



City Council Memorandum

To: Mayor Fasbender & City Council Members

From: John Townsend, Fire Chief

Date: January 22, 2024

Item: Approve Agreement with CNH Architects for Space Needs Study

Council Action Requested:

Approve agreement with CNH Architects for space needs study.

Background Information:

The department has grown in both staffing size and model. This study will look to the needs of the department and the impact on future growth.

Financial Impact: 2024 budgeted item

Advisory Commission Discussion: N/A

Council Committee Discussion: N/A

Attachments: 1. Agreement

YOUR SUCCESS IS OUR INSPIRATION.



JANUARY 12, 2024

SUMMARY



EXECUTIVE SUMMARY

CNH Architects is a full-service architectural firm providing architectural and interior design, and along with our consulting engineers and designers, we provide engineering, landscape architecture, and other specialties. Our clients include corporate, commercial, manufacturing, recreational, and government agencies. Principals Wayne Hilbert, Quinn Hutson, and Brooke Jacobson are directly responsible for all design work.

CNH Architects has a staff with advanced training and certification in several areas including Certified Interior Designers, Certified Construction Specifiers, LEED Accredited Professionals, NCARB certifications, and Construction Document Technologists.

With an efficient project team and more than 50 years of experience, CNH Architects has a strong reputation for well thought-out design plans and personal attention to client requirements. CNH stresses strong design, quality contract documents, close communications with clients, and an intense field review and follow-up program. We are organized to assume full, single source responsibility for a thoroughly integrated and cost effective service. From a project's beginning - program, budget, and schedule are established - and a team of experts is assembled under the principal and project manager to assure that elements are addressed, questions answered, and the design and construction process is fully coordinated. A growing list of satisfied and repeat clients is testimony to the discipline and persistence of an organization that will not settle for partial success.

Over the last several years, CNH Architects has worked on construction projects which total between 60-70 million dollars annually. Our projects have varied including city, county, and state work, along with private sector clients.

Sustainable design is an integral part of our practice. A majority of our professional staff has LEED accreditation and our office designed the first Green Globe projects in Minnesota. Green Globes is a third party national verification system as administered by the Green Building Initiative.

COMPOSITION OF FIRM

Architects	6
Interior Designers	2
Designers	4
Marketing/Communications	1
Accounting	1

OWNERSHIP

CNH Architects is organized as a corporation. Founded in 1969, the corporation is privately owned with the stock held by Principals Wayne Hilbert, Quinn Hutson, and Brooke Jacobson, along with Senior Associates Al Tsai and Timothy Nielsen.

OBJECTIVES



MENTAL & PHYSICAL HEALTH

Higher Standards: While carcinogen reduction is critical, CNH Architects believes firefighter mental health should be a cornerstone of today's fire station design. CNH's design team has set a new, higher standard for mental health features as seen in their recent fire station projects.

Space for Reflection: CNH Architects designs include the development of spaces in and outside of the station for quiet reflection including interior wellness rooms and exterior meditation plazas and patios.

Sound Separation: Multiple layers of sound isolation maximize firefighter sleep. Development of a "dorm suite" design reduces sleep disruption between firefighters during the night and at shift change.

Mental Release: Comprehensive fitness areas for improved physical conditioning and mental release include both interior and connected exterior physical training areas.

Lighting: The "startle response" uses ramped lighting and paging systems while lighting design also maintains firefighter night vision as they progress from dorm room to apparatus bay. Use of circadian lighting within residential areas reinforces natural sleep cycles and promotes relaxation. Throughout the day, the color temperature of the light changes to mimic the natural lighting outside.

- Morning light tends to be warmer in color and helps promote waking up.
- Midday light is cooler in color and helps promote high alertness.
- Evening light tends to be warmer in color and helps promote relaxation.



TRAINING ELEMENTS

Fire Training: There are many benefits to providing training opportunities within a fire station design. These include reduced external training costs, increased training availability, and maintaining firefighter availability for calls during training sessions.

Elements Include:

- | | |
|--|---------------------------|
| Ground Ladder Training/Evolutions | Forcible Entry Prop |
| Confined Space Rescue | High Rise Training |
| Hose Advancement/Stairwell Evolutions | Search & Rescue Maze |
| Hose Advancement – Hydrant/FDC | Vehicle Extraction Plaza |
| Fire Attack | Aerial Ladder Truck |
| Wall & Floor Breach | Exterior Rappelling |
| Advanced Technical Rescue (Rope Rescue/Rappelling) | Alarm Panel Training |
| Positive Pressure Ventilation & Vertical Ventilation | Sprinkler System Training |



OBJECTIVES



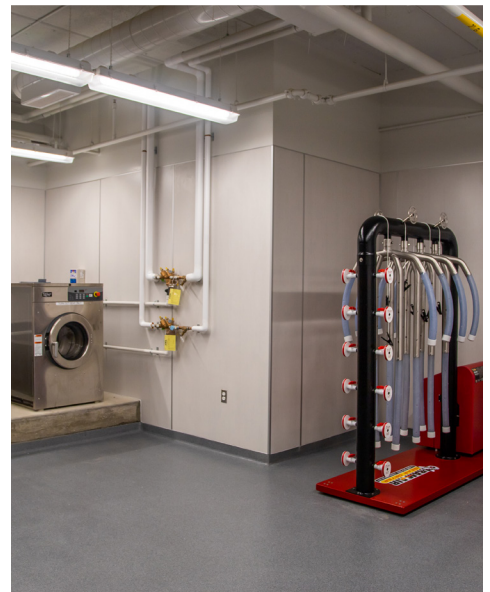
TOXIN REDUCTION

Reducing Exposure: Cancer is a leading cause of death among firefighters due to the toxins they are exposed to while fighting fires. CNH Architects' staff are experts on fire station zoning and have developed and implemented working strategies to reduce exposures to harmful chemicals for a variety of new and remodeled stations.

Carcinogen Reduction: Zoning the fire station based on carcinogen risk is critical in improving firefighter health. Approaches include providing enclosed turnout gear rooms and careful transitions between zones. Proper HVAC prevents cross contamination between "hot" zones with ramped exhaust and "cold" zones with positive pressure.

Decontamination: For every 5° that body temperature rises, skin absorption rates of carcinogens increase by as much as 400%. Positioning decon showers within the decontamination route is crucial in removing the toxins from firefighters in a timely manner upon returning from the fire scene. Adjacent enclosed gear decon room is another important element in segregating and removing carcinogens. All decontamination areas have constant negative pressure routing toxins directly out to the exterior.

Material Selection: Eliminating formaldehyde and other chemicals from building materials and controlling radon gas exposure are also critical in carcinogen reduction. Selecting durable, easy-to-clean finishes allows for contaminants to be thoroughly removed.



SUSTAINABLE DESIGN

LEED Accredited Professionals: CNH Architects' public safety design team is comprised of many LEED accredited professionals, meaning they are proficient in today's sustainable design, construction, and operation standards.

Sustainability Features Include:

- Construction Activity Pollution Prevention
- Alternative Fuel Stations
- Stormwater Management
- Light Pollution Reduction
- Site Selection
- Water Efficient Landscaping/Reusing Water
- Reducing Facility Water Usage
- Energy Performance
- Low-VOC Emitting Materials
- Thermal Comfort



PROJECT APPROACH



PROJECT UNDERSTANDING

The City of Hastings is looking to update the current fire station draft concept with this study to further incorporate best practices in current fire station design, validate the project constraints, and develop alternate layouts to fully explore the design that will best fit the City's needs. The City is seeking architectural design and engineering services to provide an assessment of space needs, concept plans, site fit analysis, cost estimating, and project phasing for this fire station.

INVENTORY AND ASSESS NEEDS

For the fire station, CNH Architects will start with an in-depth review of the existing fire station and site to gather existing data for physical condition, space usage, NFPA standards, fire station best practices related to health, and energy efficiency status. This review will allow our team of architects, interior designers, and engineers to develop a strong background and understanding of the current physical structures, spaces and systems within this study scope.

After becoming familiar with the current facilities, we will transition into an in-depth discussion with city committee members and fire department personnel to develop a complete understanding of the operations currently needed at this station and the future goals of the city.

As we discuss the space and operational needs of each portion this station, CNH's team will encourage the exploration of how operational efficiency, firefighter health and well-being, and public benefit could be positively impacted through the process of the station's design. Together we will create a space needs program that not only addresses size and function, but provides insights into broader opportunities to best meet the City's goals identified.

At the end of this phase of the project, our team will deliver a final, detailed space needs program addressing both current needs and looking decades ahead to identify the space needs and operational opportunities allowing the station to serve the City of Hastings with excellence for many decades to come.

PROJECT APPROACH



SYNTHESIS OF NEEDS AND SCHEMATIC DESIGNS

During the Synthesis and Schematic Design phase of this study, CNH Architects will delve into detailed conversations, working with staff to apply the goals identified in the space needs analysis to the station and its site. Our team will develop multiple preliminary space planning and site design options to evaluate possible building expansion, rebuild or relocation options. We will creatively explore opportunities to maximize the building and site utilization in each approach to provide the background and trade-offs associated with each concept building and site plan. This review will include operations, phasing, response, health, and safety elements.

CNH Architects will also prepare multiple construction cost estimates to evaluate each concept's projected cost to provide the information needed to maximize the facility goals while balancing the financial impacts of the design options.

FINAL REPORT AND PRESENTATION

Upon completion of the analysis and schematic design process, CNH Architects will gather all the data, discoveries, and design recommendations coming out of the joint efforts of City Staff and the Design Team and create a final report document. The report will present the findings and explain the journey in clear text, charts, plans, and costs as a detailed resource for the city leadership and the public as the project is evaluated for actual design and construction. We will review a draft of the report with staff gaining feedback to clarify and improve the report. Our team will also review the report findings to evaluate one last time the adherence to the original goals set out in the beginning of the study.

Once the report is complete, our team will be available to assist in presenting the findings to the City Council and public.



PROJECT HIGHLIGHT



MENDOTA HEIGHTS FIRE STATION | MENDOTA HEIGHTS, MN

The addition and remodeling upgrades to the Mendota Heights Fire Station provided an up-to-date functioning fire station to meet the needs of the fire department well into the future. Providing a separate, dedicated space for turnout gear with direct connections to firefighter parking and apparatus bays helps shorten response times and provide more room in the bays for apparatus and NFPA clearance standards. Grouping dedicated decontamination areas together in the support spaces separate from the apparatus bays help with overall firefighter health and reducing carcinogen exposure. The administrative functions were moved to the north addition to provide more space and better separation from the hot zone areas as well as separating the public and firefighter traffic to not disrupt firefighter response flow.

PROJECT CHALLENGE: As the only fire station serving the City of Mendota Heights, one of the most important goals of this project was to develop a station expansion and remodeling design that allowed phasing of the construction in such a way to minimize disruption to the operating fire department. The resulting design provided for an addition that could be built first and then occupied while the remodeling was completed, maintaining essential operations throughout.



PROJECT HIGHLIGHT



PLYMOUTH FIRE STATION NO. 3 | PLYMOUTH, MN

CNH Architects designed a two-story fire station for the City of Plymouth Fire Department to replace an older station on the same site. The new facility will be repositioned to allow for better and faster road access, improving firefighter response times. As firefighter health and safety are a top priority in this project, gear will have its own room separate from apparatus bays to keep it clean and contaminant free. There is also separation between the apparatus/decontamination areas and the residence and administrative areas to reduce toxin transmission. A larger dayroom and kitchen better suited to meet the department's needs provides relaxation for firefighters. Training elements include creating a second floor training room with both window and balcony openings allowing ladder exercises year round. This building also has an extensive basement training maze with adjacent corridors all of which can be filled with smoke allowing for a wide variety of search and rescue scenarios.

PROJECT CHALLENGE: Station No. 2 and Station No. 3 both had significant moisture and water intrusion issues, ranging from leaking exterior wall systems and window joint leakage to major basement water intrusion. The condition at Station No. 3 was so deteriorated that the basement level was uninhabitable. CNH Architects evaluated each issue and what it would take to correct them to provide safe and functional environments at each of the stations. The solution for Station No. 2 was determined to be a new building, which alleviates any current water issues. The new addition to Station No. 3 was extended along the existing wall with the severe water intrusion issues, making it an internal wall. Sufficient waterproofing was designed for the new exterior wall to eliminate any future issues.



PROJECT EXPERIENCE



FIRE STATION EXPERIENCE

- City of Apple Valley, MN
 - Fire Station No. 2
 - Fire Station No. 1 & 3 Remodels
- City of Bloomington, MN
 - Fire Station No. 4
 - South Loop Fire Station Study
- City of Brooklyn Park, MN
 - Fire Stations No. 1, 2 & 3 Facility Needs Masterplan Study
- City of Burnsville, MN
 - Fire Station No. 1
 - Fire Station No. 2 Space Needs Study
 - ABLE Fire Training Center
- City of Chaska, MN
 - Public Safety Facility
- City of Coon Rapids, MN
 - Fire Station No. 3
- City of Eagan, MN
 - District Fire Station Study
 - Fire Station No. 1
 - Fire Station No. 2 Remodel
 - Fire Station No. 3 Remodel
 - Fire Station No. 4 Addition & Remodel
- City of Lakeville, MN
 - Fire Stations No. 1, 2, 3 & 4 Facility Needs Masterplan Study
- City of Lino Lakes
 - Fire Station No. 2 Site Selection Study
 - Fire Station No. 2
- City of Mendota Heights, MN
 - Fire Station Addition & Remodel
- City of Plymouth, MN
 - Fire Station No. 2
 - Fire Station No. 3 Addition & Remodel
- City of Roseville, MN
 - Roseville Fire Station
- City of Victoria, MN
 - Fire Station Site Fit Study
- South Metro Fire Department
 - Fire Stations No. 1 & 2 Facility Needs Masterplan Study

PROPOSAL FOR ARCHITECTURAL SERVICES

PROJECT: Hastings Fire Station – Dorm Remodel and Fire Station Facility Needs Study
CNH No.: 23030
CLIENT: City of Hastings

January 12, 2024

Chief John Townsend
Hasting Fire Department
City of Hastings
115 5th Street West
Hastings, MN 55033

DESCRIPTION

The proposed services include a facility needs study for the existing fire station.

FACILITY NEEDS STUDY

Our services for this study include the following items:

PROGRAMMING AND GENERAL ANALYSIS

For the Fire Station Facilities Needs Study, CNH Architects will start with an in-depth review of the existing fire station building and site to gather existing data for physical condition, space usage, NFPA standards, fire station best practices related to health, and energy efficiency status. This review will allow our team of architects, interior designers, and engineers to develop a strong background and understanding of the current physical structure, spaces, and systems within this study scope.

After becoming familiar with the current facilities, we will transition into an in-depth discussion with fire department personnel to develop a complete understanding of the operations currently needed at this station and the direction of future changes. We will use our in-depth knowledge of fire station standards and experience in fire station projects to compare as well as contrast the needs of your department with national best practices and regional peers.

As we discuss the space and operational needs of each portion this station, CNH's team will encourage the exploration of how operational efficiency, firefighter health and well-being, and public benefit could be positively impacted through the process of the station's upgrade. Together we will create a space needs program that not only addresses size and function but provides insights into broader opportunities to focus on Hasting's key goals.

SYNTHESIS OF NEEDS AND SCHEMATIC DESIGNS

During the Synthesis and Schematic Design phase of this study, CNH will delve into detailed conversations, working with staff to apply the goals identified in the space needs analysis to the existing fire station and its site. Our team will develop multiple preliminary space planning and site design options to evaluate possible building expansion, rebuild or relocation options. We will creatively explore opportunities to maximize the building and site utilization in each approach to provide the background

and trade-offs associated with each concept building and site plan. This review will include operations, phasing, health, and safety elements.

We will also prepare multiple construction cost estimates to evaluate each concept’s projected cost to provide the information needed to maximize the facility goals while balancing the financial impacts of the design options.

FINAL REPORT AND PRESENTATION

Upon completion of the analysis and schematic design process, CNH Architects will gather all the data, discoveries, and design recommendations coming out of the joint efforts of Fire Department leadership and the Design Team and create a final report document. The report will present the findings and explain the journey in clear text, charts, plans, and costs as a detailed resource for the city leadership and the public as the projects are evaluated for actual design and construction.

The draft of the final report documents will be distributed to the Fire Department’s leadership to get feedback and presentation recommendations prior to completing the final document. CNH will review feedback from the Department revising the concept designs and report document to address any concerns.

Upon completion, CNH Architects will present the final study report including final schematic design layouts and presentation graphics to the Fire Department Committee. CNH will also be available to present to City Council workshops and public open houses if desired. This task also includes the creation and submittal of all final deliverables, including copies of the study results both in hard copy and digital files.

FEE

We propose the services indicated above for the fixed fees indicated below, plus reimbursable. This proposal fee is valid for 60 days from the date of this document.

Facility Needs Study	\$16,500
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INFORMATION TO BE PROVIDED TO US

In a timely manner:

- Original Construction Drawings (floor plans at minimum) in hardcopy, pdf, or CAD format

AGREEMENT

The fee is due within 30 days of monthly invoices. A finance charge of 1.5% per month will be charge to unpaid bills after 30 days.

We understand that payment is not contingent on project financing, land closings, payment from others, governing ordinance approvals and/or any other contingency not incorporated into this agreement.

REIMBURSABLE EXPENSES

Reimbursable expenses include the following items and will be billed as they occur:

- Miscellaneous B&W and color printing at cost
- Miscellaneous postage and shipping at cost
- Mileage, at IRS designated rate

SCHEDULE

A project schedule has not been determined at this time. We will work with you to determine a schedule when the project is ready to proceed.

We appreciate your using us for this work and look forward to proceeding with the project.

Sincerely,



Quinn S. Hutson, AIA, LEED AP
Principal / President
CNH Architects, PC

ACCEPTED BY:

Signature: _____

Name: _____

Title: _____

Date: _____