

**TOWN OF DEERFIELD**  
FACILITIES CONDITION ASSESSMENT  
OF  
TOWN BUILDINGS

**Congregational  
Church**

**G | R | L | A**

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## **Executive Summary**

The following Executive Summary provides a high-level commentary regarding the **South Deerfield Congregational Church** addressing the physical condition and functional adequacy of the existing building (based upon the detailed findings in the report) and recommendations for action. A general summary of the overall description of the assessment content, contributing engineers and consultants, list of buildings studies, methodology and organization follows thereafter.

## **Commentary**

Observations of the existing building, building systems (structural, MEP/FP) and adjacent site, revealed that the **South Deerfield Congregational Church** has major physical and functional deficiencies.

**Physical deficiencies** include:

- deterioration of interior floor, wall and ceiling finishes;
- aged condition of kitchen equipment and furnishings now beyond the end of service life;
- severely deficient condition of basement areas which are currently unoccupiable and exposed to moisture rising from earthen floor;
- severe deterioration of exterior building envelope components...roof, walls, foundation, windows, doors, site (*see Building Envelope portion of this report for further information*);
- significant structural deficiencies regarding the steeple and exterior columns (*see Structural portion of this report for further information*);
- significant mechanical (HVAC) , electrical, plumbing and fire protection deficiencies (*see MEP/FP portion of this report for further information*).

**Functional deficiencies** include:

- non-conformance to accessibility requirements per ADA and 521 CMR throughout the building;
- non-conformance to requirements of the Massachusetts Building Code, in particular regarding guards at openings and balcony edges;
- change in level between the Sanctuary area and the Kitchen/ Office area;
- constricted layout of the Kitchen/ Office area;
- lack of walkways from rear entrance to public way;
- limitations in re-purposing existing interior spaces for something other than assembly space.

As noted in the report, any renovation costing more than \$247,500 would require full compliance with the Massachusetts Accessibility Code (521 CMR) and any “major” renovation would trigger the need for a full building sprinkler system.

The following is a summary of the **2 approaches** to addressing the deficiencies as noted in the Commentary section of the Architectural (Interior) report, including the benefits and limitations of each approach and a final recommendation.

Option	Description	Benefits	Limitations	Recommendation
1	Renovations to the existing building <b>to accommodate a change of use</b>	<ul style="list-style-type: none"> <li>Maintains the original building and its historic value.</li> </ul>	<ul style="list-style-type: none"> <li>The overriding limitation is the extensive renovation required to mitigate the many physical architectural, building envelope, structural and mechanical/electrical/plumbing/ fire protection deficiencies as well as code deficiencies detailed in the following report.</li> <li>A change of use will trigger conformance with Chapter 10 of the Massachusetts Existing Building Code;</li> <li>Renovations of the extent required will trigger the need for a full building sprinkler system and full building compliance with the Mass. Architectural Access Board Regulations (521 CMR);</li> </ul>	<p><b>Not Recommended :</b></p> <ul style="list-style-type: none"> <li>The cost for renovation will likely exceed the cost to replace the existing building with a new building designed for the targeted occupancy use.</li> <li>Repurposing of the existing building, in addition to the cost, will limit the needs of any use determined for the property.</li> </ul>
2	Demolish existing building providing a clear site to make the open site available for development by the Town.	In addition to other needs yet to be identified, such an approach would provide the opportunity to relocate departments currently located in the other nearby municipal buildings,	<ul style="list-style-type: none"> <li>Loss of the original building and its historic and sentimental value.</li> </ul>	<p><b>Recommended:</b></p> <ul style="list-style-type: none"> <li>Most cost-effective approach to dealing with a vacant town-owned building prominently located within the municipal campus.</li> </ul>

Option	Description	Benefits	Limitations	Recommendation
		allowing renovation/ re-purposing of those buildings as noted in the reports for the other three buildings on the campus.		<ul style="list-style-type: none"> <li>Provides an open site for development of a municipal use as part of the overall municipal campus.</li> </ul>

**General Summary**

Gorman Richardson Lewis Architects and our consultants were retained by the Town of Deerfield to provide a comprehensive study of 5 Town-owned buildings with the goal to provide key information for each building outlining the condition of:

- Site and Landscape Elements
- Architectural Elements / Building Envelope Elements
- Structural Components
- Mechanical, Plumbing, Electrical and Fire Protection Systems
- Hazardous Materials
- Accessibility/ Code Compliance

This Final Report will include summaries of each building for the disciplines noted above, prioritization of the recommended repairs or replacement of any element or system and estimated costs for each characterized by level of timeliness of the improvement(s): immediate (0 to 12 months), short term (1 to 3 years), medium term (4 to 10 years), and long term (11 to 20+ years) as a basis to assist the town in its planning for capital improvements.

The architectural/ engineering team consists of:

- Gorman Richardson Lewis Architects – Architecture and Building Envelope, Site, Landscape, Hazmat, Cost Estimating
- RRC Engineering – Structural
- Garcia/Galuska/DeSousa Consulting Engineers – Mechanical, Plumbing, Electrical, Fire Protection Systems

The Town-owned buildings addressed in the Report include:

	Building	Location	Bldg Sq Footage	Year Built	Year Renovated	Additions
1	Municipal Office Building – Town Hall	8 Conway Street	12,046 SF	1950	1993	1996 Police Dept
2	Municipal Office Building – Police	8 Conway Street	4,375 SF	1950	-	1996 Police Dept
3	Old Grammar School Building – Senior	67 North Main	8,990 SF	1888	1960s – 1970s	-
4	Public Works Garage	9 Merrigan Way	13,392 SF	2014	-	-
5	Congregational Church	71 North Main	13,065 SF	1821	1990 &	1960 Kitchen and Meeting

**Methodology**

During the months of February and March, 2020, GRLA and our consultants visited the **Congregational Church** on multiple occasions and made visual observations of the condition of the interior architecture of the building, including walls, ceilings, flooring, doors, windows/glazing, casework/furnishings, miscellaneous equipment, mechanical-electrical- plumbing finish components and fixtures, as well as code issues regarding building code and accessibility code and to assess the presence of suspected hazardous materials. In addition, a visual structural survey was undertaken to identify any significant structural issues or deficiencies.

Information gathering, field notes, and photography for this section of the Conditions Assessment Report were accomplished using Microsoft Teams to access floor plans on site, Microsoft Excel for recording field notes, PDF Viewer for annotating floor plans, and iPhone camera and Samsung Gear 360 for photos.

**Condition Assessment Matrix**

The objective of the Condition Assessment Matrix included in each section of the Report, is to provide a detailed summary of each condition/ deficiency observed regarding the aforementioned disciplines for each building, a level of priority as to when the condition should be addressed, a

time-range relating to the remaining service life of the item, a commentary describing action (if any) to be taken, an approximate quantity and an estimate of cost to implement the recommended action:

- **Issue #:** Each observed condition is assigned an issue number relating to the floor level where it is located (*eg: 1F-17 = First Floor – Item 17*)
- **Discipline:** one of the 5 primary areas of concentration:
  - Site/ Civil
  - Architecture
  - Building Envelope
  - Structural
  - Mechanical-Electrical-Plumbing-Fire Protection (MEP/FP)
- **Room Name:** Specific room or area where the item is located in the building floor plan
- **System/ Component:** one of the 22 categories describing the type of building component being addressed (wall, ceiling, flooring, etc.)
- **Existing Description:** detailed description of each observation
- **Photo #:** address of photo pertaining to the specific issue
- **Commentary/ Proposed Work:** Recommended action to be taken (if any)
- **Quantity:** quantity of the component/ system to be addressed and acted upon (*eg: 7,500 sf, 1 LS (Lump Sum), etc.*), used as a basis for the cost estimate
- **Unit:** unit of quantity (each, square feet, etc.)
- **Repair/ Replace Priority: 0-11 months/ 1-5 yrs/ 5-10 yrs/ 11-20 yrs:** level of priority for addressing each condition with estimate of anticipated construction cost to implement the recommended action within the timeframe relating to the level of priority (including Contractors' General Conditions, fees, etc. and escalation factors relative to 2020 dollars).

GRLA and our consultants want to thank Kayce Warren, Kevin Scarborough, and the Town of Deerfield for the opportunity to work with you on this Town Building Assessment. After having reviewed the information and findings herein, please contact us with any questions or follow-up information required.

Sincerely,  
GORMAN RICHARDSON LEWIS ARCHITECTS, INC.



Scott Richardson, AIA, LEED AP  
Principal

## Church - Total Estimated Costs

Discipline	Cost Estimate			
	1 yr	5 yr	10 yr	20 yr
Architecture	\$0	\$1,150,000	\$0	\$0
Building Envelope	\$0	\$81,500	\$2,500	\$142,500
MEP/FP/Hazmat	\$73,000	\$219,500	\$126,000	\$0
Structural	\$40,000	\$2,500	\$0	\$0
Site & Landscape	\$0	\$20,500	\$10,000	\$0
<b>Totals</b>	<b>\$113,000</b>	<b>\$1,474,000</b>	<b>\$138,500</b>	<b>\$142,500</b>
<b>OPTION 2: Demolish Existing Building</b>		<b>\$100,000</b>		

**Building Summary / Narratives**

Facilities Condition Assessment Narrative

**Building Summary**

**South Deerfield Congregational Church**

Address: 71 North Main Street, South Deerfield, MA 01373  
Constructed: 1821  
Renovations:  
2020 Assessed Value: \$825,000  
(Building Only)

Building Characteristics

Gross Floor Area:  
Basement Level: 6,556 gsf  
First Floor: 6,556 gsf  
Second Floor: 1,736 gsf  
Total Building Area: 14,848 gsf

780 CMR Mass. Building Code:

Use Group Classification: A-3 (Assembly/ Place of Religious Worship)  
Construction Type: V-B

Building Envelope: (see *Building Envelope Section for more detailed information*)  
Exterior Wall Assembly: Wood / Vinyl Siding ;  
Windows: Vinyl Double Hung Insulating (operable);  
Roofing: Asphalt Shingles;

HVAC: (see *MEP/FP Section for more detailed information*)  
Heating Fuel: Forced H/A

Fire Protection: Unsprinklered; no fire alarm system.



## Architecture – Interior

### OVERVIEW:

In this section of the Facilities Condition Assessment Report, Gorman Richardson Lewis Architects (GRLA) presents a summary of observations regarding the condition of the interior architecture of the **South Deerfield Congregational Church** including commentary and recommendations for action to be taken. These observations of the interior architecture are organized according to the following “categories” in order to address the various components, systems and issues comprising the existing condition of the **South Deerfield Congregational Church** Interior:

1. General
2. Floors
3. Walls
4. Doors
5. Windows
6. Casework/ Furnishings
7. Ceilings
8. Equipment
9. Electrical/ Lighting Fixtures
10. Mechanical Fixtures
11. Plumbing Fixtures
12. Code Issues
13. Hazardous Materials

Built in 1821, the **South Deerfield Congregational Church** was originally located up North Main Street in the town of Deerfield. The Church was relocated in 1848 to its current location at 71 North Main Street in South Deerfield next to the Senior Center (former grammar school). The building held its last service on Sunday, January 8<sup>th</sup>, 2017 and the building has been vacant since. The Town’s DPW Director, Kevin Scarborough, noted that the building has been “winterized” to allow shutting down of the heating system without freezing pipe damage. Comprised of three levels—Lower (Basement) Level (currently uninhabitable), First Floor (housing the primary functions of the Congregational Church), and a Second Floor (only above the Sanctuary/seating), the Church has a record of being renovated three times: the kitchen and meeting room addition (1960); kitchen renovation (1990); and roof assembly over the rear entry ramp (2003).

The building is Type V-B construction with load-bearing exterior wood framed walls, interior wood frame construction, gable pitched wood-frame roof assembly with asphalt shingles and a stone/ cast-in-place foundation.

There are three main entries each with an associated porch, which face North Main Street. Each entrance leads to separate interior spaces including the Narthex 100, Entry Corridor 111, and the Auditorium 113. There are also three rear entrances, which include an entrance off the rear of the sanctuary (Rear Entry 104) with a wheelchair ramp, an entrance off the rear of the Hall (Rear Entry 115) and an entrance into the Stage 114 (Rear Entry 117). Rear Entry 115 and Rear Entry 117 are only accessible by walking through the landscaped portion of the property as there is no walkway linking the entrances to the parking area.

## OBSERVATIONS:

### Basement Level (see floor plan included in the Appendix of this report):

- The Basement Level consists of three areas corresponding to the 3 main portions of the church complex:
  - (1) Sanctuary
  - (2) Kitchen/ Office
  - (3) Auditorium.
- The basement areas under the Sanctuary and Kitchen/Office are unfinished spaces, separated by an enclosed interior staircase leading back up to the main level. The basement under the Auditorium was inaccessible but assumed to be a crawl space in similar condition to the other Kitchen/ Office Basement area.
- Basement (1) under Sanctuary:
  - Partially excavated with a full-height area extending the length of the Basement.
  - Floor is earthen with random rocks strewn about;
  - Exterior walls are primarily stone rubble with a “cap” of granite blocks extending above grade and visible from the exterior.
  - Mechanical equipment, including a furnace and ductwork servicing the Sanctuary and Kitchen/ Office wings above as well as bellows equipment servicing the pipe organ above are located at the west end of the basement. These units are currently out of service.
  - Two rows of brick piers with additional lally columns support the wood framed first floor assembly above.
  - The overall condition of the Basement is poor and not suitable for occupancy. The exposed earth floor allows moisture from ground water to migrate into the space and framing above.
- Basement (2) under Kitchen/ Office:
  - Fully excavated with packed earth floor;
  - Exterior walls are cast-in-place concrete up to floor assembly;
  - (3) oil tanks and hot water heater are located at the south side of the basement near the brick chimney foundation;

- Two rows of lally columns on raised concrete footings support the wood framed floor assembly above.
- The overall condition of this basement is serviceable for utility space but not for occupancy. The exposed packed earth allows moisture to migrate up from ground water into the space and framing above.
- Basement (3) under Auditorium:
  - Though inaccessible at the time, the foundation walls are of cast-in-place concrete.
  - The basement area is assumed to be in similar condition as Basement Area (2).

### **First Floor** (see floor plan included in the Appendix of this report):

- The First Floor is approximately 3 feet above finish grade with access via stairs at the North Main Street entrances and rear entrance with a ramp providing accessible access to the Rear Entry 104 from the parking area.
- The First Floor consists of Narthex 100 accessed from the North Street side (front) of the building; the Sanctuary 101 on the east side of the building; the Lectern 102 and Organ Loft 103 which are associated inside the Sanctuary and adjacent to the Rear Entry 104, which is along a portion of the rear (east) side of the building with the accessible ramp for entry. Opposite of the Rear Entry is Corridor 105 which is adjacent to the interior stairs leading to the basement. Branching from the Corridor 105 is Office 106 and Restroom 107. Continuing Corridor 105 is Corridor 110 which branches into Study 108, Kitchen 109, Entry Corridor 111, Office 112, and Auditorium 113. Entry Corridor 111 provides a second means of entry and egress to the central spaces of the Church and the passageway faces the North Main Street side. At the rear of Auditorium 113 is Stage 114 which includes stage storage along the rear wall, Rear Entry 115, Restroom 116, and Rear Entry 117. Rear Entry 115 and Rear Entry 117 both do not have walkway paths leading to their entries.
- Although the condition of the First Floor is functional for its original purpose as a place of worship and community space, there are significant physical and functional deficiencies. Any major renovation or change of use would trigger substantial upgrades including full conformance with Mass. Architectural Access Board regulations (521 CMR) and the requirement of a full sprinkler system per M.G.L 148 sec. 26G, which requires that any existing building over 7,500 square feet that undergoes major alterations or building addition must be sprinklered. The finishes, furnishings and equipment are older and limited in service life. Access to the upper portion of the Sanctuary will need to be upgraded with proper handrails, handrail extensions, and landings.
- Specific conditions are noted in the Conditions Summary Matrix included in this report, but a general summary can be described as follows:
  - **Narthex [100]** is the primary entrance to the Congregational Church's worship space providing direct access to the Sanctuary.

- The Narthex lacks proper ADA accessible door(s) for entry into the church and into the Sanctuary. The current broadloom carpet is in good condition;
  - Walls are painted plaster or gypsum wallboard with wainscoting in which the current paint is chipping away.
  - The ceiling is a painted plaster ceiling which is chipping throughout.
  - The three (3) exterior double wood doors (4'-0" x 8'-9") have non-accessible knob-type hardware. These exterior doors have surpassed their serviceable life and do not meet current ADA standards. In order for these double doors to be ADA compliant they need to have a minimum of a 3' door leaf – in the case of these exterior doors the largest door leaf is only 2 feet in width.
  - There are three (3) interior doors that lead from the Narthex into the Sanctuary, one door in the center and one on each side. The center interior door is a double wide wood door (3'-9" x 8'-9") with leather door handles, deteriorated leather finish, and inoperable door arms and is in poor condition.
  - The two interior side doors are double wide wood doors (3'-2" x 7'-2") with the same hardware as the centered double door, also in poor condition.
  - The East (N. Main Street) side wall has two windows which have surpassed their serviceable life and replacement is recommended. These two windows are located partially beneath the two staircases that lead up to the second floor space of the Sanctuary. These windows are not equipped with tempered glass and there is no railing on that side of the staircase to keep occupants from falling towards these windows.
  - The two staircases leading up to the 2<sup>nd</sup> floor of the Sanctuary space are 2'-9" in width. Currently the handrails are 30" high, less than the required 34" – 38" high. These staircases are not enclosed which become problematic in the event of a fire near or around these staircases. Furthermore, these staircases both lead into the Narthex space therefore occupants will have no way to escape in the event of a fire in the Narthex.
- **Sanctuary [101]** is the primary gathering space for the Congregational Church. The broadloom carpet flooring is in good condition. The painted plaster/ gypsum wallboard walls with wainscoting are in fair condition with chipped paint observed in some places. The underside of the upper sanctuary (balconies) has cracking which is likely due to the age of the paint on the underside and movement of the balcony structure. The 11 windows located in the Sanctuary are vinyl double hung 4 lite obscure glass (3'-9" x 6'-8") which are in good condition. The 11 rows of pews are clean and in good condition. There is only one ADA accessible exit/entry in the Sanctuary which is at the Rear Entry 104. The Sanctuary space is adequate for the use that it is intended.

- **Rear Entry [104]** provides egress from Sanctuary 101, as well as some space for storage. Flooring is 12 x 12 vinyl composite tile (VCT) in good condition. Walls are painted plaster showing peeling/chipped paint. Exterior egress door is a wood door (3'-0") with push bar and inoperable door arm. This exterior door provides the main egress for handicap occupants and should be upgraded to provide ease of access. The interior door from the Sanctuary is a wood panel (3'-0") door in good condition. Conventional painted ceiling is beginning to chip and should be repainted. The clear distance between the outdoor and inner door is less than the 7'-0" required for accessibility.
- **Corridor [105]** provides access to the staircase to the basement, and the connection between the Sanctuary and the Kitchen/ Office areas, including Office 106 and Restroom 107. Flooring is broadloom carpet which is aged and in fair condition. Walls are painted plaster/ gypsum wallboard in good condition. The ceiling is a conventional plaster/ wallboard painted ceiling in good condition. Located opposite to Restroom 107 is a 3'-7" wide shelving unit located inside the wall with sliding doors which are currently inoperable. Heading towards Corridor 110 is a 6' long ramp which rises 7" to provide access from the Sanctuary level to the Kitchen/ Office level. With current ADA standards requiring a 1:12 slope, the ramp should be 7' long to meet the existing 7" height difference. Located off the side of the ramp is the entrance to Restroom 107, which interferes with the threshold of the Restroom. Relocating the door to Corridor 110 will be able to provide those who need it ample space and a smooth surface into the restroom. There are currently two openings at each end of the ramp which are 2'-8" wide and should be fully opened to the extent of the hallway to allow the most efficient circulation throughout Corridor 105. The staircase down to the basement of the Congregational Church is separated by a 3'-6" high gate which opens towards the staircase. This configuration is inadequate for proper access to the stairs and does not provide adequate separation between the 1<sup>st</sup> floor and the Basement level below.
- **Office [106]** is an office space accessed directly from Corridor 105 and Entry Corridor 111. Flooring is broadloom carpet which is aged and in fair condition. Walls are painted gypsum wallboard in good condition. Doors from both Corridor 105 and Entry Corridor 111 are wood doors with mail deposit slots, although they are aged they are in good condition. There is one 12 lite vinyl double hung window (1'-9" x 3'-8") in good condition. Ceiling is 12 x 12 seamed ceiling tiles which are in good condition. The room appears to be able to serve as an office for one occupant.
- **Restroom [107]** is single fixture unisex restroom located directly off of Corridor 105. As noted above the entry to Restroom 107 is inadequate as it is located along the ramp which requires the patron to step up from the ramp's sloped surface. Furthermore, the flooring is 9 x 9 resilient tile (suspected ACM) in fair condition. Walls are painted gypsum wallboard in good condition. The door is a wood door (2'-6") with appropriate locking mechanism in fair condition. Ceiling is a conventional painted ceiling in good condition. Plumbing fixtures include (1) floor mounted water closet with grab bars and one wall mounted sink and faucet assembly with mirror. Currently the width of the restroom is 4' which makes this restroom unsuitable for those who use wheelchairs. Currently, moving the located door will provide better access to the restroom, it will not make this bathroom compliant with ADA standards. Any renovation project greater than \$100,000 in value would require at the installation of at least one accessible restroom.

- **Study [108]** is located off of Corridor 110 and provides occupants a place for study and meetings. Flooring is 24 x 24 carpet tiles in fair condition. Painted plaster walls are in good condition with similar painted plaster walls located inside the storage closets but in poor condition due to cracking and water staining. Ceilings are conventional painted plaster/ wallboard ceiling with some cracking visible near lighting fixtures. The entry door is a double French door (4' wide opening ) with (2) 10-lite leaves each being 2' wide in good-fair condition. There are (5) 3'-3" wide windows which are vinyl, 4 lite double hung in good condition. Located along the wall between the kitchen and study is a 7'-8" wide chimney jogging into the room which hosts a fireplace with a white mantle encompassing the fireplace, all in good condition.
- **Kitchen [109]** is located off of Corridor 110; a serving counter opens into the adjacent Auditorium 113. Flooring is epoxy in fair condition. Painted plaster walls are in fair condition with some chipping observed. Ceiling is 1'-6" ceiling tiles in poor condition, with missing tiles above the stove hood. The door from Corridor 110 is a wood panel door (2'-8") in fair condition. The door opening into Rear Entry 115 is a wood panel door (2'-8") in fair condition. There are 4 (2'-7" x 5') windows which are vinyl 4 lite double hung in good condition. Located along the walls are wood base cabinets with plastic laminate countertops in fair condition. These countertops include a 11'-6" countertop, 12'-6" countertop, and a 13' countertop. Located centrally in the kitchen is an island (4'-6" x 10'-6") with open storage underneath the stainless steel sinks; the countertop is plastic laminate. Kitchen equipment includes a six burner gas stove oven range, a two door convection oven, a stainless steel double basin kitchen sink assembly, a stainless steel single kitchen sink assembly, and a stainless steel single dishwashing sink; The large ventilating hood is above the stove and oven and is currently in need of repair to the connection holding it to the ceiling. There is no fire suppression installed in the hood. The kitchen equipment is old and at the end of its service life.
- **Corridor [110]** gives access to various spaces including: Study 108, Kitchen 109, Entry Corridor 111, Office 112, and Auditorium 113. Since Corridor 110 is a continuation of Corridor 105 they share the same finishes and condition. Flooring is broadloom carpet which is aged and in fair condition. Walls are painted plaster/ gypsum wallboard in good condition. The ceiling is a conventional painted plaster in good condition.
- **Entry Corridor [111]** is a central entrance that gives access to Office 106 and Office 112. Flooring is broadloom carpet which is aged and in fair condition. Walls are painted plaster/ gypsum wallboard in good condition. The ceiling is a conventional painted plaster in good condition. There is a wood double door (4' opening) with proper locking mechanism and door arm in fair condition. Near the exterior entry doors are 3 steps to the floor level of the Kitchen/ Office area.
- **Office [112]** is accessed directly from Entry Corridor 111 and Corridor 110. Office 112 features the same finishes as Office 106. Flooring is broadloom carpet which is aged and in fair condition. Walls are painted gypsum wallboard in good condition. Doors from both Entry Corridor 111 and Corridor 110 are wood doors with mail deposit slots, although aged they are in good condition. There is one 12 lite vinyl double hung window (1'-9" x 3'-8") in good condition. Ceiling is 12 x 12 concealed spline ceiling tiles which are in good condition. The room appears to be able to serve as an office for one occupant.

- **Auditorium [113]** is the main function space for hosting events outside of the Sanctuary space. The Auditorium provides its own entry on the North Main Street side of the Church, but additional means of circulation are provided from Corridor 110, Rear Entry 115, and Rear Entry 117. The flooring of the Auditorium is hardwood flooring with typical scratches and scuffs from years of usage. The walls are painted plastered walls with cracking observed above the windows. The exterior door is a wood panel double door (4') which is aged but in fair condition. There are (2) 24 lite vinyl double hung (3'-3" x 6'-4") windows located along the East (N. Main Street) side elevation, as well as three (3) 4 lite vinyl double hung (3'-3" x 7'-9") windows in good condition. The ceiling is a painted conventional plaster ceiling which is chipped and has some water staining. Although serviceable for its original use, the Auditorium is inaccessible for handicap access and beyond its service life.
- **Stage [114]** located at the west (rear) end of Auditorium 113 provides the raised platform for performances, speeches, etc. The flooring is a mix of hardwood flooring and stained plywood which may have been due to replacement for previously damaged hardwood. The existing hardwood which remains is noticeably scratched and scuffed as expected with stage flooring. The painted plaster/ gypsum wallboard walls are in good condition with chipped paint seen in a few locations. The ceiling consists of a painted conventional plaster in good condition. There are two small doors (2') which provide access up to the stage from Rear Entry 115 and Rear Entry 117. These doors are located on an angled wall which requires some maneuvering to access ,the stage. There are 3 steps up on both sides that lead to the doorway which are only 2'-7" wide. Located at the back of the stage is a storage space which is just an additional wall to provide a cove for storage. The stage is currently not accessible and would require access as part of a significant renovation.
- **Rear Entry [115]** is an entry space that also serves as custodial space. The flooring is a continuation of the epoxy from the kitchen in fair condition. The walls are painted gypsum wall / plaster with cracking and water damage between the kitchen, exterior wall, and vestibule. The exterior door is a wood door (3') with a single vision panel; aged but in fair condition. The door leading into Auditorium 113 is a wood door (3') which is also aged but in fair condition. There is one double hung 4 lite vinyl window (3'-6" x 4'-8") which is in good condition. Ceiling is a painted conventional ceiling with some cracking around the lighting fixture and at the water stained location noted above. For custodial purposes the rear entry has a typical mop sink in fair condition as well as needed shelving for supplies and storage.
- **Restroom [116]** is accessible directly off of Rear Entry 115. It is a small restroom only being 2'-8" in depth and 6'-8" in width. The flooring features hardwood flooring which is aged and worn. Walls are painted plaster with a small crack observed but otherwise in good condition. The door is a wood panel door (2'-6") with a typical locking mechanism and door knob in fair condition. There is one double hung 4 lite vinyl window (2'-0" x 3'-3") in good condition. Ceiling is painted conventional plaster with water damage and in fair-poor condition. There is an aged wall mounted sink in fair condition as well as a water closet which is in fair condition. The restroom is currently not accessible for handicap use.
- **Rear Entry [117]** is located off the backside of the stage and provides performers an access to the stage without requiring them to go through the Auditorium. The flooring consists of hardwood flooring similar to that of Restroom 116. The hardwood flooring is in poor condition due to

the flooring being met by exterior conditions initially upon an occupant's entry. The painted plastered walls are in fair condition requiring some cleaning and potentially a new coat of paint. The ceiling is a painted conventional ceiling with a large opening above the exterior door, likely due to deterioration of the plaster and potentially water infiltration. A double hung 4 lite vinyl (3'-6" x 4'-8") window is located at the bottom of the three steps headed down from the stage and is in good condition. Considering that this window is within 5' of the stairs the glass of this window should be tempered glass. The exterior door is a wood panel door (3') in fair condition. Access to grade is by a wooden set of stairs. The interior doorway leading up to the stage features a 6'-8" door cut down to 5' high and a 3 step staircase in front of the door to allow access to this portion the stage. Overall Rear Entry 117 is very restricted and not accessible for handicap egress.

## **Second Floor** (see floor plan included in the Appendix of this report):

- The Second Floor is primarily balcony seating around 3 sides of the Sanctuary below to allow those who are seating above to be able to take part in the events taking place below. Access from the First Floor is by the 2 interior stairs: both from the narthex and at opposite ends. The configuration and finishes appear to be relatively unchanged from the time the building was constructed in 1821 aside from the windows which were replaced with vinyl double hung. The 2<sup>nd</sup> floor consists of the secondary sanctuary seating, the two staircases, and a corridor providing access up to the attic and bell tower. The second floor is currently not accessible.
- Specific conditions are noted in the Conditions Summary Matrix included in this report, but a general summary can be described as follows:
  - **Upper Sanctuary [201]** occupies the space above Sanctuary 101, providing additional balcony seating. Currently the flooring consists of original wide wood planks with some that are cracked, bowed, or have holes. The walls are a continuation of what is in the Sanctuary below which is painted plaster/ gypsum wallboard walls with wainscoting which has typically cracked paint. There are 12 windows throughout the Upper Sanctuary, 6 on each side. These windows are double hung 4 lite vinyl (3'-9" x 6'-8") windows with obscure glass, which are all in serviceable condition. The ceiling is a painted conventional plaster with some cracking and water staining throughout. The pews throughout the Upper Sanctuary match the standard of the Sanctuary pews below, with the exception of the cushions. These pews are in good condition but they are a difficult to access. When accessing the front row of pews patrons have to go down one step, the handrail which is provided is part of the pew and although they are aesthetically pleasing, they are only 1'-9" high and have a curve to them which makes them potentially unsafe as a guard if someone were to miss the step down. Furthermore, the step down is small and difficult to see, there is enough space to provide the proper step size needed to meet current building code standards. The current railing / knee wall between the second floor sanctuary and the sanctuary below is only 2' high. This is problematic for those who need the assistance of a railing to get to their seat and for those who potentially trip towards the railing. The Upper Sanctuary has hazards throughout the space and to ensure the safety of the occupants.

- **Corridor [202]**, located directly above the Narthex, provides the main access to the attic space and the bell tower above. Access to the attic is through a wall-mounted wooden ladder located next to the staircase. Flooring is unfinished 1-ft wide floor planks with some cracked, have holes, or are bowed. Walls are painted plaster up to the Upper Sanctuary's door height, the rest of the wall is unfinished. On the wall between Upper Sanctuary 201 and the corridor is an unfinished curved plaster wall with dates and significant events in which the bell was rung – dating back to the 1800's. The writing was done with a variety of writing utensils. The door leading into the corridor from Upper Sanctuary 201 is a wood panel door (3') with door knob and inoperable locking mechanisms. Currently the door can only open to 45 degrees because there is a loose floor board that is protruding and stopping the door from opening all the way. There are 7 windows facing North Main Street which are vinyl double hung (3'-9" x 9'-8"), non operable which have surpassed their serviceable life. The ceiling is a plastered ceiling which shows age throughout as well as cracking and water staining in areas around the bell tower above. Currently the staircase is open and the existing wood guardrail that separates the staircase from the corridor is only 1'-6" high posing a hazard. There are various raised platforms in the corridor which pose hazards to the already hazardous corridor.
- **Stair [01 and 02]** are the two means of access and egress to Upper Sanctuary 201 from the Narthex below. These staircases pose the same finishes and issues as each other so they are being discussed together. The flooring for the staircases are painted white wooden risers and black treads. Walls are painted plaster up to the Upper Sanctuary's door height, the rest of the wall is unfinished. There is a door at the top of each staircase which is a paneled wood door (3') with knob handle mechanism and an inoperable locking mechanism. There is a window at the top of each staircase which are double hung 4 lite vinyl (3'-9" x 6'-8") windows with obscure glass and in good condition. Currently these staircases are not up to current building code. The risers are 8 ½" high and 9 ½" in depth. The handrails provided are only on one side of the staircases and are only 33" high. As noted in Narthex 100, there is a window on the lower half of the staircase in which there is no handrail to keep patrons from falling into the window. The second floor is currently only accessible through the two staircases in the Narthex. Currently neither of these staircases are enclosed by a fire rated wall and would be problematic in the event of a fire being in the Narthex.

### **Attic/ Bell Tower:**

- The Attic/ Bell Tower level is unoccupied with the attic space above the Sanctuary unfinished. Access to the Bell Tower is by a permanent ladder leading to the bell.
- The attic is unfinished, with the sloped roof making up the extents of the space. The underside of the roof structure is exposed and aged batt insulation at the floor. There are planks to walk upon throughout the attic space. There is a small window which provides the only lighting source during the day to this attic space. Along with absent of lighting this portion of the church is not heated.

- The enclosed bell tower features walls similar to that of Corridor 203's curved wall – with dates and significant events written on the unfinished wall.
- The bell tower / steeple is currently tilting towards the church, it is recommended that a study further into the condition and repairs necessary is to be done (*see Structure Assessment section of this report*).

### Code Issues:

- Accessibility:
  - Non-compliance with Massachusetts Architectural Access Regulations (521 CMR) includes, but are not limited to, the following:
    - Exterior Ramp assembly at Rear Entry 104;
    - Interior doors clear width and hardware;
    - Sanctuary seating ;
    - Raised Lectern and Organ Loft;
    - Ramp at Corridor 105;
    - Restrooms 107 and 116
    - All entry doors;
    - 2<sup>nd</sup> Floor access and seating
    - Stage area
  - Life-Safety:
    - Railings at 2<sup>nd</sup> floor balconies are not required height for guards
    - Insufficient fire detection and alarm system;
    - No fire suppression system at commercial kitchen stove hood.

## Hazardous Materials:

- Asbestos:
  - Visual inspection of interior materials indicated the presence of suspect asbestos containing building materials.
  - Prior to any demolition or renovation work, sampling and testing of suspected ACM is required to determine abatement requirements.
- Lead in paint:
  - Visual inspection of selected interior and exterior materials indicated the presence of suspect lead in paint or coatings on wood, brick, concrete, cement, gypsum board, plaster, and/or metal.
  - OSHA 29 CFR 1926.62 Subpart D, Lead, applies to all renovation/demolition where an employee may be occupationally exposed to lead.
- PCBs:
  - Visual inspection indicated the suspected presence of PCBs in glazing and frame window caulk, door frame caulk, and vent/louvre caulk, as well as an oil-based paints and floor.
  - Prior to any demolition or renovation work, sampling and testing of suspected PCB's may be required to determine abatement requirements.
- Mercury:
  - Presence of wall thermostats/temperature controls within the building. It is unknown what thermostats or other suspect mercury-containing equipment may be or may have been in the building since its construction. A more thorough survey of the entire temperature control system is necessary to evaluate the presence or absence of mercury, prior to decommissioning this system. Based on its known or suspected historical or current use, mercury may typically have been found in areas and materials within the building or brought into the building during its history.
- Radon:
  - Radon is a radioactive gas that has been found in homes and other structures all across the United States.
  - Testing of radon levels within the Church is required to determine indoor radon levels and measures required to mitigate radon levels down to <2 pCi/L.
- Mold:
  - Since mold requires water to grow, it is important to prevent moisture problems in buildings.
  - Measures should be taken to mitigate raised moisture levels within the basement due to exposed earthen floor of all basement areas.

## COMMENTARY:

Although serviceable as a worship space since closing on January 8<sup>th</sup>, 2017, the building has both significant physical and functional deficiencies which would need to be addressed if it were to be reopened as a place of worship. If reoccupying the building would involve a change of occupancy, to something other than a place of worship, the provisions of the Massachusetts Existing Building Code, Chapter 10, would apply. In addition to repairs and other upgrades, renewed occupancy would likely require a full building sprinkler system and full accessibility per the Massachusetts Architectural Access Board Regulations (521 CMR).

### Physical deficiencies include:

- deterioration of interior floor, wall and ceiling finishes;
- aged condition of kitchen equipment and furnishings now beyond the end of service life;
- severely deficient condition of basement areas which are currently unoccupiable and exposed to moisture rising from earthen floor;
- severe deterioration of exterior building envelope components...roof, walls, foundation, windows, doors, site (*see Building Envelope portion of this report for further information*);
- significant structural deficiencies regarding the steeple and exterior columns (*see Structural portion of this report for further information*);
- significant mechanical (HVAC) , electrical, plumbing and fire protection deficiencies (*see MEP/FP portion of this report for further information*).

### Functional deficiencies include:

- non-conformance to accessibility requirements per ADA and 521 CMR throughout the building;
- non-conformance to requirements of the Massachusetts Building Code, in particular regarding guards at openings and balcony edges;
- change in level between the Sanctuary area and the Kitchen/ Office area;
- constricted layout of the Kitchen/ Office area;
- lack of walkways from rear entrance to public way;
- limitations in re-purposing existing interior spaces for something other than assembly space.

## **RECOMMENDATIONS:**

Due to the significant physical and functional deficiencies of the existing building as noted above and the limitations of the existing layout to accommodate any new occupancy, costs for renovations required to both repair the building, provide code-compliance and accommodate an alternative occupancy would likely be off-set by the cost to demolish the existing building and construct a new building with an appropriate occupancy, either for the Town or for a private developer if the Town sold the property.

Since the building has been unoccupied since early 2017 without any future use identified, the recommendation is to demolish the existing building in its entirety to make the open site available for development by the Town. In addition to other needs yet to be identified, such an approach would provide the opportunity to relocate departments currently located in the other nearby municipal buildings, allowing renovation/ re-purposing of those buildings as noted in the reports for the other three buildings on the campus.

The issues addressed in each Narrative category above are further itemized in the attached Condition Assessment Matrix with priority level (0-11 months/ 1- 4 year/ 5- 10 years/ 11- 20 years) and associated costs for repair or replacement included for each issue. At the bottom of each matrix is a summary of the costs-- by building-- for each of the priority levels, providing a summary of anticipated costs—by building—for capital planning purposes for the next 20 fiscal years: 2020 through 2040.

## Architecture – Exterior Building Envelope

### OVERVIEW:

In this section of the Facilities Condition Assessment Report, Gorman Richardson Lewis Architects (GRLA) presents a summary of observations regarding the condition of the exterior building envelope of the **Congregational Church** including commentary and recommendations for action to be taken. These observations of the exterior envelope are organized according to the following “categories” in order to address the various components, systems and issues comprising the existing condition of the **Congregational Church** exterior:

1. General
2. Foundation
3. Cladding
4. Doors (exterior)
5. Windows (exterior)
6. Sealant
7. Flashing
8. Roof
9. Penetrations
10. Walkways/stairs/ramps
11. Code Issues
12. Site

## OBSERVATIONS

### Foundation

The foundation of the main church structure is granite stone with mortar joints. Overall, the condition of the foundation is in fair to poor condition with a few isolated areas in the front of the main church structure where a number of stones have become dislodged. This area of the foundation should be addressed in the next year to prevent further damage to the structure.

The adjacent building wings (Kitchen/ Office and Auditorium) have cast-in-place concrete foundations that are in acceptable condition with no major signs of deterioration. There are 11 locations where the foundation has openings that have been boarded up with plywood or have a window unit that is at the end of its service life. These locations are not providing a proper barrier to the weather and should be repaired with masonry to prevent future damage.

### Cladding

The primary cladding system on the main church structure and adjacent buildings is vinyl clapboard with areas of painted flush wood boards and stucco as noted below. Overall, the condition of the vinyl clapboard siding is fair condition. However, in multiple locations there are cracks, holes, broken panels, and missing sections of the clapboard siding system. All of these locations should be addressed as soon as possible. They are allowing bulk water and other weather-related elements into the wall assembly where damage can be done. Further investigation at these locations should be done to determine if the wall assembly has been compromised. About 50% of the vinyl clapboard siding has a significant buildup of staining and organic debris, which is unsightly and is detrimental to the siding material.

On the front of the main church structure as well as the front of the Kitchen/ Office wing , the façade is clad with painted wood boards in a shiplap pattern. The boards are in fair condition which will require routine maintenance of the wood and paint to increase the life span of the façade.

The front of the Auditorium wing is clad with a stucco finish in fair condition.

The main four columns at the front façade of the Sanctuary are engaged into the façade. The columns are painted wood stave construction in fair condition. The wood base assemblies are severely deteriorated, and the shafts of each column are in need of scraping and repainting. As noted in the structural section of this report, the base of the far right column has lifted from its concrete base, indicating either the concrete stoop has settled low or the corner of the building has lifted.

The steeple of the Sanctuary building appears from the ground to be substantially intact but in need to scraping and repainting. However, as noted in the structural section of this report, the steeple is tilting toward the rear due, apparently, to a deteriorated structural elements at the northwest corner of the steeple structure. This is a serious condition which requires immediate attention.

## Doors

The doors on the front of both the main church structure and the adjacent buildings are painted wood in deteriorated condition. The painted finish is peeling and the exterior surfaces are weathered and checking due to heavy exposure. The doors should be scraped, and the wood surfaces should be repaired prior to priming and painting. Continued maintenance will increase the life span of the doors. The door hardware for these doors is also deteriorated. Both the doors and hardware are beyond their service life and should be replaced.

## Windows

Windows are primarily original wood double hung, single-glazed with wood muntins and fitted with aluminum storm/ screen units on the exterior. The primary wood windows are old and beyond their service life. The aluminum storm/ screen units are in fair condition.

## Sealant

The sealant around the perimeter of the windows was in acceptable condition. About 25% of the sealant should be replaced in the next year as it has separated from one or both of the adjacent materials. In general, sealant should be inspected every few years as it generally has a life span of about 5 years. Old sealant should be removed and surfaces should be cleaned before applying new sealant to assure a longer life span.

## Penetrations

Former pipe penetrations through the vinyl siding and currently filled with sealant should be properly covered with cellular PVC trim and flashing.

Roof penetrations were observed from the ground level only. Observations did not observe significant failure of the penetrations. A closer inspection to inspect sealants, metal flashings, rubberized boot covers, etc. should be done in the next few years as the roof assembly appears to be in fair condition.

## Roof

The roof is traditional 3-tab asphalt shingles. On the back of the building, built up organic debris and organic growth can be observed from the ground. This should be removed from the roof immediately as this deteriorates the roofing system faster by not allowing it to properly dry out. The general field of the asphalt shingle roof appears to be in fair condition. A closer inspection of the flashings, penetrations, roof transitions, underlayments, shingle quality should be performed within the next 2-3 years. Interior visual inspection of the church found location where there is moisture staining. These locations should be investigated further to ascertain the source of the moisture.

## Walkways/Stairs/Ramps

The concrete steps and stoop leading to the main entry doors of the Narthex are in fair condition with cracking and weathering of the finish. Risers exceed the 7-inch maximum height per Mass. Building Code (2015 IBC). The 2 wrought iron railings at the steps are not in compliance with the Massachusetts Architectural Access Regulations (521 CMR), lacking extensions at the top and bottom risers and not having a compliance cross-section at the handrail. The concrete walkway/ landing at grade and at the south side of the entry stoop is uneven with sections of concrete walk settling with vegetation coming up through the joints.

The wood step and deck assembly at the entrance to the Kitchen/ Office wing are also deteriorated and need repair and refinishing. The single handrail appears to be compliant with 521 CMR. A second handrail should be installed within 5 feet of the existing railing.

The wood steps and landing at the entrance to the Auditorium wing are severely deteriorated, treads are cracked and nosings do not comply with 52 CMR. Because the landing is more than 30 inches above grade, the guard at each side of the landing requires infill such as balusters spaced as required by code. Based on this condition, the entire stair, landing and railing assembly should be replaced with new composite decking on pressure-treated framing with a new painted metal railing/ guard assembly.

The wood stairs and ramps at the side and rear entries are heavily deteriorated and in need of repair. The ramp/ stair assembly at the rear of the church should be replaced as it does not fully meet the ADA requirements for accessibility, including open risers at the stair assembly. The wood stairs and landing with the canopy roof at Entry 115 does not meeting ADA code requirements.

There are no paved walkways from the rear entries at the Auditorium and Kitchen/ Office wings to a public way, which becomes of greater concern during wet months when the area becomes wet and muddy.

There is a concrete walkway/ apron along the south side of the Sanctuary building adjacent to the paved parking area. The walkway is tight to the building and receives rain run-off from the roof as there are no gutters and downspouts to control the runoff. This creates an inconvenience if not a hazard to anyone walking along this walkway.

## Site

The site around the Church buildings is comprised of:

- Two concrete ways from the sidewalk along N. Main Street, one leading up to the Main Sanctuary building and the other a straight run from the sidewalk to the Auditorium entrance with a branch leading up to the entrance at the Kitchen/Office wing. The walkways are in serviceable condition but sufficiently worn to warrant replacement. The remaining front yard is planted with lawn and a large tree.
- The paved bituminous driveway and parking area runs the length of the south side of the building with “head-in” parking against the building and driveway access to the rear of the Senior Center next door as well as to the rear of the Police Station beyond. The pavement is in fair condition. However, there is no striping designating parking spaces, including accessible parking spaces.
- The portions of the site to the north (right side) and west (rear) are planted up to the building with lawn. As noted above, there are no paved walkways at the rear of the building.

Overall, the site is in good condition but in need of maintenance and additional landscaping.

There is no exterior site signage for wayfinding and parking designations.

Exterior lighting consists of wall mounted perimeter lighting which lights the entrances and walkways. A few fixtures are pendant mounted at the side entrances. There are some ground mounted light fixtures at the walkway.

## Facilities Condition Assessment Narrative

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### Overview:

In this section of the Facilities Condition Assessment Report, the MEP/FP Consultant presents a summary of observations regarding the condition of Congregational Church site, including commentary and recommendations for action to be taken. The observations are organized according to the following “categories” in order to address the various components comprising the existing condition of the Congregational Church site:

1. Electrical
2. HVAC
3. Plumbing
4. Fire Protection

## Electrical

### 1. Observations:

- a. The electrical service for this facility consists of two (2) meters with one (1) 100amp, 120/240V, 1 phase, 3 wire service for the building and a second 15amp/1pole enclosed circuit breaker for the bell clock. Service comes from a pole mounted transformer. The service feeder runs overhead from the utility pole to meter sockets on the exterior of the building.
- b. The electrical distribution system consists of a 100amp, 120/240V, 1phase, 3wire panel located in the basement. There is a 15amp, 1pole circuit breaker that feeds the bell clock. The panel is original and is in poor condition.
- c. Branch Circuits: The sanctuary, offices, auditorium, corridors, and kitchen have outlets throughout the rooms. Quantity of receptacles appears to be inadequate for current needs. Most are recessed with a few surface mounted kitchen outlets above the counter and are GFI type as required. There are some non-grounding outlets in the sanctuary. There is mostly romex wiring with some knob and tube in the basement that appears to be active.
- d. Lighting in auditorium is pendant and wall mounted incandescent fixtures. Sanctuary has pendant and wall mounted incandescent fixtures. The kitchen and corridors consist of surface wraparound fluorescent fixtures. Basement has porcelain sockets with incandescent lamps.
- e. Emergency Lighting System: There are emergency battery units throughout the building for the emergency lighting. Exit signs are provided at exits throughout the building.
- f. The exterior lighting consists of wall mounted perimeter lighting which lights the entrances and walkways. A few fixtures are pendant mounted at the side entrances. There are some ground mounted light fixtures at the walkway.
- g. No automatic fire alarm system was present in the building. One local battery operated smoke detector was located at the bottom of the stairway.

**2. Commentary/Recommendation:**

- a. Electric services are in good condition but may need to be upgraded for more capacity for any renovations.
- b. Original panels are in poor condition and should be replaced.
- c. All knob and tube wiring needs to be removed. Additional outlets should be provided to accommodate current needs. All non-grounding outlets are to be replaced.
- d. All existing incandescent lighting should be replaced with new energy saving LED type fixtures.
- e. All non-LED light fixtures should be replaced with new energy efficient LED type with time clock control.
- f. A fully addressable automatic fire alarm system should be installed in the building with complete coverage. Devices are to include smoke detectors, pull stations, heat detectors, and audio/visual devices as required.

## HVAC

### 1. Observations:

- a. The heating system for the building is comprised of two (2) oil fired, furnaces. The furnaces are very old and likely not operating at much more than 50-60% efficient at best conditions. Temperature sensor are mounted in the crawlspace return air ductwork. The oil furnaces are supplied with #2 heating oil from 3 oil tanks installed in the crawlspace.
- b. Ventilation is provided naturally to the building through operable windows. Exhaust fans were not observed serving toilet rooms. The kitchen hood does not meet code standards for capturing exhaust from the cooking surfaces below. The exhaust fan installed in the kitchen hood is not intended for its current application, the fan has no filtration for smoke or grease capture and will be under powered in its current application.
- c. No Air Conditioning was observed in the building.

### 2. Commentary:

- a. Heating Equipment:
  - Furnaces: The existing oil fired furnaces are very old and should be considered in need of immediate replacement. The furnaces have ducted supply air to floor grilles in the church.
  - The two (2) oil fired furnaces are supplied with #2 heating oil as fuel. There are 3 tanks which are combined to a single fuel source to each furnace. The tanks should be considered to be replaced in the near future.

Facilities Condition Assessment Narrative

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b. Ventilation:

- Exhaust fan serving the Kitchen exhaust cooking hood should be an upblast type accessible for servicing and cleaning the grease latent ductwork on a regular basis. The existing fan restricts access.
- While the existing hood does appear to be the correct physical size of the equipment under it being served, the height of the edges of the hood appear short there is no filtration before the exhaust air enters the fan and leaves the building. There is also no fire suppression system at the hood or make up air.
- Toilet rooms where observed that did not have an exhaust fan. In some spaces where exhaust systems were observed they appeared very antiquated and in need of replacement. ductwork and exhaust outlets should be tested in addition to insure they are fit for reuse.

c. Controls:

- All controls are stand alone.

**3. Recommendations:**

- a. The entire heating system should be upgraded to a new system that would be more energy efficient than the existing oil fired furnaces. Potential options would be a natural gas fired central boiler plant for heating and terminal heaters throughout the building, or a heat pump system that could either provide air conditioning and heating based on temperature space needs. This system could either be simultaneous heating and cooling or a changeover type that would allow heating or cooling on a first request temperature basis.
- b. Exhaust systems should be upgraded to serve the needs of required locations such as the kitchen exhaust hood and toilet rooms.

Facilities Condition Assessment Narrative

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- c. Remote monitoring or temperature control systems should be considered to be provided for temperature adjustment, equipment alarm notifications and improved energy efficiency.

## Plumbing

### 1. Observations:

- a. Domestic Water Service: The building is served by one domestic water service.
- b. Existing domestic water piping is copper with sweat fittings. Domestic water piping is not insulated. Shut-off valves are antiquated.
- c. Domestic Hot Water Service: Domestic Hot Water is generated by LP gas fired tank type water heater located in Basement. Water heater has an input of 40,000 BTUH and 50 gallon storage. Water heater is standard efficiency. There is no expansion tank and no thermostatic mixing valve installed. Hot water is not recirculated.
- d. Building is served with LP gas. There is a 120 gallon exterior aboveground storage tank adjacent to Basement bulkhead. LP-gas is supplied to kitchen stove and domestic water heater.
- e. The existing sanitary, waste and vent system is made up of cast iron pipe with hub and spigot fittings.
- f. Fixtures:
  - i. Floor mounted tank type water closets.
  - ii. Wall hung lavatories with manual faucets.
  - iii. Floor mounted mop receptor with wall mounted faucet.
  - iv. Kitchen area has counter mounted stainless steel sinks with gooseneck faucets. There is an undercounter commercial type dishwasher. Pre-rinse sink includes a hand spray and garbage disposal. There is no grease interceptor.
  - v. No drinking fountain provided.

### 2. Commentary:

- a. Plumbing fixtures are in poor condition. There are no accessible fixtures.
- b. Domestic water system shut-off valves are in poor condition.
- c. The hot water heater is near the end of its useful life.

### 3. Recommendations:

- a. In general fixtures should be replaced with high efficiency plumbing fixtures.

## Facilities Condition Assessment Narrative

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- b. If commercial dishwasher remains, add grease interceptor and backflow preventer on water supply.
- c. Upgrade water heater with high-efficiency heater.
- d. Replace all domestic water shut-off valves.
- e. Insult existing domestic water piping.
- f. Convert building to natural gas.

### Fire Protection

#### 1. Observations:

- a. The building does not contain an automatic sprinkler system.

#### 2. Commentary:

- a. MA General Law M.G.L. c.148, s.26G requires that any existing building over 7,500 square feet that undergoes major alterations or building addition must be sprinklered.
- b. Examples of major alterations are demolition or reconstruction of existing ceilings or installation of suspended ceilings; removal of sub flooring; demolition and/or reconstruction of walls, doors, or stairways; or removal or relocation of a significant portion of the building's mechanical or electrical systems. Alterations are considered major when such work affects 33% or more of the building area or when total work (excluding sprinkler installation) is equal to 33% or more of the assessed value of the building.
- c. If the proposed project scope exceeds these thresholds then the existing building, and its additions, will require installation of an automatic sprinkler system.

#### 3. Recommendations:

- a. Perform hydrant flow test to confirm Municipal water supply capacity to supply system.

**Facilities Condition**

In this section of the Facilities Condition Assessment Report, RRC Engineering presents a summary of observations regarding the condition of Deerfield Congregational Church building, including summary description of structural systems and recommendations for action to be taken.

**OVERVIEW PHOTOGRAPH**



**STRUCTURAL SYSTEMS SUMMARY**

Component	Description	
Foundation/Floor Slab	Stacked stone and rubble foundation walls around perimeter with timber posts and brick piers throughout interior of main hall. Poured concrete walls support the rear additions. No basement slabs.	
Upper Floors	Timber floors with a mix of dressed lumber and hand hewn/peeled logs with timber plank within main hall. Dimension lumber joist framing in rear additions. Balcony framing is suspended from roof trusses with steel rods.	
Roof	Timber roof trusses spanning width of main hall with timber purlins, rafters and plank roof deck. Timber rafters and plank deck in rear addition.	

Exterior Walls	Wood stud framed exterior walls throughout.	
Other	Tall steeple and belfry at the front center of main hall.	

**DEFICIENCIES**

Unless specifically identified below, no major deficiencies were observed.

Component	Deficiency	Description	Photograph
Foundation/Floor Slab	<input checked="" type="checkbox"/> Deterioration <input type="checkbox"/> Weakness <input checked="" type="checkbox"/> Settlement Other	<ul style="list-style-type: none"> <li>• Accessible portions of basement appear relatively dry considering there is not poured concrete slab or vapor retarder throughout.</li> <li>• Dirt is mounded on either side of the center aisle of the main hall and is within 1'-6" of the underside of timber framing. Timbers appeared sound with no signs of rot observed.</li> <li>• Several brick piers supporting the main hall floor are deteriorated with disintegrating mortar and spalling brick.</li> <li>• Front exterior stairs supporting pediment columns appears to be settling leaving a gap of about 1" below the northern column.</li> </ul>	 <p>S1</p>  <p>S2</p>

Upper Floors	<input type="checkbox"/> Deterioration <input type="checkbox"/> Weakness <input checked="" type="checkbox"/> Settlement <input type="checkbox"/> Other	<ul style="list-style-type: none"> <li>• There is a noticeable settlement of 2"-4" towards the center aisle of the main hall.</li> <li>• The balcony floor is very uneven with many boards heavily worn.</li> </ul>	 <p style="text-align: center;">S3</p>
Roof	<input type="checkbox"/> Deterioration <input type="checkbox"/> Weakness <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Other	<ul style="list-style-type: none"> <li>• Due to the limited access and lighting within the main hall roof structure, it was difficult to observe the majority of the framing. In areas that could be accessed, there are signs of slight moisture staining on framing, minor settlement, checking of timbers, etc. typical of wood framed structures of this era.</li> <li>• The attic of the rear addition was not accessed during this visit.</li> </ul>	 <p style="text-align: center;">S4</p>
Exterior Walls	<input type="checkbox"/> Deterioration <input type="checkbox"/> Weakness <input type="checkbox"/> Settlement <input type="checkbox"/> Other	<ul style="list-style-type: none"> <li>• No deficiencies noted. See below.</li> </ul>	

Other

- Deterioration
- Weakness
- Settlement
- Other

- When viewing the church from the south, the steeple noticeably leans away from the street.
- Upon further review of the steeple support timbers, the northwest post (1 of 2) is severely rotted at its base and no longer in contact with the diagonal timber transfer beam. In each corner there are two timber posts resting atop a diagonal timber transfer beam. The top of this beam is also exhibiting signs of rot from either insects or moisture. This is likely the cause for the steeple out-of-plumbness.
- Much of the timber planks, stairs and catwalks within the belfry are severely rotted and is not safe to access for a thorough review of the steeple structure. It is our recommendation that the town make repairs to shore up this area and prioritize a more comprehensive structural evaluation of the steeple to identify structural deficiencies and evaluate whether it can be repaired in place or must be removed before conditions worsen.

**Matrices**



Condition Assessment Matrix

Building Name		Church	
Discipline		Building Envelope	Exterior

Issue #	Room Name / Elev.	System/ Component	Existing Description	Photo #	Commentary/ Proposed Work	Quantity	Unit	Repair/ Replace Priority by			
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs
1	Sanctuary Wing	Foundation	Granite stones dislodged in places and mortar deteriorated	B1 B2	Re-set dislodged stones; repoint entire exposed (above-grade) stone foundation above grade	312	SF	\$	5,000		
2	Kitchen/ Office Wing	Foundation	Cast-in-place concrete is stained and dirty	B19	Clean and parge exposed face of concrete foundation	126	SF	\$	2,000		
3	Auditorium Wing	Foundation	Cast-in-place concrete is stained and dirty	B19 B23	Clean and parge exposed face of concrete foundation	278	SF	\$	3,000		
4	General	Cladding	In general the vinyl clapboard siding is in fair condition. The front facades of the Sanctuary, Kitchen/ Office and Auditorium wings are painted wood.	B7, B8	repair Vinyl siding as needed	Allow		\$	10,000		
5	Front façade of Sanctuary Building	Cladding	Paint is showing signs of deterioration with peeling, chipping and chalking	B3	Repaint façade, trim and 4 column/pilasters	1,500	SF	\$	7,500		
6	Steeple	Cladding	Visual inspection from ground level finishes appear to be painted wood. Paint is peeling from façade	B4	Repaint all wood components	380	SF	\$	1,500		
7	Front façade of Kitchen/ Office wing	Cladding	Paint is showing signs of deterioration with peeling, chipping and chalking	B5	Repaint façade, trim and arches	1,100	SF	\$	5,500		
8	Sanctuary Front Doors	Doors	(3) 8' tall and 46" wide double-leaf wood green painted wood doors with ornamental hardware. Doors have significant peeling paint to the point that the wood behind is showing signs of weather checking and do not provide accessible clear width opening	B9	Scrape, restore weather checked wood and repaint doors	196	SF	\$	2,500		
9	Accessible Sanctuary Entry Door	Doors	Entry to Narthex is not accessible		Create new accessible entry at right side of Narthex	1	EA	\$	2,500		
10	Entry Door to Kitchen/ Office wing	Doors	Existing double leaf door does not provide accessible width and is in deteriorated condition		Replace existing double door with new wider single leaf door/frame assembly	1	EA	\$	2,500		

Condition Assessment Matrix

Building Name		Church	
Discipline		Building Envelope	Exterior

Issue #	Room Name / Elev.	System/ Component	Existing Description	Photo #	Commentary/ Proposed Work	Quantity	Unit	Repair/ Replace Priority by			
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs
11	Entry Door to Auditorium	Doors	Existing double leaf door does not provide accessible width and is in deteriorated condition		Replace existing double door with new wider single leaf door/frame assembly	1	EA	\$	2,500		
12	Rear Doors	Doors	Rear Entry Doors at Entry 104, 115 and 117 are wood doors in poor condition	B10	Replace door and frame assembly with new wood frame and fiberglass door with new hardware	3	EA	\$	7,500		
13	New ramp assembly to access new accessible Narthex Entry	Walkways/ Stairs	Narthex Entry doors are not accessible; an accessible entry to this main entry when full building accessibility is triggered	B12	Construct a new ramp / landing assembly	1	LS		See Arch		
14	Entry to Kitchen/ Office Wing	Walkways/ Stairs	Existing steps and deck do not provide accessibility to this entrance which will be required in full compliance with 521 CMR is required.	B13	Replace deck and step assembly with new ramp/ deck assembly to provide accessibility to this entrance	1	LS		See Arch		
15	Ramp, Stairs and Landing at Rear Entry 104	Walkways/ Stairs	Ramp surface is not code compliant. Ramp handrails are not code compliant. Bottom landing has lip that is tripping hazard and not code compliant. Brush and other organic growth should be remove. Stairs and handrails are not code compliant	B18	replace ramp, stairs, top landing and 180° ramp landing with code compliant egress	1	EA		See Arch		
16	Entry portico to Kitchen/ Office wing	General/ Other	Portico arches are made from flat stock wood boards that are painted. Paint is peeling. Base of the 4 arches has minor weather checking	B13	Repair base of 4 posts and paint arches	100	SF	\$	1,000		
17	Sanctuary Entry Porch Pilasters	General/ Other	Existing wood bases of 4 pilasters are heavily deteriorated		Replace wood bases with new cast aluminum bases	4	EA	\$	1,000		
18	Sanctuary	Windows/ Glazing (exterior)	Existing Sanctuary windows are double hung vinyl windows in serviceable condition	B14	Replace in 10-15 years	26	EA				\$ 65,000
19	2nd Floor above Narthex	Windows/ Glazing (exterior)	Existing windows are original wood 12/12 windows with aluminum storm/ screen windows outside		Replace in 10-15 years	9	EA				\$ 22,500
20	Kitchen/ Office Wing	Windows/ Glazing (exterior)	Existing windows are vinyl windows in serviceable condition		Replace in 10-15 years	11	EA				\$ 27,500

Condition Assessment Matrix

Building Name		Church	
Discipline		Building Envelope	Exterior

Issue #	Room Name / Elev.	System/ Component	Existing Description	Photo #	Commentary/ Proposed Work	Quantity	Unit	Repair/ Replace Priority by			
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs
21	Auditorium Wing	Windows/ Glazing (exterior)	Existing windows are double vinyl widnows in serviceable condition		Replace in 10-15 years	10	EA				25,000
22	Basement Area	Windows/ Glazing (exterior)	11 former basement sash windows now blocked off openings in foundation with plywood, depriving the basement areas of natural light	B15	Remove plywood infill, prep openings and install new fiberglass or aluminum basementr sash windows	11	EA		15,000.00		
23	General	Roof	Asphalt shingle roof observed from ground level appears to be in fair condition overall with some organic growth that should be removed		Implement maintenance program every 5 years to extend service life.	9,000	SF		\$ 2,500	\$ 2,500	\$ 2,500
24	Chimneys	General/ Other	(2) brick masonry chimneys in acceptable condition with visual inspection from ground level	B17	Repoint Chimneys and provide new stainless steel chimney caps	2	Allow		\$ 10,000		
<b>BUILDING EXTERIOR SCOPE TOTALS</b>								\$ -	\$ 81,500	\$ 2,500	\$ 142,500
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs

### Condition Assessment Matrix

Building Name	Church		
Discipline	MEP-FP	Interior	

Issue #	Room Name / Elev.	System/ Component	Existing Description	Photo #	Commentary/ Proposed Work	Quantity	Units	air/ Replace Priority by			
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs
1		Life Safety	The building does not contain an automatic sprinkler system.		MA General Law M.G.L. c. 148, s.26G requires that any existing building over 7,500 square feet that undergoes <i>major</i> alterations or building addition must be sprinklered. Examples of major alterations are demolition or reconstruction of existing ceilings or installation of suspended ceilings; removal of sub flooring; demolition and/or reconstruction of walls, doors, or stairways; or removal or relocation of a significant portion of the building's mechanical or electrical systems. Alterations are considered major when such work affects 33% or more of the building area or when total work (excluding sprinkler installation) is equal to 33% or more of the assessed value of the building. If the proposed project scope exceeds these thresholds then the existing building, and its additions, will require installation of an automatic sprinkler system.	14,848		\$ 65,000			
2		Plumbing Fixtures	Existing building is served by municipal water and municipal sewer services.		Services appear to be in good condition. Confirm services are sized adequately for future renovation scope.						
3		Plumbing Fixtures	Existing domestic water piping is copper with sweat fittings. Domestic water piping is not insulated. Shut off valves are antiquated.	MEP 1	Due to age, replace shutoff valves with new ball valves. Insulate all domestic water piping.			\$ 20,000			
4		Plumbing Fixtures	The existing sanitary, waste and vent system is made up of cast iron pipe with hub and spigot fittings.	MEP 2	Existing piping can be reused in a renovation provided piping is sized adequately for new use.						
5		Plumbing Fixtures	Domestic Hot Water is generated by LP gas fired tank type water heater located in Basement. Water heater has an input of 40,000 BTUH and 50 gallon storage. Water heater is standard efficiency. There is no expansion tank and no thermostatic mixing valve installed. Hot water is not recirculated.	MEP 3	Water heater is near the end of its useful life. Water heater should be replaced with gas fired high efficiency unit. System should include expansion tank, mixing valve, and recirculation pump.			\$ 4,500			

### Condition Assessment Matrix

Building Name	Church		
Discipline	MEP-FP	Interior	

Issue #	Room Name / Elev.	System/ Component	Existing Description	Photo #	Commentary/ Proposed Work	Quantity	Units	air/ Replace Priority by			
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs
6		Plumbing Fixtures	Existing Plumbing Fixtures include: floor mounted tank type water closets, wall hung lavatories, floor mounted mop receptor with wall mounted faucet. Kitchen area has counter mounted stainless steel sinks with gooseneck faucets. There is an undercounter commercial type dishwasher. Pre-rinse sink includes a hand spray and garbage disposal. There is no grease interceptor.	MEP 4 - 8	Plumbing fixtures are in poor condition. There are no accessible fixtures. In general fixtures should be replaced with high efficiency plumbing fixtures. If commercial dishwasher remains, add grease interceptor and backflow preventer on water supply.			\$	25,000		
7		Plumbing Fixtures	Building is served with LP gas. There is a 120 gallon exterior aboveground storage tank adjacent to Basement bulkhead. Natural gas is supplied to kitchen stove and domestic water heater.	MEP 9 & 10	Natural gas is available in the Town right-of-way. Adjacent buildings are fed with natural gas. As part of renovation natural gas should be provided to the building and equipment converted.						
8		Mechanical Fixtures	Heating Furnaces	MEP 11	Fair Condition		2			\$	36,000
9		Mechanical Fixtures	Oil Tanks	MEP 12	Not required if switch to natural gas		4				
10		Mechanical Fixtures	Ductwork	MEP 13	Poor Condition, uninsulated		LS			\$	80,000
11		Mechanical Fixtures	Kitchen Exhaust	MEP 14	Replace Undersized Fan		1	\$	7,500		
12		Mechanical Fixtures	General Exhaust	MEP 15	Replacement Recommended		3	\$	4,500		
13		General/ Other	The electrical service for this facility consists of two (2) meters with one (1) 100amp, 120/240V, 1 phase, 3 wire service for the building and a second 15amp/1pole enclosed circuit breaker for the bell clock. Service comes from a pole mounted transformer. The serve feeder runs overhead from the utility pole to meter sockets on the exterior of the building.	MEP 16 - 18	Electric services are in good condition but may need to be upgraded for more capacity for any renovations.	14848				\$	10,000

### Condition Assessment Matrix

Building Name		Church	
Discipline		MEP-FP	Interior

Issue #	Room Name / Elev.	System/ Component	Existing Description	Photo #	Commentary/ Proposed Work	Quantity	Units	Fair/ Replace Priority by			
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs
14		Equipment	The electrical distribution system consists of a 100amp, 120/240V, 1phase, 3wire panel located in the basement. There is a 15amp, 1pole circuit breaker that feeds the bell clock. The panel is original and is in poor condition.	MEP 19 - 21	Original panels are in poor condition and should be replaced.	2			\$ 6,000		
15		Equipment	Branch Circuits: The sanctuary, offices, auditorium, corridors, and kitchen have outlets throughout the rooms. Quantity of receptacles appears to be inadequate for current needs. Most are recessed with a few surface mounted kitchen outlets above the counter and are GFI type as required. There are some non-grounding outlets in the sanctuary. There is mostly romex wiring with some knob and tube in the basement that appears to be active.	MEP 22 - 25	All knob and tube wiring needs to be removed. Additional outlets should be provided to accommodate current needs. All non-grounding outlets are to be replaced.	14848			\$ 23,000		
16		Electrical/ Lighting Fixtures	Lighting in auditorium is pendant and wall mounted incandescent fixtures. Sanctuary has pendant and wall mounted incandescent fixtures. The kitchen and corridors consist of surface wraparound fluorescent fixtures. Basement has porcelain sockets with incandescent lamps.	MEP 26 - 28	All existing incandescent lighting should be replaced with new energy saving LED type fixtures.	14848			\$ 50,000		
17		Life Safety	Emergency Lighting System: There are emergency battery units throughout the building for the emergency lighting. Exit signs are provided at exits throughout the building.	MEP 29 & 30							

### Condition Assessment Matrix

Building Name	Church		
Discipline	MEP-FP	Interior	

Issue #	Room Name / Elev.	System/ Component	Existing Description	Photo #	Commentary/ Proposed Work	Quantity	Units	air/ Replace Priority by			
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs
18		Electrical/ Lighting Fixtures	The exterior lighting consists of wall mounted perimeter lighting which lights the entrances and walkways. A few fixtures are pendant mounted at the side entrances. There are some ground mounted light fixtures at the walkway.	MEP 31 - 34	All non-LED light fixtures should be replaced with new energy efficient LED type with time clock control.	7		\$ 14,000			
19		Life Safety	No automatic fire alarm system was present in the building. One local battery operated smoke detector was located at the bottom of the stairway.	MEP 35	A fully addressable automatic fire alarm system should be installed in the building with complete coverage. Devices are to include smoke detectors, pull stations, heat detectors, and audio/visual devices as required.	14848		\$ 73,000			
<b>MEP/FP SCOPE TOTALS</b>								<b>\$ 73,000</b>	<b>\$ 219,500</b>	<b>\$ 126,000</b>	<b>\$ -</b>
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs

### Condition Assessment Matrix

Building Name		Church
Discipline		Structural

Issue #	Room Name / Elev.	System/ Component	Existing Description	Photo #	Commentary/ Proposed Work	Quantity	Units	Repair/ Replace Priority by				
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs	
1	Basement	General/ Other	Several brick piers supporting the main hall floor are deteriorated with disintegrating mortar and spalling brick.	S1	Deteriorated bricks should be selectively removed and replaced with similar brick masonry.	LS	Allow.	\$	2,500			
2	Exterior Stairs	General/ Other	The northern pediment column at the front stair is not completely bearing on the concrete base leaving a gap of about 1". This may be due to settlement of the stair system or resulting from the steeple structure leaning towards the west.	S2	Depending on the outcome of a future steeple and belfry comprehensive structural evaluation, remediation may involve straightening of the structure above which may correct the hanging column. If the concrete stair system is found to be significantly out of level, then jacking and/or structural underpinning may be needed to re-level.	1	Allow.	\$	10,000			
3	First Floor	Floor	There is a noticeable settlement of 2"-4" towards the center aisle of the main hall.	S3	Evaluate floor structure as part of full building renovation to arrest further settlement or restructure floor	6,556	Allow.	\$	10,000			
4	Balcony	Floor	The balcony floor is very uneven with many boards heavily worn.	S4	Evaluate balcony floor structure as part of full building renovation to determine if floor boards can be repaired or should be replaced	1,736	Allow.	\$	10,000			

### Condition Assessment Matrix

Building Name	<b>Church</b>	
Discipline	<b>Structural</b>	

Issue #	Room Name / Elev.	System/ Component	Existing Description	Photo #	Commentary/ Proposed Work	Quantity	Units	Repair/ Replace Priority by				
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs	
5	Steeple	General/ Other	<p>When viewing the church from the south, the steeple noticeably leans away from the street.</p> <p>Upon further review of the steeple support timbers, the northwest post (1 of 2) is severely rotted at its base and no longer in contact with the diagonal timber transfer beam. In each corner there are two timber posts resting atop a diagonal timber transfer beam. The top of this beam is also exhibiting signs of rot from either insects or moisture. This is likely the cause for the steeple out-of-plumbness.</p>		It is our recommendation that the town make repairs to shore up this area and prioritize a more comprehensive structural evaluation of the steeple to identify structural deficiencies and evaluate whether it can be repaired in place or must be removed before conditions worsen.	1	Allow.	\$ 10,000				
6	Belfry	General/ Other	Much of the timber planks, stairs and catwalks within the belfry are severely rotted and is not safe to access for a thorough review of the steeple structure.		It is our recommendation that the town make repairs to shore up this area and prioritize a more comprehensive structural evaluation of the steeple to identify structural deficiencies and evaluate whether it can be repaired in place or must be removed before conditions worsen.	1	Allow.	see above				
<b>STRUCTURAL SCOPE TOTALS</b>								\$ 40,000	\$ 2,500	\$ -	\$ -	
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs	

### Condition Assessment Matrix

Building Name		Church	
Discipline		Building Envelope	
Floor / Elevation		Site	

Issue #	Room Name / Elev.	System/ Component	Existing Description	Photo #	Commentary/ Proposed Work	Quantity	Unit	Repair/ Replace Priority by			
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs
25	site east front	Site	Concrete walkways leading up to 3 entrances are in serviceable condition but nearing end of their service life		Replace concrete walks with new concrete walks	900	Allow			\$ 10,000	
26	site south side	Site	Paved parking area in good condition; striping for parking needed		Install striping for parkings	1	LS		\$ 10,000		
27	site west rear	Site	Landing at ramp at rear of church needs to be replaced as it is a tripping hazard		5'x5' concrete pad. Coordinate site parking so that pavement connects with ramp landing	1	EA		\$ 2,500		
28	site west rear	Site	2 rear entrance doors do not have paved sidewalk that connects them to parking area	B19	Install new sidewalk to both rear entrances	564	SF		\$ 8,000		
<b>SITE SCOPE TOTALS</b>								\$ -	\$ 20,500	\$ 10,000	\$ -
								0-11 mths Costs	1-5 yrs Costs	5-10 yrs Costs	11-20 yrs Costs

**Representative Existing  
Conditions Photographs**

# Congregational Church

## Representative Existing Conditions Photographs



A-1



A-2



A-3

**Congregational Church**  
Representative Existing Conditions Photographs



A-4



A-5



A-6

# Congregational Church

## Representative Existing Conditions Photographs



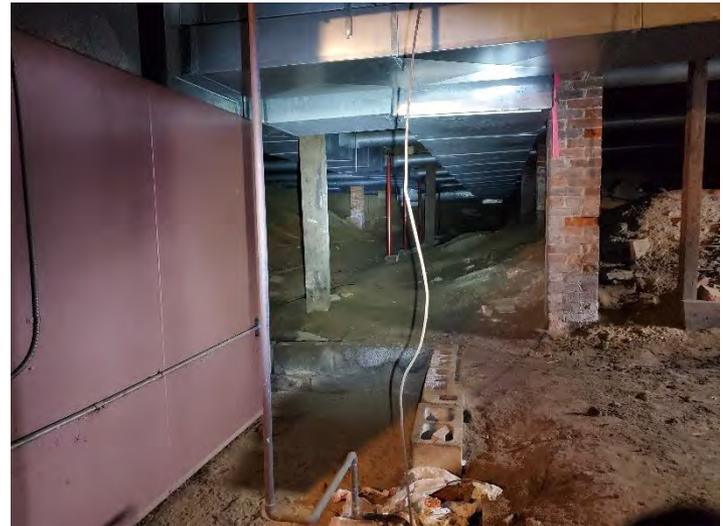
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A-10

# Congregational Church

## Representative Existing Conditions Photographs



A-11



A-12



A-13



A-14

# Congregational Church

## Representative Existing Conditions Photographs



A-15



A-16



A-17



A-18

**Congregational Church**  
Representative Existing Conditions Photographs



A-19



A-20



A-21



A-22

**Congregational Church**  
Representative Existing Conditions Photographs



A-23



A-24



A-25



A-26

# Congregational Church

## Representative Existing Conditions Photographs



A-27



A-28



A-29



A-30

# Congregational Church

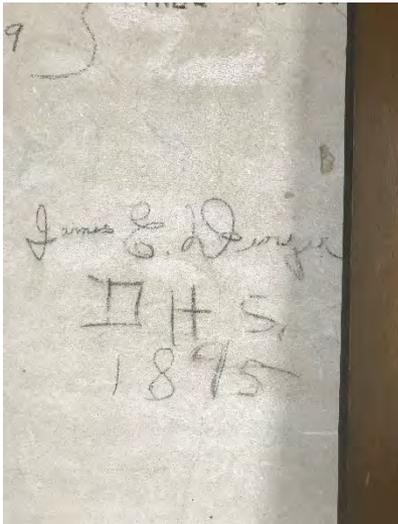
## Representative Existing Conditions Photographs



A-31



A-32



A-33



A-34

**Congregational Church**  
Representative Existing Conditions Photographs



A-35



A-36



A-37



A-38

**Congregational Church**  
Representative Existing Conditions Photographs



A-39



A-40



A-41



A-42

# Congregational Church

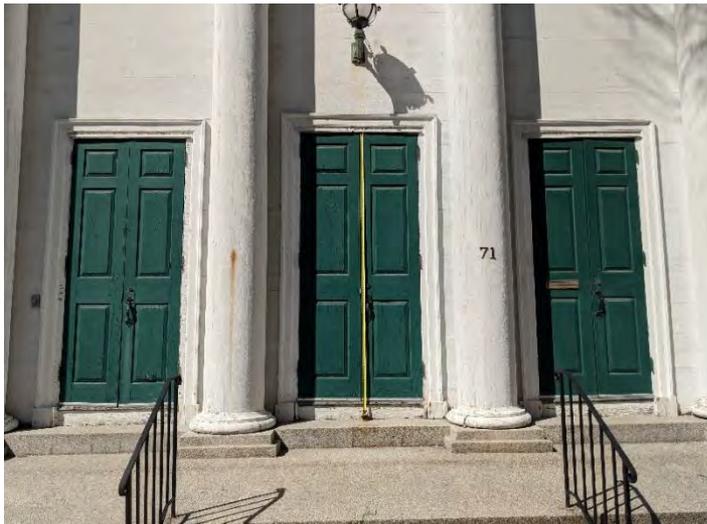
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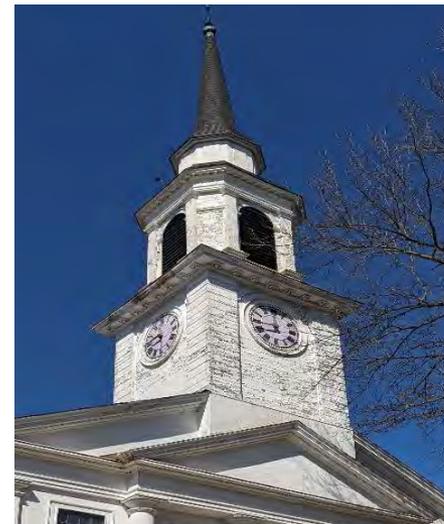
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B2



B3



B4

**Congregational Church**  
Representative Existing Conditions Photographs



B5



B6



B7



B8

**Congregational Church**  
Representative Existing Conditions Photographs



B9



B10



B11



B12

**Congregational Church**  
Representative Existing Conditions Photographs



B13



B14



B15



B16

# Congregational Church

## Representative Existing Conditions Photographs



B17



B18



B19



B20

**Congregational Church**  
Representative Existing Conditions Photographs



B21



B22



B23



B24

**Congregational Church – MEP/FP**  
Representative Existing Conditions Photographs



MEP 1



MEP 2



MEP 3



MEP 4

**Congregational Church – MEP/FP**  
Representative Existing Conditions Photographs



MEP 5



MEP 6



MEP 7



MEP 8

**Congregational Church – MEP/FP**  
Representative Existing Conditions Photographs



MEP 9



MEP 10



MEP 11



MEP 12

**Congregational Church – MEP/FP**  
Representative Existing Conditions Photographs



MEP 13



MEP 14



MEP 15



MEP 16

**Congregational Church – MEP/FP**  
Representative Existing Conditions Photographs



MEP 17



MEP 18



MEP 19



MEP 20

**Congregational Church – MEP/FP**  
Representative Existing Conditions Photographs



MEP 21



MEP 22



MEP 23



MEP 24

**Congregational Church – MEP/FP**  
Representative Existing Conditions Photographs



MEP 25



MEP 26



MEP 27



MEP 28

**Congregational Church – MEP/FP**  
Representative Existing Conditions Photographs



MEP 29



MEP 30



MEP 31



MEP 32

**Congregational Church – MEP/FP**  
Representative Existing Conditions Photographs



MEP 33



MEP 34



MEP 35

**Appendix A: Floor Plans**

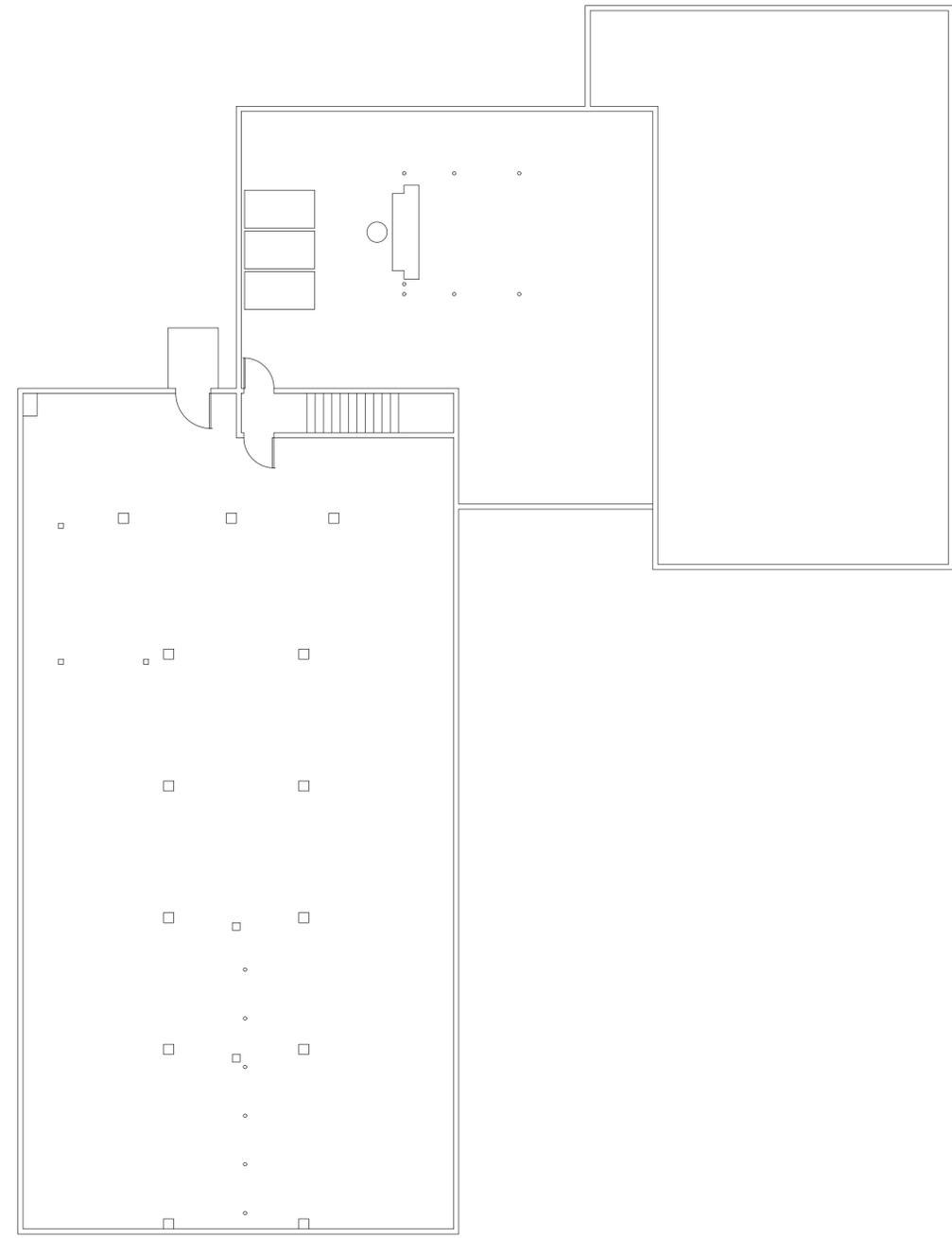
**DEERFIELD  
CONGREGATIONAL  
CHURCH BUILDING STUDY**

71 NORTH MAIN STREET  
SOUTH DEERFIELD, MA 01373

8 CONWAY STREET  
SOUTH DEERFIELD, MA 01373

**G | R | L | A**

**Gorman Richardson Lewis Architects**  
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PROJECT

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KEY PLAN

REMARKS

REVISIONS

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SEAL / ORIENTATION

DATA

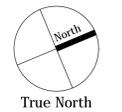
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SHEET

No.	Description	Date

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Proj. No.: 2019051.01  
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**EXISTING  
BASEMENT PLAN**

**EX1.0**

2019051.01 - TOWN OF DEERFIELD BUILDINGS STUDY - DEERFIELD CONGREGATIONAL CHURCH - MARCH, 2020

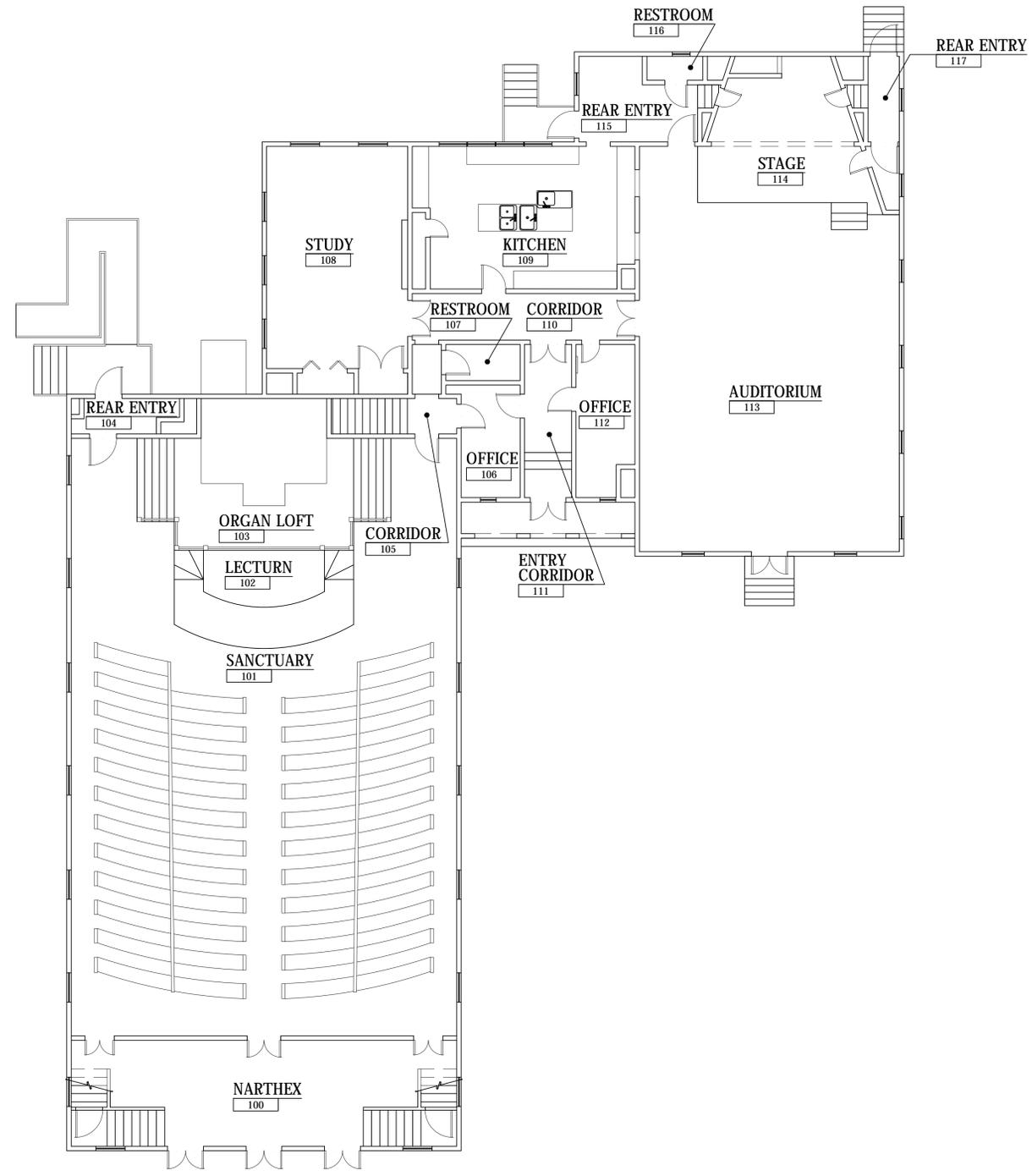
DEERFIELD  
CONGREGATIONAL  
CHURCH BUILDING STUDY

71 NORTH MAIN STREET  
SOUTH DEERFIELD, MA 01373

8 CONWAY STREET  
SOUTH DEERFIELD, MA 01373

G | R | L | A

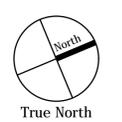
Gorman Richardson Lewis Architects  
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T - 508.544.2600 F - 508.435.0072  
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SHEET

No.	Description	Date

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Date: MARCH, 2020  
Proj. No.: 2019051.01  
Scale: 1/8"=1'-0"  
Drawn By: BAG  
Checked By: GEO  
File Name: EX1-1.dwg

EXISTING  
FIRST FLOOR  
PLAN

EX1.1

2019051.01 - TOWN OF DEERFIELD BUILDINGS STUDY - DEERFIELD CONGREGATIONAL CHURCH - MARCH, 2020

T:\PROJ\2019\2019051-TownofDeerfield\01\_Existing\_Conditions\Drawings\Congregational Church\EX1-1.dwg, 5/14/2020 11:39:22 AM, lbgaulin

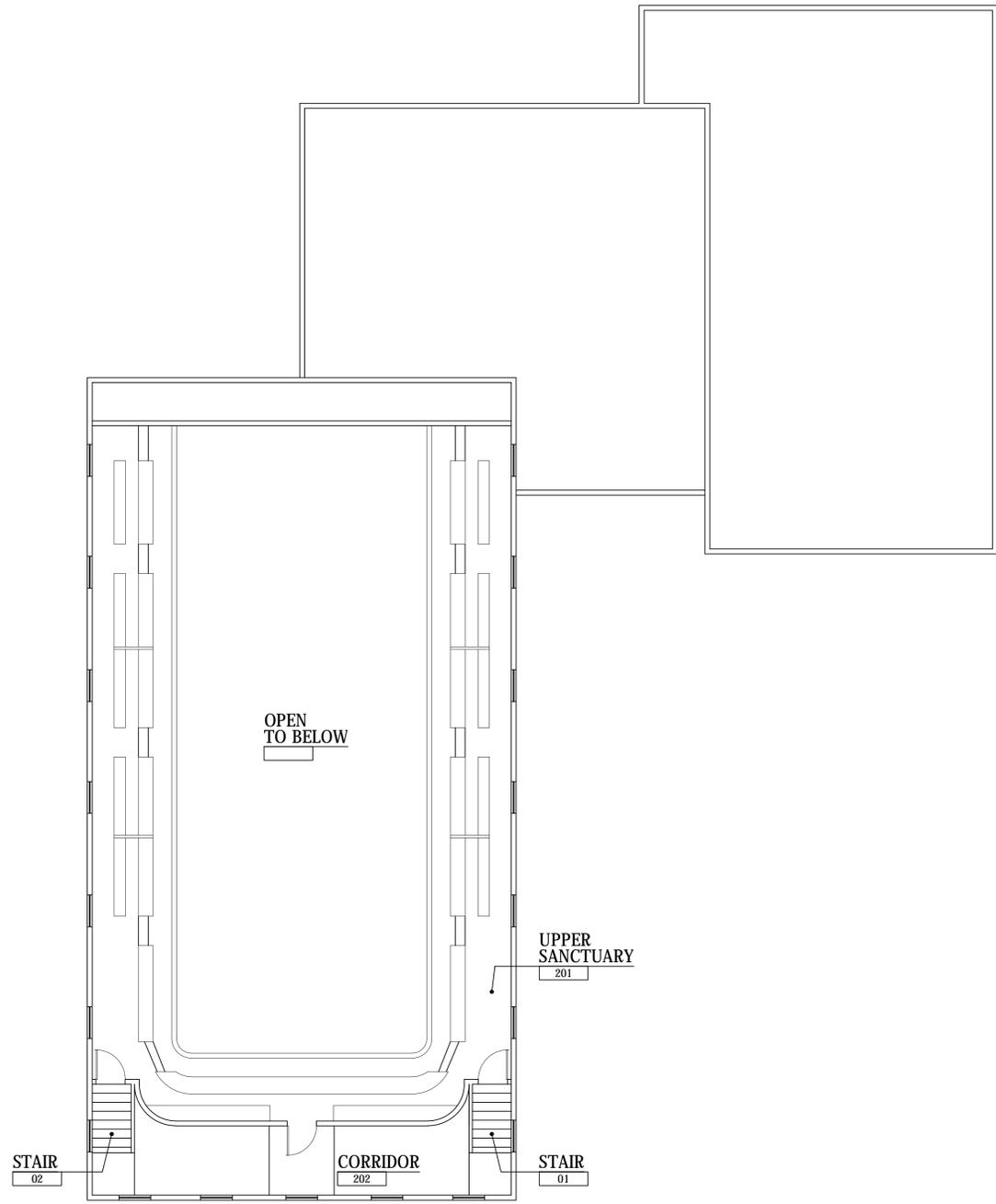
DEERFIELD  
CONGREGATIONAL  
CHURCH BUILDING STUDY

71 NORTH MAIN STREET  
SOUTH DEERFIELD, MA 01373

8 CONWAY STREET  
SOUTH DEERFIELD, MA 01373

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Date: MARCH, 2020  
Proj. No.: 2019051.01  
Scale: 1/8"=1'-0"  
Drawn By: BAG  
Checked By: GEO  
File Name: EX1-2.dwg

EXISTING  
SECOND FLOOR  
PLAN

EX1.2

2019051.01 - TOWN OF DEERFIELD BUILDINGS STUDY - DEERFIELD CONGREGATIONAL CHURCH - MARCH, 2020

T:\PROJ\2019\2019051-TownofDeerfield\01\_Existing\_Conditions\Drawings\GRLA Drawings\Congregational Church\EX1-2.dwg, 6/11/2020 12:31:42 PM, lgalulin

**Appendix B: EagleView**

# Precise Aerial Measurement Report

Prepared by Gorman Richardson Lewis Architects



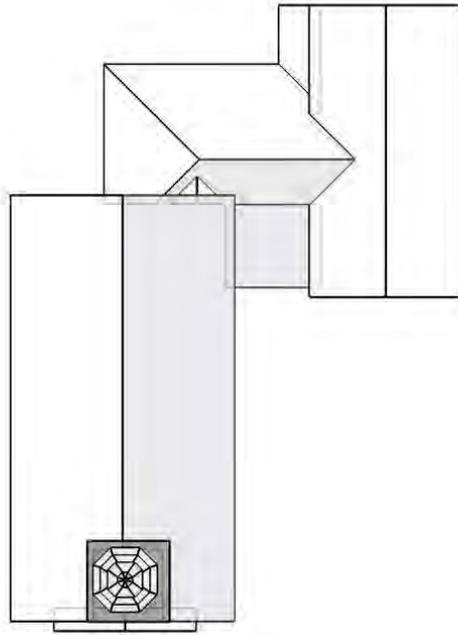
71 N Main St, South Deerfield, MA 01373-1012

**G | R | L | A**  
Gorman Richardson Lewis Architects

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Chris Paszko  
tel. 508-544-2600  
email: [rgutmann@grlarchitects.com](mailto:rgutmann@grlarchitects.com)  
[www.grlarchitects.com](http://www.grlarchitects.com)

71 N Main St, South Deerfield, MA 01373-1012



In this 3D model, facets appear as semi-transparent to reveal overhangs.

Report Details

Report: 32484243

Roof Details

Total Roof Area = 8,961 sq ft  
 Total Roof Facets = 46  
 Predominant Pitch = 6/12  
 Number of Stories >1  
 Total Ridges/Hips = 495 ft  
 Total Valleys = 59 ft  
 Total Rakes = 201 ft  
 Total Eaves = 514 ft  
 Total Penetrations = 4  
 Total Penetrations Perimeter = 36 ft  
 Total Penetrations Area = 25 sq ft

Report Contents

Images .....2  
 Length Diagram.....5  
 Pitch Diagram .....6  
 Area Diagram .....7  
 Notes Diagram .....8  
 Penetrations Diagram .....9  
 Report Summary .....10

Contact: Chris Paszko  
 Company: Gorman Richardson Lewis Architects  
 Address: 239 South St  
 Hopkinton MA 01748-2249  
 Phone: 508-544-2600

Measurements provided by [www.eagleview.com](http://www.eagleview.com)



Certified Accurate

[www.eagleview.com/Guarantee.aspx](http://www.eagleview.com/Guarantee.aspx)

## Images

The following aerial images show different angles of this structure for your reference.



North Side



South Side



East Side



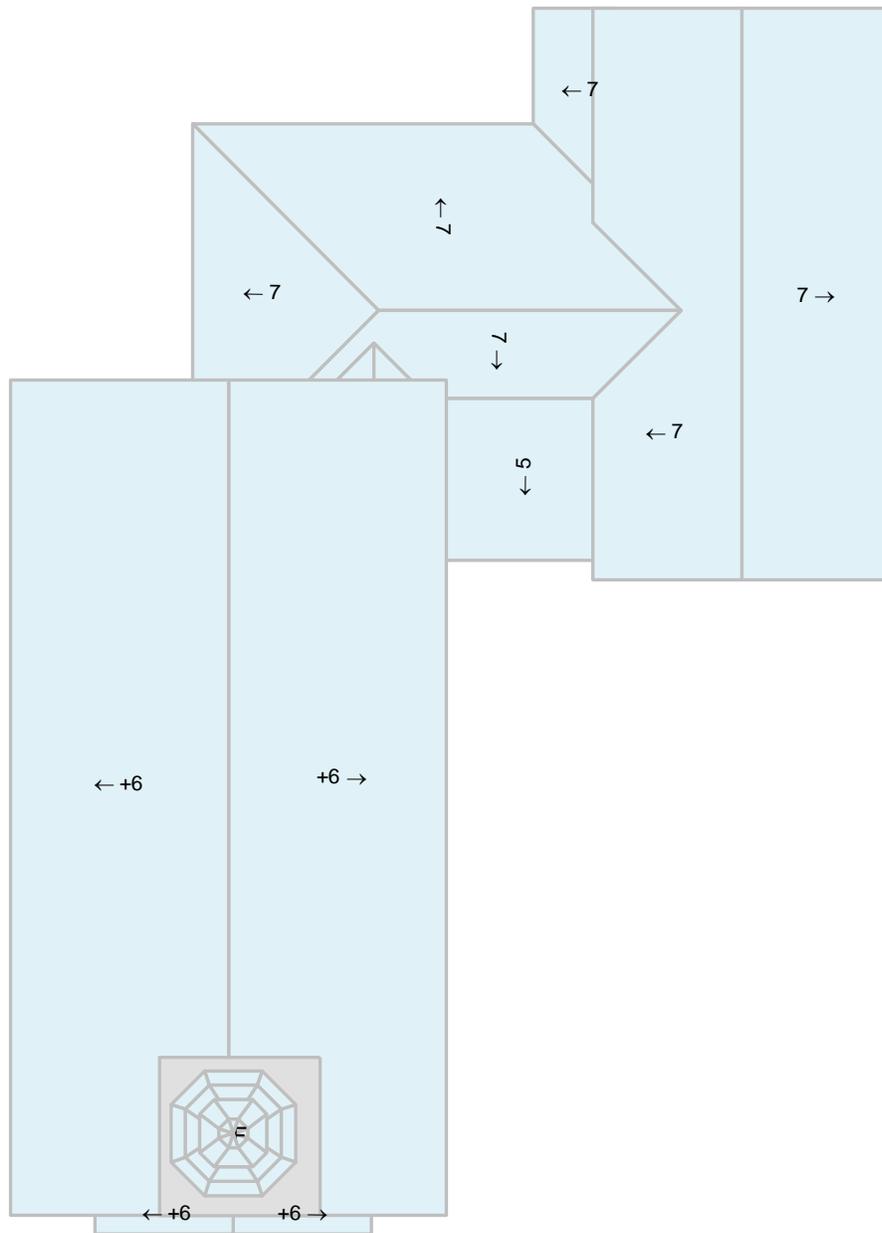
West Side





### Pitch Diagram

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 6/12.



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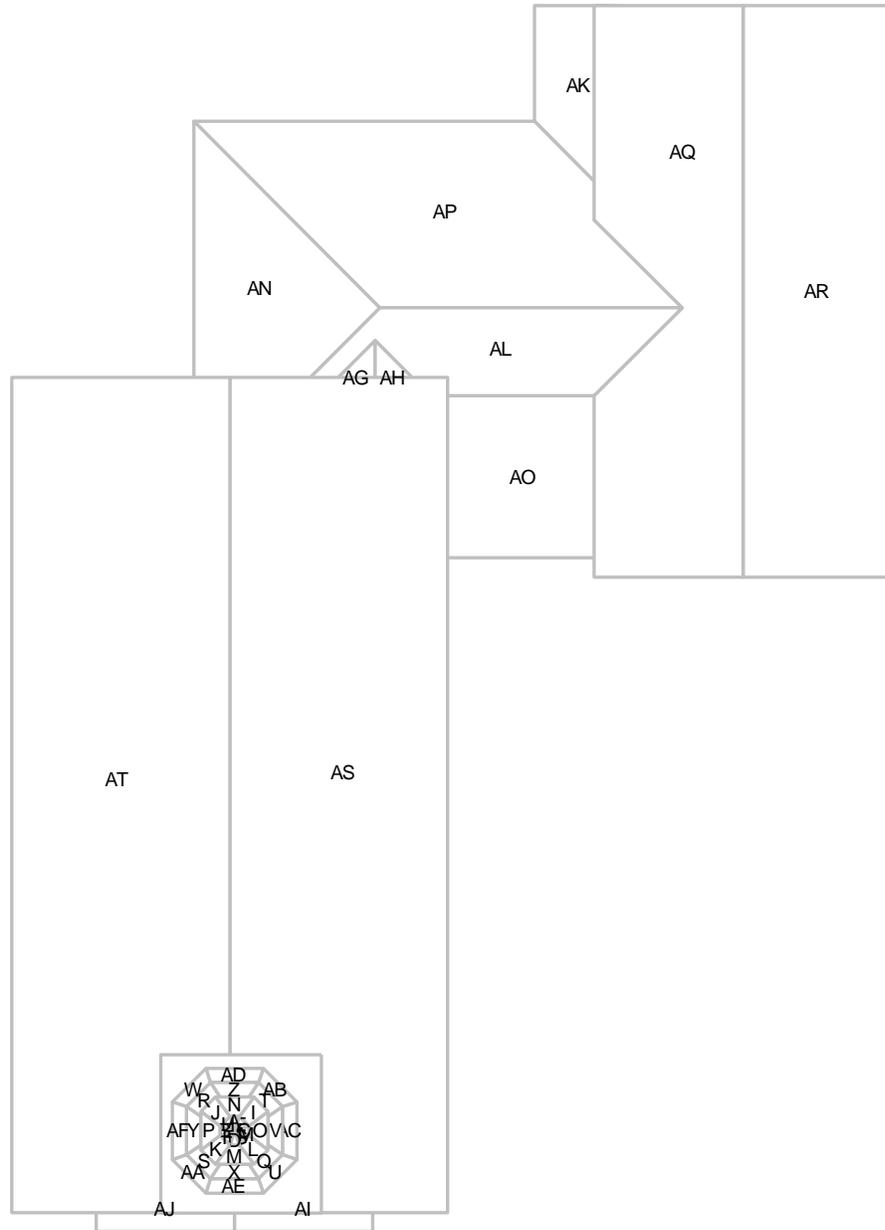
**Note:** This diagram contains labeled pitches for facet areas larger than 20 square feet. In some cases, pitch labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9). Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches. If present, a value of "F" indicates a flat facet (no pitch).



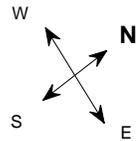


### Notes Diagram

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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### Penetrations Notes Diagram

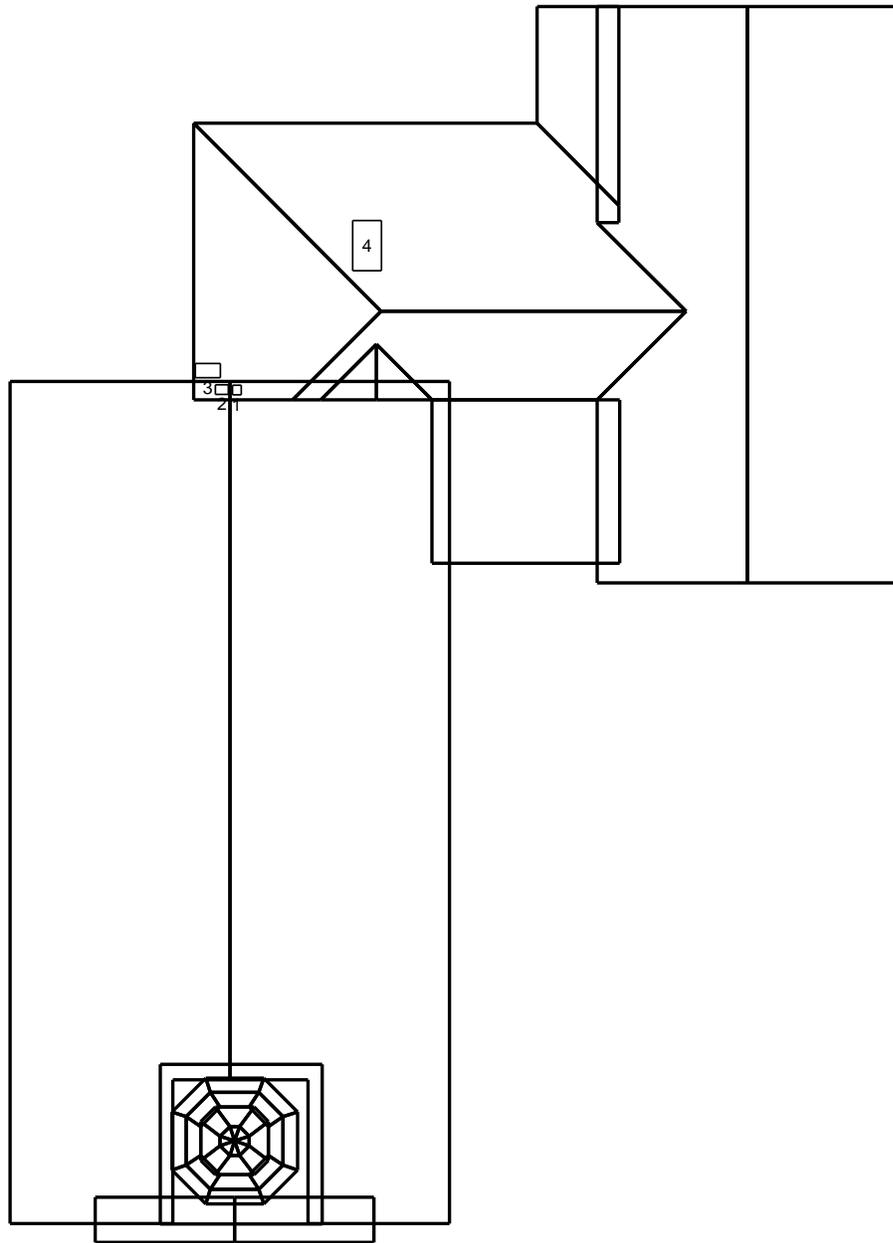
Penetrations are labeled from smallest to largest for easy reference.

Total Penetrations = 4

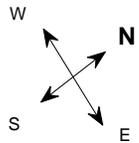
Total Penetrations Area = 25 sq ft

Total Penetrations Perimeter = 36 ft

Total Roof Area Less Penetrations = 8,936 sq ft



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Report: 32484243

© 2008-2020 Eagle View Technologies, Inc. and Pictometry International Corp. – All Rights Reserved – Covered by one or more of U.S. Patent Nos. 8,078,436; 8,145,578; 8,170,840; 8,209,152; 8,515,125; 8,825,454; 9,135,737; 8,670,961; 9,514,568; 8,818,770; 8,542,880; 9,244,589; 9,329,749. Other Patents Pending.

## Report Summary

Below is a measurement summary using the values presented in this report.

### All Structures

Areas per Pitch										
Roof Pitches	0/12	5/12	6/12	7/12	9/12	11/12	24/12	30/12	200/12	212/12
Area (sq ft)	275.7	355.7	4367.0	3688.0	28.0	32.0	39.6	54.0	50.0	70.8
% of Roof	3.1%	4%	48.7%	41.2%	0.3%	0.4%	0.4%	0.6%	0.6%	0.8%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

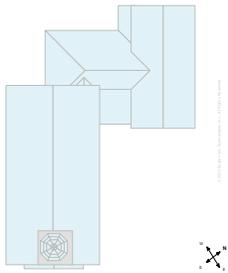
Waste Calculation Table			
Waste %	0%	10%	15%
Area (sq ft)	8,961	9,857	10,305
Squares	89.6	98.6	103.1

This table shows the total roof area and squares (rounded up to the nearest decimal) based upon different waste percentages. The waste factor is subject to the complexity of the roof, individual roofing techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only roof area is included in these waste calculations. Additional materials needed for ridge, hip, valley, and starter lengths are not included.

Penetrations	1	2	3	4					
Area (sq ft)	1	1.5	4.5	18					
Perimeter (ft)	4	5	9	18					

Any measured penetration smaller than 3x3 feet may need field verification. Accuracy is not guaranteed. The total penetration area is not subtracted from the total roof area.

### All Structures Totals



Total Roof Facets = 46  
Total Penetrations = 4

#### Lengths, Areas and Pitches

- Ridges = 174 ft (5 Ridges)
- Hips = 321 ft (34 Hips).
- Valleys = 59 ft (5 Valleys)
- Rakes † = 201 ft (11 Rakes)
- Eaves/Starter ‡ = 514 ft (31 Eaves)
- Drip Edge (Eaves + Rakes) = 715 ft (42 Lengths)
- Parapet Walls = 0 (0 Lengths).
- Flashing = 81 ft (14 Lengths)
- Step flashing = 112 ft (10 Lengths)
- Total Penetrations Area = 25 sq ft
- Total Roof Area Less Penetrations = 8,936 sq ft
- Total Penetrations Perimeter = 36 ft
- Predominant Pitch = 6/12
- Total Area (All Pitches) = 8,961 sq ft

#### Property Location

Longitude = -72.6071788  
Latitude = 42.4791139

#### Notes

This was ordered as a commercial property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).  
‡ Eaves are defined as roof edges that are not sloped and level.



### Online Maps

Online map of property

[http://maps.google.com/maps?f=q&source=s\\_q&hl=en&geocode=&q=71+N+Main+St,South+Deerfield,MA,01373-1012](http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=71+N+Main+St,South+Deerfield,MA,01373-1012)

Directions from Gorman Richardson Lewis Architects to this property

[http://maps.google.com/maps?f=d&source=s\\_d&saddr=239+South+St,Hopkinton,MA,01748-2249&daddr=71+N+Main+St,South+Deerfield,MA,01373-1012](http://maps.google.com/maps?f=d&source=s_d&saddr=239+South+St,Hopkinton,MA,01748-2249&daddr=71+N+Main+St,South+Deerfield,MA,01373-1012)

