TOWN OF PLYMOUTH, NEW HAMPSHIRE

PLYMOUTH FIRE & RESCUE
FACILITY CONDITIONS ASSESSMENT

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The H.L. Turner Group Inc.

ARCHITECTS ▪ ENGINEERS ▪ BUILDING SCIENTISTS

TOWN OF PLYMOUTH, NH FACILITIES ASSESSMENTS

PLYMOUTH FIRE & RESCUE
42 HIGHLAND STREET
PLYMOUTH, NH 03264

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1.0 FACILITY ASSESSMENT OVERVIEW & LIMITATIONS

The Plymouth Fire and Rescue Building is a single-story, clear-spanning, space-frame metal building with a brick-veneered front façade, located at 42 Highland Street in the Town of Plymouth, NH. The building's size is approximately 5,400 square feet.

The original building was constructed in 1968 with a concrete slab-on-grade. There is a small, attached hose tower at the back of the building. An approximately 160-square-foot addition was added to the hose tower which contains an air compressor and emergency communication equipment.

On the adjacent property to the west is a two-story, wood-frame residence building that was constructed in approximately 1940 as a residence with a doctor's office. This building also has a full basement containing a single-vehicle garage that is now primarily used for storage purposes.

This building is currently used as offices with meeting, training, dining, and living areas on the first floor with sleeping quarters on the second floor. There are currently seven beds available for overnight staff.

A single-story, wood-frame addition was constructed in 2016 to attach the adjacent residential/office building to the Fire and Rescue Building. This addition was constructed with a frost wall foundation and crawlspace.

The station operates 24 hours per day, 7 days per week, 365 days per year. There is a minimum of two personnel on duty overnight.

The front of the building faces Highland Street (south). The entry to the building faces the parking lot on the east side. The property has very limited capabilities to accommodate any expansions and there is no vehicle access to the perimeter of the building.

The roof of the original building is a slightly pitched, standing seam metal roof with exposed fasteners and different levels between the higher apparatus bay roof and the lower roof over the remainder of the building.

The exterior walls of the building are metal with the front façade having a brick veneer.

The building contains four, single-vehicle-sized apparatus bays that allow space for two engine truck vehicles, one ladder truck, and two ambulances. There is insufficient room for one utility vehicle, trailer, and antique fire engine truck. There is also a need for a future ladder truck attack vehicle.

Although the condition of the building is somewhat repairable the size remains too small and inadequate for providing the necessary modern firefighting vehicles, equipment or operational procedures. Although the adjacent residence contains a firefighter's living and sleeping

quarters, office space, and a training or conference area, it remains a repurposed single-family residence.

LIMITATIONS: The H.L. Turner Group Inc. (TTG) prepared this report for the Town of Plymouth, New Hampshire based on visual observations only and therefore did not involve destructive demolition, scientific testing, or other tests. The information/data in this report has been provided in general accordance with accepted architectural and engineering consulting practices and TTG makes no warranty, either expressed or implied on the conclusions or cost estimates/opinions of probable costs provided.

TOWN OF PLYMOUTH, NH FACILITIES ASSESSMENTS

PLYMOUTH FIRE & RESCUE AND POLICE DEPARTMENT

2.0 EXECUTIVE SUMMARY

Fire & Rescue Facilities

The current property and building are inadequate for the current needs of a modern fire and rescue facility. The building site contains less than 1/2 acre and is entirely occupied by the building, pavement, or other infrastructures.

In its' current condition, the existing building requires significant repairs and improvements to correct life safety issues, building code deficiencies, and the necessary replacement or maintenance of numerous items throughout the building.

The following code violations need to be resolved in the Fire & Rescue Facility building as well as the adjacent building containing sleeping quarters and accessory uses for firefighters.

- A fire separation is required between the apparatus bays and any accessory spaces.
- Sleeping quarters require fire and smoke separation construction.
- Sleeping quarters require a primary and a secondary means of egress.
- An eye-washing receptacle adjacent to the apparatus bays is required.
- The hydronic system piping needs to be insulated.
- Mechanical ventilation rates are not currently code compliant.
- There is neither carbon dioxide nor nitrogen dioxide detectors.
- A fire alarm system is required.
- Insufficient emergency egress lighting and exit signs.
- Insufficient quantity of power receptacles and dedicated circuits in the kitchen.
- A convenience receptacle in the dining room is not grounded.
- Bathrooms without windows are required to have mechanical ventilation.
- The buildings are missing emergency egress lighting and exit signs.
- Accessible parking is required to comply with the Americans with Disabilities Act.
- Public entrances, office areas, and restrooms are also required to comply with ADA.

The following operational deficiencies need to be resolved in the Fire & Rescue building.

- A decontamination area with the uniform washing extractor is recommended.
- A separate area for Emergency Medical Services equipment.
- A separate area for storage and recharging self-containing breathing apparatus.
- A separate areas for small repairs, maintenance and a workshop space.
- The quantity of vehicles requiring protective enclosure exceeds what the facility can accommodate.
- There is inadequate work and office space.

The following building items need to be replaced or repaired in the Fire & Rescue building.

- The roof of the main building needs to be replaced.
- The roof insulation needs to be replaced.
- The crack in the exterior masonry wall above one of the apparatus bay doors needs to be repaired.
- The metal siding on the main building needs to be replaced.
- The boiler and temperature control systems need to be replaced.
- The seams in the flue vent for the boiler need to be replaced with fire rated foil tape.
- A majority of the hot water and heating pipes need to be insulated.

The property has very limited capabilities to accommodate building expansions.

The connector between the main fire station building and the adjacent accessory building is being used as an office for the Code Enforcement Officer

Police Department Facility

The building site is inadequate for the current needs of a modern law enforcement facility. The building site contains over 4 acres of land but the majority of the property has a steeply sloped terrain that the current building backs up to. The usable portion of the property is occupied by buildings, pavements, or other infrastructures. There is no room on site for any expansion.

The Plymouth Police Department building is functionally inadequate to serve as a modern law enforcement facility.

In its' current condition, the existing building requires repairs to correct life safety and building code deficiencies and perform the maintenance for numerous items.

The following code violations need to be resolved at the Police Department Facility.

- Accessible parking is required to comply with the Americans with Disabilities Act.
- Door latch mechanisms are required to be operated with a closed fist or loose grip.
- Room signs are not allowed to be installed on door panels.
  (Signs are required to be mounted on wall surfaces adjacent to the latch side of the door).
- Accessible toilets are required to have three compliant grab bars.
- Pipe insulation is required at accessible sinks to protect against contact.
- There is missing emergency egress lighting with battery backup capabilities.
- Visual fire alarm strobe lighting is required in locker rooms, restrooms, and the hallway adjacent to the call center.

The following operational deficiencies need to be resolved at the Police Department Facility.

- There is insufficient on-site parking especially during peak staffing events.
- The roofing on both the original building and the addition is nearing the end of its useful life.
- Some vinyl siding is damaged or has missing fasteners that need to be replaced or corrected.
- The lower portion of the siding along the back of the building has formed moss.
- Adequate drainage at the back of the building is required to mitigate moisture infiltration and structure rot.
- The current staff operations of the Police Department require additional space. (The facility also serves as a Regional Dispatch Center to neighboring communities).
- There is a lack of staff work stations and the building space is currently maximized to its' fullest extent to include the conversion of closets and storage spaces into personnel office space. There is also a lack of adequate police training or a conference area.
- A room directly adjacent to the Sallyport contains active computer and telephone equipment that is susceptible to malfunction due to dust and excessive heat. A stand-alone mini-split mechanical unit has been installed to regulate room temperature and humidity.
- There is a sensitive intoximeter that needs to be stored in a detention cell to mitigate any radio interference that would require recalibration.
- The juvenile detention cell does not maintain the required sight and sound separation from adults.

The following building items need to be replaced or repaired at the Police Department Facility.

- Damaged, loose, worn or stained flooring needs to be replaced.
- Closet areas need finish flooring.
- Flooring transitions between dissimilar floor finishes are required.
- Thresholds are required at intersections of flooring to conceal the exposed concrete floor slab.
- Wall finishes are needed on exposed framing of the walls in the interior of closets.
- Cracked, broken, missing or water-stained ceiling tiles need to be replaced.

Conclusion

The construction of a new Public Safety Building is the most cost-effective option for serving the need for a modern firefighting and police facility. The shared use of common areas used for training, recruitment, locker and shower facilities, will provide the most efficient use of required space in a combined facility. The cost effectiveness of shared utilities, maintenance and operations services will also provide more economic benefits than separate facilities.

The opportunity to expand the services being provided to neighboring communities through a Regional Dispatch Center will result in increased revenue. A new building can also provide the community with spaces for purposes such as voting as an alternative to public school buildings.

Construction of a new Public Safety Facility housing both the Fire and Police Departments is the best long-term solution for the Town of Plymouth.

3.0 SITE EVALUATION

OBSERVATIONS

The site of the Plymouth Fire Station is located on the northerly side of Highland Street, with frontage spanning approximately 100 feet west of the Langdon Street and approximately 250 feet east of the Emerson Street intersections. The site consists of two adjacent lots indicated as tax parcels 108-111 and 108-110 on the Plymouth Assessors Maps and has the principal physical address of 42 Highland Street.

Lot 108-111 is occupied by the primary firehouse building which was constructed in 1968 and is generally rectangular in geometry with a wide frontage-to-depth ratio. The parcel is entirely occupied by buildings, pavements, or other infrastructure (i.e., generator, Underground Storage Tanks (UST), etc.), and is approximately 0.4 acres in size, as indicated by the Town Geographic Information System (GIS), Tax Assessor's cards, and physical observations.

Based on the visual observation, well-drained soil characteristics, and a review of the National Wetlands Inventory (NWI) Maps, there is a low potential for jurisdictional wetlands to be present on-site; however, a site-specific evaluation by a NH Certified Wetland Scientist would need to confirm this.

Lot 108-110 is occupied by a single-family residence, which was previously used by a commercial enterprise (n/f Greenblock Insulated Concrete Forms), constructed in 1940, and is generally rectangular in shape with a small frontage to depth ratio typically referred to as a 'bowling alley lot'. The parcel is lightly developed with the majority of lot cover being woods, lawns, or landscaping areas. The parcel is approximately 0.5 acres in size, as indicated by the Town Geographic Information System (GIS), Tax Assessor's cards. The GIS map also indicates that an encroachment exists of an outbuilding extending onto lot 110 via tax parcel 108-116 (land n/f of McLane Rentals, LLC II) with a principal physical address of 1 Edmunds Court.

The front of the site and parking lot area east of the firehouse generally drains by sheet flow to Highland Street, where it flows downhill in an easterly direction along the curbline and/or is intercepted by two catch basins in the flowline within the public right-of-way.

A small portion of the eastern parking lot flows east towards the adjacent apartment building and north towards the abutting property, as evidenced by rilling on the downgradient slope.
Visually, it appears that this issue may have been rectified during the last paving cycle by the contractor by shimming the asphalt to drain towards the frontage.

The areas directly behind the firehouse flow north and down a bank to tax parcel 108-115 (n/f land of PSU One, LLC), with the principal physical address of 2 Edmonds Court. The areas behind the house generally flow in a northeasterly direction and over a bank to adjacent property 108-115; however, there is a small portion of the rear yard, which is pitched back towards the structure, generally in the area of the connector addition between the firehouse and the residential house.

The westerly side of the lot between the house and adjacent tax parcel 108-109, is a landscaped bank with a 5-foot to 10-foot flat area which pitches towards the house.

The gutters on the rear of the house drain by downspouts to subsurface collection pipes. Observations were unable to verify if the downspouts drain to appropriate locations. At least one downspout flows into the basement of the breezeway to an unknown location.

Utilities servicing the properties consist of overhead electric, telephone, cable TV, and municipal water and sewer. There is some level of subsurface electricity as evidenced by one 2-inch and three 1-inch conduit drops out of the main electric service panel on the rear of the firehouse.

Heating fuel is provided to the building via a 250-gallon, above-ground liquid propane tank, located behind the firehouse which has a service line that flows underground approximately 10 feet to the rear of the firehouse and into the building.

A Caterpillar backup generator is located adjacent to the northeast corner of the firehouse. The generator is diesel-fueled and has a steel belly tank under the engine compartment. Directly to the west of the generator is what appears to be an old fuel oil fill pipe to an Underground Storage Tank (UST).

The parking lot along the front and easterly side of the fire station is in good condition. The parking lot contains 46 total spaces with one handicapped space and an adjacent van-accessible cross-hatched aisle. The parking spaces are stripped with 4" wide white solid lines having dimensions of 9.5'x 18', the van accessible aisle is 8'x18' in a cross-hatched pattern, and the handicap parking space is stripped with an international handicap symbol and appropriately signed with a Manual of Uniform Traffic Control Devices (MUTCD) handicap parking sign (MUTCD ID R7-8).

It appears to have been repaved within the past few years. The parking lot is surfaced with bituminous asphalt concrete and was measured as approximately 4 inches of total thickness at the eastern extent of the pavement. There are a few cracks but there are no potholes or tear-out and there is some minor ponding areas in the front of the station and adjacent to the two catch basins within the street.

RECOMMENDATIONS

Drainage

The house located on lot 111 has a garage door in the basement with a depressed paved entrance ramp. The ramp has no drain at the bottom, as such, any rainfall in this area has no option but to flood into the basement. This entrance should either be removed in its entirety and/or a small catch basin should be added and piped to the city's closed drainage system within the street.

The downspouts on the back of the house should be further investigated to determine where they discharge, as it appears they may outlet below the ground. If need be, these should be re-routed to appropriate downgradient discharge locations.

The areas behind the addition connecting the firehouse to the residential house should be regraded to pitch away from the house and/or appropriate drainage structures should be added to route runoff to appropriate discharge locations. In its current configuration runoff drains towards the addition.

The areas along the westerly side of the house should be graded into a shallow swale that drains to the front yard and thence to the road. With the current site configuration, drainage runs toward the house and there is a high potential for water infiltration through the adjacent basement window wells. Coordination with the town Department of Public Works (DPW) to assist in removing the ponding areas can be accomplished by adding shimmed pavements.

Parking Lot

One additional handicap space should be designated to be in compliance with the minimum number of required spaces per the Americans with Disabilities Act (ADA). Any cracks in the pavement should be sealed with hot rubber crack filling. The older portion of the parking between the front of the firehouse and the roadway should be sealed with an asphalt sealant to extend its life and provide protection against automotive fluids.

General

The fuel-oil fill pipe in the rear of the fire station needs to be further investigated to determine whether an underground storage tank exists.

4.0 EXTERIOR SYSTEMS EVALUATION

OBSERVATIONS – FIRE & RESCUE BUILDING

The Plymouth Fire and Rescue Building is a single-story, clear-spanning, pre-engineered metal building with a brick-veneered front façade, located at 42 Highland Street in the Town of Plymouth, NH.

The building's size is approximately 5,400 square feet. The original building was constructed in 1968 with a concrete slab-on-grade. There is a small, attached hose tower in the back (north side) of the building. An approximately 160-square-foot addition was added to the hose tower which contains an air compressor and emergency communication equipment.

The brick on the front (south side) of the building runs above the roof level forming a parapet wall and the side and rear walls are exposed fastener metal siding. The roof is a low-slope, gable-style, exposed fastener corrugated metal roof.

A single-story, wood-frame addition was added at an unknown time to connect the original metal building to the adjacent former two-story, wood-framed office and residence. The addition also provides exterior access to a front parking area on Highland Street and the rear yard area.

The office building has asphalt shingles or low slope roll roofing and vinyl siding.

Apparatus Bay Floor and Foundation

The floor in the apparatus bay is a concrete slab-on-grade. The thickness and reinforcing, if any, are unknown. The floor slab is pitched to four floor drains in the apparatus bay with one drain for every vehicle bay. The floor surface was noted to be in good condition with minor cracking.

The foundation is likely a cast-in-place concrete frost wall.

Exterior Walls

The apparatus bay exterior walls consist of exposed metal wall girts and the exposed insulated liner of the exterior metal wall panels on the rear and side walls. The front wall is comprised of a painted concrete masonry unit wall as a backup to the brick veneer face along the front of the building. The interior east wall of the apparatus bay is a concrete masonry unit wall assembly that separates the bay area from the other spaces and areas in the original metal building.

Roof

The roof framing in the Fire Department building consists of exposed metal roof purlins, bents, and the backside of the insulation liner.

Observed Deficiencies

The Fire Station roof is a metal roof with exposed fasteners; several of the fasteners have been added over the years. It was reported that the roof leaks. A leaking roof often destroys the resistant value of insulation.

The parapet wall/roof connection is currently utilizing a termination bar. Typically, a termination bar is not used in a horizontal application, but in a vertical application. There is a crack in the brick veneer on the front wall in the parapet wall.

The metal siding, especially on the parking lot side, has several dents. It was also noted that the siding and siding fasteners are rusting. A number of patches to the metal siding on the north side of the apparatus bay have been made.

RECOMMENDATIONS

Fire Station Roofing

The roofing needs to be replaced. The roof insulation will likely need to be replaced as well. The minimum snow load required by the current building code for Plymouth, NH is 75 PSF. The minimum snow load required in New Hampshire at the time of the original building construction was approximately 30 PSF.
Removal and replacement of the roof will allow the roof purlins to be upgraded and additional insulation added. However, the remaining structural supports will be required to be reviewed and evaluated to determine the need for upgrades.

Fire Station Walls

The front wall which consists of masonry (CMU with a brick veneer) is in good condition except for the crack above one of the overhead doors. The lower section of the crack has been sealed, but the crack now extends up to the top of the parapet wall. At a minimum, the crack should be completely sealed to prevent any moisture from getting into the wall.
The remaining exterior walls are clad with metal siding. The siding is in need of replacement.

OBSERVATIONS – ADJACENT BUILDING

Office Floors

The framing of the first floor in the adjacent building was visible and is sawn wood floor joist and lally column supports. The framing of the second floor and roof were not visible but are assumed to be similar to the first floor framing.

The floor in the basement is a concrete slab-on-grade. The thickness and reinforcing, if any, are unknown. The floor surface was noted to be in good condition with minor cracking.

The foundation is a cast-in-place concrete wall that supports the floor framing and exterior walls.

Office Walls

The walls in the adjacent building are likely to consist of sawn wood studs.

Observed Deficiencies

No deficiencies were noted in the adjacent building.

Front (South) Elevation.

Side (East) Elevation.

Rear (North) Elevation.

Side (West) Elevation.

Pre-Engineered Bent and Roof Purlins.

Pre-Engineered Bent, Wall Girts, and Roof Purlins.

Crack in Brick Veneer.

Dented Metal Siding.

Patch in the Metal Siding.

Rusting Metal Siding and Fasteners.

Sealant Joint at Top of Parapet Wall.

Termination Bar at Parapet Wall.

Roofing and Fasteners.

Office Front (South) Elevation.

Office Rear - North and West Side.

Office Overhead Door.

5.0 INTERIOR SYSTEMS EVALUATION

OBSERVATIONS

Rooms and Areas

The interior rooms and areas consist of an entry hall, primarily used as the main public entrance through a door on the east side of the building, an interior administrative office work area, and public restroom. Beyond the office area toward the front of the building is a connecting control room and an office area for on-duty officers.

Beyond the office area toward the back of the building is a locker room with its' own private exterior entrance door with adjacent laundry and storage areas. This locker room provides two separate means of access to the apparatus bay. A separate workout exercise room and adjacent boiler room are located north of the locker room. Access to the boiler room is through the exercise room or a separate exterior metal door at the back of the building. There is a mezzanine in the apparatus bay accessed by a wood stair to a storage area above the weight room.

Beyond the main exterior wall in the back of the building is the original hose tower as well as a later addition to the building containing an equipment room for the emergency communication system, the life support breathing system, and an air compressor. The hose tower ropes and hardware need to be replaced. This area is accessed directly from the apparatus bay and has direct access to the exterior at the back of the building.

A single-story, wood-frame addition was added at an unknown time to connect the original metal building to the adjacent former two-story, wood-framed office and residence. The addition also provides exterior access to a front parking area on Highland Street and the rear yard area. This addition serves as a secondary office area with computer and WIFI communication equipment. There is a wood stair leading from the addition to the first floor of the adjacent two-story, wood-framed doctor's office and residence.

The adjacent two-story, wood-framed doctor's office and residence provide additional private office areas, a conference and training room, dining, kitchen, dayroom, and restroom facilities on the first floor. The second floor is used primarily as sleeping quarters for firefighters with restroom and bathing facilities.

There is a full basement with laundry, electrical, heating, heating fuel storage, and general storage areas.

Flooring

The floor in the apparatus bay is bare concrete with painted yellow stripes to represent vehicle parking spaces. The floor slab is pitched to four floor drains in the apparatus bay with one drain for every vehicle bay. The floor surface does not show any signs of cracking or settlement. The

flooring in the mezzanine for the apparatus bay is unpainted plywood. It is unknown if the floor/ceiling assembly for the mezzanine/weight room is two-hour fire rated.

The floors in the entry, office area, dispatch and restroom are laminated vinyl plank flooring that is in good condition and appears to have been recently installed. The baseboard is painted wood in fair condition.

The flooring in the locker room is a tile of an unknown composition that is heavily worn and stained. It is not known whether the tile or associated mastics contain any Asbestos-Containing-Building Materials (ACBM). There is a wood baseboard in fair condition on all gypsum wallboard finishes only. There is no baseboard installed on the concrete masonry walls.

The flooring in the exercise room is a carpeted surface that has some staining. The remainder of the floor surfaces in the laundry area and the boiler room is bare concrete.
There is no baseboard in the exercise or boiler rooms.

The flooring in the single-story addition to connect the original metal building to the adjacent residence is painted plywood. The paint is badly worn, particularly adjacent to the exterior entry doors. There is also a painted wood baseboard in good condition.
There is a wood stair with stained wood treads and risers leading from the connector addition up to the first floor of the adjacent residence. The finish on the stair treads and some of the tread nosings are badly worn.

The flooring on the first floor in the adjacent residence consists primarily of laminated vinyl plank flooring with carpet located in the dayroom, conference/training room, front vestibule, and stair to the second floor and is in good condition. There is some staining on the carpet in the dayroom.

The flooring on the second floor is primarily wood strip flooring, very likely oak, and in good condition with a painted wood baseboard. The flooring in the bathrooms is sheet vinyl. There is a seam transition strip at the main second floor bathroom door at the intersection of the wood flooring with sheet vinyl. There is not a similar seam transition strip at the door of the second floor half-bath.

There is a painted wood stair from the first floor to the basement that is in fair condition. The nosing on some of the stair treads is badly worn.

The floor in the basement is bare concrete. There is evidence of water infiltration through the south foundation wall and onto the floor at the front of the residence.

Walls

The interior of the apparatus bay contains the exposed metal space frame columns, beams, and the backside of the insulated liner of the exterior metal wall panels on the back and west side walls. The front wall is comprised of a painted concrete masonry unit wall as a backup to the

brick veneer face along the front of the building. The interior east wall of the apparatus bay is a concrete masonry unit wall assembly that separates the bay area from the other spaces and areas in the original metal building. The openings in this wall are provided by the fire-rated metal door and frame assemblies.

An area above the offices, locker room, and exercise room is a mezzanine storage area open to the apparatus bay below and accessed by a wood stair assembly in the apparatus bay.

The majority of the walls in the rooms and areas of the original metal building beyond the apparatus bay are painted gypsum wallboard in fair condition. The front wall of the on-duty officer's area is the painted concrete masonry unit backup wall.

The exercise room and boiler room are separated from the locker room and each other by a concrete masonry unit wall assembly. The exercise room is separated from the apparatus bay by an unknown painted wall assembly. This wall needs to carry a two-hour fire rating.

The wall separating the apparatus bay from a wood-framed addition that connects the original exterior metal building to the adjacent former doctor's office and residence is the original exterior metal wall panel that has been painted.

The walls in the residence have primarily painted wallboard, most likely plaster, that are in good condition. The front room that is immediately adjacent to the addition has floor-to-ceiling beaded wood and stained pine paneling that is in good condition. There is a private office adjacent to the dining room at the back of the residence that also has stained pine paneling with built-in stained pine bookshelves, cabinets, and a fireplace surrounded with a mantelpiece.

Ceiling

The ceiling in the apparatus bay contains the exposed metal space frame, beams, channel purlins, and the backside of the insulated liner of the metal roof panels which appears to be in good condition. The remainder of the ceilings in the adjacent rooms and areas are painted gypsum wallboard in fair condition.

The ceilings in the residence are primarily painted wallboard, also most likely plaster, that are in good condition. There is a patched section of painted ceiling in the kitchen that appears to have been where there was formerly a wall that had been removed.

Doors

The exterior doors of the original metal building are painted metal door and frame assemblies that appear to be original to the building. The bottom of the frames is rusting. There is concrete exposed at the base of the doors between the interior flooring and the threshold at the main entry and locker room doors.

The interior doors in the administration and office areas are pre-finished wood doors in painted metal frames. The doors and frames appear to be in good condition.
The remainder of the doors in the main building are painted metal doors and frames. There are some dents and scratches but otherwise appear to be in fair condition.

The doors in the residence are primarily painted wood with painted wood frames. There is one exterior door that is a stained wood door with a stained wood frame and one similar interior door in the opening leading to the basement.

Windows

The windows in the apparatus bay are original to the building and appear to be uninsulated, single-glazed, metal window units that lose a significant amount of heat.
The windows in the adjacent rooms and areas of the main original metal building appear to be metal or vinyl replacement units.

The window in the control room and office area for on-duty officers appears to be original to the building but has had metal storm windows installed over the existing windows. A newer vinyl double-hung window has been installed on the back wall of the original building for the exercise room. The former original window in this area appears to have been closed in from the interior, but the frame is still installed in the exterior wall, visible from the exterior only.
The windows in the connector addition are solid vinyl double-hung windows with insulated glass and insect screens. The windows in the residence appear to be solid vinyl replacement windows with insulated glass and insect screens, primarily double-hung units with a horizontal sliding unit at the kitchen sink.

The windows on the first floor of the main residence are cottage-style, with the upper sash smaller than the lower sash. The age of the windows in the residence is unknown but they appear to be in good condition.

Observed Program Deficiencies

There is not a designated decontamination area in the Fire Station.

The uniform washing extractor, conventional clothes washer, and janitor's service sink are adjacent and open to the locker room.

There is not an eye washing receptacle provided.

Overhead doors are 12 feet high x 12 feet wide, which will create issues with future firefighting vehicles becoming bigger.

There is a limited storage area for EMS, Hazardous Materials, Technical Rescue, self-containing breathing apparatus, etc.

There is limited "workshop" space in the apparatus bay to perform small repairs and maintenance.

The public entrance, administrative office areas, and restroom are not accessible for persons with disabilities.

The adjacent residence used for sleeping quarters requires a primary and a secondary means of egress from each sleeping room.
In the absence of a fire suppression system, the sleeping quarters are required to have fire separation and smoke partitions between the rooms and the egress corridor as well as between the sleeping rooms.
A fire alarm is also required to be installed in a building used for sleeping purposes.

RECOMMENDATIONS

Flooring

Hazardous material testing will need to take place to identify any presence of Asbestos Containing Building Materials (ACBM) in the tile flooring, adhesives, or mastics.
Complete removal of hazardous materials is preferable, but encapsulation of any discovered materials is also an option to complete removal.

The exposed painted plywood subflooring serving as the finish flooring in the single-story addition to connect the original metal building to the adjacent residence should be covered with a more traditional flooring material.

The stained wood stair treads and risers on the stair leading up to the first floor of the adjacent residence needs to be refinished. The worn treads and nosings need to be replaced. It is recommended that an abrasive metal nosing be installed to protect the wood tread nosings.

The stained carpet in the dayroom should be replaced. It is recommended to replace the flooring with carpet tile that can be individually replaced in the event of any future damage or staining.

Install a transition strip between the wood strip flooring and the sheet vinyl flooring at the half-bath door.

There is a painted wood stair from the first floor to the basement that is in fair condition. It is recommended that an abrasive metal nosing be installed to protect the wood tread nosings.

Further investigation is required to determine the source and extent of the water infiltration through the south foundation wall and onto the floor at the front of the residence. It is

recommended that any repairs to the foundation wall take place from the exterior of the foundation. Supplemental drainage may also be necessary to relieve any hydrostatic pressure and mitigate the potential for future water migration through the foundation wall.

Walls

Further investigation is required to determine the fire rating of the wall between the exercise room and the apparatus bay. The wall between the apparatus bay and the wood-framed addition that connects the original metal building to the adjacent former doctor's office and residence should also be replaced with a fire-rated wall assembly.

Ceilings

The patched ceiling in the kitchen of the adjacent residence should be refinished to match the adjacent undisturbed ceiling surfaces.

Further investigation needs to be conducted to determine if the floor/ceiling assembly in the weight room is a two-hour fire-rated assembly.

Doors

The exterior doors and frames of the original metal building should be replaced with insulated metal doors and frames with insulated glazing where applicable. The door hardware should include the use of lever handles. The exposed concrete surfaces between the finish flooring and the exterior door threshold should be concealed.

Windows

Replace the windows in the apparatus bay with new window units incorporating insulated glazing. Replace or remove the former original window in the exercise room and infill the opening to match adjacent undisturbed wall surfaces.

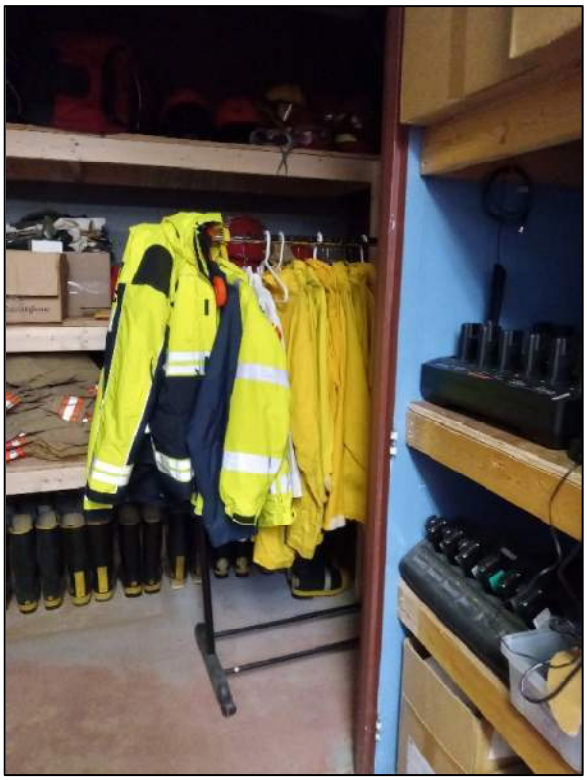
Observed Program Deficiencies

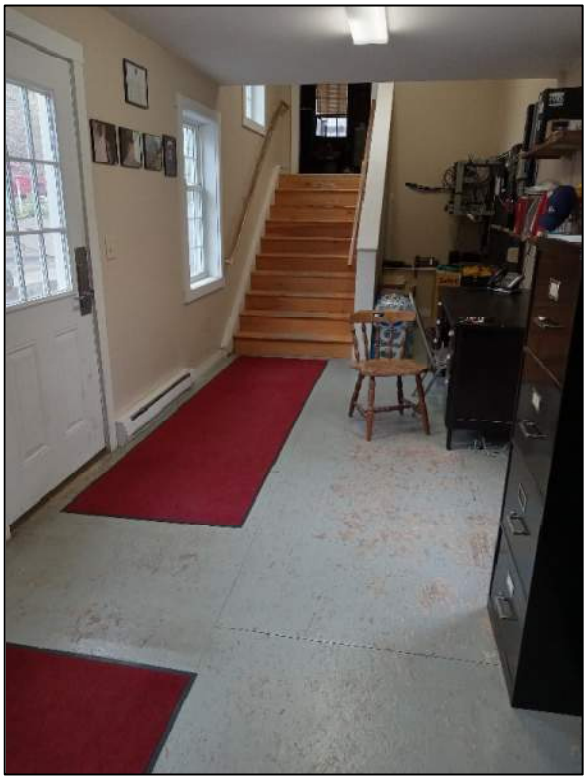
Solutions to some of the program deficiencies in the operation of the Fire Station building are not possible without constructing additional space for the deficient areas in the original building.

An eye-washing receptacle should be provided in the proximity of the apparatus bay or locker room.

Provide secondary means of egress from each sleeping room.
Provide fire separation walls and smoke partitions between the rooms and the egress corridor as well as between the sleeping rooms.
Install a fire alarm system.

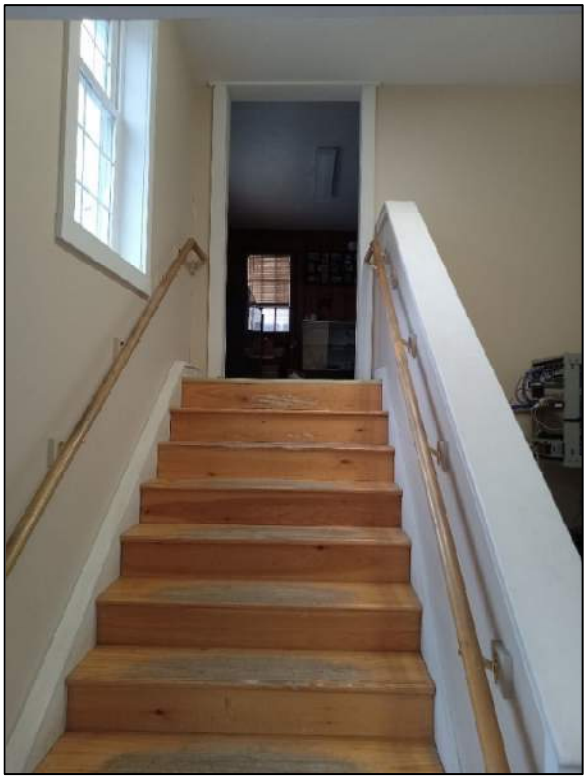
Worn and Stained Locker Room Flooring – Unknown Composition.





Worn Painted Plywood Flooring.

Worn Stained Wood Stair Treads and Nosing.



Stained Dayroom Carpet.

Transition Strip Between Dissimilar Floor Finish Surfaces.

Worn Treads and Nosing on Wood Stair to Basement.

Water Infiltration thru Foundation Wall in the Basement.

Non-Fire-Rated Wall Assembly Between Apparatus Bay and Addition to Residence.

Patched Ceiling in Residence Kitchen from Removed Wall.

Rusted Exterior Door in Original Metal Building and Exposed Concrete.

Exposed Concrete Between Finish Flooring and Exterior Door Threshold.

Single Glazed Metal Windows in Apparatus Bay.

Former In-filled Exercise Room Window.

6.0 MECHANICAL & PLUMBING EVALUATION

The firehouse is heated using mini-split units that are a few years old and hydronic systems with mostly uninsulated piping. Mechanical ventilation is not present in either the office area or the garage. The garage has an operational vehicle exhaust system with five ports. It does not appear the code-required ventilation rate is being achieved nor are CO/NO_2 detectors present for automatic system operation. The heat pump system consists of three heads that provide both cooling and heating, served by a single condensing unit located at the rear of the building. The noncondensing hydronic boiler manufactured by Bosh and associated Taco pumps and components have been recently replaced and appear to be in good working condition. The hydronic system is broken up into three heating zones and one zone for hot water, each with its own respective circulation pump and thermostat control. Preventative maintenance should be performed yearly to enhance the life of the system. The hydronic system piping should be insulated to enhance the system efficiency and to better distribute the heat to the areas of the building where it is needed. The space hydronic thermostat controls should be replaced with programable thermostats with the ability for occupied and unoccupied modes for energy savings.

Based on the cooling load assessment, it is estimated that 4 tons of cooling are required, while the existing equipment can provide 4.5 tons. Similarly, the heating load assessment indicates a requirement of 56 MBH, and the existing heat pump units can provide up to 60 MBH down to 5 deg. F before losing capacity. While the hydronic system is rated for an additional 171 MBH, some of that heat is used for domestic hot water heating. Although the hydronic system and split system have sufficient capacity to manage the base load, there have been complaints from occupants about the offices being too cold or too hot. It is suspected that the system is not performing optimally. A preventative maintenance inspection is required to verify the refrigerant charge. The control system and setpoints should also be reviewed.

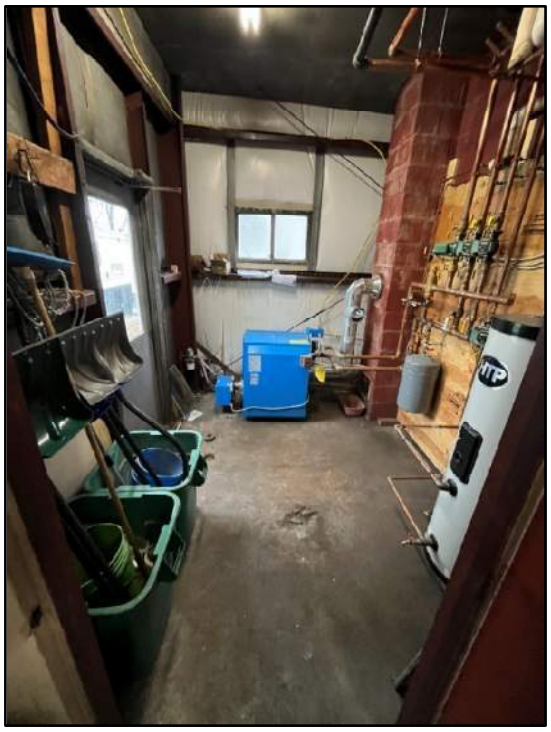
Ventilation is not present within the building. It appears that the exhaust fan above the washer/dryer area discharges to a gooseneck on the roof but verification is required. The bathroom does not have an exhaust system. We would recommend installing a balanced ventilation system with energy recovery to provide code-required ventilation and exhaust throughout the building.

The garage is equipped with one horizontal hydronic unit heater, one vertical hydronic unit heater, and an existing horizontal unit heater integrated into the hose tower. Floor drains that are located in the Vehicle Apparatus Bays need to be periodically inspected for particulate buildup. The hose reel serving the Apparatus Bays needs to be equipped with a vacuum breaker at the hose connection.
There is only one bathroom in the building, which includes a floor-mounted flush tank toilet and a sink with separate hot and cold controls. This restroom is currently not compliant with ADA standards.

The adjoining fire residence exhibits varying conditions for the heating and plumbing systems and is currently lacking cooling or ventilation. Heating is provided by a hydronic hot water system fed from an oil-fired boiler located in the basement. The existing boiler has reached the end of its useful life. The flue vent seams have been sealed with foil tape which does not appear to be rated for the flue temperatures. The system has three heating zones and a domestic hot water zone with a boiler mate indirect water heater. Each zone has its own Taco circulation pump. Two of the four circulation pumps appear to have been replaced recently. Heat to the space is provided by a mixture of baseboard heaters and converted steam radiators which reportedly require frequent maintenance. The majority of the domestic hot water and hydronic piping is not insulated. In the addition connecting the firehouse to the adjacent building there are hot water fin tube baseboard heating units that appear to be in good condition with intact protective covers. The system controls have reached the end of their useful life and it is recommended to replace them with programmable thermostats. It is recommended that the boiler system, piping, and fin tube radiation systems be replaced throughout the building.

In the first bathroom of the adjacent building, there is a floor-mounted flush tank toilet and a wall-mounted lavatory with separate hot and cold controls, along with exposed connections and a p-trap under the sink. The baseboard in this bathroom is severely damaged and missing its protective cover. It is recommended that the lavatory be installed with Lavguards to meet ADA compliance standards. It is recommended that the lavatory have thermostatic mixing valves meeting the ASSE 1070 requirement for anti-scald protection and/or a master mixing valve should be installed on the electric water heaters.

The second bathroom features a floor-mounted flush tank toilet, and the lavatory has a single faucet lever for temperature control. The associated piping and p-trap are exposed underneath. The bathroom at the top of the stairs includes a floor-mounted flush tank toilet and a floor-mounted lavatory with separate hot and cold water controls. The bathtub in this bathroom is in working condition and does not require replacement. The second floor bathroom has a floor-mounted flush tank toilet and a wall-mounted lavatory with separate hot and cold controls. The p-trap and water pipes are exposed underneath this sink. It is recommended that the lavatories have thermostatic mixing valves meeting the ASSE 1070 requirement for anti-scald protection and/or a master mixing valve should be installed on the electric water heaters.
Aside from operable windows, ventilation is not present within the building. The bathrooms do not have an exhaust system. We would recommend installing a balanced ventilation system with energy recovery to provide code-required ventilation and exhaust throughout the building.



Firehouse boiler room set-up with boiler, expansion tank, hot water tank, & distribution pumps.

Firehouse condensing unit for all the interior heat pump units.

Firehouse exhaust from laundry room discharging to gooseneck on the roof.

Firehouse garage exhaust system exhausting to the outside.

Damaged fin tube baseboard heater missing a protective cover in the residence house.

Residence house floor-mounted flush tank toilet, sink, and existing hot water radiator.

The residence house's existing boiler is located in the basement.

The existing oil tank in the basement of the residence house.

7.0 ELECTRICAL SYSTEMS EVALUATION

Electrical Service

Fire Station

The electrical service originates from a pole-mounted 3ph transformer bank and terminates at an exterior 200A, 208/120V, 3ph, 4w utility meter socket with a main circuit breaker on the backside of the building. The meter socket feeds a 150A main circuit breaker panel on the inside of the building that feeds several subpanels and the normal side of a 200A automatic transfer switch. The panelboards are in fair condition, but the service size is limited on space and capacity for additional loads and/or renovations/additions.

Adjacent Building

The electrical service originates from an overhead 1ph service drop with weatherhead and terminates at an exterior 200A, 240/120V, 1ph, 3w utility meter socket with a main circuit breaker on the backside of the building. The meter socket feeds a 200A main circuit breaker panel in the basement that feeds several subpanels and the normal side of a 200A automatic transfer switch. The panelboards are in good condition with space for additional breakers.

Lighting & Controls

Fire Station

The lighting consists mostly of fluorescent exposed and lensed utility-style fixtures. The interior lights are controlled by standard manual toggle switches. The exterior building-mounted lights are controlled by integral photocells.

Adjacent Building

The lighting is a combination of fluorescent lensed utility, incandescent surface, and decorative sconces/chandeliers. The interior lights are controlled by standard manual toggle switches. The exterior building-mounted lights are controlled by integral photocells.

Devices & Wiring

Fire Station

Power and low voltage wiring are surface mounted in conduit in the apparatus bays and concealed in the office area. There are no reported issues and the devices are in good condition.

Adjacent Building

There are not enough receptacles throughout the adjacent building and there are not any dedicated circuits in the kitchen. There is a receptacle in the dining room that is ungrounded. Most of the power and low voltage wiring is surface mounted in wiremold.

Telecom/Security

Telephone/data cabling terminates at a backboard with wall mounted network rack located in the connector that serves both the Fire Station and adjacent building. The cabling and equipment are in good condition.

Emergency

Fire Station

There is an exterior 80kW 120/208V/3ph diesel standby generator that backs up the Fire Station service only. The generator does not serve the attached residence. The generator and transfer switch are in good condition.

The building is missing emergency egress lighting and exit signs. Although the building is on generator backup, the code requires emergency battery backup for emergency lighting if the generator does not have a separate life safety branch.

Adjacent Building

There is a 200A automatic transfer switch for portable generator connection to backup the whole service. The transfer switch is in good condition.

There are wall-mounted emergency battery units for emergency egress lighting.

Fire Alarm

Fire Station

The Fire Station and the adjacent building do not have a fire alarm system.

Adjacent Building

The adjacent building with a sleeping area, kitchen, and offices has local 120VAC smoke/CO alarms.

RECOMMENDATIONS

- The Fire Station building service size and distribution equipment should be upgraded for any major renovation or addition.

- Upgrade lighting in both the Fire Station building and adjacent building to a more energy-efficient LED type and provide occupancy sensor control for areas such as storage rooms, hallway, offices, and restrooms.

- Add receptacles and dedicated circuits in the adjacent building kitchen and dining areas. Replace any 2-wire ungrounded receptacles and wiring throughout the adjacent building.

- Add emergency egress lighting and exit signs throughout the Fire Station and adjacent building.

- Provide a fire alarm system for the Fire Station and adjacent building.

MATRICES

- Civil-Site
- Exterior Systems
- Interior Systems
- Mechanical & Plumbing Systems
- Electrical Systems
- Total Cost Summary

COMPONENT	OBSERVATION	RECOMMENDATION	1-LifeSafety 2-BldgCode 3-Maint	REMAINING USEFUL LIFE (Years)	SHORT-TERM (0 to 2 years)	MID-TERM (2 to 7 years)	LONG-TERM (8+ years)
House garage door	The garage door accesses the basement with a depressed paved entrance ramp, which has no drain at the bottom, as such water enters the basement.	Verify that a small catch basin can be drained to the closest catch basin/manhole in the street. And install a catch basin with a 6" PVC drain line.	3	0	$20,000		
Verify outlet of roof drains	Roof drains on the backside of the house appear to dead end in the ground	Investigate, where the roof drains flow to, via a local plumber with a camera and sound detector pipe locator	3	0	$1,000		
Regrade the rear yard	The rear yard in the area of the addition between the firehouse and house is pitched towards the building.	Regrade the yard to pitch away from the house and add a drainage structure which dicharges out the rear bank	3	0	$15,000		
Regrade the westerly yard	The yard on the westerly side of the house, is pitched towards the house and has a bank from the adjacent yard. There are also shallow window wells, allowing the potential for runoff to enter the house.	Regrade the side yard strip into a shallow swale away from the house to the toe of the bank and pitch to drain towards the front yard.	3	0	$8,500		
Handicap Space	One addtiional handicap to be added to be in compliance with the ADA minimum number of spaces.	Designate one addition space by adding an international handicap symbol pavement marking and an MUTCD sign ID R7-8.	3	0	$500		
Seal parking lot	Parking lot useful life can be extended with asphalt sealer	Coat older portion of parking lot, generally in front of the firehouse, with asphalt sealer, requires restrippingany pavement markings	3			$5,000	
Parking lot cracks	Some minor cracking in the asphalt	Hot rubber crack fill any cracks wider than 0.1" (3mm)	3			$1,200	
		TOTALS			**$45,000**	**$5,000**	

COMPONENT	OBSERVATION	RECOMMENDATION	1-LifeSafety 2-BldgCode 3-Maint	REMAINING USEFUL LIFE (Years)	SHORT-TERM (0 to 2 years)	MID-TERM (2 to 7 years)	LONG-TERM (8+ years)
Metal Roofing	The metal roofing has had numerous fasteners added and is leaking.	Replace the roofing.	3	1	$108,000		
Metal Siding	The metal siding has begun to deteriorate.	Replace the siding.	3	1	$57,680		
Brick Veneer	There is a crack in the brick veneer.	Seal the crack.	3	1	$500		
		TOTALS			**$166,180**	**$0**	**$0**

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COMPONENT	OBSERVATION	RECOMMENDATION	1-LifeSafety 2-BldgCode 3-Maint	REMAINING USEFUL LIFE (Years)	SHORT-TERM (0 to 2 years)	MID-TERM (2 to 7 years)	LONG-TERM (8+ years)
FLOORING							
	Locker room tile of an unknown composition that is heavily worn.	Test flooring tile, adhesives, and mastics in locker room to identify the presence of Hazardous Asbestos Containing Building Materials (ACBM) for removal or encapsulation.	1	0	$30,190		
	Flooring in single-story addition to connect the original metal building to the adjacent residence is painted plywood.	Cover exposed painted plywood subflooring in connector addition from original metal building and residence.	2	0	$3,325		
	Finish of stained wood treads and risers, and some tread nosings on the stair leading from the connector addition up to the first floor of the adjacent residence are heavily worn.	Replace as required and refinish stained wood stair treads and nosings, including the addition of abrasive metal nosing.	3	0	$2,130		
	Staining on the carpet in the dayroom.	Remove carpet in dayroom located in residence and replace with carpet tile.	3	2	$2,400		
	Missing seam transition strip at the door of the second floor half-bath.	Install transition strip between wood strip flooring and sheet vinyl flooring in second floor half-bath of residence.	3	2	$100		
	Painted wood stair treads on stair from the first floor to the basement is badly worn.	Refinish stair treads and risers and install abrasive metal nosing to wood stair treads on stair from first floor to basement of residence.	3	5		$1,100	

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	There is evidence of water infiltration through the south foundation wall and onto the floor at the front of the residence.	Investigate and repair source of water infiltration through foundation wall at front of residence.	3		$32,000		
WALLS							
	The exercise room is separated from the apparatus bay by an unknown painted wall assembly.	Investigate wall construction of partition separating weight room from apparatus bay.	1 & 2	0	$3,000		
	The wall separating the apparatus bay from a wood-framed addition that connects the original exterior metal building to the adjacent former doctor's office and residence is the original exterior metal wall panel that has been painted.	Provide fire-rated wall assembly between single-story, wood-framed connector addition and apparatus bay.	1 & 2	0	$3,000		
CEILINGS							
	There is a patched section of painted ceiling in the kitchen that appears to have been where there was formerly a wall that had been removed.	Repair and refinish patched ceiling in residence kitchen.	3	0	$800		
DOORS							
	The exterior doors of the original metal building are painted metal door and frame assemblies that appear to be original to the building and the bottom of the frames are rusting.	Replace exterior metal doors and frames in original metal building.	3	2	$4,800		

COMPONENT	OBSERVATION	RECOMMENDATION	1-LifeSafety 2-BldgCode 3-Maint	REMAINING USEFUL LIFE (Years)	SHORT-TERM (0 to 2 years)	MID-TERM (2 to 7 years)	LONG-TERM (8+ years)
	There is concrete exposed at the base of the doors between the interior flooring and the threshold at the main entry and locker room doors.	Conceal exposed concrete at intersection of finish flooring and exterior door thresholds in original building.	3	2	$675		
WINDOWS							
	The windows in the apparatus bay are original to the building and appear to be uninsulated single-glazed metal window units.	Replace windows in apparatus bay with new windows containing insulated glazing.	3	0	$4,000		
	The former original window in this area appears to have been closed in from the interior, but the frame is still installed in the exterior wall, visible from the exterior only.	Replace or remove the former original window in the exercise room and infill opening to match.	3	0	$1,600		
PROGRAM DEFICIENCIES							
	There is not an eye washing receptacle provided.	Install eye-washing receptacle in proximity of apparatus bay or locker room.	1		$3,500		
	The adjacent residence used for sleeping quarters requires a primary and a secondary means of egress from each sleeping room	Provide secondary means of egress from each sleeping room	1		$14,000		
	In the absence of a fire suppression system, the sleeping quarters are required to have fire separation and smoke partitions between the rooms and the egress corridor as well as between the sleeping rooms	Provide fire separation walls and smoke partitions between the rooms and the egress corridor as well as between the sleeping rooms	1		$22,000		

COMPONENT	OBSERVATION	RECOMMENDATION	1-LifeSafety 2-BldgCode 3-Maint	REMAINING USEFUL LIFE (Years)	SHORT-TERM (0 to 2 years)	MID-TERM (2 to 7 years)	LONG-TERM (8+ years)
	A fire alarm is also required to be installed in a building used for sleeping purposes	Install a fire alarm system (cost provided in electrical cost matrix)	1		$0		
		TOTALS			**$127,520**	**$1,100**	**$0**

COMPONENT	OBSERVATION	RECOMMENDATION	1-LifeSafety 2-BldgCode 3-Maint	REMAINING USEFUL LIFE (Years)	SHORT-TERM (0 to 2 years)	MID-TERM (2 to 7 years)	LONG-TERM (8+ years)
Baseboard (firehouse)	The condition of the baseboard heaters varied throughout the spaces.	Baseboard heaters and hydronic systems have a useful life of 20 to 30 years. We have observed systems operating much longer when proper maintenance and water chemistry is provided.					$11,500
Boiler (firehouse)	Hydronic boiler and associated circulation pumps serving the building baseboard and unit heaters appear to be well maintained and in good working order.	Anticipated boiler life is 20-30 years. Current boiler and associated components are 9 years old.					$28,000
Hydronic System Piping Insulation (firehouse)	A majority of the hydronic piping is uninsulated.	Insulate hydronic piping.			$21,000		
Mini-splits	The office portion of the building are the only conditioned spaces. The current AC heads are not providing sufficient cooling or heating.	Verification of refrigerant charge is recommended. The system is designed to meet the heating and cooling loads of the space.	3				
Service Sink	The service sink appears to be in working order.	We would recommend replacing the service sink as parts fail. The replacement can be staged. We have seen many service sinks operate well beyond their useful life through good maintenance depending on their usage.	3			$4,000	
Ventilation System for Office Space	There is no existing ventilation air in the office space.	Balanced ventilation for the office space and restrooms.	2		$20,880		
Ventilation System for Apparatus Bays	There is no existing makeup air, CO or NO2 detection in the apparatus bays.	The 2018 International Mechanical Code requires exhaust and make up air for garages. We would recommend a 200 cfm ERV for the base ventilation rate and CO/NO2 detectors to increase the ventilation rate upon detection to 2,800 CFM.	1,2		$36,000		

COMPONENT	OBSERVATION	RECOMMENDATION	1-LifeSafety 2-BldgCode 3-Maint	REMAINING USEFUL LIFE (Years)	SHORT-TERM (0 to 2 years)	MID-TERM (2 to 7 years)	LONG-TERM (8+ years)
Domestic Water Heater	The domestic water heater appears to be in working order.	We would recommend replacing the domestic water heater when it fails. Water heater life depends greatly on the water chemistry of the location where they serve.					
Unit Heater	The unit heaters appear to be in working order.	We would recommend replacing the unit heaters when they fail.					
Vehicle Exhaust System	The truck bay area has an exhaust fan capable of removing vehicle exhaust through a direct connection. There is no existing louver to provide ventilation air when the doors are closed.	See above for ventilation.	1				
Plumbing Fixtures	The plumbing fixtures appear to be in working order. They do not meet current ADA requirements.		3				
Baseboard (fire residence)	The condition of the baseboard heaters varied throughout the spaces.	Baseboard heaters and hydronic systems have a useful life of 20 to 30 years. We have observed systems operating much longer when proper maintenance and water chemistry is provided.			$11,500		
Boiler (fire residence)	Hydronic boiler and associated circulation pumps serving the building baseboard and unit heaters appear to be at the end of their useful life.	Anticipated boiler life is 20-30 years. Current boiler and associated components are at the end of their useful life.			$28,000		
Hydronic System Piping Insulation (fire residence)	A majority of the hydronic piping is uninsulated.	Insulate hydronic piping.			$21,000		
Ventilation System (fire residence)	There is no existing ventilation air in the residence.	Balanced ventilation for the fire residence.	2		$20,880		

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Domestic Water Heater (fire residence)	The domestic water heater appears to be near the end of its useful life.	We would recommend replacing the domestic water heater when it fails. Water heater life depends greatly on the water chemistry of the location where they serve.				$6,000	
Plumbing Fixtures	The plumbing fixtures appear to be in working order. They do not meet current ADA requirements.	We would recommend replacing the fixtures as they fail. Fixture life depends greatly on use and maintenance.	3				
		TOTALS			**$159,260**	**$10,000**	**$39,500**

COMPONENT	OBSERVATION	RECOMMENDATION	1-LifeSafety 2-BldgCode 3-Maint	REMAINING USEFUL LIFE (Years)	SHORT-TERM (0 to 2 years)	MID-TERM (2 to 7 years)	LONG-TERM (8+ years)
Electrical Service & Distribution Equipment	Fire Station building service: 200A, 120/208V/3PH (4) panels manufactured by Square D and ITE. ITE panels are older and in fair condition. There is a newer Square D panel that is in good condition. House service: 200A, 120/240V/1PH (3) panels manufactured by Square D and GE. Square D panels are older and in good condition. GE panel is newer and in good condition.	Fire Station building service distribution equipment is limited on space and capacity for additional loads and/or proposed renovations/additions. The service size and distribution equipment should be upgraded for any major renovation or addition.	2	10		$50,000	
Lighting & Controls	Fire Station building service: Lighting consists mostly of fluorescent exposed and lensed utility-style fixtures. Interior lights are controlled by standard manual toggle switches. Exterior building mounted lights controlled by integral photocells. House service: Lighting is a combination of fluorescent lensed utility, incandescent surface, and decorative sconces/chandeliers. Interior lights controlled by standard manual toggle switches. Exterior building mounted lights controlled by integral photocells.	Upgrade lighting to more energy efficient LED type and provide occupancy sensor control for areas such as storage rooms, hallway, offices, and restrooms.	2	5	$80,000		

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Devices & Wiring	Not enough receptacles throughout the house including dedicated circuits in the kitchen. Receptacle in dining room is ungrounded.	Add receptacles and dedicated circuits in the kitchen and dining areas. Replace any 2-wire ungrounded receptacles and wiring.	3		$30,000		
Telecom/Security	Backboard with wall-mounted network rack located in the connector that serves both Fire Station and house. Good condition.	None					
Emergency	Fire Station building: 80kW 120/208V/3PH diesel standby generator. Good condition. Missing emergency egress lighting and exit signs. Although the building is on generator backup, the code requires emergency battery backup for emergency lighting. House: 200A automatic transfer switch for portable generator connection. Good condition.	Add emergency egress lighting and exit signs to Fire Station building.	1	20	$10,000		
Fire Alarm	The Fire Station building does not have a fire alarm system. The house with sleeping area, kitchen, and offices has local 120VAC smoke/CO alarms.	A fire alarm system should be provided for the Fire Station and house.	1		$50,000		
		TOTALS			**$170,000**	**$50,000**	

TOTAL COST SUMMARY MATRIX

COMPONENT	OBSERVATION	RECOMMENDATION	1-LifeSafety 2-BldgCode 3-Maint	REMAINING USEFUL LIFE (Years)	SHORT-TERM (0 to 2 years)	MID-TERM (2 to 7 years)	LONG-TERM (8+ years)
CIVIL-SITE					$45,000	$5,000	$0
EXTERIOR					$166,180	$0	$0
INTERIOR					$127,520	$1,100	$0
MECHANICAL					$159,260	$10,000	$39,500
ELECTRICAL					$170,000	$50,000	$0
		TOTALS			**$667,960**	**$66,100**	**$39,500**

GRAND TOTAL	**$773,560**

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APPENDICES

- Site Characteristics
- Site Aerial View
- Tax Map Plan
- Property Tax Card Information
- Flood Map
- Soils Map
- New Hampshire Natural Heritage Bureau DataCheck Results Letter & Map
- Building Drawings:

    1968 - Original Building Drawings

    1940 - Plot Plan: Residence and Offices for Dr. S. H. Olmstead

SITE CHARACTERISTICS

The site of the Plymouth Fire Station is located on the northerly side of Highland Street, with frontage spanning approximately 100 feet west of the Langdon Street and approximately 250 feet east of the Emerson Street intersections. The site consists of two adjacent lots indicated as tax parcels 108-111 and 108-110 on the Plymouth Assessors Maps and has the principal physical address of 42 Highland Street.

Lot 108-111 is occupied by the primary firehouse building which was constructed in 1968 and is generally rectangular in geometry with a wide frontage-to-depth ratio. The parcel is entirely occupied by buildings, pavements, or other infrastructure (i.e., generator, Underground Storage Tanks (UST), etc.), and is approximately 0.4 acres in size, as indicated by the Town Geographic Information System (GIS), Tax Assessor's cards, and physical observations.

On-site natural resources consist of a woodland area in the rear of lot 110 with the remainder of the site developed. A review of the NH Natural Heritage Bureau (NHB) Datacheck, Report ID NHB23-1780 for Rare, Threatened and Endangered (RTE) species and natural communities, results in a finding of 'No Known Occurrences'; however, 'no known occurrences' does not mean the absence of RTE species.

On-site soils, as indicated by the Natural Resource Conservation Service (NRCS) National Soils Map for Grafton County NH, primarily consist of Tunbridge-Lyman (90) and Waumbek Loamy Sand (59) complexes. Waumbek soils are generally characterized as loamy sands with overburden very cobbly loam sand, moderately well drained, with low runoff potential, water tables and restrictive features greater than 80 inches in depth, and moderately high rates of transmissivity (Ksat=0.2-6 in/hour). Whereas Tunbridge-Lyman is generally fine sandy loam over shallow bedrock, well-drained, with very low runoff potential, water table depths greater than 80 inches, restrictive feature depths between 20 and 40 inches, and very low to high rates of transmissivity (Ksat=0.0-14.0 in/hour).

Based on the visual inspection, well-drained soil characteristics, and a review of the National Wetlands Inventory (NWI) Maps, there is a low potential for jurisdictional wetlands to be present on-site; however, a site-specific evaluation by a NH Certified Wetland Scientist would need to confirm this.

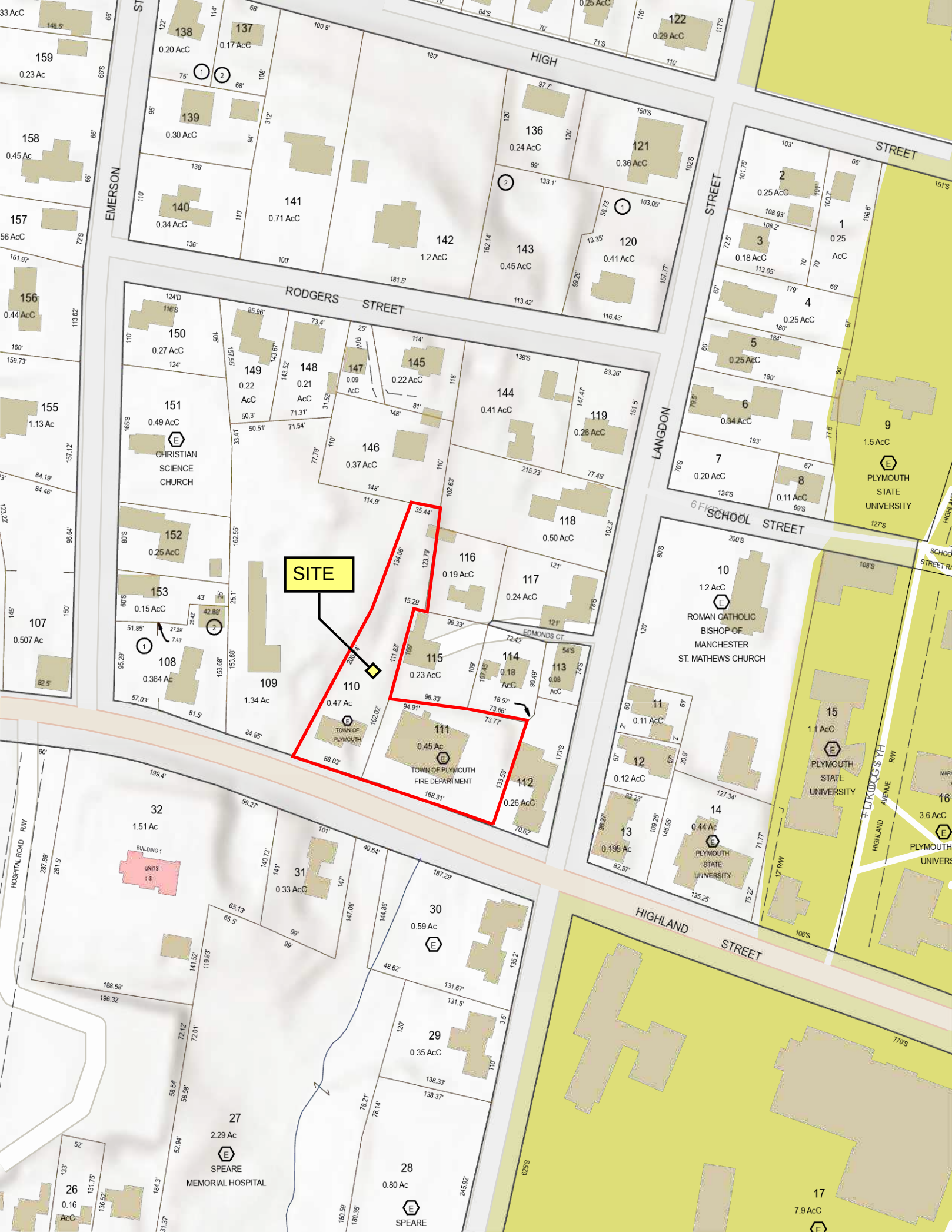
The NH Department of Environmental Services (NHDES) One Stop Data Mapper lists the site as being outside of any environmental resource zones, including Groundwater Management Zones (GMZ), Designated River Buffers, Groundwater Classification Areas (GA1 or GA2), wellhead protection areas, water supply intakes, public water supply protective areas, Class A/outstanding water resources/surface water with impairments watersheds, chloride impaired areas, or NH Shoreland Protection zones.

Lot 108-110 is generally rectangular in shape with a small frontage to depth ratio typically referred to as a 'bowling alley lot'. The parcel is lightly developed with the majority of lot cover being woods, lawns, or landscaping areas. The parcel is approximately 0.5 acres in size, as indicated by the Town Geographic Information System (GIS), Tax Assessor's cards. The GIS map also indicates that an encroachment exists of an outbuilding extending onto lot 110 via tax parcel 108-116 (land n/f of McLane Rentals, LLC II) with a principal physical address of 1 Edmunds Court.

The site is located in Zone 'X' which are zones that have been determined to be outside the 0.2% (500-year) annual flood chance as indicated on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Map Number 33009C0840E, effective February 20, 2008. With the site being approximately 100 feet above the closest flood zone, Baker River, the potential incident of flooding risk is considered minimal.

A review of the NH Department of Environmental Services (NHDES) One Stop Data Mapper lists no known records of the site containing any hazardous material remediations, regulated Aboveground Storage Tanks (AST) or Underground Storage Tanks (UST), hazardous waste generation, asbestos disposal, environmental monitoring, or local potential contamination.
A review of the NHDES PFAS Sampling Map indicates no known records for Poly- and Per-Fluro Alkyl Substances (PFAS) on or within the vicinity of the site; however, only limited sampling has occurred within the local area, and the potential for PFAS still exists.


High St
High St
Langdon St
President's Hous
Rogers St
Robert Frost
Plymouth Fire Rescue
Norton
Highland St
Highland St
Langdon St
Avery St
Cummings St
Langdon St
Image © 2023 Maxar Technologies


SITE
HIGH
STREET
EMERSON
STREET
RODGERS
STREET
LANGDON
STREET
SCHOOL
STREET
EDMONDS CT
HIGHLAND
STREET
HOSPITAL ROAD
HIGHLAND
AVENUE
CHRISTIAN
SCIENCE
CHURCH
ROMAN CATHOLIC
BISHOP OF
MANCHESTER
ST. MATHEWS CHURCH
PLYMOUTH
STATE
UNIVERSITY
TOWN OF
PLYMOUTH
TOWN OF PLYMOUTH
FIRE DEPARTMENT
SPEARE
MEMORIAL HOSPITAL
SPEARE
BUILDING 1
UNITS
1-3
107
0.507 Ac
108
0.364 Ac
109
1.34 Ac
110
0.47 Ac
111
0.45 Ac
112
0.26 AcC
113
0.08
AcC
114
0.18
AcC
115
0.23 AcC
116
0.19 AcC
117
0.24 AcC
118
0.50 AcC
119
0.26 AcC
120
0.41 AcC
121
0.36 AcC
122
0.29 AcC
136
0.24 AcC
137
0.17 AcC
138
0.20 AcC
139
0.30 AcC
140
0.34 AcC
141
0.71 AcC
142
1.2 AcC
143
0.45 AcC
144
0.41 AcC
145
0.22 AcC
146
0.37 AcC
147
0.09
AcC
148
0.21
AcC
149
0.22
AcC
150
0.27 AcC
151
0.49 AcC
152
0.25 AcC
153
0.15 AcC
155
1.13 Ac
156
0.44 AcC
157
56 AcC
158
0.45 Ac
159
0.23 Ac
1
0.25
AcC
2
0.25 AcC
3
0.18 AcC
4
0.25 AcC
5
0.25 AcC
6
0.34 AcC
7
0.20 AcC
8
0.11 AcC
9
1.5 AcC
10
1.2 AcC
11
0.11 AcC
12
0.12 AcC
13
0.195 Ac
14
0.44 Ac
15
1.1 AcC
16
3.6 AcC
17
7.9 AcC
26
0.16
AcC
27
2.29 Ac
28
0.80 Ac
29
0.35 AcC
30
0.59 Ac
31
0.33 AcC
32
1.51 Ac

Assessment Field Card

Town of Plymouth, New Hampshire

Parcel Information

Address: 42 HIGHLAND ST
Map-Lot: 108-111-000-000-0000
Patriot Account #: 1933
Owner: PLYMOUTH TOWN OF
Co-Owner:
Mailing Address: 6 POST OFFICE SQUARE

PLYMOUTH, NH 03264

Building Exterior Details

Building Type: FIRE STAT
Year Built: 1968
Grade: C-
Frame Type: STEEL
Living Units: 1
Building Condition: Average
Roof Cover: METAL
Roof Type: FLAT
Exterior Wall Type: CORREG STL
Pool: False

General Information

Total Acres: 0.4
Land Use Code: 903
Neighborhood Code: 10
Owner Occupied: N
Condo Name:
Condo Unit:
Zone: MFR
Utility Code 1: WATE
Utility Code 2: SEWE
Utility Code 3:

Building Area

Finished Area: 5444 sqft
Basement Area: 0 sqft
Garage Area: 0 sqft
Detached Garage: sqft
Basement Garage: 0 sqft

Ownership History

Sale Date: 12:00:00 AM
Sale Price: $ 0
Nal Description:
Grantor (Seller):
Book/Page:

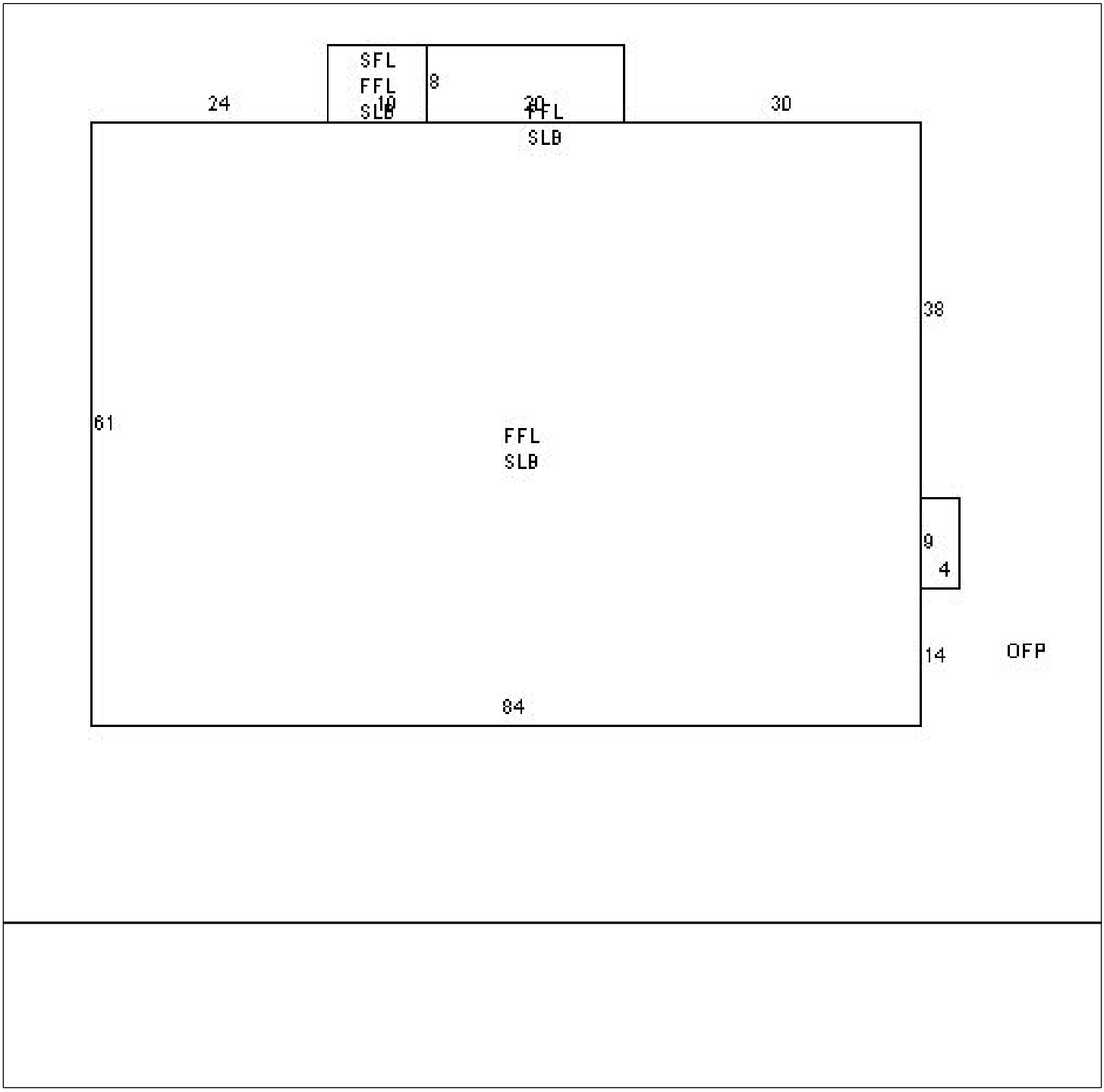
Building Interior

No. Total Rooms: 0
No. Bedrooms: 0
No. Full Baths: 0
No. Half Baths: 0
Bath Rating:
No. Kitchens: 1
Kitchen Rating: AVER
Building Framing: STEEL
Interior Wall Type: MINIMUM
Fireplaces: 0
Solar Hot Water: False
Central Vac: False
Floor Type: CONCRETE
Heat Type: FORCED H/W
Heat Fuel: OIL
Percent A/C: 0

Assessed Value

Assessed Yard Value: $ 3400
Assessed Land Value: $ 63700
Assessed Bldg Value: $162500
Total Assessed Value: **$229600**

Spec. Feat./Yard Items	Description (Value)
Item 1:	($)
Item 2:	($)
Item 3:	($)
Item 4:	($)


SFL
FFL
SLB
24
10
8
20
FFL
SLB
30
38
61
FFL
SLB
9
4
14
OFP
84

Assessment Field Card

Town of Plymouth, New Hampshire

Parcel Information

Address: 46 HIGHLAND ST
Map-Lot: 108-110-000-000-0000
Patriot Account #: 1926
Owner: PLYMOUTH TOWN OF
Co-Owner:
Mailing Address: 6 POST OFFICE SQUARE

PLYMOUTH, NH 03264

Building Exterior Details

Building Type: CAPE
Year Built: 1940
Grade: C+
Frame Type: WOOD
Living Units: 2
Building Condition: Good
Roof Cover: ASPHALT
Roof Type: GABLE
Exterior Wall Type: VINYL
Pool: False

General Information

Total Acres: 0.5
Land Use Code: 903
Neighborhood Code: 37
Owner Occupied: Y
Condo Name:
Condo Unit:
Zone: MFR
Utility Code 1: WATE
Utility Code 2: SEWE
Utility Code 3:

Building Area

Finished Area: 2325.6 sqft
Basement Area: 0 sqft
Garage Area: 0 sqft
Detached Garage: sqft
Basement Garage: 1 sqft

Ownership History

Sale Date: 12/11/2013
Sale Price: $ 0
Nal Description: GOVT TRANS
Grantor (Seller): BOYLE, GERARD J,
Book/Page: 4030-0294

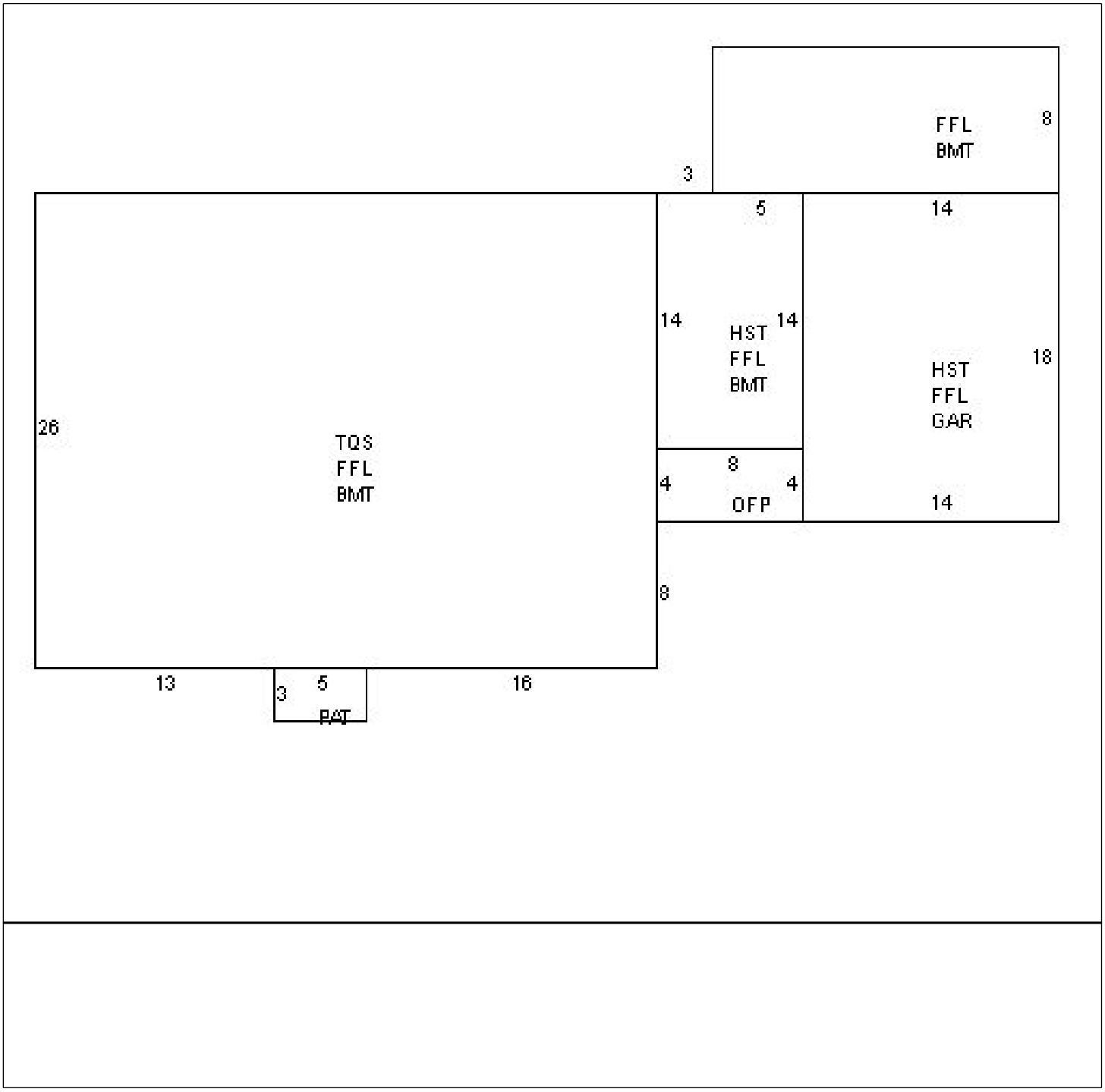
Building Interior

No. Total Rooms: 11
No. Bedrooms: 5
No. Full Baths: 1
No. Half Baths: 2
Bath Rating: AVER
No. Kitchens: 2
Kitchen Rating: AVER
Building Framing: WOOD
Interior Wall Type: DRYWALL
Fireplaces: 2
Solar Hot Water: False
Central Vac: False
Floor Type: HARDWOOD
Heat Type: FORCED H/W
Heat Fuel: OIL
Percent A/C: 0

Assessed Value

Assessed Yard Value: $ 900
Assessed Land Value: $ 43200
Assessed Bldg Value: $189200
Total Assessed Value: **$233300**

Spec. Feat./Yard Items	Description (Value)
Item 1:	**($)**
Item 2:	**($)**
Item 3:	**($)**
Item 4:	**($)**


FFL
BMT
8
3
5
14
14
HST
FFL
BMT
14
18
HST
FFL
GAR
26
TQS
FFL
BMT
8
4
4
OFP
14
8
13
3
5
16
PAT

NOTES TO USERS

…p is for use in administering the National Flood Insurance Program. It …t necessarily identify all areas subject to flooding, particularly from local …sources of small size. The **community map repository** should be …d for possible updated or additional flood hazard information.

…in more detailed information in areas where **Base Flood Elevations** …and/or **floodways** have been determined, users are encouraged to consult …d Profiles and Floodway Data and/or Summary of Stillwater Elevations …ntained within the Flood Insurance Study (FIS) report that accompanies …M. Users should be aware that BFEs shown on the FIRM represent …l whole-foot elevations. These BFEs are intended for flood insurance …urposes only and should not be used as the sole source of flood …n information. Accordingly, flood elevation data presented in the FIS …should be utilized in conjunction with the FIRM for purposes of …tion and/or floodplain management.

…l **Base Flood Elevations** shown on this map apply only landward of …onal Geodetic Vertical Datum of 1929 (NGVD 29). Users of this FIRM …e aware that coastal flood elevations are also provided in the Summary of …r Elevations tables in the Flood Insurance Study report for this jurisdiction. …ns shown in the Summary of Stillwater Elevations tables should be used for …tion and/or floodplain management purposes when they are higher than …ations shown on this FIRM.

…ies of the **floodways** were computed at cross sections and interpolated …cross sections. The floodways were based on hydraulic considerations …ard to requirements of the National Flood Insurance Program. Floodway …nd other pertinent floodway data are provided in the Flood Insurance …port for this jurisdiction.

…areas not in Special Flood Hazard Areas may be protected by **flood …structures**. Refer to Section 2.4 "Flood Protection Measures" of the …surance Study report for information on flood control structures for this …on.

…jection used in the preparation of this map was New Hampshire State …000. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences …n, spheroid, projection or State Plane zones used in the production of …or adjacent jurisdictions may result in slight positional differences in map … across jurisdiction boundaries. These differences do not affect the …y of this FIRM.

…evations on this map are referred to the National Geodetic Vertical …of 1929. These flood elevations must be compared to structure and …elevations referenced to the same **vertical datum**. For information …g conversion between the National Geodetic Vertical Datum of 1929 … North American Vertical Datum of 1988, visit the National Geodetic …website at http://www.ngs.noaa.gov or contact the National Geodetic …at the following address:

…Reference System Division …Geodetic Survey, NOAA …pring Metro Center …est-West Highway …pring, Maryland 20910 …3-3191

…n current elevation, description, and/or location information for **bench** …shown on this map, please contact the Information Services Branch …National Geodetic Survey at **(301) 713-3242**, or visit its website at …w.ngs.noaa.gov.

…ap information shown on this FIRM was derived from U.S. Geological …Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from …phy dated 1998 or later. These images were recast by the New …re Geographically Referenced Analysis and Information Transfer System …ANIT) onto the New Hampshire State Plane coordinate system.

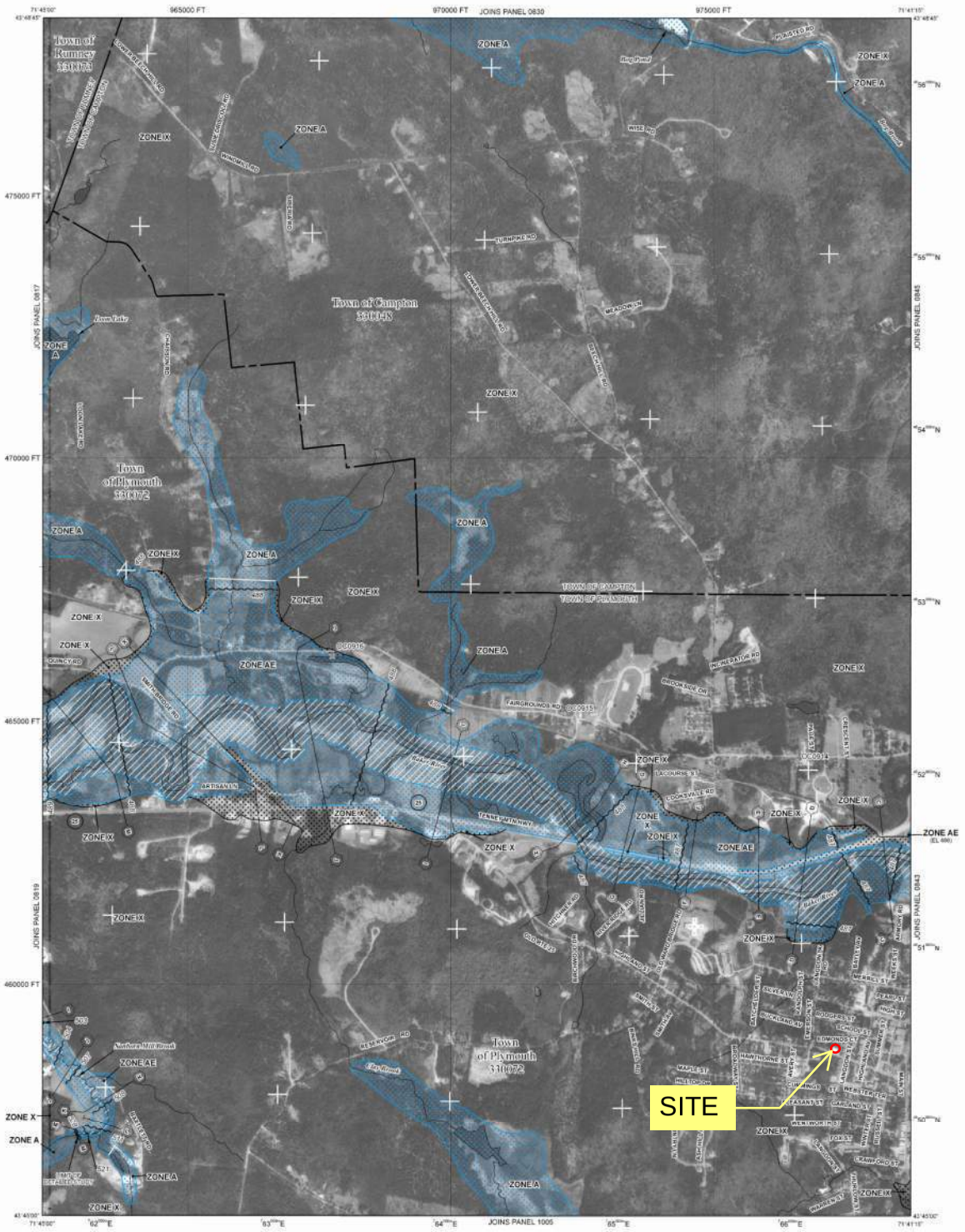
…p reflects more detailed and up-to-date **stream channel configurations** …se shown on the previous FIRM for this jurisdiction. The floodplains and …s that were transferred from the previous FIRM may have been adjusted …m to these new stream channel configurations. As a result, the Flood … and Floodway Data tables in the Flood Insurance Study Report (which … authoritative hydraulic data) may reflect stream channel distances that …m what is shown on this map.

…te limits shown on this map are based on the best data available at the …publication. Because changes due to annexations or de-annexations may …curred after this map was published, map users should contact appropriate …ity officials to verify current corporate limit locations.

…efer to the separately printed **Map Index** for an overview map of the …showing the layout of map panels; community map repository addresses; …sting of Communities table containing National Flood Insurance Program …r each community as well as a listing of the panels on which each …ity is located.

…the **FEMA Map Service Center** at 1-800-358-9616 for information on …products associated with this FIRM. Available products may include …ly issued Letters of Map Change, a Flood Insurance Study report, and/or …rsions of this map. The FEMA Map Service Center may also be reached …t 1-800-358-9620 and its website at http://www.msc.fema.gov.

…ve questions about this map or questions concerning the National Flood …e Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or …FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUN… BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that … chance of being equaled or exceeded in any given year. The Special Flood Hazard A… area subject to flooding by the 1% annual chance flood. Areas of Special Flood Haza… Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the wat… elevation of the 1% annual chance flood.

ZONE A — No Base Flood Elevations determined.

ZONE AE — Base Flood Elevations determined.

ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); B… Elevations determined.

ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain… depths determined. For areas of alluvial fan flooding, velo… determined.

ZONE AR — Special Flood Hazard Area formerly protected from the 1% annu… flood by a flood control system that was subsequently decertified… indicates that the former flood control system is being restored … protection from the 1% annual chance or greater flood.

ZONE A99 — Area to be protected from 1% annual chance flood by a Fed… protection system under construction; no Base Flood … determined.

ZONE V — Coastal flood zone with velocity hazard (wave action); no B… Elevations determined.

ZONE VE — Coastal flood zone with velocity hazard (wave action); B… Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be … of encroachment so that the 1% annual chance flood can be carried without substantial … in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance … average depths of less than 1 foot or with drainage areas … 1 square mile; and areas protected by levees from 1% annual cha…

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodpla…

ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREA…

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Ar…

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area … boundary dividing Special Flood Hazard Areas of diff… Flood Elevations, flood depths or flood velocities.

513 — Base Flood Elevation line and value; elevation in feet*

(EL 987) — Base Flood Elevation value where uniform within zone; … in feet*

* Referenced to the National Geodetic Vertical Datum of 1929

A — A — Cross section line

B — B — Transect line

87°07'45", 32°22'30" — Geographic coordinates referenced to the North Ameri… of 1983 (NAD 83), Western Hemisphere

…76…N — 1000-meter Universal Transverse Mercator grid values, …

600000 FT — 5000-foot grid ticks: New Hampshire State Plane … system, FIPSZONE 2800, Transverse Mercator projection

DX5510 — Bench mark (see explanation in Notes to Users sec… FIRM panel)

M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
FEBRUARY 20, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Comm… Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Ins… agent or call the National Flood Insurance Program at 1-800-638-9620.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0840E

FIRM

FLOOD INSURANCE RATE…

GRAFTON COUNTY, NEW HAMPSHIRE (ALL JURISDICTIONS)

PANEL 840 OF 1185

(SEE MAP INDEX FOR FIRM PANEL LA…

CONTAINS:

COMMUNITY	NUMBER	PANEL
CAMPTON, TOWN OF	330043	0840
PLYMOUTH, TOWN OF	330072	0840
RUMNEY, TOWN OF	330078	0840

Notice to User: The **Map Number** shown belo… used when placing map orders; the **Commun**… shown above should be used on insurance applica… subject community.

MAP NU… 330090…

EFFECTIVE… FEBRUARY 2…

Federal Emergency Management A…

Custom Soil Resource Report
Soil Map

Map Scale: 1:973 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 45 90 180 270

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Douglas Brodeur
27 Locke Road
Concord, NH 03301

From: NH Natural Heritage Bureau

Date: 6/9/2023 (This letter is valid through 6/9/2024)

Re: Review by NH Natural Heritage Bureau of request dated 6/9/2023

Permit Type: Plymouth

NHB ID: NHB23-1780

Applicant: Douglas Brodeur

Location: Plymouth
Tax Map: 108, Tax Lot: 111
Address: 42 Highland Street

Proj. Description: Facility assessment.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord NH 03301

MAP OF PROJECT BOUNDARIES FOR: NHB23-1780

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord NH 03301

Basic Construction Documents
for the Erection of a
Fire Station
at
Plymouth - New Hampshire - 03264 -

REGISTERED ARCHITECT
ARTHUR FAHR
No. 112
THE STATE OF NEW HAMPSHIRE

OFFICE OF
ARTHUR FAHR – ARCHITECT
FAHRDALE AT MOULTONBORO NECK
NEW HAMPSHIRE – 03226

PROJECT NO.	DESCRIPTION	SHEET NO.
CN-6810.	COVER SHEET.	-1-(3).

7/15/68.
9/1/68

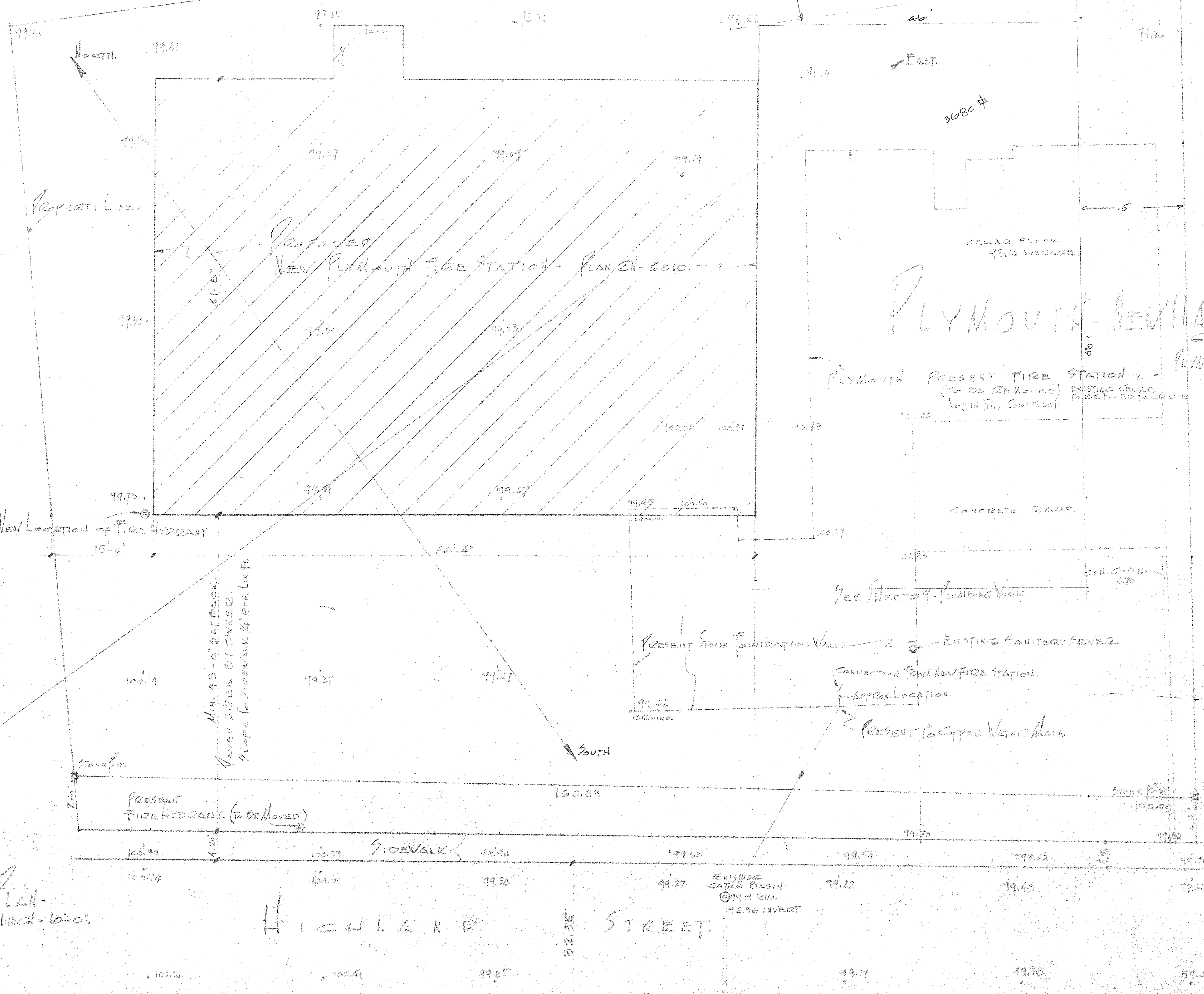
CN-6815.
CN-6816-

PROGRESS PLAN-

See Note Sheet #2.

[redacted]


NOTES: ALL INFORMATION TAKEN FROM SURVEY MADE APRIL 12, 1940 BY WENDELL C. KENISTON.
EXISTING CONTOURS INDICATED AS - - - - - - - -
NEW CONTOURS INDICATED AS ————————
SEE ELEVATIONS, DWG. NO. 5, FOR GRADES AT BLDG.
THERE IS NO DEFINITE DATA AVAILABLE AS TO THE LOCATION AND DEPTH OF WATER MAIN & SEWER MAIN. LOCATIONS SHOWN ARE APPROXIMATELY CORRECT, AND IT IS PROBABLE THAT NEITHER ONE IS MORE THAN 5'-0" BELOW THE SURFACE.
NOTE: WALKS, FENCES, FIN. GRADING NOT A PART OF THIS CONTRACT.
BENCH MARK
DRIVEWAY
NORTH EDGE OF PAVEMENT
WATER MAIN
SEWER MAIN
STREET
PLOT PLAN
DRAWN BY
CHECKED BY
DATE
RESIDENCE & OFFICES for DR. S. H. OLMSTEAD
PLYMOUTH NEW HAMPSHIRE
LYFORD & MAGENAU
CONCORD N.H.
COMM. 4005
DRAWING



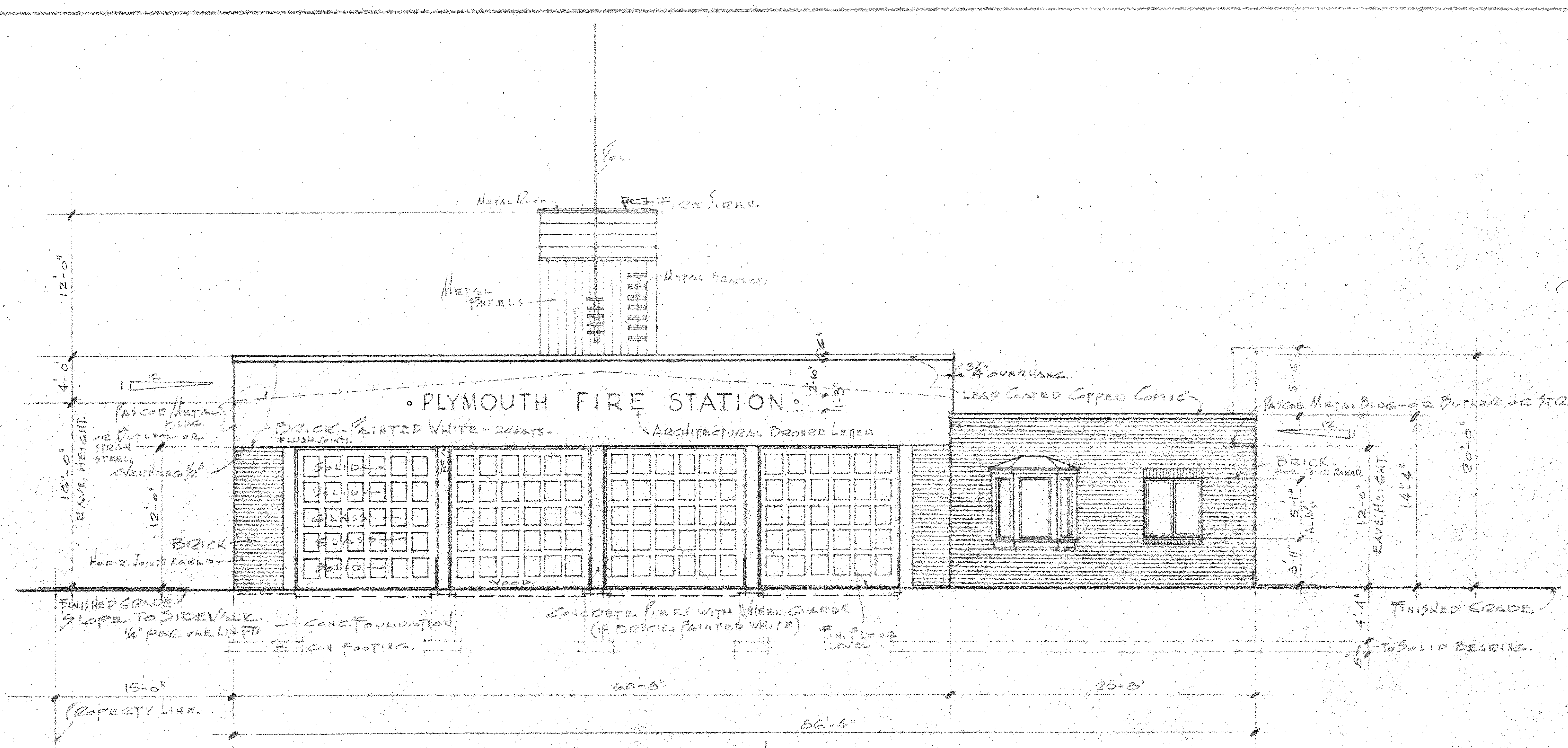
Note:
These progress plans - Sheet #1 to #11, and outline specifications are prepared to obtain the cost of construction from bidders and are not presented as a complete set of working drawings -
Agreement - May 7, 1966.

OFFICE OF
ARTHUR FAHR - ARCHITECT
FAHRDALE AT MOULTONBORO NECK
NEW HAMPSHIRE - 03226

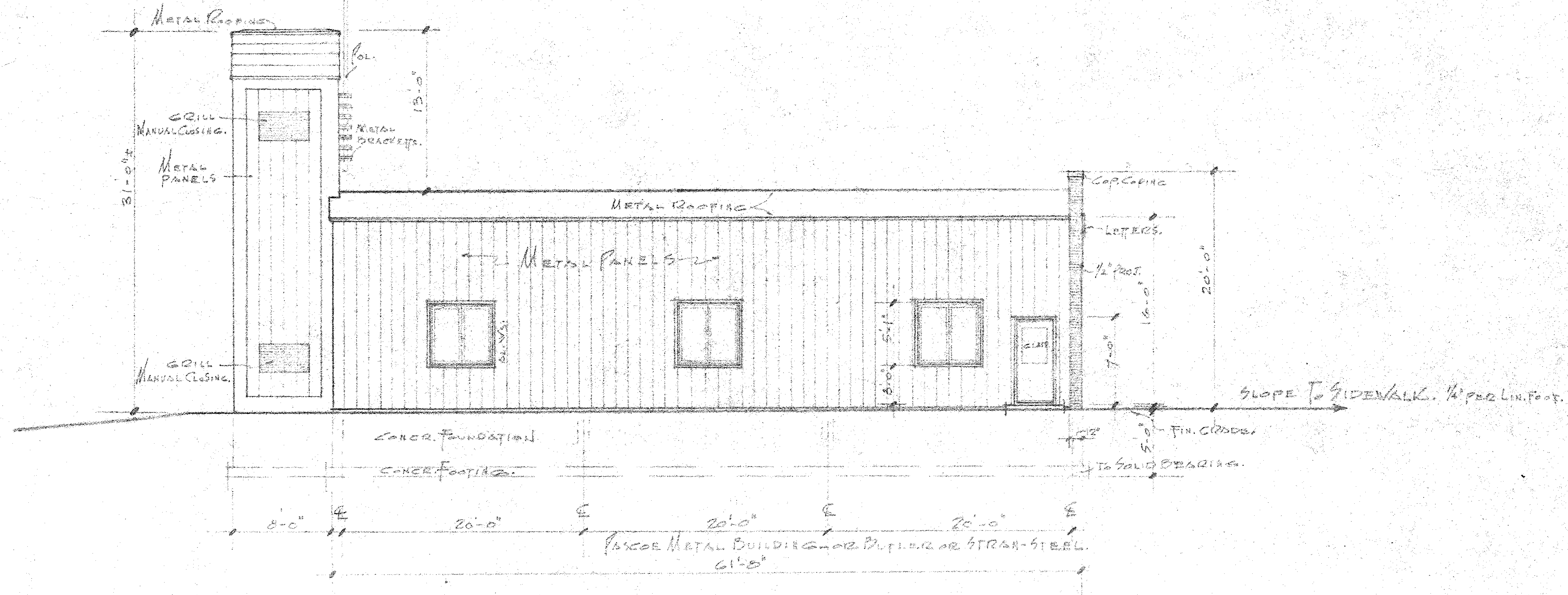
PROJECT NO.	DESCRIPTION	SHEET NO.
CN-6810-	Progress Plan-	-2-(4)

7/15/66.
Progress Plan-
1/2" = 5'

Registered Architect — Arthur Fahr — No. 112 — The State of New Hampshire



HIGHLAND STREET (SOUTH) ELEVATION - 1/8"=1'-0"



SIDE (WEST) ELEVATION - 1/8"=1'-0"

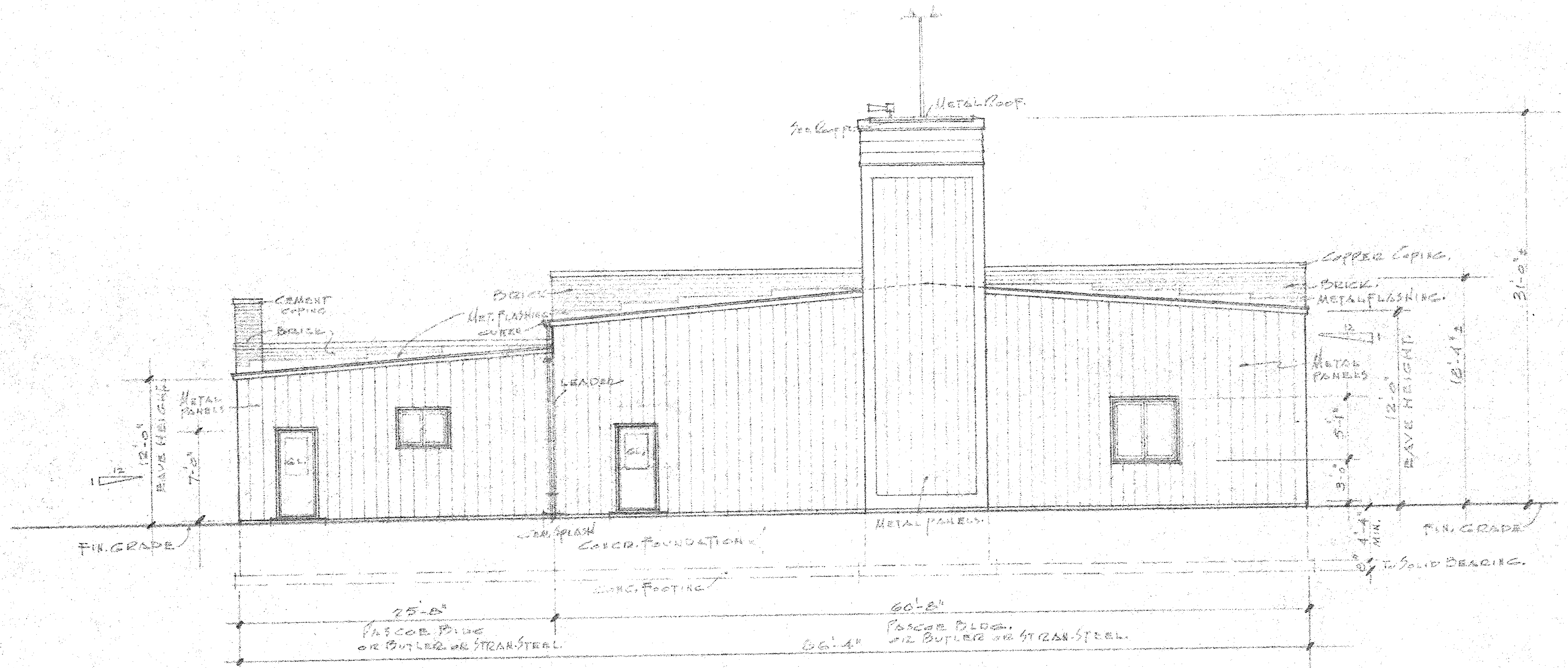
REGISTERED ARCHITECT
ARTHUR FAHR
No. 112
THE STATE OF NEW HAMPSHIRE

OFFICE OF
ARTHUR FAHR - ARCHITECT
FAHRDALE AT MOULTONBORO NECK
NEW HAMPSHIRE - 03226

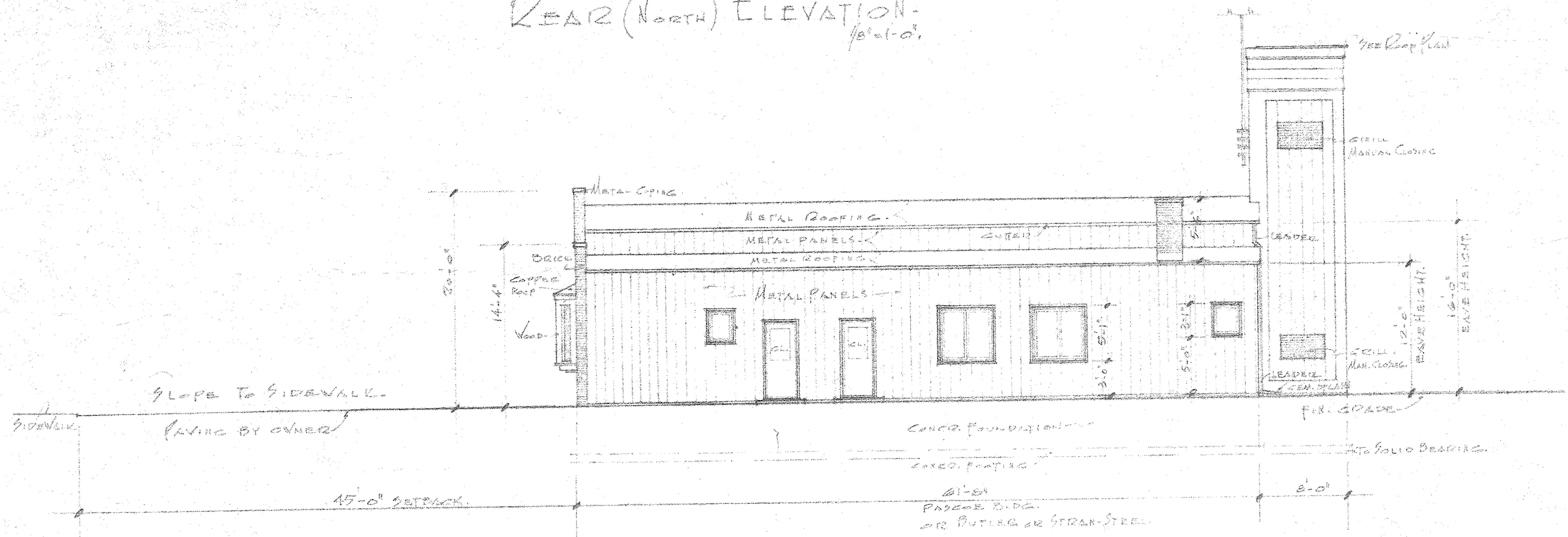
PROJECT NO.	DESCRIPTION	SHEET NO.
CN-6810-	ELEVATIONS-	-3-(5)

7/15/68

PROGRESS PLAN.



REAR (NORTH) ELEVATION
1/8"=1'-0"



SIDE (EAST) ELEVATION
1/8"=1'-0"

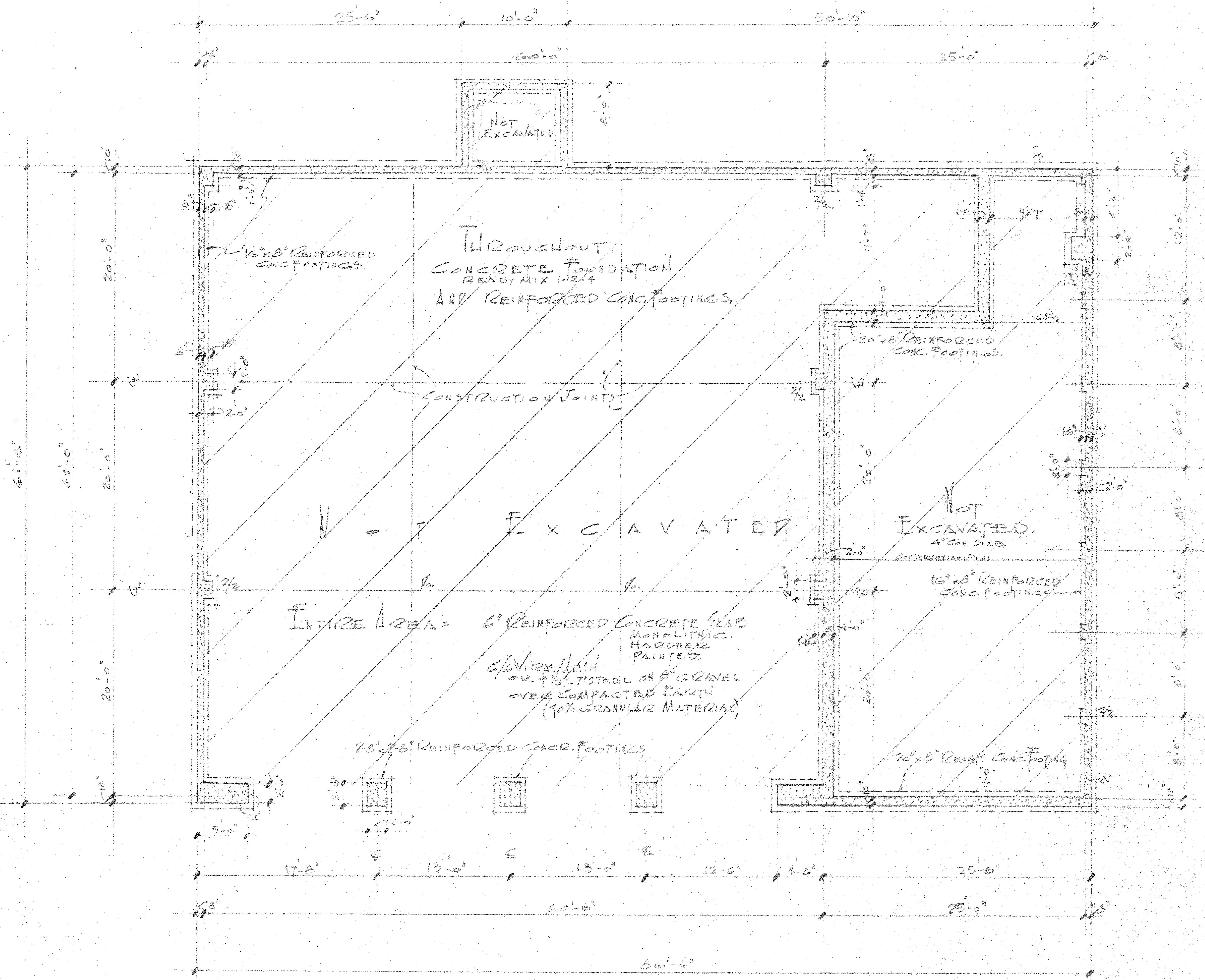
ALL DRAWINGS, SPECIFICATIONS, DETAILS, ETC. ARE PREPARED FOR AND CONSTITUTE ORIGINAL INSTRUMENTS OF SERVICE AND REMAIN THE PROPERTY OF THE ARCHITECT. THEY ARE TO BE RETURNED TO THE ARCHITECT UPON THE COMPLETION OF ANY STRUCTURE OR PROJECT EXECUTED THEREFROM. IF USED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT FOR ANY OTHER STRUCTURE OR PURPOSE, THE USER THEREOF SHALL BE OBLIGATED TO THE ARCHITECT FOR FULL COMPENSATION. ALL DRAWINGS, SPECIFICATIONS, ETC. ARE INSTRUMENTS OF SERVICE, AND THE ARCHITECT RETAINS ALL RIGHTS THEREIN, TO BE SURRENDERED TO THE ARCHITECT AT ANY TIME UPON THE COMPLETION OR ABANDONMENT OF THE IMPROVEMENTS.

REGISTERED ARCHITECT ★ THE STATE OF NEW HAMPSHIRE ★ ARTHUR FAHR No. 112

OFFICE OF
ARTHUR FAHR – ARCHITECT
FAHRDALE AT MOULTONBORO NECK
NEW HAMPSHIRE – 03226

PROJECT NO.	DESCRIPTION	SHEET NO.
CN-6810	ELEVATIONS –	4 (6)
	PRELIMINARY PLAN	

7/15/65



FOUNDATION - FOOTING PLAN - 1/8" = 1'-0"

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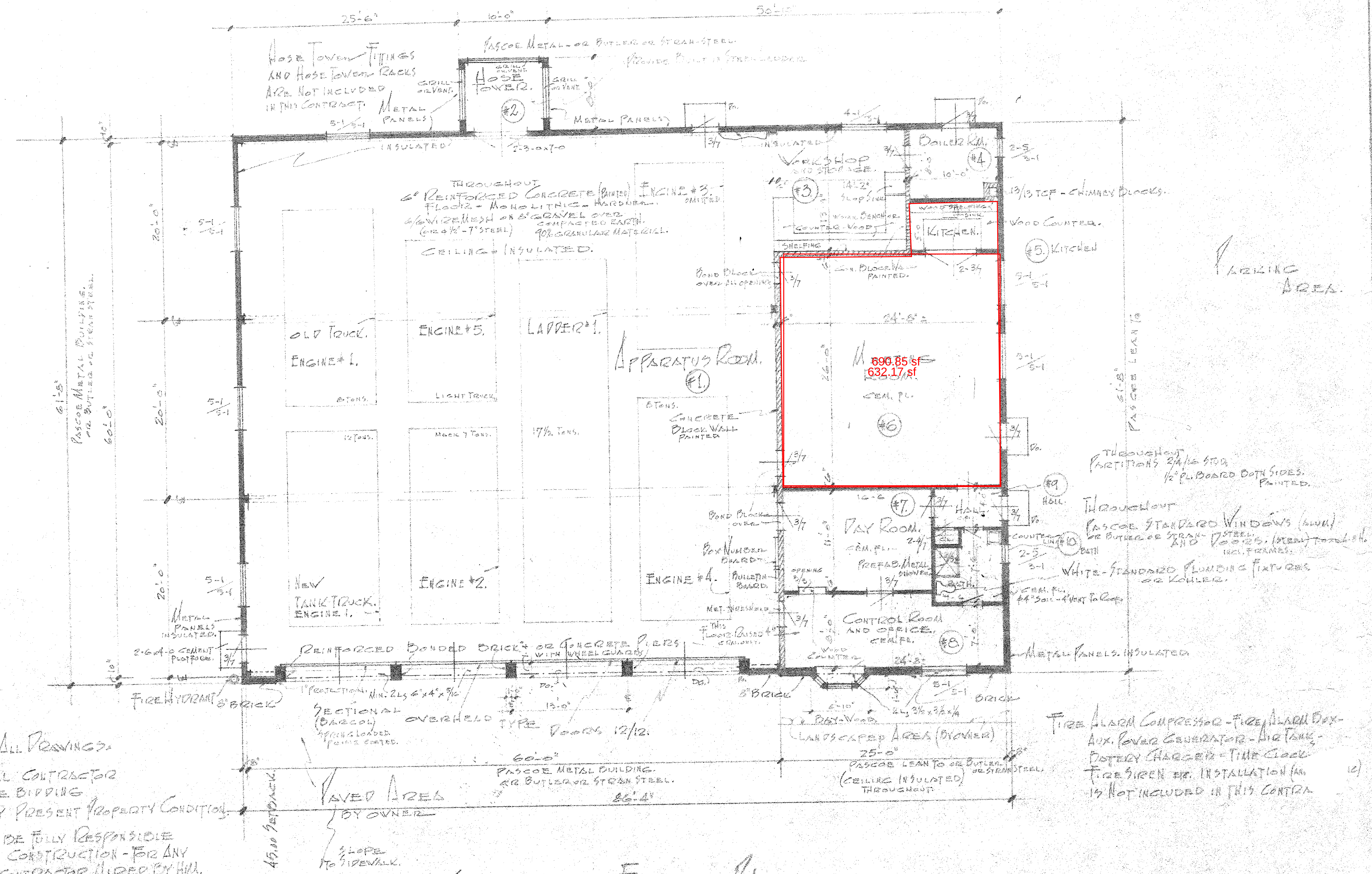
PROJECT NO.	DESCRIPTION	SHEET NO.
CN-6810.	FOUNDATION PLAN	-5- (7)

7/15/46.

PROGRESS PLAN.



APPLYING TO ALL DRAWINGS.

THE GENERAL CONTRACTOR BEFORE BIDDING SHALL VERIFY PRESENT PROPERTY CONDITION.

THE GC SHALL BE FULLY RESPONSIBLE REGARDING CONSTRUCTION - FOR ANY AND ALL SUBCONTRACTOR HIRED BY HIM.

ADDITIONS AND-OR DEDUCTIONS FROM THESE BASIC - PROGRESS PLANS MAY BE MADE BY THE OWNER BY WRITEN APPROVAL OF ALL PARTIES CONCERNED.

STREET FLOOR PLAN - 1/8" = 1'-0"

SEE NOTE - SHEET 2.

BLDG. AREA - 5398±.

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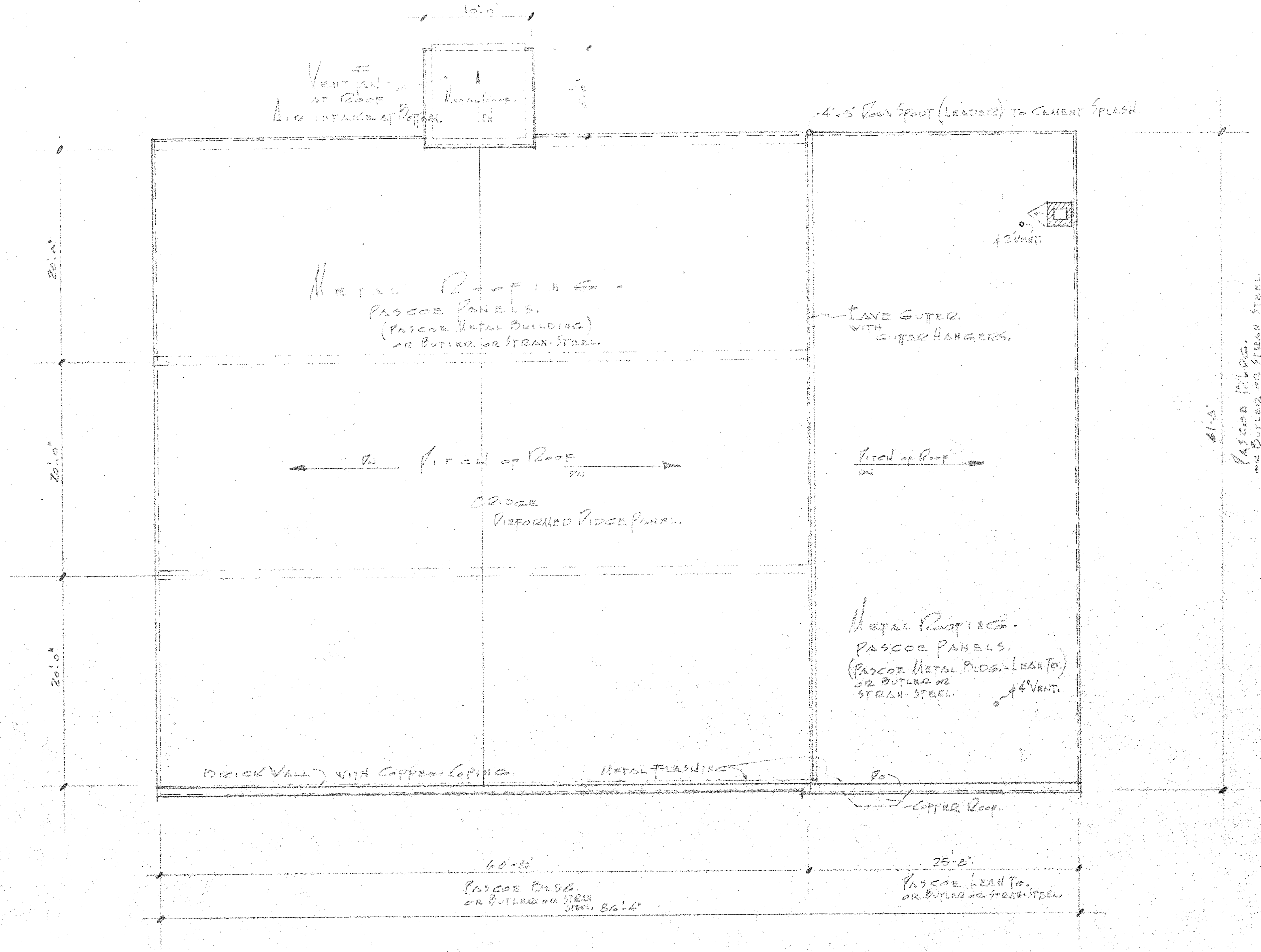
PROJECT NO.	DESCRIPTION	SHEET NO.
CN. 6810.	PROGRESS PLAN -	-6-(8)

REGISTERED ARCHITECT ARTHUR FAHR No. 112 THE STATE OF NEW HAMPSHIRE

7/15/68

PROGRESS PLAN -



Roof Plan.

1/8" = 1'-0"

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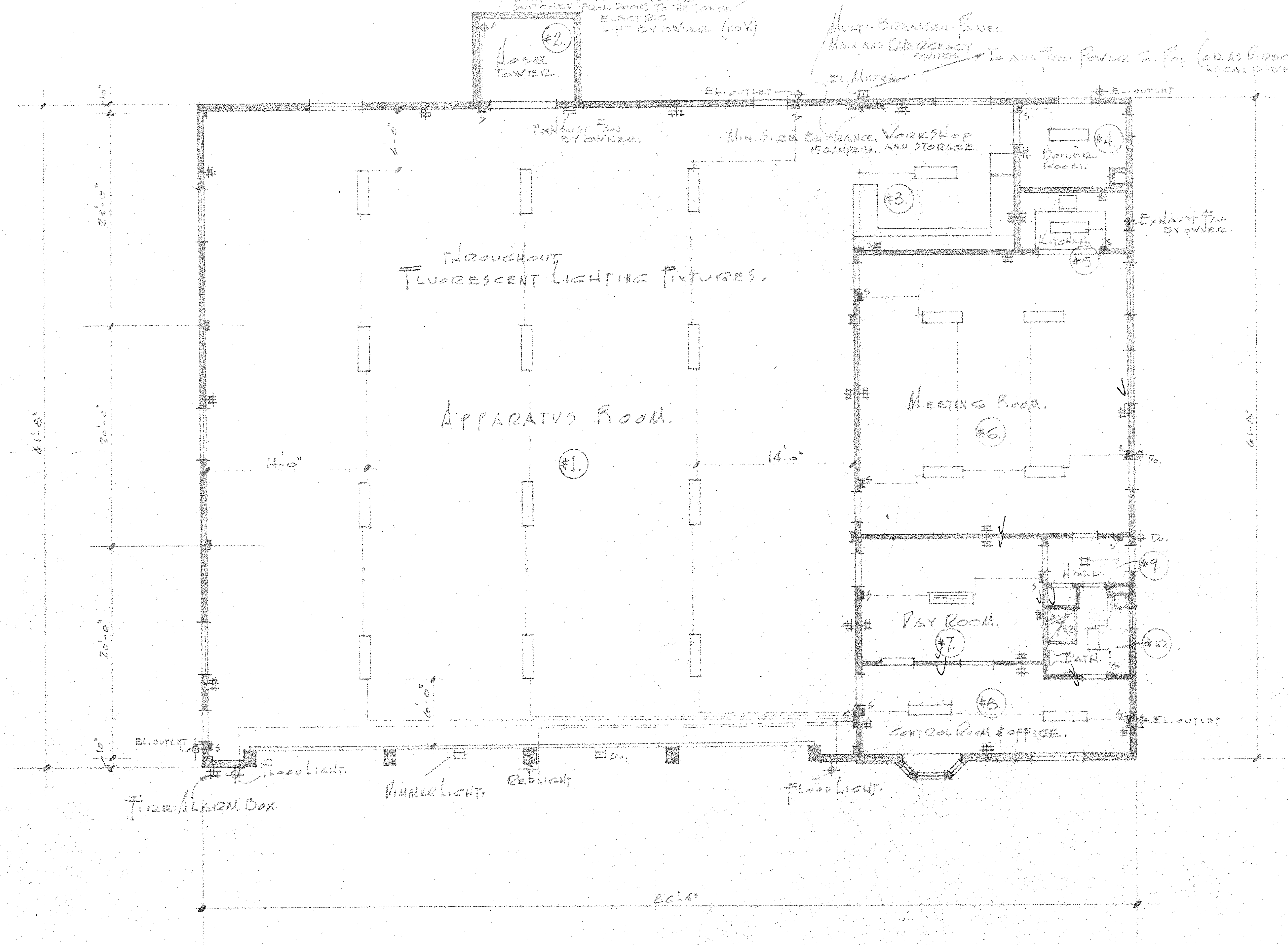
PROJECT NO.	DESCRIPTION	SHEET NO.
CN-6510	Roof Plan -	-7-(9)
7/10/68	Progress Plan.	



All Entrance Cable To Be Copper.

Entrance Service From Area Light Pole (Parking Lot) Overhead.

All Lighting 13'-0" Min. Above Fin. Floor For Apparatus Room & Workshop.

#-Duplex-Conven. Outlet. 4'-0" Above Fin. Floor.

Street Floor Plan - 1/8"=1'-0".

Electrical Work.

All Work Done in Accordance With the Requirements of the National Board of Fire Underwriters.

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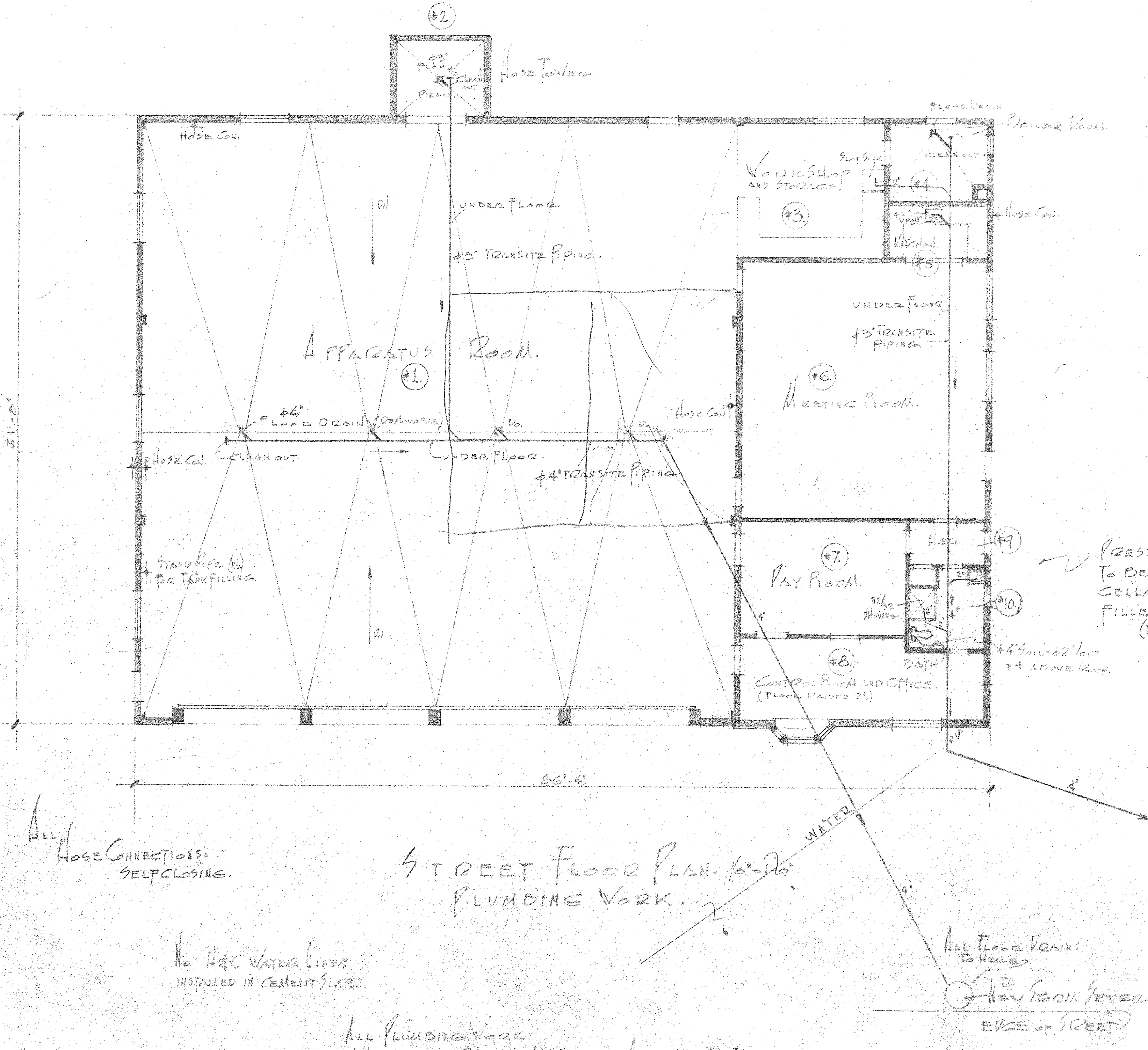
PROJECT NO.	DESCRIPTION	SHEET NO.
CN-6810-	ELECTRICAL LAYOUT-	-8-(10)

Rolls. Preliminary Plan.



Hot and Cold Water Lines ½" ϕ Copper Type L.

Existing Water Main = 1" ϕ Copper (in existing basement - present fire station)

All Plumbing Fixtures: American Standard - White - or Kohler. Properly Trapped and Vented.

Present Fire Station To Be Raised and Cellar (Hole) To Be Filled With Clean Fill. (Not in this Contract)

Existing Sewer Line is in Present Fire Station (Basement)

See Plot Plan Sheet #2.

Water Service From Shut off on Highland Street.

To Present Sanitary Sewer in old Building (Fresh)

All Hose Connections: Self Closing.

Street Floor Plan. ⅛" = 1'-0". Plumbing Work.

No H&C Water Lines installed in Cement Slabs.

All Plumbing Work shall be inspected and tested according to the National Plumbing Code.
Water Lines - 100 PSI Pressure - Hold for 30 Minutes.

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PROJECT NO.	DESCRIPTION	SHEET NO.
CN-6810-	Sewage Disposal.	9-(11)

7/15/68 — Progress Plan.

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