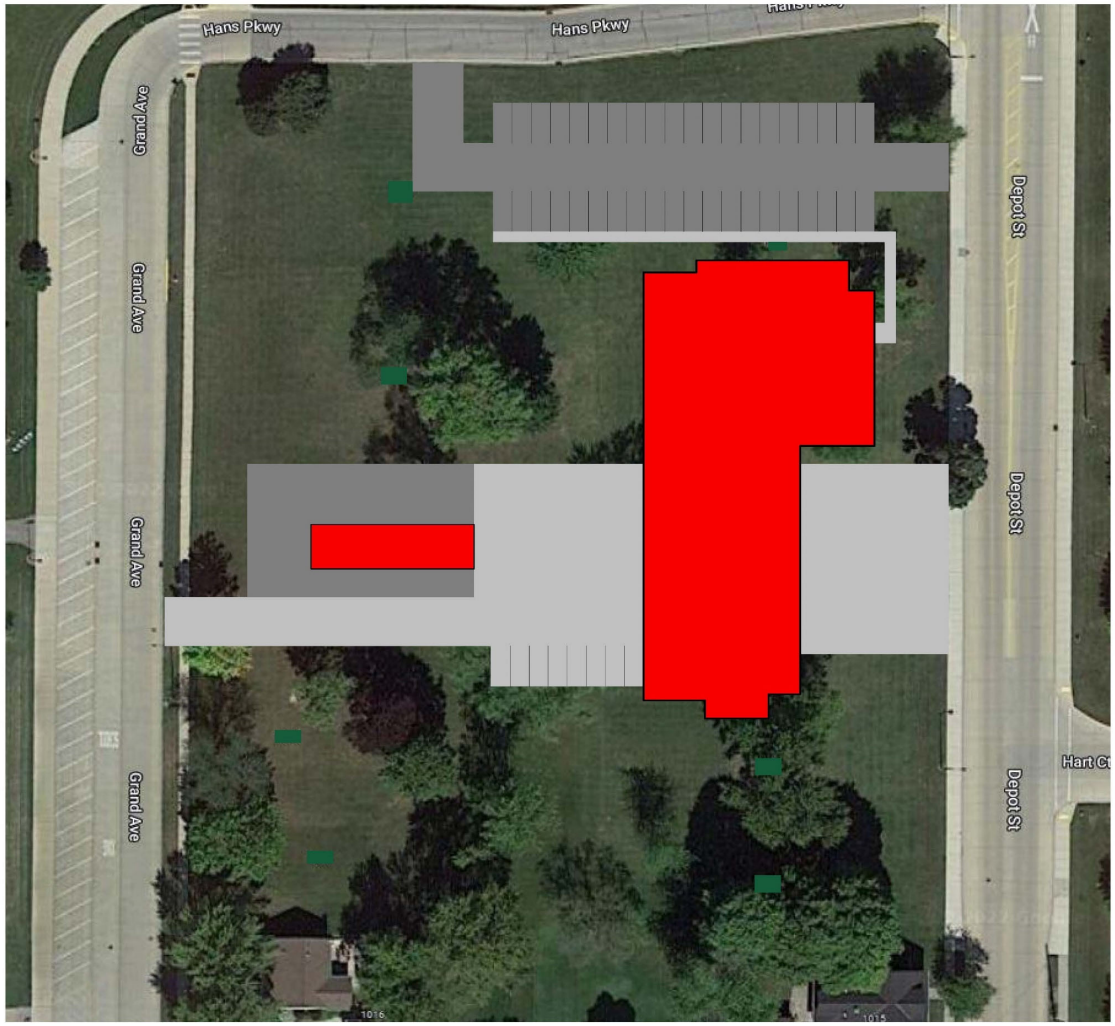
SEH Project	Project Number
Checked By	Checked By
Drawn By	Drawn By
Project Status	Issue Date
DRAFT	DATE

REVISION SCHEDULE

REV. #	DESCRIPTION	DATE

SCHEMATIC FLOOR PLAN - OPTION 1

A111



1 A011 SITE OPTION A
1/32" = 1'-0"

NOT FOR CONSTRUCTION

Project Owner

VILLAGE OF LITTLE CHUTE
LITTLE CHUTE FIRE

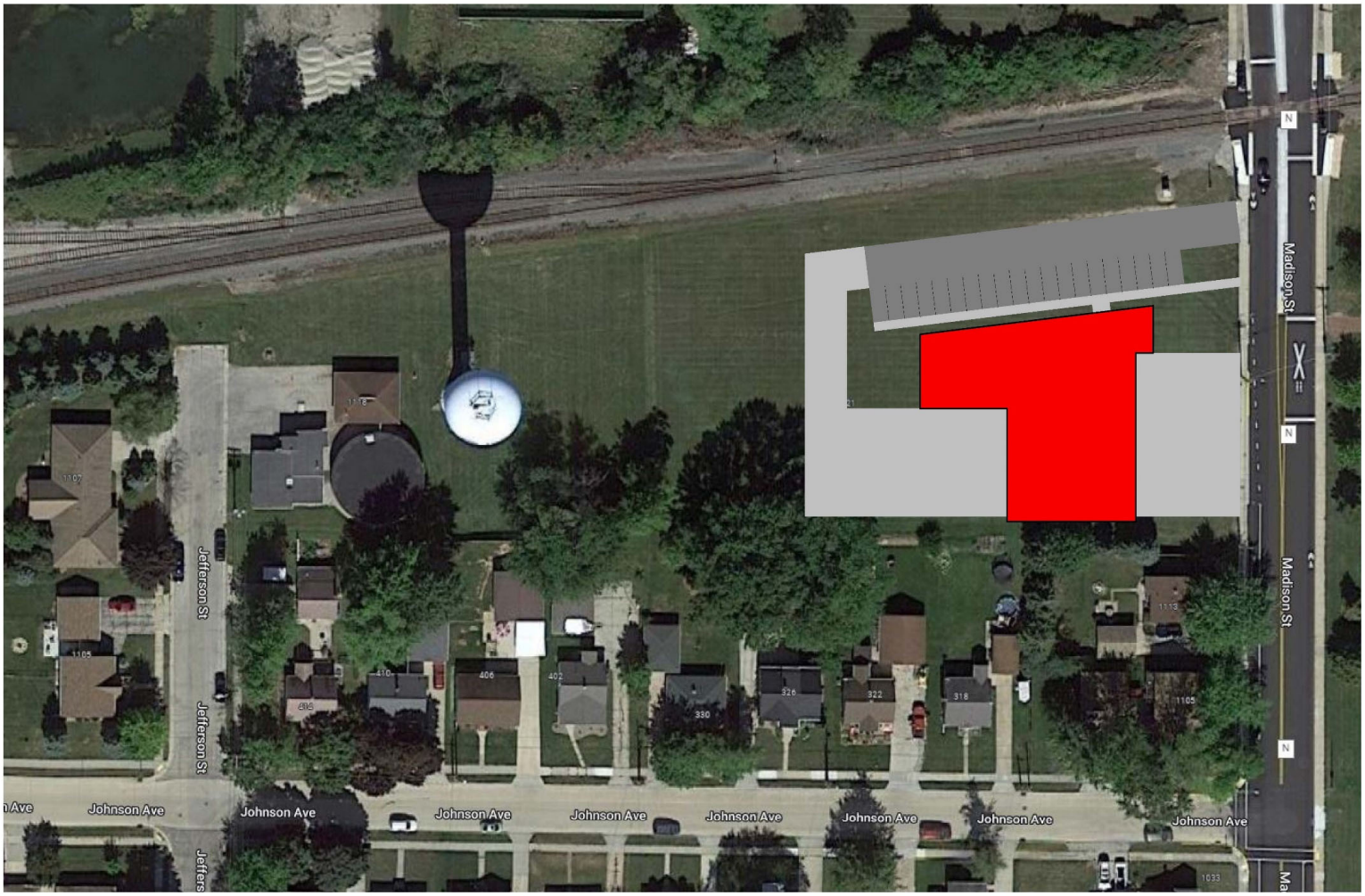
SEH Project	Project Number
Checked By	Checked By
Drawn By	Drawn By
Project Status	Issue Date
DRAFT	DATE

REVISION SCHEDULE

REV. #	DESCRIPTION	DATE

SITE PLAN - NEW CONSTRUCTION

A011



1 A012 SITE OPTION B
1/32" = 1'-0"

SEH

NOT FOR CONSTRUCTION

Project Owner

VILLAGE OF LITTLE CHUTE
LITTLE CHUTE FIRE

SEH Project
Checked By
Drawn By

Project Number
Checked By
Drawn By

Project Status
DRAFT

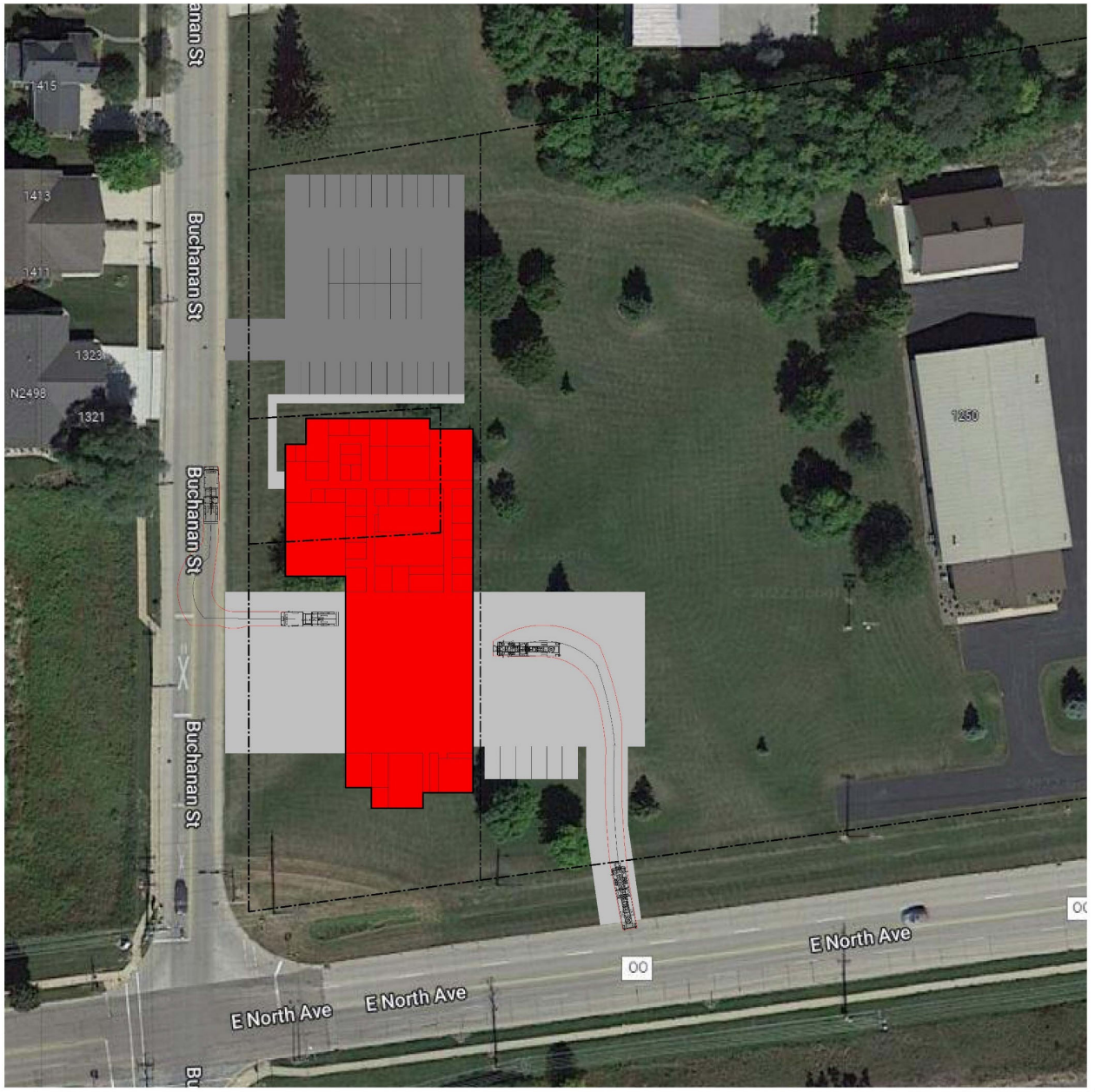
Issue Date
DATE

REVISION SCHEDULE

REV. #	DESCRIPTION	DATE

SITE PLAN - NEW CONSTRUCTION

A012



1 A013 SITE OPTION C
1/32" = 1'-0"

SEH

NOT FOR CONSTRUCTION

Project Owner

VILLAGE OF LITTLE CHUTE
LITTLE CHUTE FIRE

SEH Project	Project Number
Checked By	Checked By
Drawn By	Drawn By
Project Status: DRAFT	Issue Date: DATE

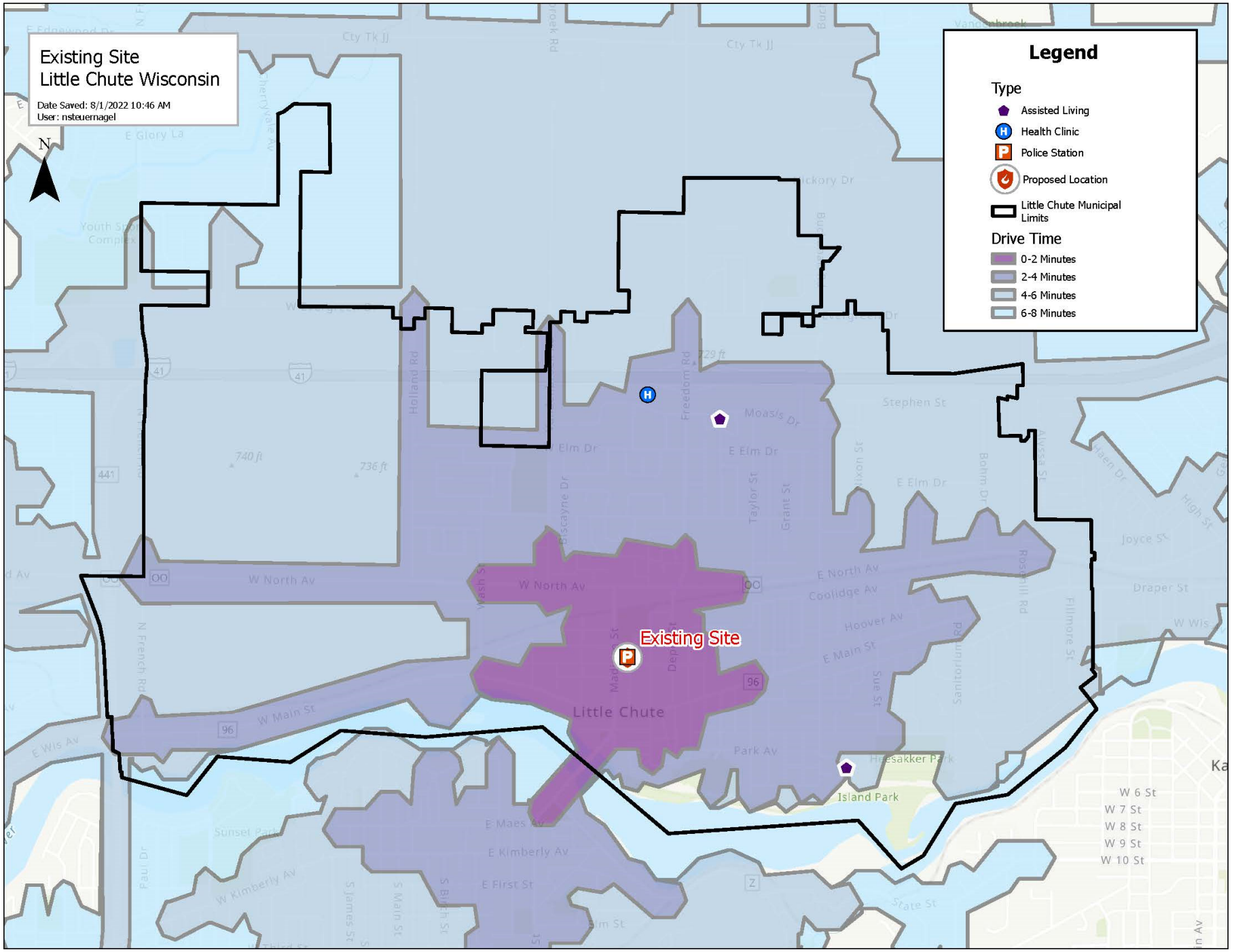
REVISION SCHEDULE

REV. #	DESCRIPTION	DATE

SITE PLAN - NEW CONSTRUCTION

A013

GIS Analysts on the consulting team developed drive time and heat mapping analysis to determine the best site location for the replacement of the Fire/EMS Station. As part of this analysis the GIS specialists were asked to review the Village's emergency response data to determine if there was an advantage to locating the facility on one of the three proposed site locations. The maps in the appendices show the incident locations within the response area for the LCFD/EMS also provide drive time analysis from the current station location. The maps are included on the pages that follow this section. There were very little differences in response time between the 3 sites analyzed but some of the immediate response area (1-2 minutes response time) was expanded through the downtown commercial zone by siting the station on the Depot Street site. The Depot Street site offered other advantages in terms of size of the site for future expansion, proximity to high density and higher risk occupancies as well as providing immediate access onto main traffic arteries from Depot Street that does not see as much vehicular traffic as Buchanan Road, Madison Street or CTHOO.


Existing Site
Little Chute Wisconsin
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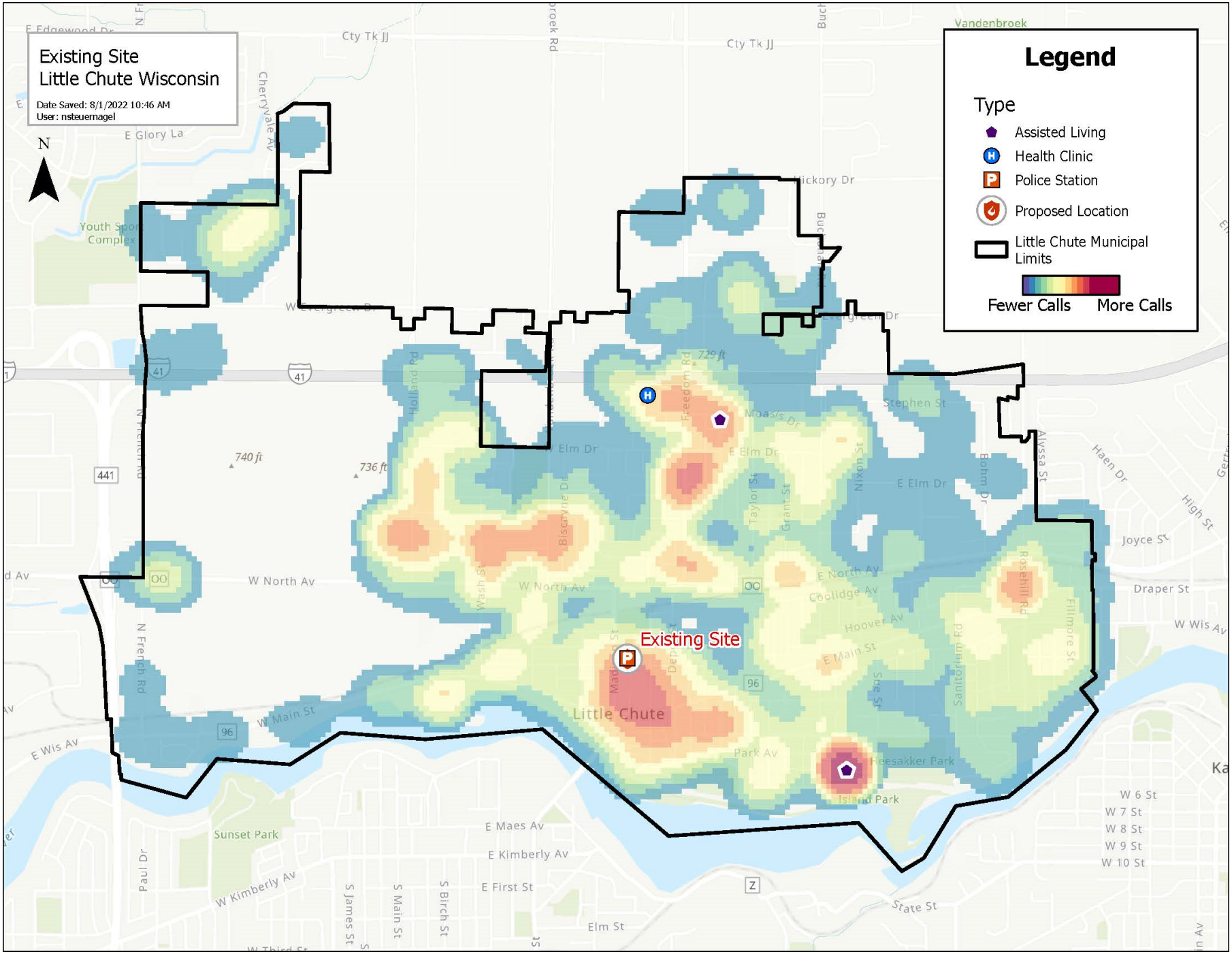
N
Legend
Type
Assisted Living
Health Clinic
Police Station
Proposed Location
Little Chute Municipal Limits
Drive Time
0-2 Minutes
2-4 Minutes
4-6 Minutes
6-8 Minutes
Existing Site
Little Chute
W North Av
E North Av
E Elm Dr
W Main St
E Main St
Park Av
Island Park
Holland Rd
Freedom Rd
Stephen St
Coolidge Av
Hoover Av
Draper St
E Kimberly Av
W Kimberly Av
E First St
W 6 St
W 7 St
W 8 St
W 9 St
W 10 St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Little Chute Wisconsin
Date Saved: 8/1/2022 10:46 AM
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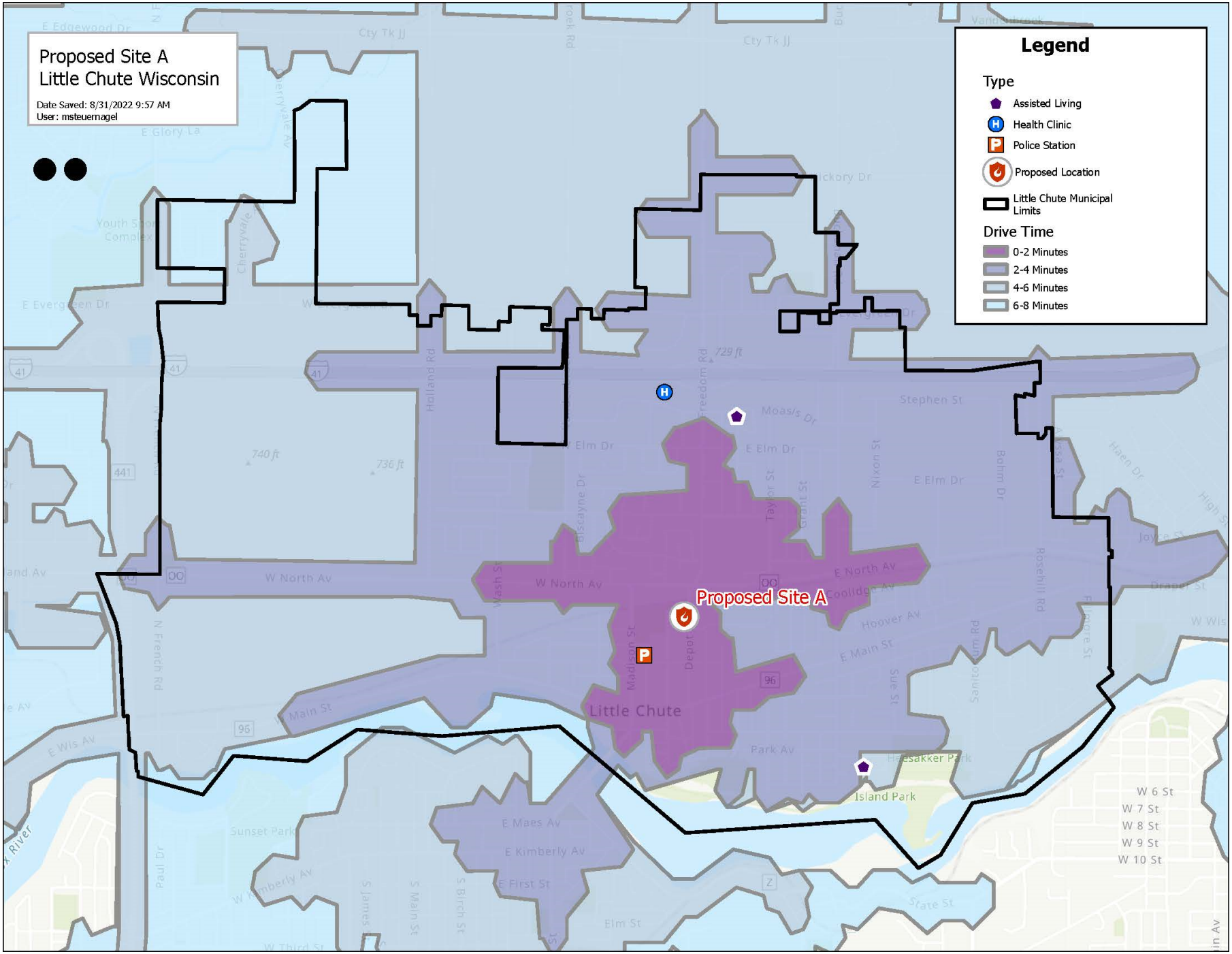
N
Legend
Type
Assisted Living
Health Clinic
Police Station
Proposed Location
Little Chute Municipal Limits
Fewer Calls
More Calls
Existing Site
Little Chute
W North Av
E Main St
E Elm Dr
E Maes Av
E Kimberly Av
W Kimberly Av
E First St
Elm St
State St
W Main St
E Wis Av
Sunset Park
Island Park
Vandenbroek
Cty Tk JJ
E Glory La
Hickory Dr
Youth Sports Complex
Stephen St
Joyce St
Draper St
W Wis Av
Park Av
Coolidge Av
Hoover Av
W 6 St
W 7 St
W 8 St
W 9 St
W 10 St
740 ft
736 ft
729 ft
41
441
96
OO
Z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Type
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Health Clinic
Police Station
Proposed Location
Little Chute Municipal Limits
Drive Time
0-2 Minutes
2-4 Minutes
4-6 Minutes
6-8 Minutes
Proposed Site A
Little Chute
W North Av
E North Av
E Elm Dr
Elm Dr
Main St
E Main St
Park Av
Island Park
Hoover Av
Stephen St
Halland Rd
Freedom Rd
Cherryvale Rd
Rosehill Rd
Bohm Dr
Nixon St
Taylor St
Grant St
Biscayne Dr
Depot St
Maple St
Wash St
N French Rd
Paul Dr
E Maes Av
E Kimberly Av
E First St
Elm St
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S Birch St
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Sunset Park
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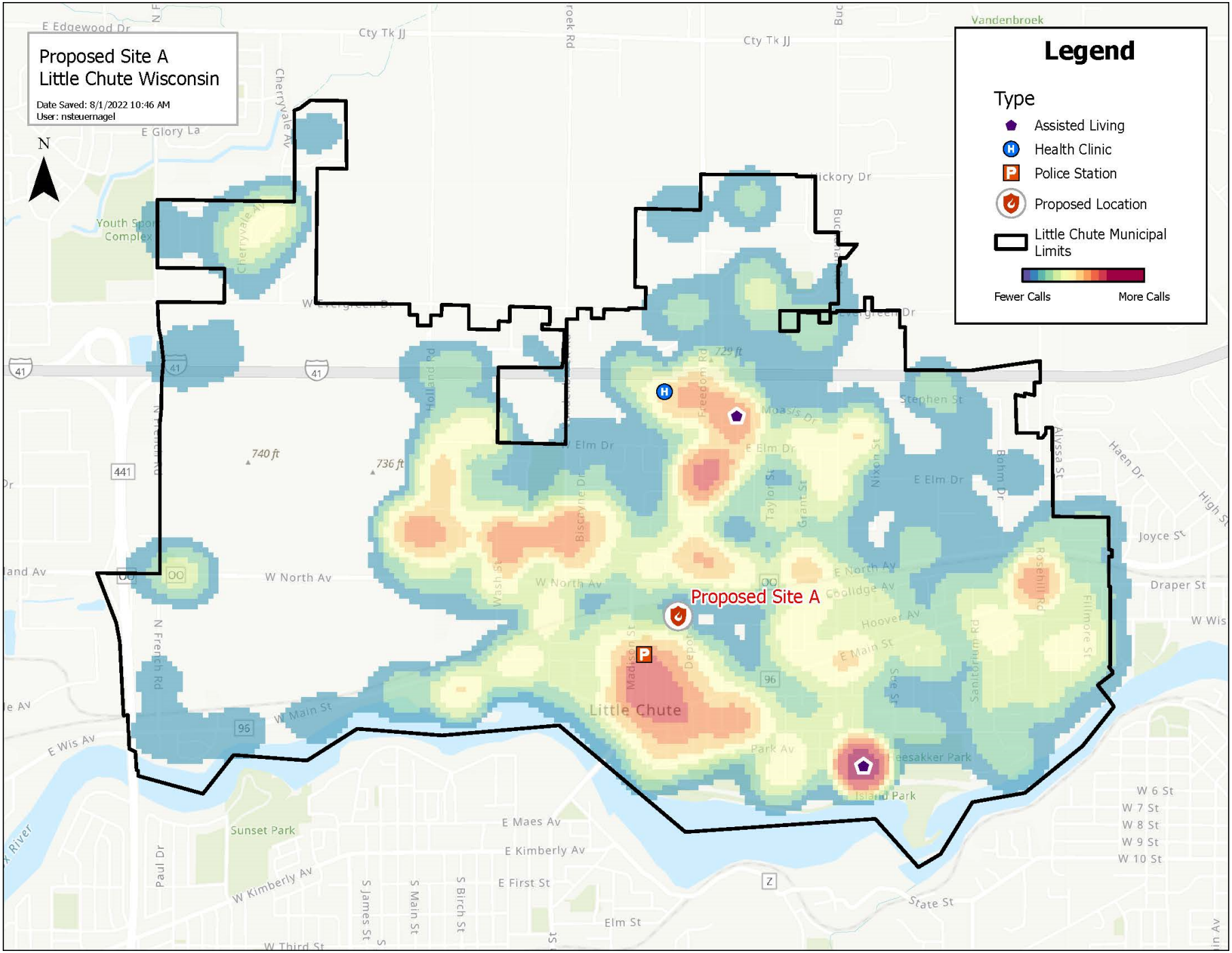
W 10 St
729 ft
740 ft
736 ft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Health Clinic
Police Station
Proposed Location
Little Chute Municipal Limits
Fewer Calls
More Calls
Proposed Site A
Little Chute
Sunset Park
Island Park
Vandenbroek
E Edgewood Dr
Cty Tk JJ
E Glory La
Cherryvale Av
Youth Sports Complex
Hickory Dr
Holland Rd
Freedom Rd
Moasis Dr
Stephen St
E Elm Dr
Elm Dr
Biscayne Dr
Taylor St
Grant St
Nixon St
Bohm Dr
Alyssa St
Haen Dr
High St
Joyce St
Draper St
W North Av
E North Av
Coolidge Av
Hoover Av
E Main St
W Main St
Wash St
Madison St
Depot St
Rosehill Rd
Fillmore St
Sanitorium Rd
State St
Park Av
Veesakker Park
W 6 St
W 7 St
W 8 St
W 9 St
W 10 St
E Wis Av
N French Rd
Paul Dr
W Kimberly Av
E Kimberly Av
E Maes Av
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S James St
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S Birch St
Elm St
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729 ft
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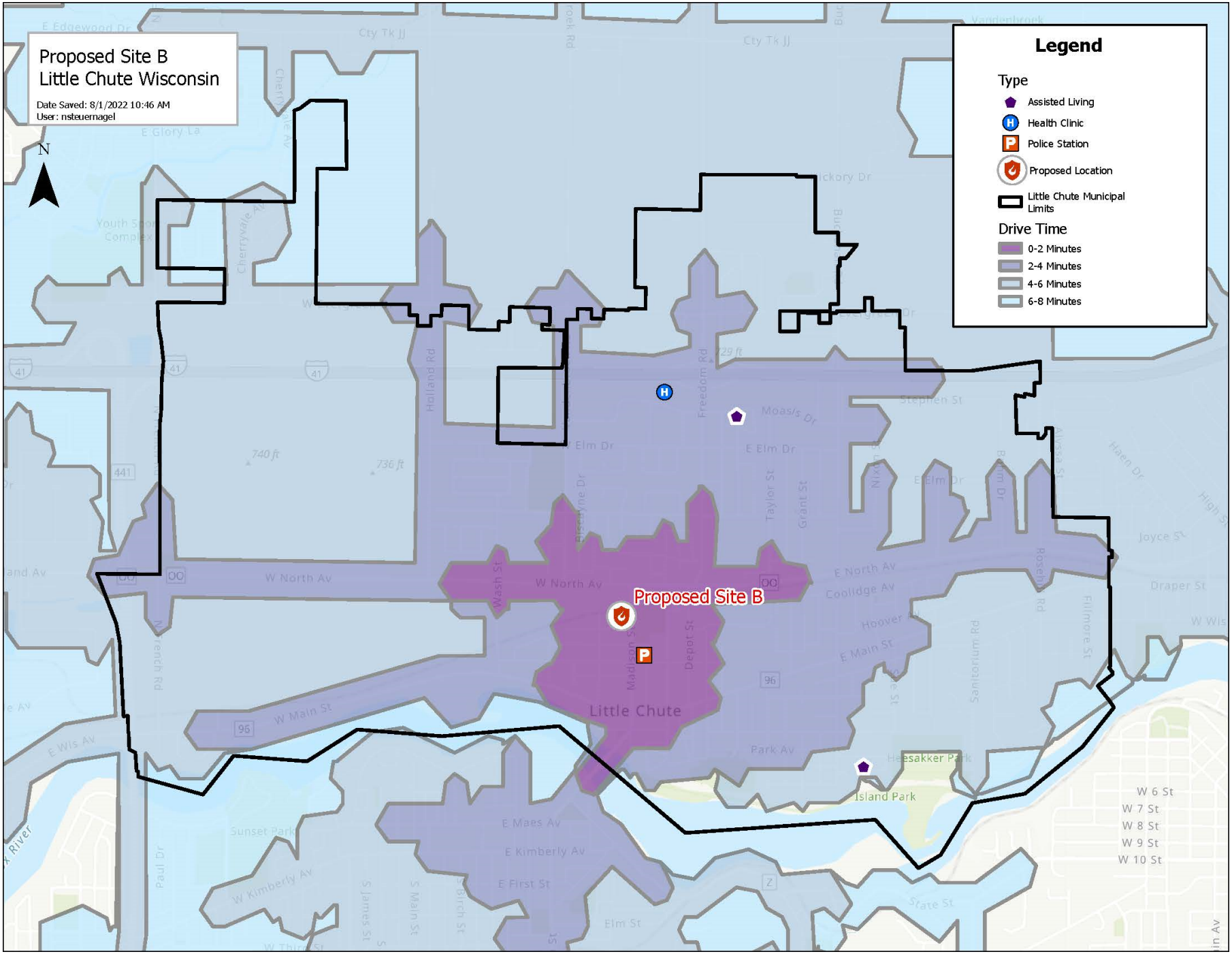
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Health Clinic
Police Station
Proposed Location
Little Chute Municipal Limits
Drive Time
0-2 Minutes
2-4 Minutes
4-6 Minutes
6-8 Minutes
Proposed Site B
Little Chute
W North Av
E North Av
W Main St
E Main St
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Park Av
Island Park
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Holland Rd
Grant St
Taylor St
Coolidge Av
Hoover Ln
Depot St
Madison St
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Sanitorium Rd
Fillmore St
Joyce St
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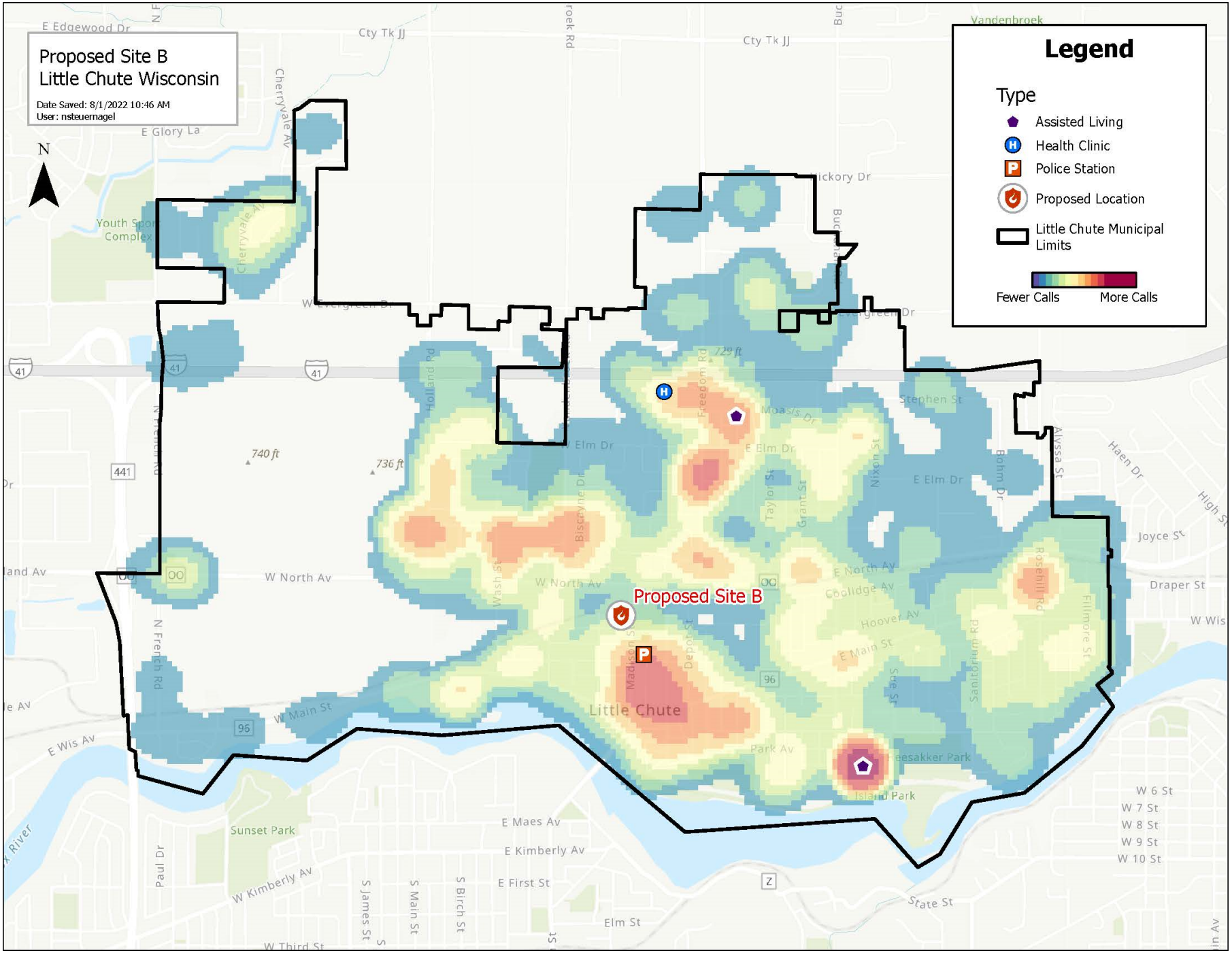
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Type
Assisted Living
Health Clinic
Police Station
Proposed Location
Little Chute Municipal Limits
Fewer Calls
More Calls
Proposed Site B
Little Chute
E Edgewood Dr
Cty Tk JJ
E Glory La
Cherryvale Av
Youth Sports Complex
W Evergreen Dr
Holland Rd
729 ft
740 ft
736 ft
Freedom Rd
Moasis Dr
Stephen St
E Elm Dr
Elm Dr
Biscayne Dr
Taylor St
Grant St
Nixon St
Bohm Dr
Alyssa St
Haen Dr
High St
Joyce St
Draper St
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Coolidge Av
Hoover Av
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Wash St
Madison St
Depot St
Sanborn Rd
Fillmore St
Rosehill Rd
Park Av
Riesakker Park
Island Park
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W 10 St
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Sunset Park
Paul Dr
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State St
W Third St
Fox River
41
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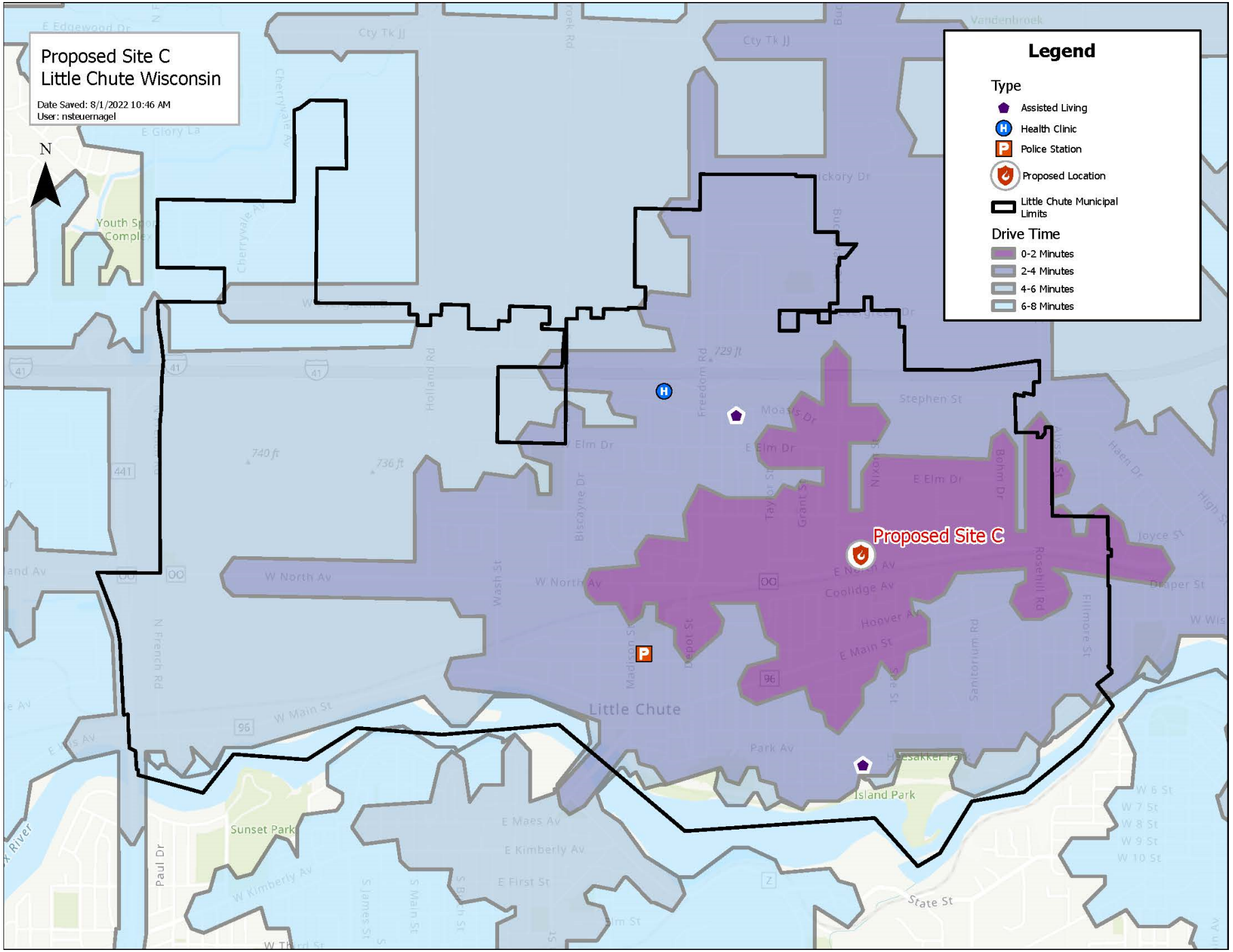
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Health Clinic
Police Station
Proposed Location
Little Chute Municipal Limits
Drive Time
0-2 Minutes
2-4 Minutes
4-6 Minutes
6-8 Minutes
Proposed Site C
Little Chute
W North Av
E Elm Dr
Coolidge Av
E Main St
Park Av
Island Park
Sunset Park
W Main St
E Maes Av
E Kimberly Av
W Kimberly Av
E First St
State St
Freedom Rd
Holland Rd
Cherrywale Av
Youth Sports Complex
Stephen St
Joyce St
Draper St
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Madison St
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Biscayne Dr
Paul Dr
729 ft
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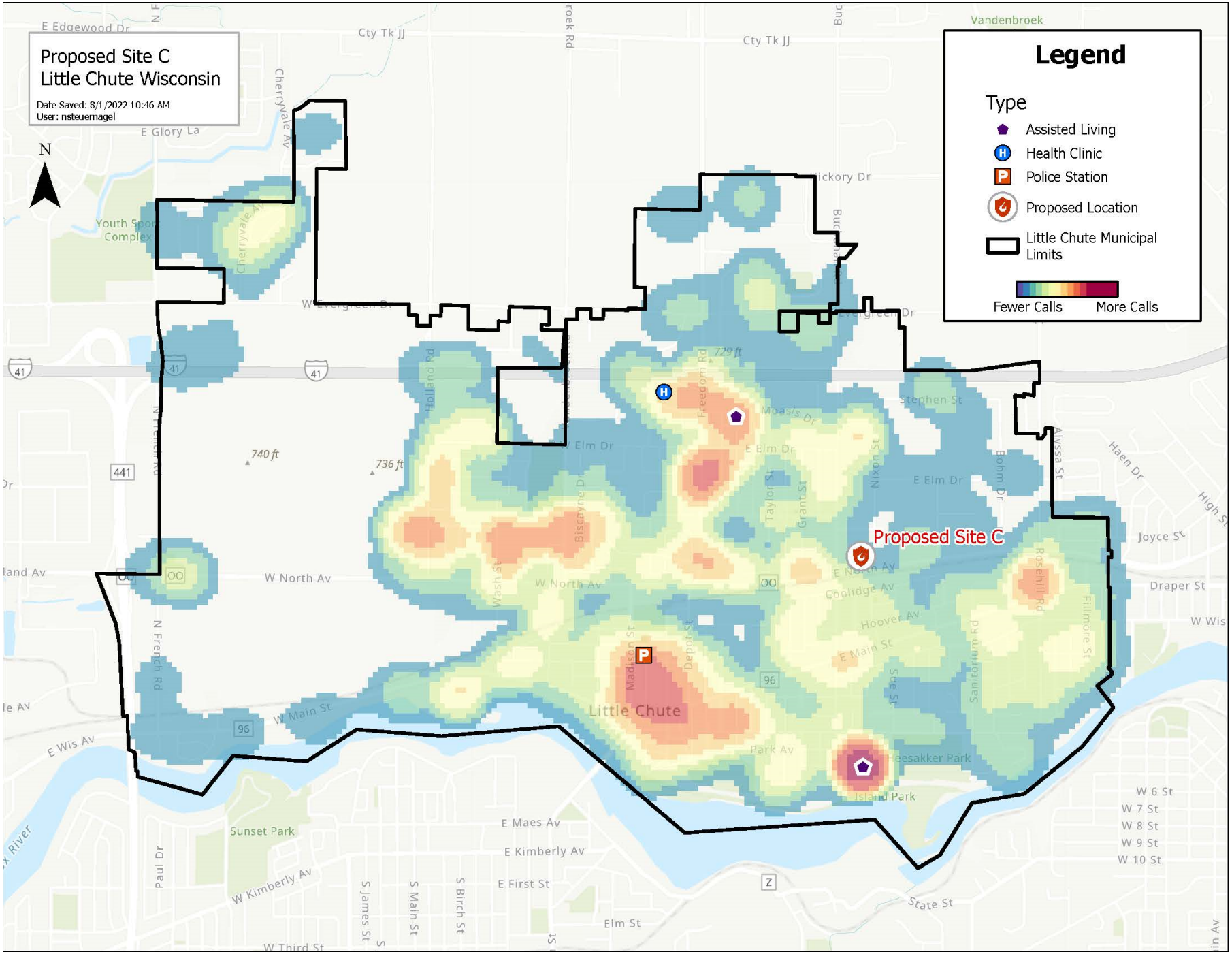
736 ft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Coolidge Av
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Park Av
E Maes Av
E Kimberly Av
W Kimberly Av
E First St
Elm St
State St
W Third St
Sunset Park
Heesakker Park
Island Park
Vandenbroek
Cty Tk JJ
E Edgewood Dr
E Glory La
Youth Sports Complex
Cherryvale Av
Holland Rd
Freedom Rd
Stephen St
Oasis Dr
Nixon St
Taylor St
Grant St
Bohn Dr
Alyssa St
Haen Dr
High St
Joyce St
Draper St
Rosehill Rd
Fillmore St
Sanitorium Rd
Depot St
Maple St
S 6 St
Biscayne Dr
Wash St
N French Rd
Paul Dr
S James St
S Main St
S Birch St
W 6 St
W 7 St
W 8 St
W 9 St
W 10 St
740 ft
736 ft
729 ft
41
441
96
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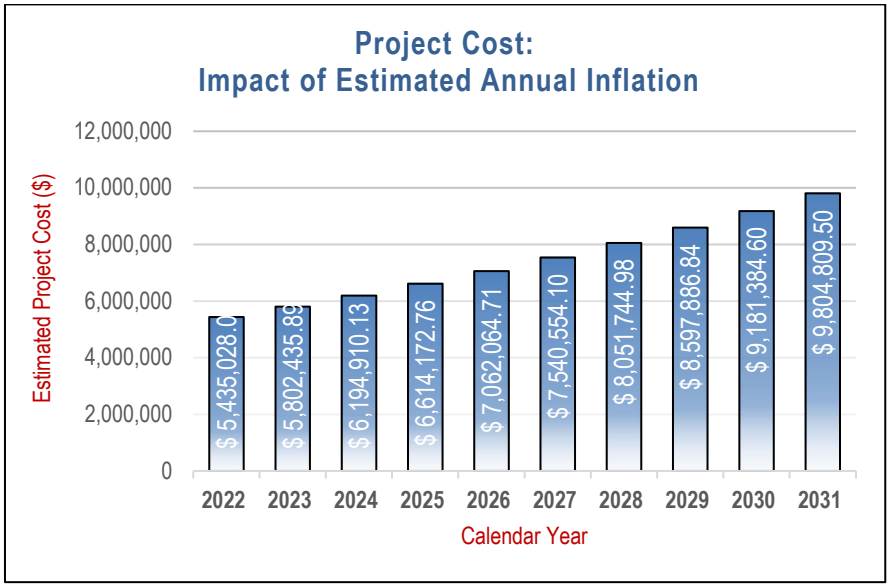
Cost Scenario Based on the recommendation for full replacement of the fire station, the consultant team developed a cost estimate that includes "all in" project costs. The estimate includes the costs to construct the facility (hard costs) in 2024 dollars as well as other associated(soft costs) the Village will incur when designing, constructing and occupying the facility.

Village of Little Chute		
Fire Department		
Apparatus Bay	7,393	s.f.
Office/Admin	10,876	s.f.
EMS	0	s.f.
Parking	60	stalls
Total Areas:		
Fire	18,269	s.f.
Shared Area	0	
Community Room	0	s.f.
Total Area	18,269	s.f.
Cost/s.f.	$250	s.f.
Construction Cost	$4,567,250	
Additional Costs		
Land	TBD	
Design	$319,707.50	
FFE	$91,345.00	
Contingency	$456,725.00	
Total Project Cost:	$5,435,028.00	

Optional Costs:	
Commercial Kitchen	$86,500
Elevator	$125,000
Basement	$208,000
Future 2nd Floor	$191,160

Short and Long Term Recommendations:

Since the infrastructure and physical construction of the building would require several million dollars to make any significant improvements to the facility, it is recommended that the building be replaced. The replacement of this facility should be planned for within the next 2-3 years to maximize the return on investment in terms of the size and quality of the building for the estimated cost for replacement. It should also be noted that based on inflation and cost of materials and labor, for every year the project is delayed, it will cost the Village an additional 7% per year. To illustrate the impact of delaying the construction of a new facility, a table of inflation follows the station analysis on the page that follow this section.


Project Cost:
Impact of Estimated Annual Inflation
Estimated Project Cost ($)
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
$ 5,435,028.0
$ 5,802,435.89
$ 6,194,910.13
$ 6,614,172.76
$ 7,062,064.71
$ 7,540,554.10
$ 8,051,744.98
$ 8,597,886.84
$ 9,181,384.60
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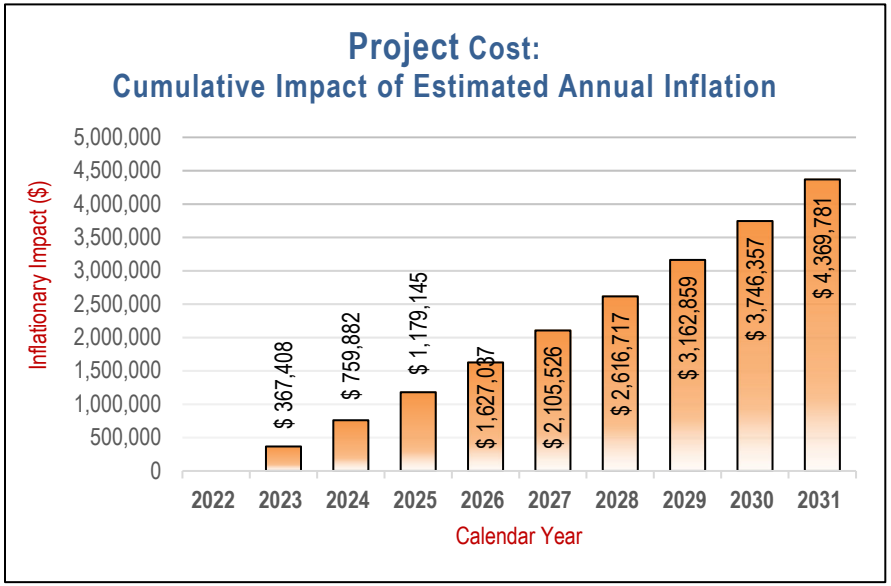
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
Calendar Year


Project Cost:
Cumulative Impact of Estimated Annual Inflation
Inflationary Impact ($)
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
$ 367,408
$ 759,882
$ 1,179,145
$ 1,627,037
$ 2,105,526
$ 2,616,717
$ 3,162,859
$ 3,746,357
$ 4,369,781
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
Calendar Year

CONCLUSION

Conclusion

The Little Chute fire station is an aged facility that is beyond its lifecycle in terms of being an accommodating, accessible, functional and energy efficient modern fire station facility. Based on field observations and careful analysis, it is financially more responsible to replace the facility than to add the necessary area for improved operations, safety, and facility expansion. It **is the recommendation of the consultant team to replace the Little Chute Fire Station completely.** One advantage the Depot Street site offers is the ability to construct a new station independently of the current operations and decommission the current station once the new station is brought on line. Conversations should continue between current land owners of the selected site.

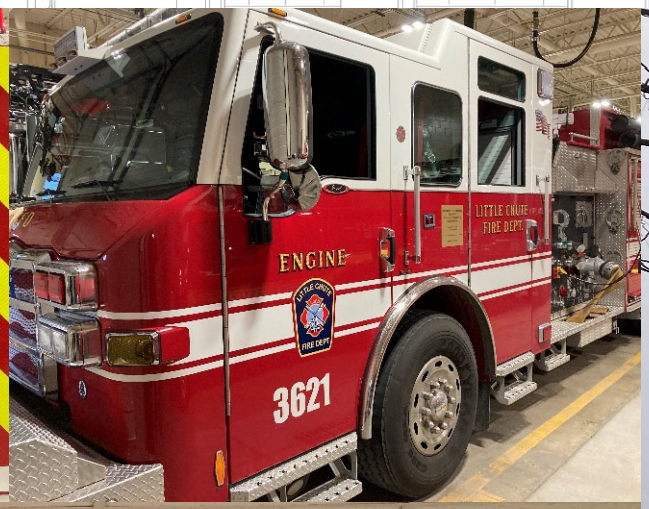
APPENDIX – PROGRESS UPDATE

Village of Little Chute Public Safety Facility Progress Report

SEH
Building a Better World for All of Us®

Little Chute
ESTABLISHED 1848

LITTLE CHUTE, WI JANUARY, 2023



SEH REPRESENTATIVES

TREVOR FRANK
PRINCIPAL AND
PROJECT MANAGER

MARK ZVITKOVITS
PROGRAMMING AND
CAD SUPPORT

CHUCK LEIPZIG
EMERGENCY SERVICES
OPERATIONS PLANNER

AGENDA:

Project Process
Current Challenges
Existing Facility Conditions
Space Programming Requirements
Concept Site Plans & Ranking
Alignment with Previous Studies
Recommendations
Cost Estimate by Preferred Site
Conclusion

APRIL, 2022

PROJECT ACTIVITY

- April 20, 2022
  - *Kick off meeting*
  - *Developed scope and schedule*
  - *Discussed current and future operations, staffing and facility challenges*
  - *Toured the facility and noted conditions, challenges & deficiencies*
  - *Discussed modern Public Safety Facility features- Discussed Ebook published by SEH- “10 Trends”*
  - *Reviewed available sites for development of a station*

MAY, 2022

PROJECT ACTIVITY

- May
  - *Worked with department to develop space needs and program*
  - *Discussed optional features (Training, EOC, Shelter in Place, Etc.)*
  - *Developed block plan layouts to determine adjacencies and building size*
  - *Discussed initial size versus long term expandability*
  - *Gathered input and feedback from fire department committee members*

- June
  - *Discussed the benefit of completing GIS response mapping on potential sites*
  - *Reviewed 5 potential site locations as recommended by LCFD, Administrator*
  - *Reviewed the space program with the department committee and Administrator*
  - *Narrowed the site selection to the available site locations after discussions with land owners*
  - *Gathered input and feedback from fire department officers and staff*

JULY/AUGUST/SEPTEMBER, 2022

PROJECT ACTIVITY

- July
  - *Provided heat mapping and response time diagrams for site location consideration*
  - *Discussed the advantages/disadvantages of the 5 selected sites*
  - *Ran heat mapping and response time data for all sites including existing FD location*
  - *Administrator met with property owners to discuss potential land costs*
- August/September
  - *Discussions with OC Highway Dept. staff and Commissioner regarding OO site impacts*
  - *Discuss setbacks, restrictions and recommended intersection/roadway improvements by OC Highway Dept. with LCFD committee*
  - *Gather consensus for preferred site locations from LCFD committee members*
- October/November
  - *Continued discussions with landowners on preferred sites*
  - *Development of materials for Village Board update presentation*

FACILITY DEFICIENCIES

FIRE DEPARTMENT

- Physical Space Constraints
  - *Equipment size and building limitations*
  - *Trailers and equipment parked outside*
  - *Limited expansion on current site*
  - *Lack of training and meeting facilities*
  - *Proximity to school*
- Health and Safety Concerns
  - *NFPA 1710- minimize response time*
  - *NFPA 1500 and 1851- carcinogen mitigation*
  - *NFPA 1500- physical and mental well-being*
- No Accommodations for a Changing Workforce
  - *No gender specific facilities*
  - *Lack of ADA accessibility*

FACILITY CONDITIONS

FIRE DEPARTMENT

- Physical Space Constraints
  - *Equipment size and building limitations*
  - *Trailers and equipment parked outside*
  - *Limited expansion on current site*
  - *Lack of training and meeting facilities*
  - *Proximity to School*
- Health and Safety Concerns
  - *NFPA 1710- minimize response time*
  - *NFPA 1500 and 1851- carcinogen mitigation*
  - *NFPA 1500- Physical and mental well-being*
- No Accommodations for a Changing Workforce
  - *No gender specific facilities*
  - *Lack of ADA Accessibility*

SPACE NEEDS

PUBLIC SAFETY FACILITY

Project: Village of Little Chute Fire Station Programming
Revisions:

Location: Little Chute, WI
Date: 4/20/22

FIRE DEPARTMENT APPARATUS

Apparatus Room							7,393
Number of Bays		3	4	5	6	7	8
		Length					
		80	104	128	152	176	200
Depth	60	4800	6240	7680	9120	10560	12000
	80	6400	8320	10240	12160	14080	16000
	100	8000	10400	12800	15200	17600	20000

4,590	Total Apparatus Room

Fire Department Program	Length	x	Width	=	Sq. Ft.	Quantity	Totals	Notes
Engines	40	x	16	=	640	2	1280	
Ambulances	35	x	12	=	420	1	420	
Ladder/Snorkel	60	x	16	=	960	1	960	
Special Operations Vehicle	75	x	16	=	1200	0	0	Pick up coming in 2025
Boat/trailer	24	x	12	=	288	1	288	
Heavy Rescue	30	x	12	=	360	1	360	
Haz Mat	75	x	12	=	900	0	0	
ATV/trailer	24	x	12	=	288	1	288	
Staff Cars	25	x	12	=	300	1	300	
Fuel spill trailer	10	x	10	=	100	1	100	
Tanker/Tender	40	x	16	=	640	0	0	
Brush Buggy	20	x	10	=	200	0	0	
Survive Alive	25	x	12	=	300	0	0	
Dive Team Trailer	10	x	25		250	0	0	
Dive team Van	10	x	30	=	300	0	0	
Automated Truck Wash	50	x	20	=	1000	0	0	

3996	Subtotal
3,397	Efficiency Ratio of 85%
7,393	Fire Department Program

- Fire/EMS Station Program
  - *18,269 s.f. fire and EMS station*
  - *5 apparatus bays (Future bay for site planning purposes)*
  - *45,000 s.f. site*
  - *Addresses the deficiencies currently cited*
  - *Designed with flexibility for future expansion (Fire Based EMS, Full time staff and living quarters)*
- Alternate Functions
  - *Community Room*
  - *Commercial Kitchen*
  - *Basement*
  - *2nd floor (on required sites)*
  - *Elevator*

STATION FEATURES

MODERN PUBLIC SAFETY FACILITY

- Similar New Facilities
  - *18-20,000 s.f. fire and EMS station*
  - *Efficient floor plan layout*
  - *Hot/Warm/Cold zone design*
  - *Adequate storage*
  - *Built-in training props*
  - *Addresses the needs of current facilities to make them future proof*
  - *Designed with flexibility for future expansion (Fire Based EMS, Full time staff and living quarters)*
  - *Site layouts for drive-through apparatus and maximize land use for future expansion*

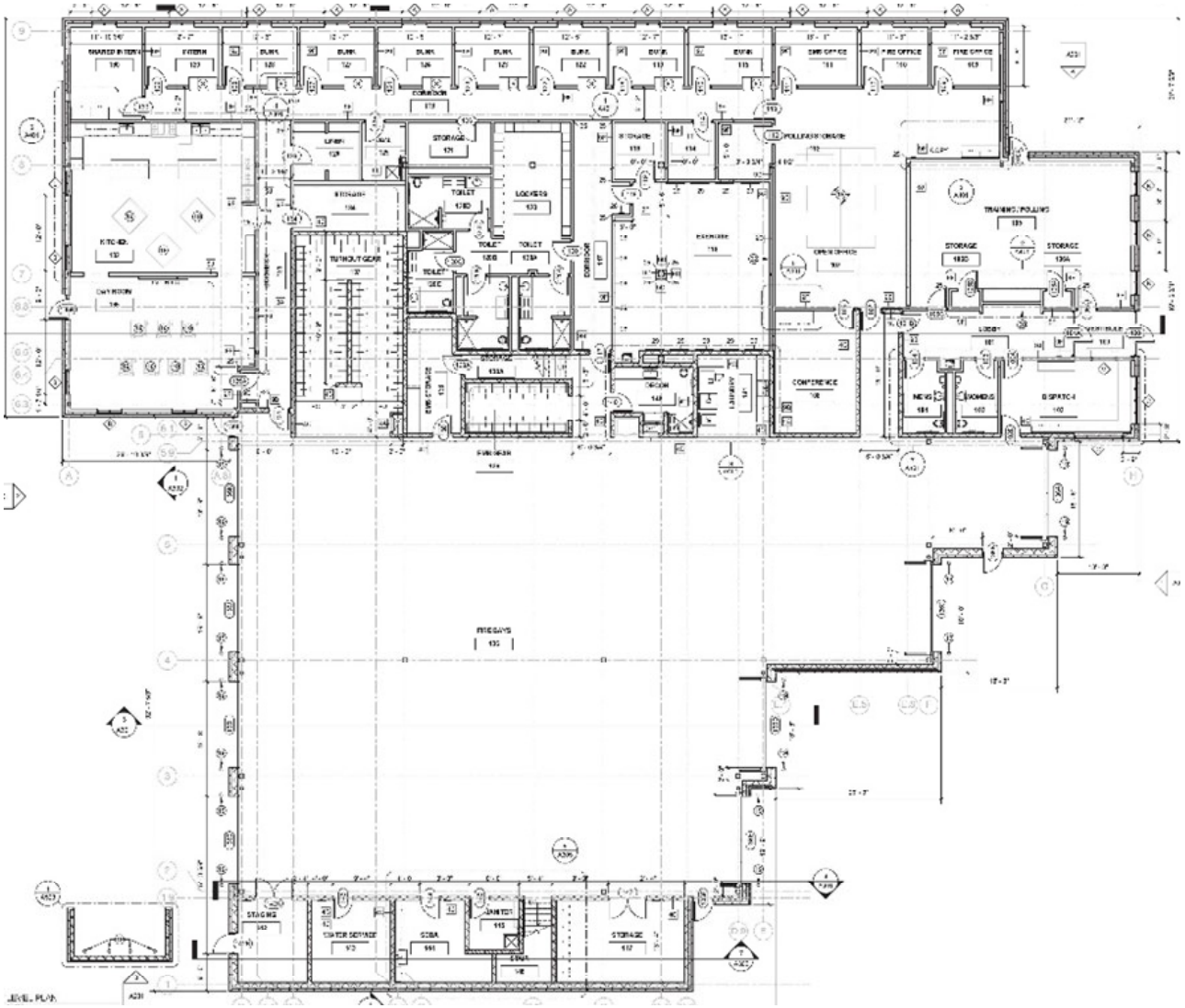
SPACE NEEDS

MODERN PUBLIC SAFETY FACILITY

- Hot Zones: terminology used to denote hazardous occupancies- carcinogen and pathogen laden areas
- Warm Zones: terminology used to denote transition areas used to clean personnel/gear
- *Cold Zones: terminology used to identify clean areas physically separated from contaminated zones*

SPACE NEEDS

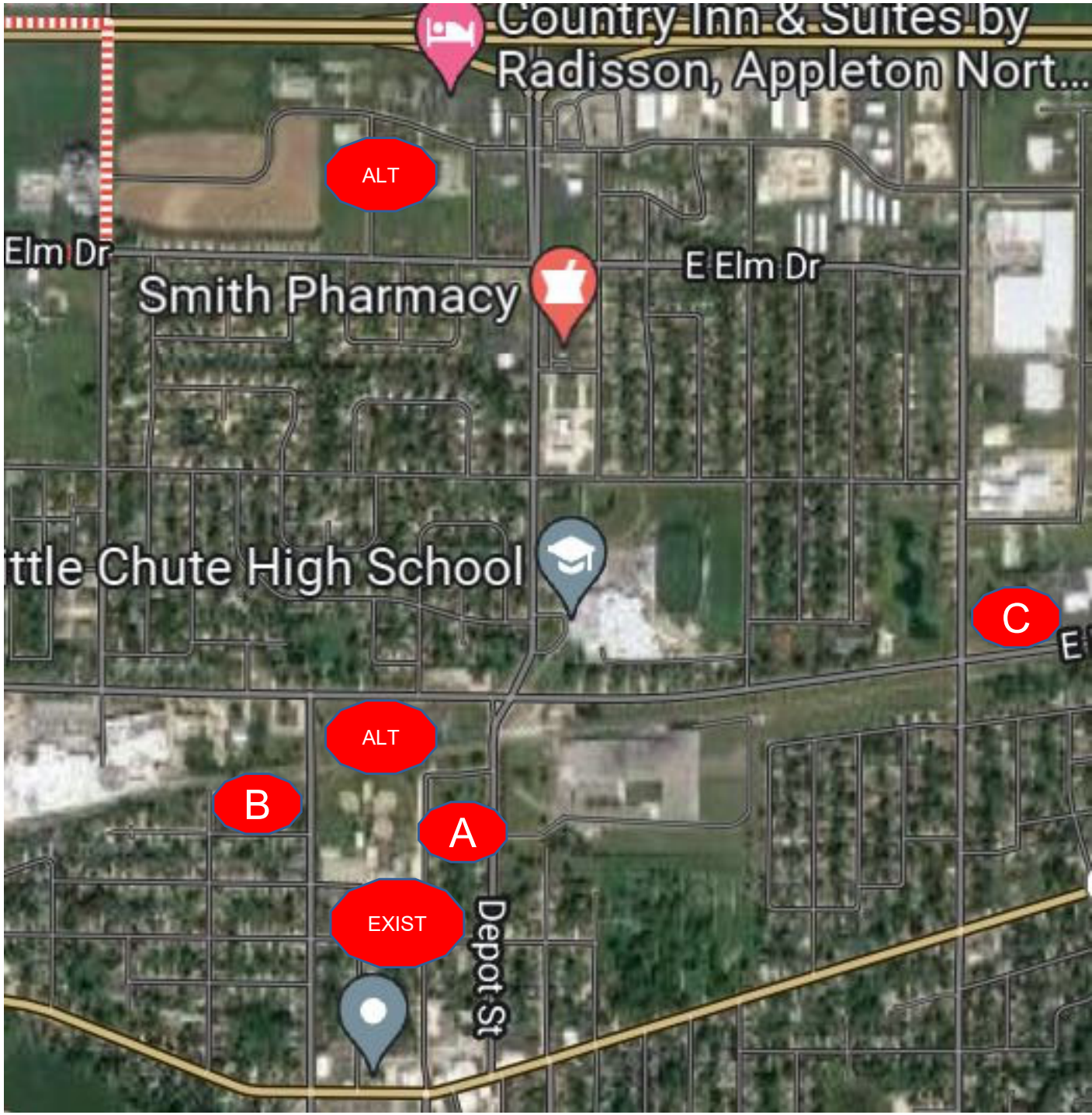
MODERN PUBLIC SAFETY FACILITY



SPACE NEEDS

MODERN PUBLIC SAFETY FACILITY

SITE LOCATION AND TEST FITS



SITE PLAN EXPLORATION

SITE TEST FITS- EXISTING SITE

- Existing Site: Opportunities
  - *Good central location and response times to the service area*

Existing: Challenges

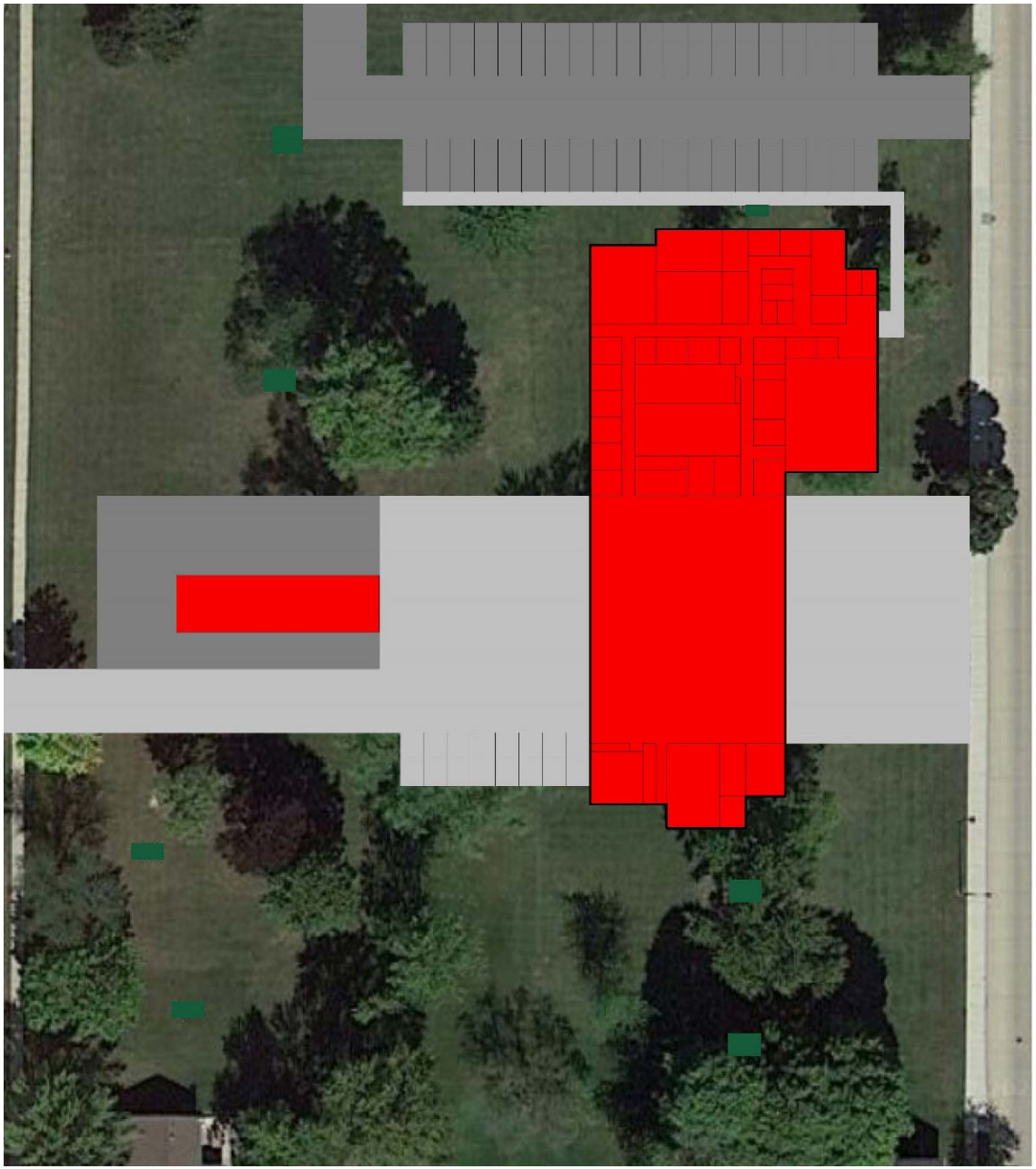
- *Proximity to school*
- *Challenges at peak response times*
- *2-story building addition required for admin areas, no truck floor expansion*
- *Limited ability to expand to North, East or West*
- *No ability for future phasing of construction and expansion of future building/site/training areas*

Existing: Overall Ranking

- *Not ranked by the LCFD Fire Station Committee due to inability to expand and location*

SITE PLAN EXPLORATION

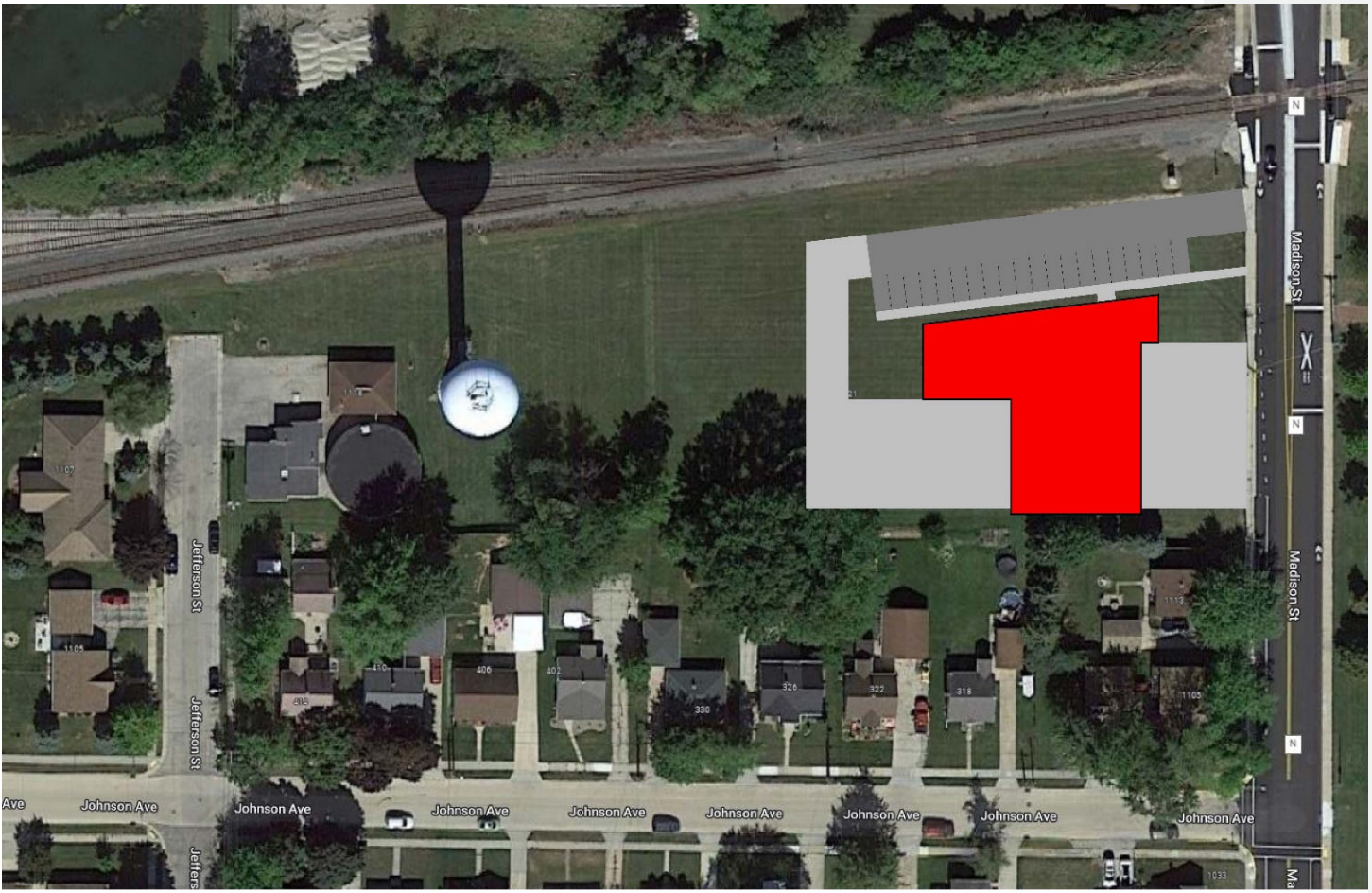
SITE TEST FITS SITE "A"



- Site A: Opportunities
  - *Discussions with Owner were encouraging*
  - *Good central location and response times to the service area*
  - *Allows for phasing of construction and expansion of future building/site/training areas*
  - *Good access and visibility*
  - *Good proximity to rail crossing*
  - *Large site to accommodate 1 story building*
  - *Drive-through access*
  - *No roadway improvement costs*
  - *Village control of adjacent roadway/streets*
- Site A: Challenges
  - *Perception of still being in close proximity to school*
  - *May require parking restrictions on adjacent streets*
- Site A: Overall Ranking
  - *Unanimously ranked #1 by the LCFD Fire Station Committee*

SITE PLAN EXPLORATION

SITE TEST FITS SITE “B”



SITE OPTION 2

Site B: Opportunities

- *Potential Drive-Thru Access*
- *Good central location and response times to the service area*
- *Drive-through access*

Site B: Challenges

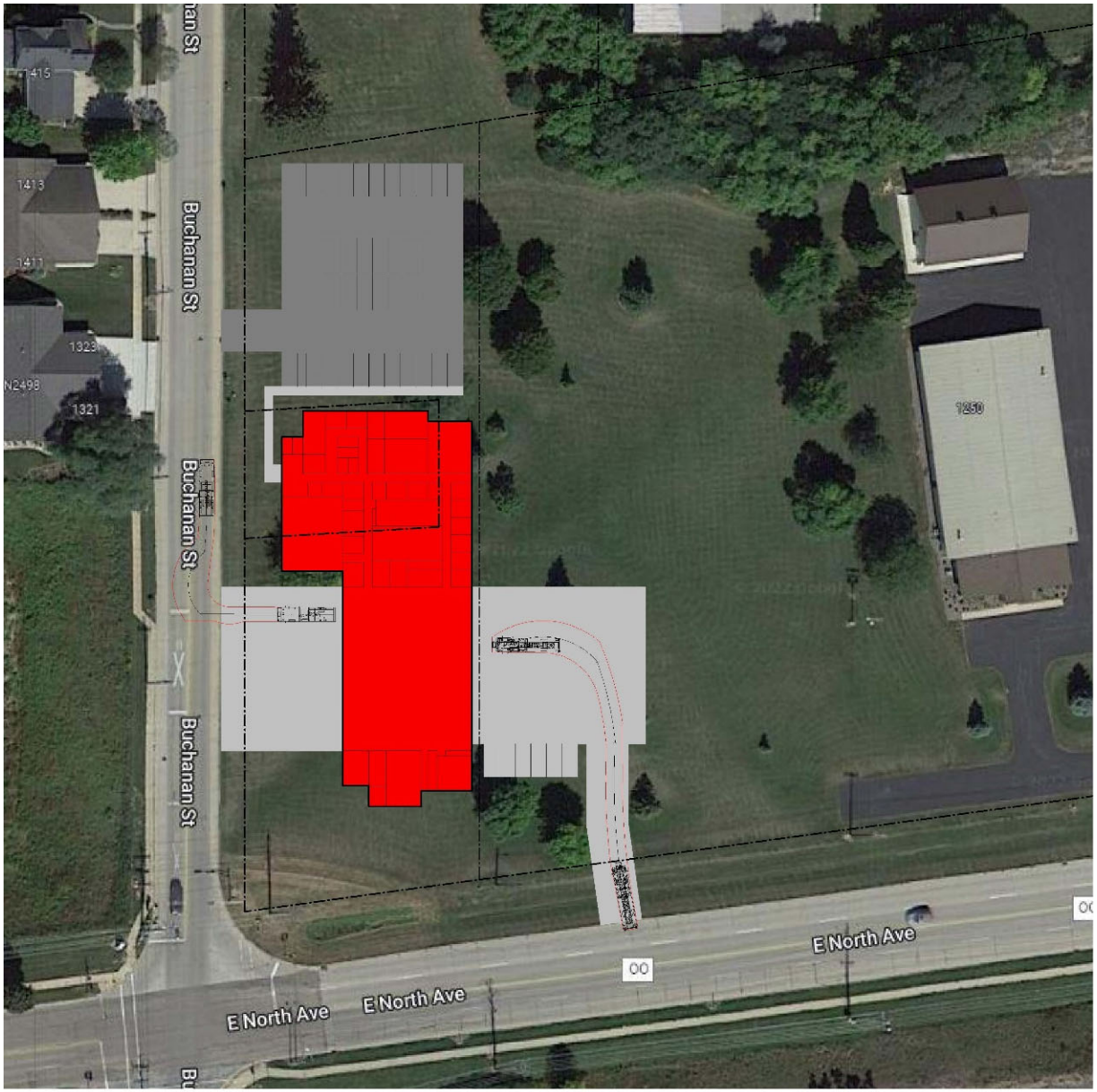
- *Proximity to rail crossing and quiet zone median challenges*
- *Adjacency to rail line and noise issues*
- *2-story building required to fit on site*
- *Water tower “drop zone” restrictions*
- *Poor visibility to North*
- *Rear site access would require significant pavement*
- *Future phasing of construction and expansion of future building/site/training areas difficult due to site restrictions*

Site B: Overall Ranking

- *Unanimously ranked #3 by the LCFD Fire Station Committee*

SITE PLAN EXPLORATION

SITE TEST FITS SITE "C"



SITE OPTION 1

- Site C: Opportunities
  - *Discussions with owner was encouraging*
  - *Future location to serve expanded Village area*
  - *Allowed for phasing of construction and expansion of future building/site/training areas (with acquisition of additional property)*
  - *Drive-through access*
- Site C: Challenges
  - *Proximity to Buchanan Road/OO intersection*
  - *OC County Highway restrictions- Additional turn lanes/pavement, traffic control, setbacks and curb cuts $150,000-$200,000 added cost for site improvements*
  - *Added site development costs*
  - *Currently in the far North and East service area*
  - *Traffic cueing along Buchanan*
  - *Farther away from commercial core and older building stock*
- Site C: Overall Ranking
  - *Unanimously ranked #2 by the LD Fire Station Committee*

SITE PLAN EXPLORATION

ALTERNATE SITES

- Alternate Sites
  - *Eliminated early in the process*
  - *Unwilling sellers*
  - *Highly valuable tax base property*

SITE PLAN EXPLORATION

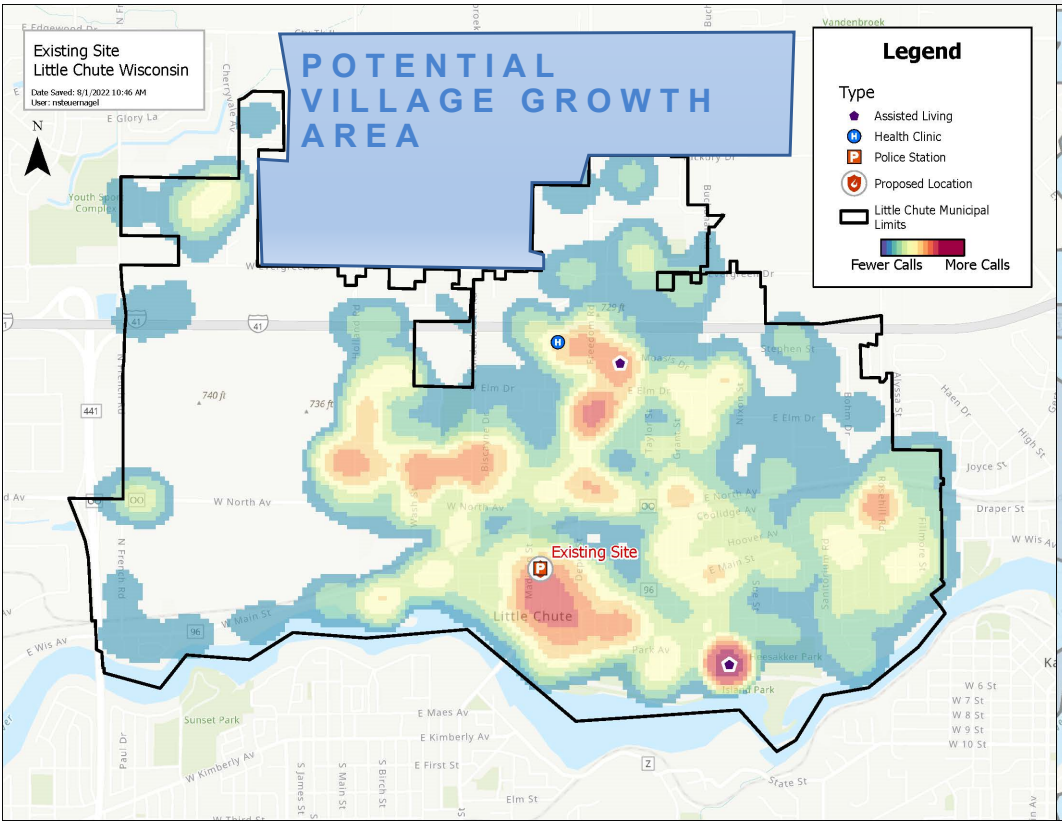
ALTERNATE SITES

- Alternate Sites
  - *Eliminated early in the process*
  - *Unwilling sellers*
  - *Highly valuable tax base property*

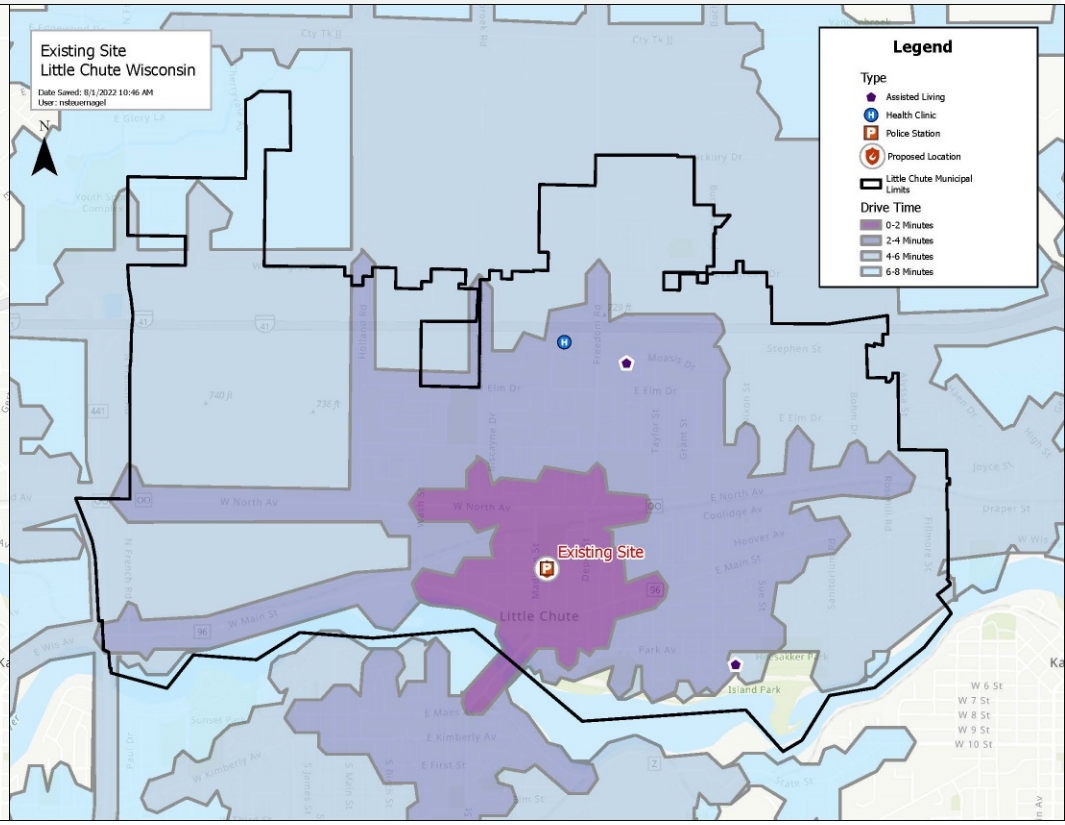
HEAT MAPPING

RESPONSE TIME MAPPING BASED ON INCIDENT RESPONSE AND COMMUNITY GROWTH

- Long Term Growth Considerations:
  - *Aged residential and commercial property in / near downtown core*
  - *High population and risk occupancy facilities in/near downtown*
  - *Future village expansion to the north & east*
  - *Future buildings likely fire protected*
  - *Response times to north within NFPA/ISO recommendations*



EXISTING SITE HEAT MAP

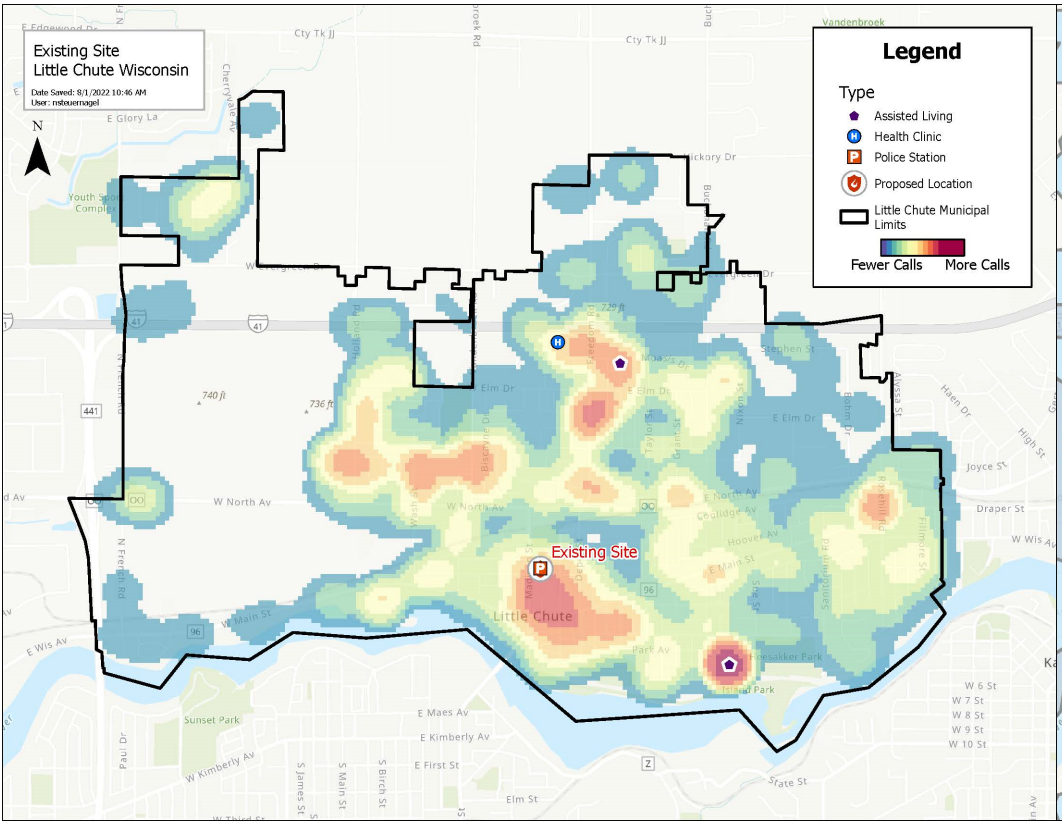


EXISTING SITE RESPONSE TIME

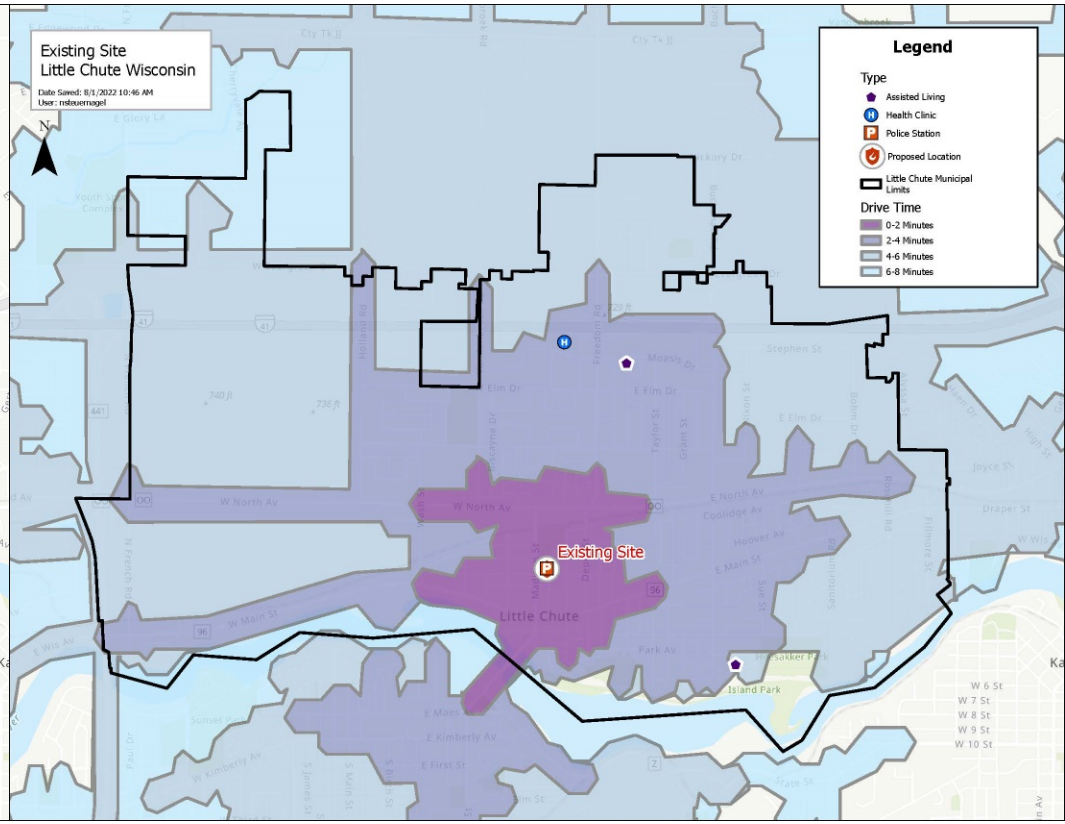
HEAT MAPPING

RESPONSE TIME MAPPING BASED ON INCIDENT RESPONSE EXISTING SITE

- Response time mapping
  - *Based on 2,9072 calls*
  - *Data analyzed from 2013-2022*
  - *Time lapse response time ran from all sites*
  - *No significant response time difference between the 3 sites*



EXISTING SITE HEAT MAP



EXISTING SITE RESPONSE TIME

HEAT MAPPING

RESPONSE TIME MAPPING BASED ON INCIDENT RESPONSE

- Response time mapping
  - *Based on 2,9072 calls*
  - *Data analyzed from 2013-2022*
  - *Time lapse response time ran from all sites*
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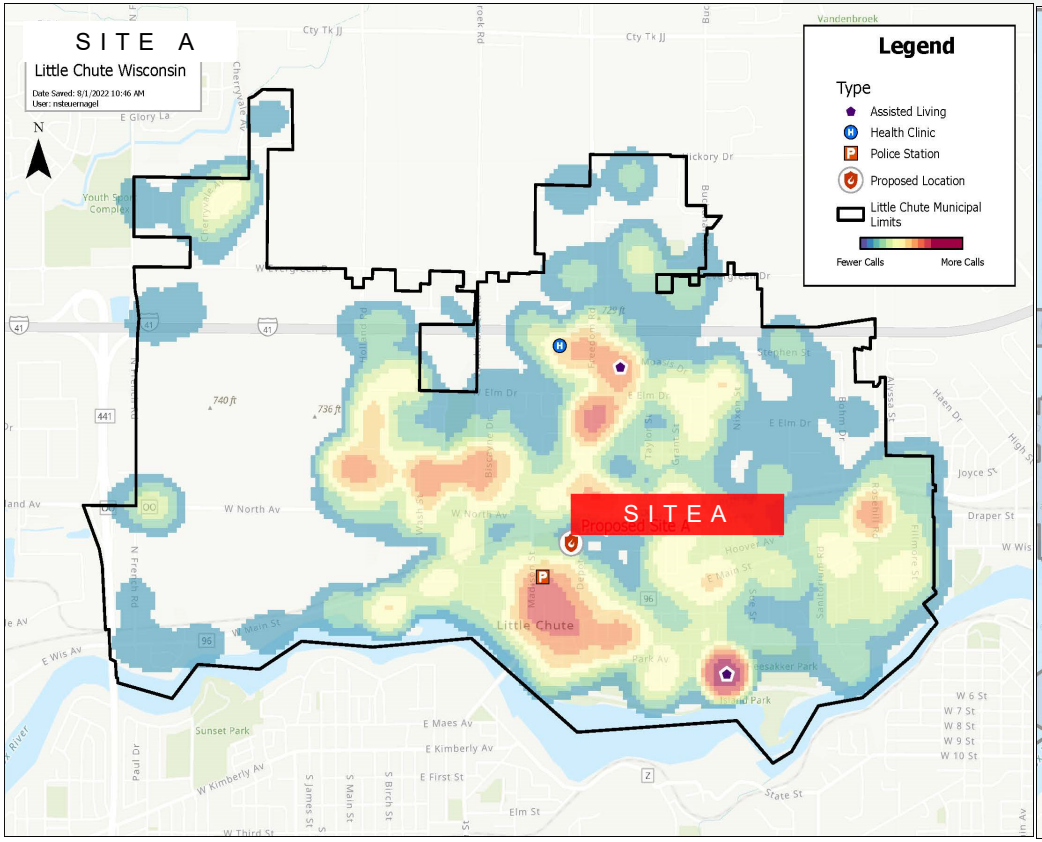
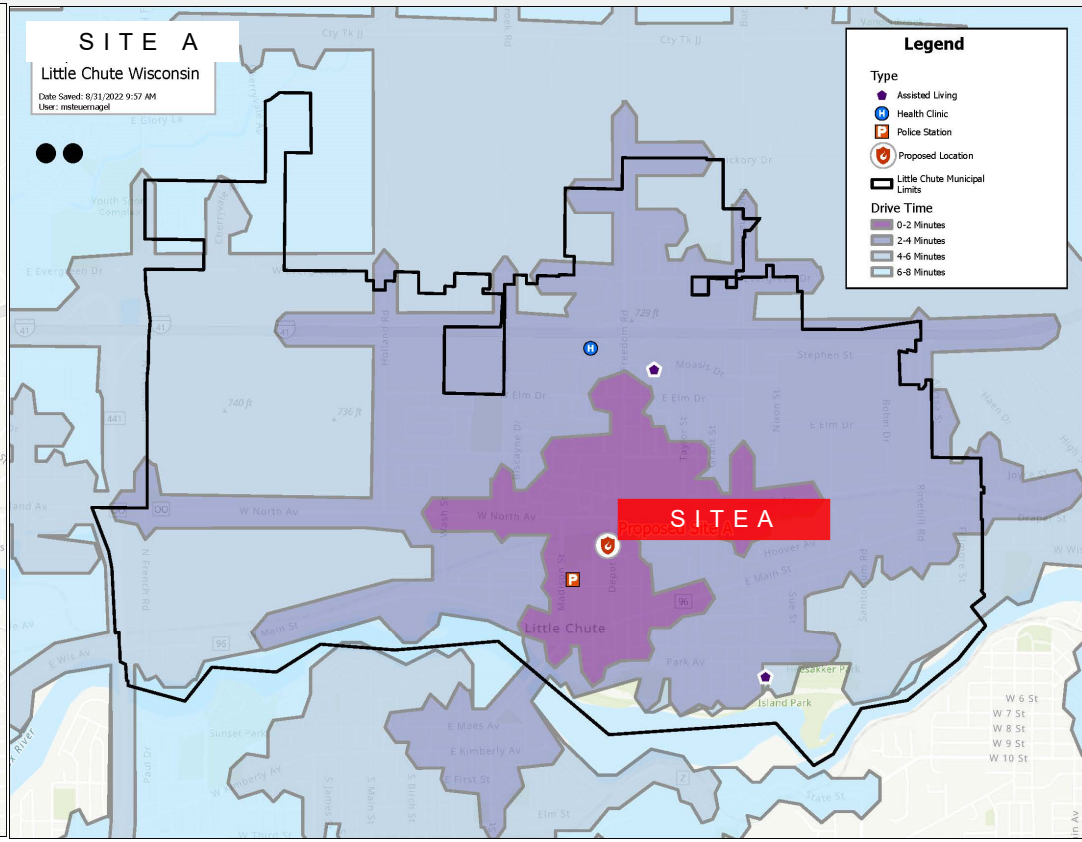


SITE1: WATER TOWER HEAT MAP

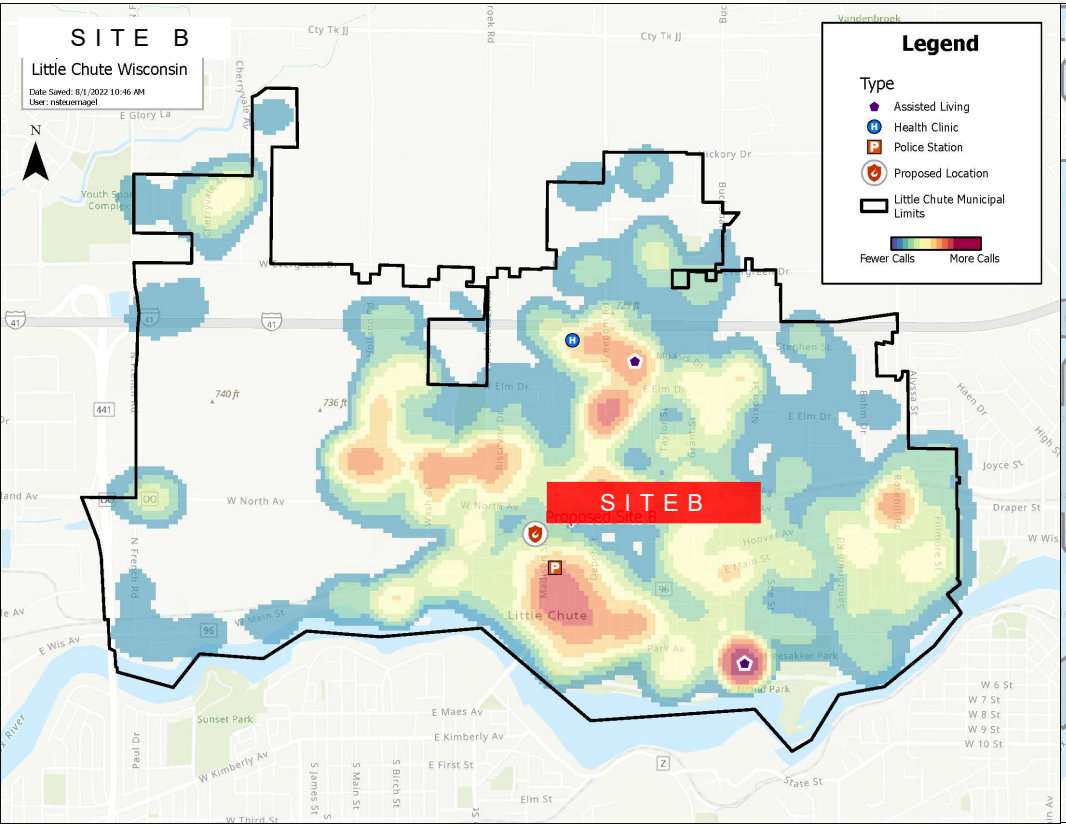


SITE1 WATER TOWER RESPONSE TIME

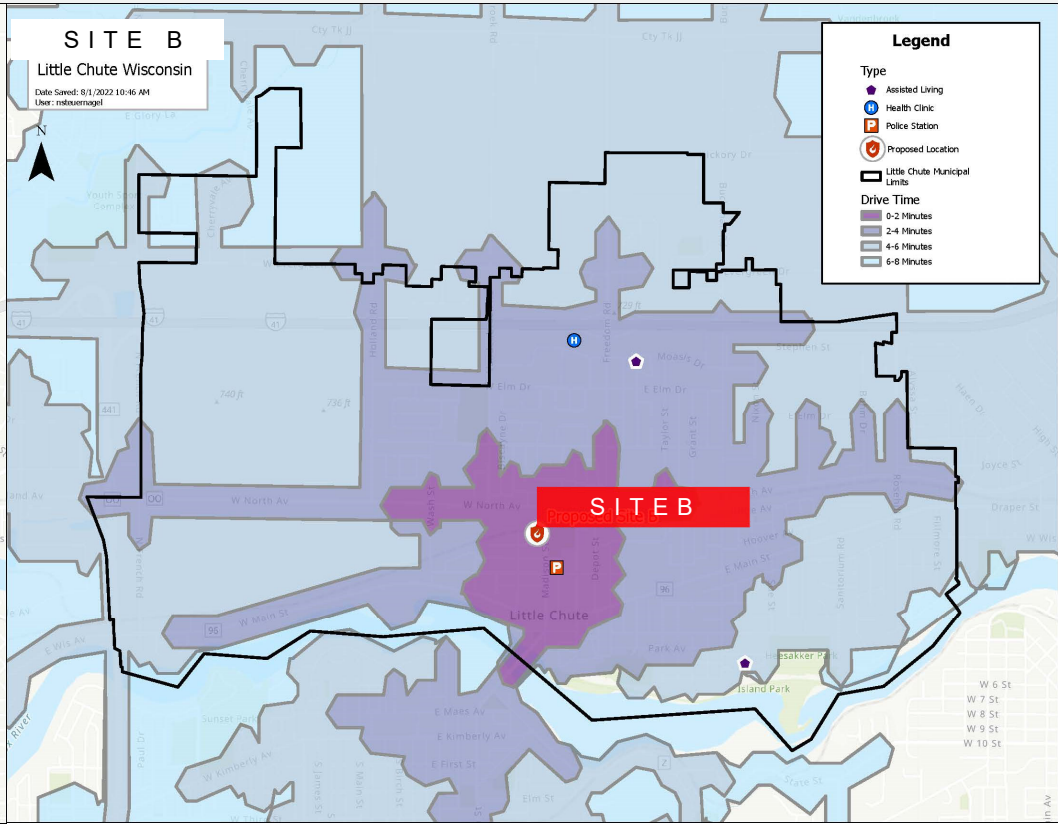
HEAT MAPPING

RESPONSE TIME MAPPING BASED ON INCIDENT RESPONSE

- Response time mapping
  - *Based on 2,9072 calls*
  - *Data analyzed from 2013-2022*
  - *Time lapse response time ran from all sites*
  - *No significant response time difference between the 3 sites*



SITE2: BUCHANAN HEAT MAP

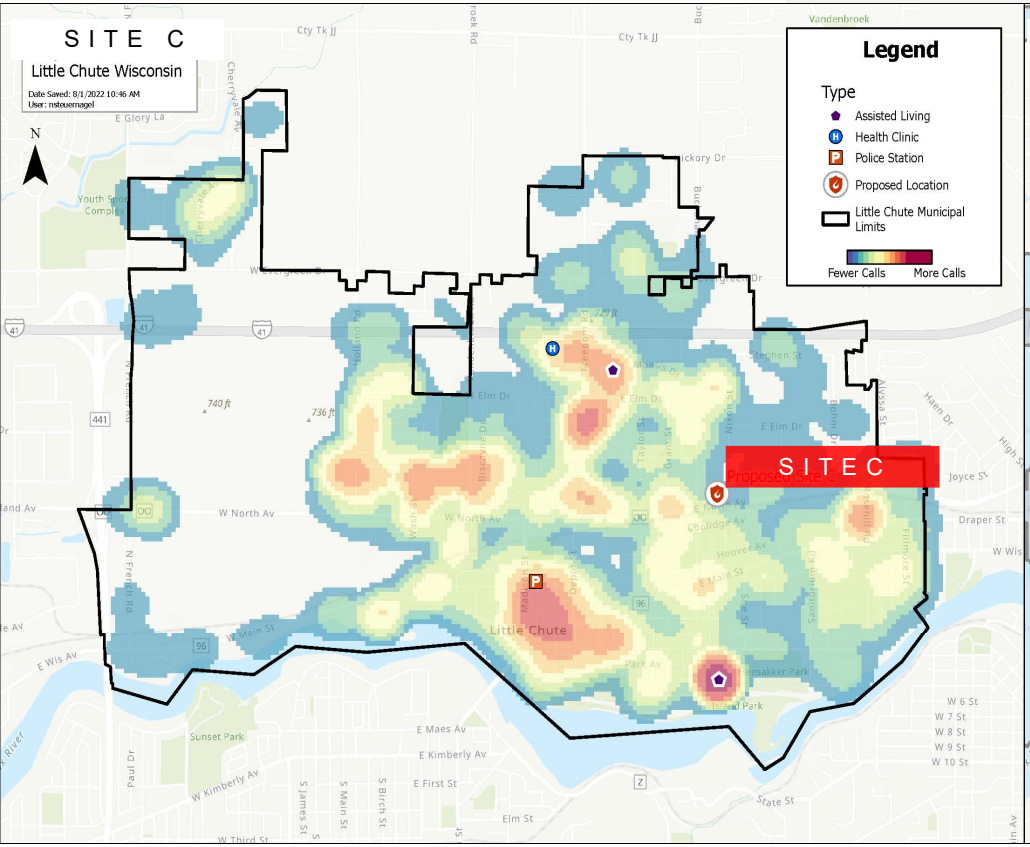


SITE2: BUCHANAN RESPONSE TIME

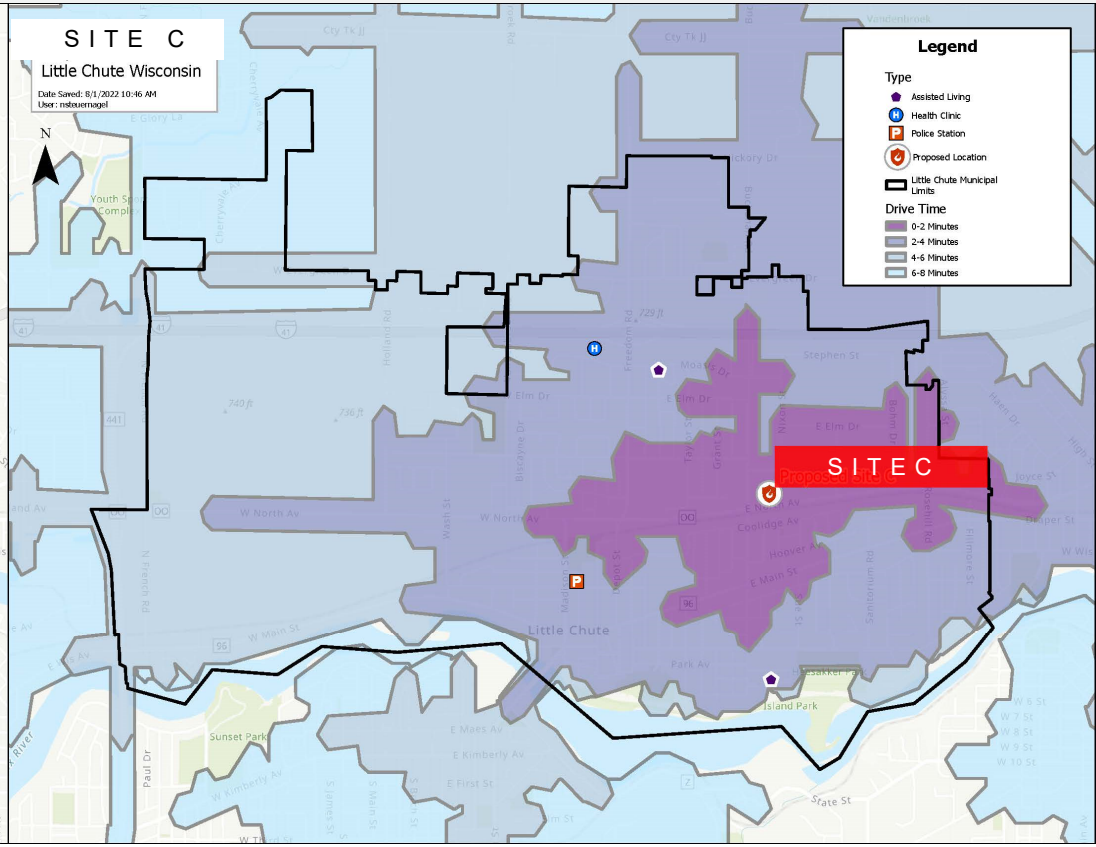
HEAT MAPPING

RESPONSE TIME MAPPING BASED ON INCIDENT RESPONSE

- Response time mapping
  - *Based on 2,9072 calls*
  - *Data analyzed from 2013-2022*
  - *Time lapse response time ran from all sites*
  - *No significant response time difference between the 3 sites*



SITE3: DEPOT ST. HEAT MAP



SITE3: DEPOT ST. RESPONSE TIME

PREVIOUS STUDY ALIGNMENT

2010 CONSULTANT REPORT ON VILLAGE FACILITIES

- Alignment:
  - *Program size: 17-18,000 s.f.*
  - *Similar layout*
  - *Site location (A preferred site)*
  - *Architectural aesthetics (Permanent materials)*
  - *HVAC and in-floor heat*
  - *Future expansion for bunk rooms and full-time department amenities*

Recent study changes

- *Cancer prevention through environmental design*
- *Gender neutrality- non separated locker/shower rooms*
- *Kitchen size and functionality*
- *Interior circulation and response*
- *Previous Cost Estimate- $170/ s.f. (2010) $3.4 Million*
- *Current Cost Estimate $225-250/s.f. (2022) $5.4 Million*

ALL-IN PROJECT COSTS

REVISED 11/1/22

Village of Little Chute

Fire Department		
Apparatus Bay	7,393	s.f.
Office/Admin	10,876	s.f.
EMS	0	s.f.
Parking	60	stalls
Total Areas:		
Fire	18,269	s.f.
Shared Area	0	
Community Room	0	s.f.
Total Area	18,269	s.f.
Cost/s.f.	$250	s.f.
Construction Cost	$4,567,250	
Additional Costs		
Land		
Design	$319,707.50	
FFE	$91,345.00	
Contingency	$456,725.0	
Total Project Cost:	$5,435,028	

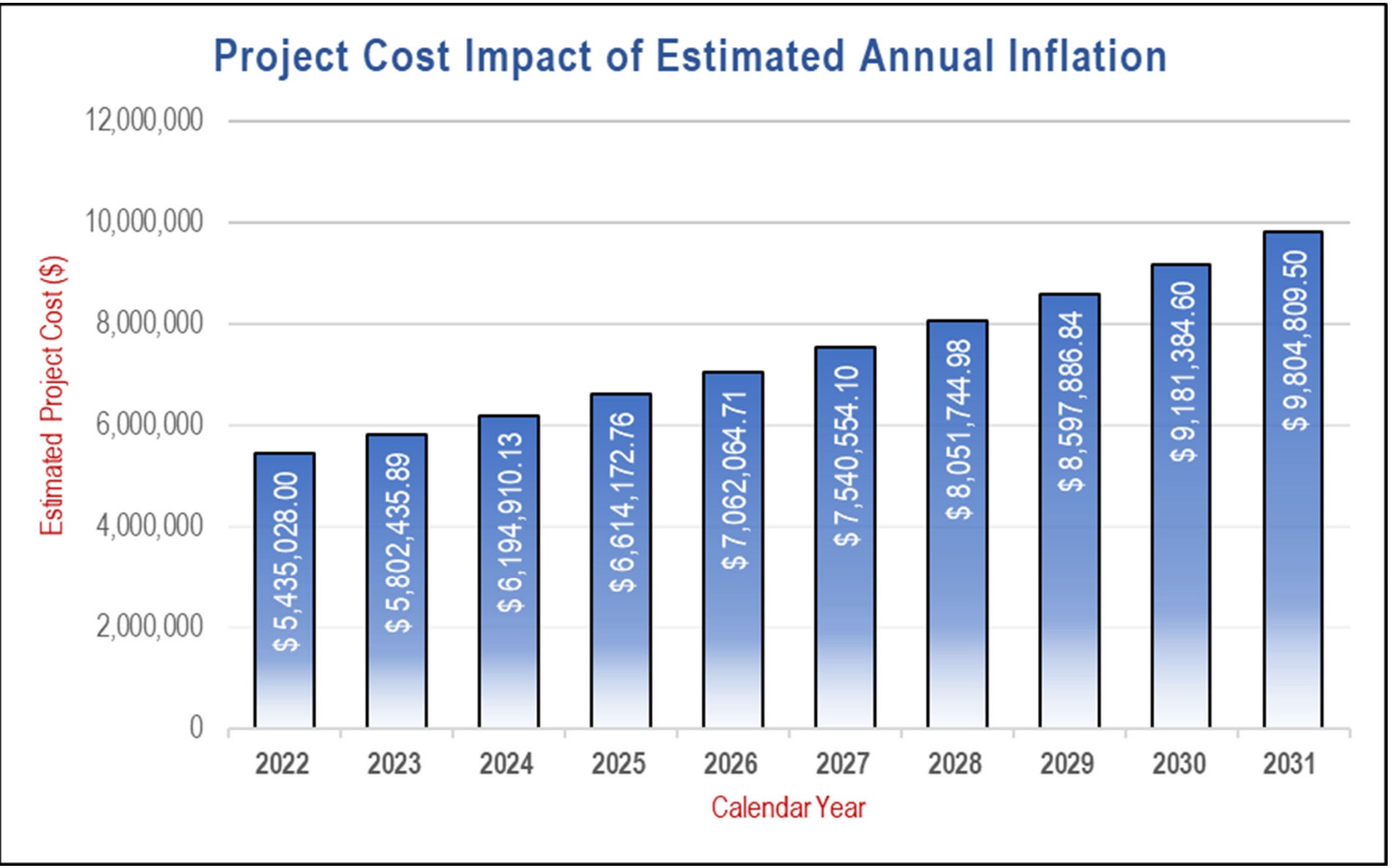
Optional Costs:	
Commercial Kitchen	$86,500
Elevator	$125,000
Basement	$208,000
Future 2nd Floor	$191,160

- Land value by site:
  - *Site A: $352,000**
  - *Site B: $126,700**
  - *Site C: $418,100**

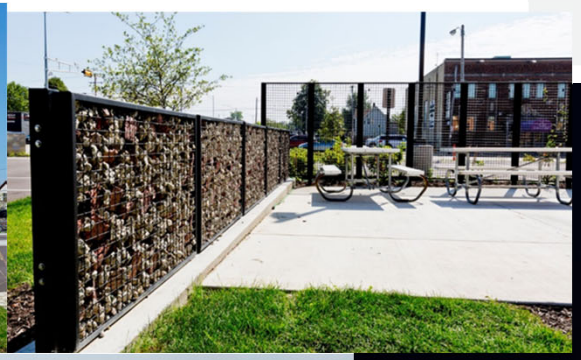
** Based on fair market value- Source: OC Land Records*

- Cost Estimates
  - *Cost per square foot estimates*
  - *Calculated using current construction cost data*
  - *Added contingency assuming 2025 construction costs*
  - *Broke the alternate amenities out separately for consideration*
  - *Included "all-in" project costs for design, furnishings, permitting*
  - *Practical cost-effective long-term low maintenance buildings that can be expanded over time*

THE COST OF POSTPONING A PROJECT

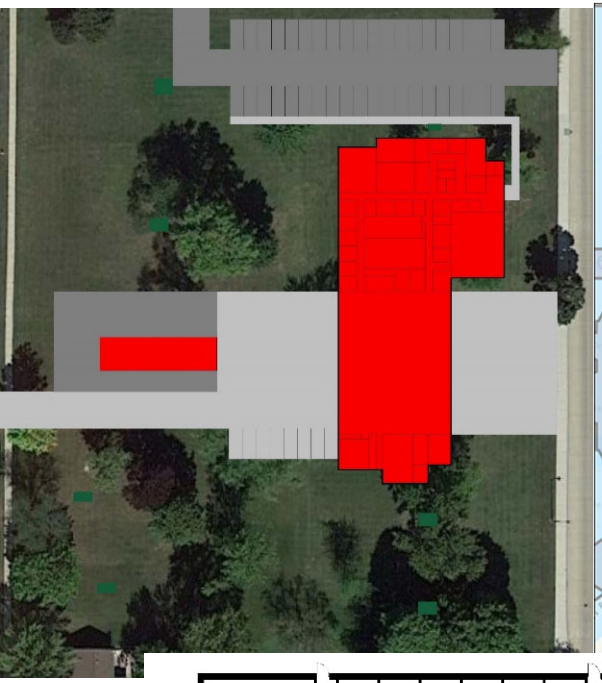


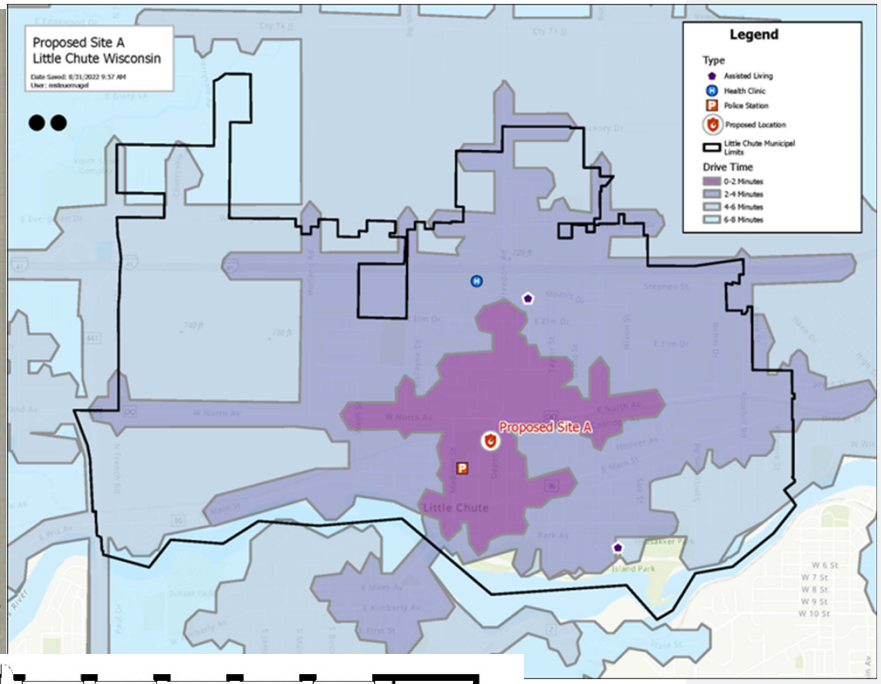
COMMUNITY BENEFITS TO A NEW FACILITY



- Benefits
  - *Set the Village up to accommodate future expansion of the Village (North/West)*
  - *Expand and enhance the Emergency Services in the Village*
  - *Aid in recruitment/retention*
  - *Further develop a sense of pride in the community*
  - *Create a gateway to downtown*
  - *Provide an opportunity for community support and donation*

2022 CONSULTANT REPORT ON FIRE STATION FACILITY





- Recommendations
  - *Secure property (Site A preferred site)*
  - *Design new facility 2024*
  - *Construct new facility 2025*
  - *Re-purpose existing FS- expand Metro PD 2026*
  - *Plan future expansion for bunk rooms and full-time department amenities (As required by department growth TBD)*

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