



August 29, 2018

Linda Lyshol  
Library Director  
Branch District Library  
10 East Chicago Street  
Coldwater, MI 49036

Re: Branch District Library Space Needs Assessments  
Alganssee, Coldwater, and Sherwood Library Branches

Dear Linda,

Fishbeck, Thompson, Carr & Huber, Inc. (FTCH) has enjoyed the opportunity to collaborate with you and your staff on this first step in understanding the space needs of your Alganssee, Coldwater, and Sherwood library branches and potential costs of new build projects.

The following reports are the culmination of our Space Needs Study for each of these three branches. Included is information on projected space needs, assumptions for future site and building adaption concepts, and estimated project costs for new build type projects. Since all three studies found significant additional space would be required to meet current industry library standards, we considered estimates for new build type projects to be best suited for the purposes of these reports and beginning discussions with the communities.

While we understand each branch library supports patrons from the entire service area, we did make service projections and estimates specific for each branch. This was done to identify space needs that would more accurately serve the population utilizing each branch. These service populations are shown in each report.

As you pursue support for the improvements of each branch architecture, we are confident this vision for Branch District Library will successfully serve the needs of each community, the BDL Board of Directors, your staff, and be a source of pride for future generations.

Sincerely,

FISHBECK, THOMPSON, CARR & HUBER, INC.

A handwritten signature in black ink, reading "Adam J. Nelson". The signature is written in a cursive style and is positioned above the printed name.

Adam J Nelson  
Senior Architectural Designer

# Branch District Library Alganssee Township Branch

## Space Needs Study

Project No. 180930  
August 29, 2018



Fishbeck, Thompson, Carr & Huber, Inc.  
engineers | scientists | architects | constructors

ftc&h

**Branch District Library  
Alganssee Branch  
Space Needs Study**

**Prepared For:  
Branch District Library  
Alganssee Township, Michigan**

**August 29, 2018  
Project No. 180930**



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## List of Abbreviations/Acronyms

BDL	Branch District Library
FTCH	Fishbeck, Thompson, Carr & Huber, Inc.
FTE	Full Time Employee
LEED	Leadership in Energy and Environmental Design

# Space Needs Assessment

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FTCH began development of the Alganssee branch library Space Needs Study by identifying the specific spaces and requirements for each area of the library. Based upon demographic information acquired from the United States Census Bureau's office regarding population trends for Alganssee Township, current populations for the library service area were determined. When accounting for the average percentage of resident borrowers for Branch District Library (51.11%), the projected service population for the Library totaled 3,862.

This information was then input into our Space Needs Worksheet program to determine long-range space requirements for key areas of the library, including:

- Collection Space
- Reader Seating Space
- Staff Work Space
- Meeting Room Spaces

Based upon the specific and total needs for each of these spaces and conversations with key staff, allowances for supporting special use and non-assignable spaces such as entrance lobby, corridors, restrooms, and mechanical rooms, were also assessed and included, culminating in a total projected building space requirement of 5,987 square feet.

Based on the FTCH site observations and feedback from the meeting with the branch staff and BDL leadership, it is apparent the adequacy of the library spaces is not sufficient to meet the current service population needs. Using the 2010 United States Census data and our Space Needs Worksheet program, FTCH analyzed the space needs necessary to accommodate the current population (1,974) and determined a total projected building space requirement of 3,582 square feet is needed if there is no accommodation for future population growth. The size of the current library space is less than the recommended standards. With the 2020 US Census to be completed in a few years, these numbers used as a basis of the population will be confirmed and expected to be greater than the 2010 values used in this study.

It is apparent the existing library facility contains fire safety deficiencies for proper means of egress and fire resistance separation of building occupancy uses. There are also clear deficiencies regarding meeting barrier free and universal design codes. While a ramp is provided at the main entry, the interior space layout of the library does not meet clearances, the toilet room is undersized, and accessible paths of access for barrier free compliance do not exist. Upgrading the library facility to meet barrier free requirements and to include space to offer the desired programming usual for a branch library should be considered.

The Space Needs Worksheet outlines the basis for space needs in each area of the library and provides information needed to develop and review alternative layouts for the proposed library to successfully accommodate each space.

# Population Projections & Space Needs Worksheet

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To determine the service population, residents of only Algansee Township (1,974) are used to identify the current municipal population for the library service area. Other community populations serviced by the Algansee branch were disregarded in order to align the branch space needs with the primary community utilizing the branch. If including the shared service populations of the other communities of Batavia Township, California Township, Coldwater Township, Girard Township, Kinderhook Township, Matteson Township, and Ovid Township, the base service population would total 5,175 and the projected design population would total 10,125. Other community populations that are included in the Algansee Branch service list that have a library branch were not included in Algansee's service population for this study.

FTCH reviewed full-time employee (FTE) per capita standards to determine the minimum library staffing and found 1.93 FTE's would be appropriate for the new library size.

To determine the appropriate building size suitable for the service population and desired programming of the library, spaces were sized using 'basic' library size factors. Due to the population demographics and the number of home-schooling groups utilizing the library, the space for digital resources / public computer access was also developed using the minimum standard of the 'basic' library size factor. For the purposes of limiting excess programming space this study assumes the standard for a community room would be provided by and shared with the Township. Should an additional community room be seen important to include in a library development project, FTCH can provide an estimate of the probable cost to add it to the building space program. FTCH would recommend sizing the community room to accommodate 120 seats plus space for a speaker at 1,060 square feet. Parking needs were analyzed using the current zoning regulations and found 30 parking stalls would be required to support the library use. FTCH recommends applying for a variance to this zoning requirement to provide only 15 stalls, which appears more appropriate for the service population. This would be in addition to any stalls required for use with horse and carriage.

# Branch District Library Alganssee Branch - Space Needs Worksheet

Fishbeck, Thompson, Carr & Huber, Inc. - Architects/Engineers  
 Prepared by: Adam J Nelson, Senior Architectural Designer

Date: August 24, 2018

Space Needs Assessment prepared utilizing "Public Library Space Needs: A Planning Outline" - 2009 Edition  
 By: Anders Dahlgren, Consultant for Public Library Construction and Planning, Wisconsin Department of Public Instruction

## Step 1. Design Population

a. 2016/2017 Library of Michigan Service Population .....	1,974
b. Average Percentage of Resident Borrowing .....	51.1%
c. Projected Design Population (a ÷ b) for Library .....	3,862

\*Note: Current population is from the 2010 ACS statistics. Population projections are not available for 2020 or 2030 to determine an estimated 20 year horizon. Service population is equal to the Alganssee Township municipal population.

## Step 2. Collection Space

a. Books	
design population x volumes per capita (min 8,000) =	3,862 x 4.1 = 15,834 volumes
15,834 volumes / 8 items per sq.ft. ....	1,979 sq.ft.
b. Audio Recordings	
design population x items per capita =	3,862 x 0.19 = 734 items
734 items / 10 items per sq.ft. ....	73 sq.ft.
c. Video Recordings	
design population x items per capita =	3,862 x 0.39 = 1,506 items
1,506 items / 10 items per sq.ft. ....	151 sq.ft.
d. Periodical display	
design population x titles per capita =	3,862 x 0.01360 = 53 titles
53 titles / 1 items per sq.ft. ....	53 sq.ft.
e. Digital Resources (public access computers)	
design population x public terminals per capita =	3,862 x 0.00125 = 5 terminals
5 terminals x 50 sq. ft. per terminal .....	250 sq.ft.
<b>TOTAL</b>	<b>18,127 2,506 sq.ft.</b>

## Step 3. Reader Seating Space

a. design population x seats per capita =	3,862 x 0.0100 = 39 seats
39 seats x 30 sq. ft. per seat .....	1,170 sq.ft.
<b>TOTAL</b>	<b>1,170 sq.ft.</b>

## Step 4. Staff Work Space

a. Staff Work Room & Director Office	
1 stations x 120 sq. ft. per station .....	120 sq.ft.
b. Circulation Desk .....	100 sq.ft.
c. Branch Manager Office .....	0 sq.ft.
d. Staff Break Room .....	0 sq.ft.
<b>TOTAL</b>	<b>220 sq.ft.</b>

## Step 5. Meeting Room Space

a. Meeting/Study Rooms/Shared Makerspace	
6 seats x 20 sq. ft. per seat .....	120 sq.ft.
b. Storytime Area	
30 seats x 7 sq. ft. per seat + 50 sq. ft. for presenter .....	260 sq.ft.
c. Storage (Table and Chair) .....	100 sq.ft.
d. Michigan/Local History Room .....	80 sq.ft.
e. Friends Used Book Storage/Processing Room .....	80 sq.ft.
<b>TOTAL</b>	<b>640 sq.ft.</b>

## Branch District Library Alganssee Branch - Space Needs Worksheet

**Step 6. Special Use Space** (copy/fax machines, pamphlet files, etc.)

a.	Collection Space Total (from 2) .....	2,506 sq.ft.
b.	Reader Seating Space Total (from 3) .....	1,170 sq.ft.
c.	Staff Work Space Total (from 4) .....	220 sq.ft.
d.	Meeting Room Space Total (from 5) .....	640 sq.ft.
	<b>SUBTOTAL</b> .....	<b>4,536 sq.ft.</b>
Divide Special Use Space subtotal by 10 for minimum allocation (10%)		
	4,536 sq. ft. / 10 .....	454 sq.ft.
	<b>TOTAL</b>	<b>454 sq.ft.</b>

**Step 7. Non Assignable Space** (restrooms, mechanical/electrical room, storage, etc.)

a.	SUBTOTAL (from 6) .....	4,536 sq.ft.
b.	Special Use Space Total (from 6) .....	454 sq.ft.
	<b>SUBTOTAL</b> .....	<b>4,990 sq.ft.</b>
Divide Non Assignable Space subtotal by 5 for minimum allocation (20%)		
	4,990 sq. ft. / 5 .....	997 sq.ft.
	<b>TOTAL</b>	<b>997 sq.ft.</b>

**Step 8. Putting It All Together**

a.	Collection Space Total (from 2) .....	2,506 sq.ft.
b.	User Seating Space Total (from 3) .....	1,170 sq.ft.
c.	Staff Work Space Total (from 4) .....	220 sq.ft.
d.	Meeting Room Space Total (from 5) .....	640 sq.ft.
e.	Special Use Space Total (from 6) .....	454 sq.ft.
f.	Non Assignable Space Total (from 7) .....	997 sq.ft.
	<b>TOTAL GROSS SQUARE FOOT AREA NEEDED</b>	<b>5,987 sq.ft.</b>

Square foot per capita comparison (1 sq.ft. minimum):

5,987 total gross sq.ft. / 3,862 Design Population = 1.55 sq.ft./capita

Parking Requirements per zoning: 1 space per 200 GSF = 30 stalls

FTE Staff standards 3,862 x 0.0005 = 1.93 FTE's



## Conceptual Site Adaption

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FTCH would recommend pursuing further programming and conceptual design of a plan that focuses on constructing a single-story library branch. The construction type of the building architecture should be a slab on grade type structure with limited or no structural steel framing.

Following the next step of Conceptual Design, floor plan and site layout designs will need to be prepared and evaluated to determine the most effective approach for a final schematic design. These efforts will be part of additional phases of design completed in collaboration with the Alganssee Library staff, Alganssee Township, and BDL leadership.

# Project Budget

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Through the course of the Space Needs Study, a preliminary estimate of construction and related project costs was prepared. A copy of this potential cost estimate is included on the following page and is based upon the building areas and conceptual site adaptation assumptions in this report. Additional components of a design and construction project that are outside the scope of this report must also be considered when determining a full project cost. These items may include site acquisition, site plan approval processes, permitting, Leadership in Energy and Environmental Design (LEED) certification, and special inspections & testing.

Project costs are estimated in three main categories:

- New building costs are provided for a single-story facility based upon an anticipated level of quality commensurate with commercial grade construction. Site construction costs are also included for work connected with grading, utilities, paving, lighting, and landscaping. Due to the conceptual nature of the design, an estimating and design contingency is included to accommodate for adjustments that may be needed during further development of the design and preparation of construction documents. A separate construction contingency is also included which is recommended for items that may arise during construction.
- Estimated costs for furnishings and other equipment such as audio/visual, telecommunications, and technology are included, in addition to an allowance for special signage to recognize major donors. The budgeted costs include new furniture, fixtures, and equipment (FF&E) for the facility. Existing FF&E are assumed will not be reused from the current facility.
- Soft costs required for implementation of the project including site survey, soil borings, and architectural/engineering fees are included. Separate costs to provide a sustainable and energy efficient design for Leadership in Energy and Environmental Design (LEED) certification have not been identified or included in this study. A FTCH building design will include sustainability and energy efficiency as part of our usual design philosophy. Additional efforts for LEED certification of the project may be included as future design phases are developed.

Estimated costs are summarized and an inflationary allowance included in anticipation of completing design and bidding the project in autumn of 2019.

# BDL Alganssee Branch Library - Alganssee Township, Michigan

## Project Cost Estimate

Fishbeck, Thompson, Carr & Huber, Inc.

August 29, 2018

Based upon FTCH Space Needs Assessment (8/24/2018)	Single Level 5,987	Total SF Area 5,987
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Work Item Description	Units	Quantity	Unit Cost	Total Cost
<b>New Building</b>				
Building Construction				
Single Level Library	SF	5,987	\$ 195	\$ 1,167,465
Subtotal - Building Construction	SF	5,987	\$ 195	\$ 1,167,465
Site Construction				
Grading, Utilities, Paving, Lighting, Landscaping, Etc.	SF	5,987	\$ 25	\$ 149,675
<b>SUBTOTAL BUILDING AND SITE CONSTRUCTION</b>				<b>\$ 1,317,140</b>
ESTIMATING AND DESIGN CONTINGENCY @ 10%				\$ 131,700
CONSTRUCTION CONTINGENCY @ 5%				\$ 65,900
<b>TOTAL BUILDING AND SITE CONSTRUCTION BUDGET</b>				<b>\$ 1,514,740</b>

<b>Furnishings</b>				
Interior Furnishings and Fees	SF	5,987	\$ 25	\$ 149,700
Audio - Visual Equipment	LS	1	\$ 30,000	\$ 30,000
Telecommunication/Data/Technology	LS	1	\$ 12,000	\$ 12,000
Donor Recognition Signage	LS	1	\$ 4,000	\$ 4,000
<b>SUBTOTAL FURNISHINGS</b>				<b>\$ 195,700</b>
CONTINGENCY @ 10%				\$ 19,600
<b>TOTAL FURNISHINGS BUDGET</b>				<b>\$ 215,300</b>

<b>Soft Costs and Fees</b>				
Architect/Engineering Fees & Expenses	%	12	\$ 181,800	\$ 181,800
Site Survey	LS	1	\$ 4,000	\$ 4,000
Soil Borings, Geotechnical Investigations and Report	LS	1	\$ 5,000	\$ 5,000
<b>SUBTOTAL SOFT COSTS AND FEES</b>				<b>\$ 190,800</b>
CONTINGENCY @ 10%				\$ 19,100
<b>TOTAL SOFT COSTS AND FEES BUDGET</b>				<b>\$ 209,900</b>

<b>Cost Summary</b>				
<b>TOTAL BUILDING AND SITE CONSTRUCTION BUDGET</b>				<b>\$ 1,514,740</b>
<b>TOTAL FURNISHINGS BUDGET</b>				<b>\$ 215,300</b>
<b>TOTAL SOFT COSTS AND FEES BUDGET</b>				<b>\$ 209,900</b>
<b>SUBTOTAL PROJECT BUDGET</b>				<b>\$ 1,939,940</b>
INFLATIONARY ADJUSTMENT FOR LATE 2019 BIDDING @ 4%				\$ 77,600
<b>TOTAL PROJECT BUDGET</b>				<b>\$ 2,017,540</b>

Additional Costs not included:

Leadership in Energy and Environmental Design (LEED) costs

# Branch District Library Coldwater Branch

## Space Needs Study

Project No. 180930  
August 29, 2018



Fishbeck, Thompson, Carr & Huber, Inc.  
engineers | scientists | architects | constructors

ftc&h

**Branch District Library  
Coldwater Branch  
Space Needs Study**

**Prepared For:  
Branch District Library  
Coldwater, Michigan**

**August 29, 2018  
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FTE	Full Time Employee
LEED	Leadership in Energy and Environmental Design

# Space Needs Assessment

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FTCH began development of the Coldwater branch library Space Needs Study by identifying the specific spaces and requirements for each area of the library. Based upon demographic information acquired from the United States Census Bureau's office regarding population trends for Coldwater and surrounding communities serviced by the main branch, current populations for the library service area were determined. When accounting for the average percentage of resident borrowers for Branch District Library (51.11%), the projected service population for the Library totaled 37,447.

This information was then input into our Space Needs Worksheet program to determine long-range space requirements for key areas of the library, including:

- Collection Space
- Reader Seating Space
- Staff Work Space
- Meeting Room Spaces

Based upon the specific and total needs for each of these spaces and conversations with key staff, allowances for supporting special use and non-assignable spaces such as entrance lobby, corridors, restrooms, and mechanical rooms, were also assessed and included, culminating in a total projected building space requirement of 42,031 square feet.

Based on the FTCH site observations and feedback from the meeting with the branch staff and BDL leadership, it is apparent the adequacy of the library spaces is not sufficient to meet the current service population needs. Using the 2010 United States Census data and our Space Needs Worksheet program, FTCH analyzed the space needs necessary to accommodate the current service population (19,139) and determined a total projected building space requirement of 26,547 square feet is needed if there is no accommodation for future population growth or facilities to support the other branches. The current library space is currently 9,547 square feet less in size than the recommended standards. With the 2020 US Census to be completed in a few years, these numbers used as a basis of the population will be confirmed and expected to be greater than the 2010 values used in this study.

The existing library is comprised of four split levels. Library operations are most efficient when each level is not segmented, which allows for the best use of space without the need for additional vertical circulation than building codes require for means of egress. There is evidence of deterioration where moisture has infiltrated the exterior envelop (foundation, walls, perimeter of windows, and roof) of the building. As a main branch for the District Library that supports and services all other branches, there are noticeable deficiencies in library operations. Staff workrooms for maintaining the library collections should be adjacent to locations for deliveries and shipping. Multiple levels require additional staff work areas and offices to provide adequate monitoring of the spaces and to increase the ease that patrons have access to librarians or other staff. Upgrading the library facility to meet barrier free requirements and to include space to offer the desired programming usual for a branch library should be considered.

The Space Needs Worksheet outlines the basis for space needs in each area of the library and provides information needed to develop and review alternative layouts for the proposed library to successfully accommodates each space.

# Population Projections & Space Needs Worksheet

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To determine the service population, residents of Coldwater are combined with the shared populations of other communities that are included in the Coldwater Branch service list. Those communities that have a library branch were not included in Coldwater’s service population for this study. Shared populations were determined by dividing those community populations by the number of BDL branches servicing that community.

The following shared service populations are included as part of the Coldwater branch service population: Allen Township of Hillsdale Co., Batavia Township, Bedford Township, Bethel Township, Bronson Township, Burlington Township of Calhoun Co., Butler Township, California Township, Coldwater Township, Gilead Township, Girard Township, Kinderhook Township, Matteson Township, Noble Township, and Ovid Township.

FTCH reviewed full-time employee (FTE) per capita standards to determine the minimum library staffing and found 18.72 FTE’s would be appropriate for the new library size using ‘moderate’ factors.

To determine the appropriate building size suitable for the service population and desired programming of the library, spaces were sized using ‘moderate’ library size factors for book circulation, ‘basic’ library size factors for periodicals, audio recordings, and video recordings. Due to the population demographics and staff survey information, the space for digital resources / public computer access was developed using the minimum standard of the ‘enhanced’ library size factor and a computer lab included for meeting room space.

It was found the current programming lacked space for small group study areas, business development space, and makerspace for youth. While the existing library appears to be large, the disjointed four levels also do not offer an adequate amount of storage. Where possible, flexible use of space was considered to develop efficiency of space planning.

Parking needs were analyzed using usual zoning factors as discussed with the planning department of the City. It was determined that 105 parking stalls would be required to support the library use. The City urges shared parking with neighboring facilities to be utilized where possible. It is evident that the shared parking at the current facility is undersized for daytime use and can have impacts on the library’s full utilization.



# Branch District Library Coldwater Branch - Space Needs Worksheet

Fishbeck, Thompson, Carr & Huber, Inc. - Architects/Engineers

Prepared by: Adam J Nelson, Senior Architectural Designer

Date: August 24, 2018

Space Needs Assessment prepared utilizing "Public Library Space Needs: A Planning Outline" - 2009 Edition

By: Anders Dahlgren, Consultant for Public Library Construction and Planning, Wisconsin Department of Public Instruction

## Step 1. Design Population

a. 2016/2017 Library of Michigan Service Population . . . . .	19,139
b. Average Percentage of Resident Borrowing . . . . .	51.1%
c. Projected Design Population (a ÷ b) for Library . . . . .	37,447

\*Note: Current population is from the 2010 ACS statistics. Population projections are not available for 2020 or 2030 to determine an estimated 20 year horizon. Service population is equal to the combined numbers for Coldwater City / Township and shared populations of surrounding communities.

## Step 2. Collection Space

a. Books	
design population x volumes per capita (min 8,000) =	37,447 x 3.5 = 131,065 volumes
131,065 volumes / 8 items per sq.ft. . . . .	16,383 sq.ft.
b. Audio Recordings	
design population x items per capita =	37,447 x 0.19 = 7,115 items
7,115 items / 10 items per sq.ft. . . . .	711 sq.ft.
c. Video Recordings	
design population x items per capita =	37,447 x 0.21 = 7,864 items
7,864 items / 10 items per sq.ft. . . . .	786 sq.ft.
d. Periodical display	
design population x titles per capita =	37,447 x 0.00540 = 202 titles
202 titles / 1 items per sq.ft. . . . .	202 sq.ft.
e. Digital Resources (public access computers)	
design population x public terminals per capita =	37,447 x 0.00081 = 30 terminals
30 terminals x 50 sq. ft. per terminal . . . . .	1,500 sq.ft.
<b>TOTAL</b>	<b>146,246 19,582 sq.ft.</b>

## Step 3. Reader Seating Space

a. design population x seats per capita =	37,447 x 0.0040 = 150 seats
150 seats x 30 sq. ft. per seat . . . . .	4,500 sq.ft.
<b>TOTAL</b>	<b>4,500 sq.ft.</b>

## Step 4. Staff Work Space

a. Staff Work Room	
6 stations x 120 sq. ft. per station . . . . .	720 sq.ft.
b. Circulation Desk	
3 stations x 60 sq. ft. per station . . . . .	180 sq.ft.
c. Information / Help Desk	
1 stations x 60 sq. ft. per station . . . . .	60 sq.ft.
d. Teens Space Desk	
1 stations x 60 sq. ft. per station . . . . .	60 sq.ft.
e. Childrens Space Desk	
2 stations x 80 sq. ft. per station . . . . .	160 sq.ft.
f. Information Technology Office & Work Room . . . . .	
	150 sq.ft.
g. District Library Director Office . . . . .	
	150 sq.ft.
h. Branch Manager / Director of Public Services Office . . . . .	
	120 sq.ft.
i. Staff Offices	
4 offices x 120 sq. ft. per station . . . . .	480 sq.ft.
2 stations x 120 sq. ft. per station . . . . .	240 sq.ft.
j. Staff Break Room . . . . .	
	150 sq.ft.
<b>TOTAL</b>	<b>2,470 sq.ft.</b>

# Branch District Library Coldwater Branch - Space Needs Worksheet

## Step 5. Meeting Room Space

a. Meeting/Study Rooms				
16	seats	x	20 sq. ft. per seat	320 sq.ft.
6	seats	x	20 sq. ft. per seat	120 sq.ft.
4	seats	x	20 sq. ft. per seat	80 sq.ft.
4	seats	x	20 sq. ft. per seat	80 sq.ft.
2	seats	x	25 sq. ft. per seat	50 sq.ft.
2	seats	x	25 sq. ft. per seat	50 sq.ft.
b. Community/Program Room (capacity based upon rows of chairs for lecture type use)				
120	seats	x	8 sq. ft. per seat + 100 sq. ft. for speaker	1,060 sq.ft.
c. Storytime Area				
50	seats	x	7 sq. ft. per seat + 50 sq. ft. for presenter	400 sq.ft.
d. Computer Lab				
25	terminals	x	50 sq. ft. per seat + 80 sq. ft. for trainer	1,330 sq.ft.
e. Kitchenette				
				150 sq.ft.
f. Storage (Table and Chair)				
				150 sq.ft.
g. Storage (Programming Materials & Supplies)				
				200 sq.ft.
h. Storage (Library of Things)				
				200 sq.ft.
i. Makerspace Room/Area				
				300 sq.ft.
j. Michigan/Local History Room (with office space)				
				500 sq.ft.
k. Geneology				
				150 sq.ft.
l. Friends Used Book Storage/Processing Room				
				150 sq.ft.
<b>TOTAL</b>				<b>5,290 sq.ft.</b>

## Step 6. Special Use Space (copy/fax machines, pamphlet files, etc.)

a. Collection Space Total (from 2)	19,582 sq.ft.
b. Reader Seating Space Total (from 3)	4,500 sq.ft.
c. Staff Work Space Total (from 4)	2,470 sq.ft.
d. Meeting Room Space Total (from 5)	5,290 sq.ft.
<b>SUBTOTAL</b>	<b>31,842 sq.ft.</b>
Divide Special Use Space subtotal by 10 for minimum allocation (10%)	
31,842 sq. ft. / 10	3,184 sq.ft.
<b>TOTAL</b>	<b>3,184 sq.ft.</b>

## Step 7. Non Assignable Space (restrooms, mechanical/electrical room, storage, etc.)

a. SUBTOTAL (from 6)	31,842 sq.ft.
b. Special Use Space Total (from 6)	3,184 sq.ft.
<b>SUBTOTAL</b>	<b>35,026 sq.ft.</b>
Divide Non Assignable Space subtotal by 5 for minimum allocation (20%)	
35,026 sq. ft. / 5	7,005 sq.ft.
<b>TOTAL</b>	<b>7,005 sq.ft.</b>

## Step 8. Putting It All Together

a. Collection Space Total (from 2)	19,582 sq.ft.
b. User Seating Space Total (from 3)	4,500 sq.ft.
c. Staff Work Space Total (from 4)	2,470 sq.ft.
d. Meeting Room Space Total (from 5)	5,290 sq.ft.
e. Special Use Space Total (from 6)	3,184 sq.ft.
f. Non Assignable Space Total (from 7)	7,005 sq.ft.
<b>TOTAL GROSS SQUARE FOOT AREA NEEDED</b>	<b>42,031 sq.ft.</b>

Square foot per capita comparison (1 sq.ft. minimum):

$$42,031 \text{ total gross sq.ft.} / 37,447 \text{ Design Population} = 1.12 \text{ sq.ft./capita}$$

Parking Req's per City Planning Dept: 1 space per 400 GSF = 105 stalls

FTE Staff standards 37,447 x 0.0005 = 18.72 FTE's

## Conceptual Site Adaption

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FTCH would recommend pursuing further programming and conceptual design of a plan that focuses on constructing a single-story library branch. Alternatively, a two-story library could be designed if property requirements dictated such a design. Having multiple floors does lead to increased FTE requirements and additional costs for construction, which should be carefully considered. This study assumes a single-story library branch for initial space needs and probable cost estimating purposes.

Following the next step of Conceptual Design, floor plan and site layout designs will need to be prepared and evaluated to determine the most effective approach for a final schematic design. These efforts will be part of additional phases of design completed in collaboration with the Coldwater Library staff, Coldwater, and BDL leadership.

# Project Budget

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Through the course of the Space Needs Study, a preliminary estimate of construction and related project costs was prepared. A copy of this potential cost estimate is included on the following page and is based upon the building areas and conceptual site adaptation assumptions in this report. Additional components of a design and construction project that are outside the scope of this report must also be considered when determining a full project cost. These items may include site acquisition, site plan approval processes, permitting, Leadership in Energy and Environmental Design (LEED) certification, and special inspections & testing.

Based on FTCH's experience, renovating the existing library branch would involve historic preservation design and construction methods and lead to a greater magnitude of cost than the development of a new building and site. Should BDL or the City desire pursuit of a renovation project instead, FTCH would provide analysis and estimating costs to determine the full needs and cost impacts associated with reuse of the existing facility.

Project costs are estimated in three main categories:

- New building costs are provided for a single-story facility based upon an anticipated level of quality commensurate with commercial grade construction. Site construction costs are also included for work connected with grading, utilities, paving, lighting, and landscaping. Due to the conceptual nature of the design, an estimating and design contingency is included to accommodate for adjustments that may be needed during further development of the design and preparation of construction documents. A separate construction contingency is also included which is recommended for items that may arise during construction.
- Estimated costs for furnishings and other equipment such as audio/visual, telecommunications, and technology are included, in addition to an allowance for special signage to recognize major donors. The budgeted costs include new furniture, fixtures, and equipment (FF&E) for the facility. Existing FF&E are assumed will not be reused from the current facility, but may be if budget constraints require it.
- Soft costs required for implementation of the project including site survey, soil borings, and architectural/engineering fees are included. Separate costs to provide a sustainable and energy efficient design for Leadership in Energy and Environmental Design (LEED) certification have not been identified or included in this study. A FTCH building design will include sustainability and energy efficiency as part of our usual design philosophy. Additional efforts for LEED certification of the project may be included as future design phases are developed.

Estimated costs are summarized and an inflationary allowance included in anticipation of completing design and bidding the project in autumn of 2019.

# BDL Coldwater Branch Library - Coldwater, Michigan

## Project Cost Estimate

Fishbeck, Thompson, Carr & Huber, Inc.  
August 29, 2018

Based upon FTCH Space Needs Assessment (8/24/2018)

Single Level 42,031	Total SF Area 42,031
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Work Item Description	Units	Quantity	Unit Cost	Total Cost
<b>New Building</b>				
Building Construction				
Single Level Library	SF	42,031	\$ 190	\$ 7,985,890
Subtotal - Building Construction	SF	42,031	\$ 190	\$ 7,985,890
Site Construction				
Grading, Utilities, Paving, Lighting, Landscaping, Etc.	SF	42,031	\$ 25	\$ 1,050,775
<b>SUBTOTAL BUILDING AND SITE CONSTRUCTION</b>				<b>\$ 9,036,665</b>
ESTIMATING AND DESIGN CONTINGENCY @ 10%				\$ 903,700
CONSTRUCTION CONTINGENCY @ 5%				\$ 451,800
<b>TOTAL BUILDING AND SITE CONSTRUCTION BUDGET</b>				<b>\$ 10,392,165</b>

<b>Furnishings</b>				
Interior Furnishings and Fees	SF	42,031	\$ 25	\$ 1,050,800
Audio - Visual Equipment	LS	1	\$ 40,000	\$ 40,000
Telecommunication/Data/Technology	LS	1	\$ 15,000	\$ 15,000
Donor Recognition Signage	LS	1	\$ 5,000	\$ 5,000
<b>SUBTOTAL FURNISHINGS</b>				<b>\$ 1,110,800</b>
CONTINGENCY @ 10%				\$ 111,100
<b>TOTAL FURNISHINGS BUDGET</b>				<b>\$ 1,221,900</b>

<b>Soft Costs and Fees</b>				
Architect/Engineering Fees & Expenses	%	10	\$ 1,039,200	\$ 1,039,200
Site Survey	LS	1	\$ 4,000	\$ 4,000
Soil Borings, Geotechnical Investigations and Report	LS	1	\$ 5,000	\$ 5,000
<b>SUBTOTAL SOFT COSTS AND FEES</b>				<b>\$ 1,048,200</b>
CONTINGENCY @ 10%				\$ 104,800
<b>TOTAL SOFT COSTS AND FEES BUDGET</b>				<b>\$ 1,153,000</b>

<b>Cost Summary</b>	
<b>TOTAL BUILDING AND SITE CONSTRUCTION BUDGET</b>	<b>\$ 10,392,165</b>
<b>TOTAL FURNISHINGS BUDGET</b>	<b>\$ 1,221,900</b>
<b>TOTAL SOFT COSTS AND FEES BUDGET</b>	<b>\$ 1,153,000</b>
<b>SUBTOTAL PROJECT BUDGET</b>	<b>\$ 12,767,065</b>
<b>INFLATIONARY ADJUSTMENT FOR LATE 2019 BIDDING @ 4%</b>	<b>\$ 510,700</b>
<b>TOTAL PROJECT BUDGET</b>	<b>\$ 13,277,765</b>

Additional Costs not included:

Leadership in Energy and Environmental Design (LEED) costs

# Branch District Library Sherwood Township Branch

## Space Needs Study

Project No. 180930  
August 29, 2018



Fishbeck, Thompson, Carr & Huber, Inc.  
engineers | scientists | architects | constructors

ftc&h

**Branch District Library  
Sherwood Branch  
Space Needs Study**

**Prepared For:  
Branch District Library  
Sherwood Township, Michigan**

**August 29, 2018  
Project No. 180930**



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## List of Abbreviations/Acronyms

BDL	Branch District Library
FTCH	Fishbeck, Thompson, Carr & Huber, Inc.
FTE	Full Time Employee
LEED	Leadership in Energy and Environmental Design



# Space Needs Assessment

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FTCH began development of the Sherwood branch library Space Needs Study by identifying the specific spaces and requirements for each area of the library. Based upon demographic information acquired from the United States Census Bureau's office regarding population trends for Sherwood Township, current populations for the library service area were determined. When accounting for the average percentage of resident borrowers for Branch District Library (51.11%), the projected service population for the Library totaled 4,097.

This information was then input into our Space Needs Worksheet program to determine long-range space requirements for key areas of the library, including:

- Collection Space
- Reader Seating Space
- Staff Work Space
- Meeting Room Spaces

Based upon the specific and total needs for each of these spaces and conversations with key staff, allowances for supporting special use and non-assignable spaces such as entrance lobby, corridors, restrooms, and mechanical rooms, were also assessed and included, culminating in a total projected building space requirement of 6,248 square feet.

Based on the FTCH site observations and feedback from the meeting with the branch staff and BDL leadership, it is apparent the adequacy of the library spaces is not sufficient to meet the current service population needs. Using the 2010 United States Census data and our Space Needs Worksheet program, FTCH analyzed the space needs necessary to accommodate the current population (2,094) and determined a total projected building space requirement of 3,778 square feet is needed if there is no accommodation for future population growth. The size of the current library space is less than the recommended standards. With the 2020 US Census to be completed in a few years, these numbers used as a basis of the population will be confirmed and expected to be greater than the 2010 values used in this study.

It is apparent the existing one-story, single-room library facility does not contain the usual types of spaces necessary to support the basic library programming offered at this branch. Storage is provided in the adjacent Township garage space, which does not provide environmental HVAC controls to protect stored items. In addition, the existing toilet facilities are not barrier free code compliant due to the lack of proper clearances and improper plumbing fixture types. Upgrading the library facility to meet barrier free requirements and to include space to offer the desired programming usual for a branch library should be considered.

The Space Needs Worksheet outlines the basis for space needs in each area of the library and provides information needed to develop and review alternative layouts for the proposed library to successfully accommodate each space.

# Population Projections & Space Needs Worksheet

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To determine the service population, residents of only Sherwood Township (2,094) are used to identify the current municipal population for the library service area. Other community populations serviced by the Sherwood branch were disregarded in order to align the branch space needs with the primary community utilizing the branch. If including the shared service populations of the other communities of Gilead Township, Matteson Township, and Quincy Village, the base service population would total 3,329 and the projected design population would total 6,513. Other community populations that are included in the Sherwood Branch service list that have a library branch were not included in Sherwood's service population for this study.

FTCH reviewed full-time employee (FTE) per capita standards to determine the minimum library staffing and found 2.05 FTE's would be appropriate for the new library size.

To determine the appropriate building size suitable for the service population and desired programming of the library, spaces were sized using 'basic' library size factors. Due to the population demographics and staff survey information, the space for digital resources / public computer access was also developed using the minimum standard of the 'basic' library size factor. For the purposes of limiting excess programming space this study assumes the standard for a community room would be provided by and shared with the Township. Should an additional community room be seen important to include in a library development project, FTCH can provide an estimate of the probable cost to add it to the building space program. FTCH would recommend sizing the community room to accommodate 120 seats plus space for a speaker at 1,060 square feet.

Parking needs were analyzed using assumed zoning regulations and found 16 parking stalls would be required to support the library use.

# Branch District Library Sherwood Branch - Space Needs Worksheet

Fishbeck, Thompson, Carr & Huber, Inc. - Architects/Engineers

Prepared by: Adam J Nelson, Senior Architectural Designer

Date: August 24, 2018

Space Needs Assessment prepared utilizing "Public Library Space Needs: A Planning Outline" - 2009 Edition

By: Anders Dahlgren, Consultant for Public Library Construction and Planning, Wisconsin Department of Public Instruction

## Step 1. Design Population

a. 2016/2017 Library of Michigan Service Population .....	2,094
b. Average Percentage of Resident Borrowing .....	51.1%
c. Projected Design Population (a ÷ b) for Library .....	4,097

\*Note: Current population is from the 2010 ACS statistics. Population projections are not available for 2020 or 2030 to determine an estimated 20 year horizon. Service population is equal to the Sherwood Township municipal population.

## Step 2. Collection Space

a. Books			
design population x volumes per capita (min 8,000) =	4,097 x 4.1 =	16,798 volumes	
16,798 volumes / 8 items per sq.ft. ....			2,100 sq.ft.
b. Audio Recordings			
design population x items per capita =	4,097 x 0.19 =	778 items	
778 items / 10 items per sq.ft. ....			78 sq.ft.
c. Video Recordings			
design population x items per capita =	4,097 x 0.39 =	1,598 items	
1,598 items / 10 items per sq.ft. ....			160 sq.ft.
d. Periodical display			
design population x titles per capita =	4,097 x 0.01360 =	56 titles	
56 titles / 1 items per sq.ft. ....			56 sq.ft.
e. Digital Resources (public access computers)			
design population x public terminals per capita =	4,097 x 0.00125 =	5 terminals	
5 terminals x 50 sq. ft. per terminal .....			250 sq.ft.
<b>TOTAL</b>		19,230	<b>2,644 sq.ft.</b>

## Step 3. Reader Seating Space

a. design population x seats per capita =	4,097 x 0.0100 =	41 seats	
41 seats x 30 sq. ft. per seat .....			1,230 sq.ft.
<b>TOTAL</b>			<b>1,230 sq.ft.</b>

## Step 4. Staff Work Space

a. Staff Work Room / Director Office			
1 stations x 120 sq. ft. per station .....			120 sq.ft.
b. Circulation Desk .....			
			100 sq.ft.
c. Branch Manager Office .....			
			0 sq.ft.
d. Staff Break Room .....			
			0 sq.ft.
<b>TOTAL</b>			<b>220 sq.ft.</b>

## Step 5. Meeting Room Space

a. Meeting/Study Rooms/Shared Makerspace			
6 seats x 20 sq. ft. per seat .....			120 sq.ft.
b. Storytime Area			
30 seats x 7 sq. ft. per seat . + 50 sq. ft. for presenter .....			260 sq.ft.
c. Storage (Table and Chair) .....			
			100 sq.ft.
d. Michigan/Local History Room .....			
			80 sq.ft.
e. Friends Used Book Storage/Processing Room .....			
			80 sq.ft.
<b>TOTAL</b>			<b>640 sq.ft.</b>

# Branch District Library Sherwood Branch - Space Needs Worksheet

**Step 6. Special Use Space** (copy/fax machines, pamphlet files, etc.)

a. Collection Space Total (from 2)	2,644 sq.ft.
b. Reader Seating Space Total (from 3)	1,230 sq.ft.
c. Staff Work Space Total (from 4)	220 sq.ft.
d. Meeting Room Space Total (from 5)	640 sq.ft.
<b>SUBTOTAL</b>	<b>4,734 sq.ft.</b>

Divide Special Use Space subtotal by 10 for minimum allocation (10%)

$$4,734 \text{ sq. ft.} / 10 = 473 \text{ sq.ft.}$$

**TOTAL 473 sq.ft.**

**Step 7. Non Assignable Space** (restrooms, mechanical/electrical room, storage, etc.)

a. SUBTOTAL (from 6)	4,734 sq.ft.
b. Special Use Space Total (from 6)	473 sq.ft.
<b>SUBTOTAL</b>	<b>5,207 sq.ft.</b>

Divide Non Assignable Space subtotal by 5 for minimum allocation (20%)

$$5,207 \text{ sq. ft.} / 5 = 1,041 \text{ sq.ft.}$$

**TOTAL 1,041 sq.ft.**

**Step 8. Putting It All Together**

a. Collection Space Total (from 2)	2,644 sq.ft.
b. User Seating Space Total (from 3)	1,230 sq.ft.
c. Staff Work Space Total (from 4)	220 sq.ft.
d. Meeting Room Space Total (from 5)	640 sq.ft.
e. Special Use Space Total (from 6)	473 sq.ft.
f. Non Assignable Space Total (from 7)	1,041 sq.ft.

**TOTAL GROSS SQUARE FOOT AREA NEEDED 6,248 sq.ft.**

Square foot per capita comparison (1 sq.ft. minimum):

$$6,248 \text{ total gross sq.ft.} / 4,097 \text{ Design Population} = 1.53 \text{ sq.ft./capita}$$

Assumed zoning parking requirements: 1 space per 400 GSF = 16 stalls

FTE Staff standards 4,097 x 0.0005 = 2.05 FTE's

## Conceptual Site Adaption

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FTCH would recommend pursuing further programming and conceptual design of a plan that focuses on constructing a single-story library branch. The construction type of the building architecture should be a slab on grade type structure with limited or no structural steel framing.

Following the next step of Conceptual Design, floor plan and site layout designs will need to be prepared and evaluated to determine the most effective approach for a final schematic design. These efforts will be part of additional phases of design completed in collaboration with the Sherwood Library staff, Sherwood Township, and BDL leadership.

# Project Budget

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Through the course of the Space Needs Study, a preliminary estimate of construction and related project costs was prepared. A copy of this potential cost estimate is included on the following page and is based upon the building areas and conceptual site adaptation assumptions in this report. Additional components of a design and construction project that are outside the scope of this report must also be considered when determining a full project cost. These items may include site acquisition, site plan approval processes, permitting, Leadership in Energy and Environmental Design (LEED) certification, and special inspections & testing.

Project costs are estimated in three main categories:

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Estimated costs are summarized and an inflationary allowance included in anticipation of completing design and bidding the project in autumn of 2019.

# BDL Sherwood Branch Library - Sherwood Township, Michigan

## Project Cost Estimate

Fishbeck, Thompson, Carr & Huber, Inc.

August 29, 2018

Based upon FTCH Space Needs Assessment (8/24/2018)	Single Level 6,248	Total SF Area 6,248
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Work Item Description	Units	Quantity	Unit Cost	Total Cost
<b>New Building</b>				
Building Construction				
Single Level Library	SF	6,248	\$ 195	\$ 1,218,360
Subtotal - Building Construction	SF	6,248	\$ 195	\$ 1,218,360
Site Construction				
Grading, Utilities, Paving, Lighting, Landscaping, Etc.	SF	6,248	\$ 25	\$ 156,200
<b>SUBTOTAL BUILDING AND SITE CONSTRUCTION</b>				<b>\$ 1,374,560</b>
ESTIMATING AND DESIGN CONTINGENCY @ 10%				\$ 137,500
CONSTRUCTION CONTINGENCY @ 5%				\$ 68,700
<b>TOTAL BUILDING AND SITE CONSTRUCTION BUDGET</b>				<b>\$ 1,580,760</b>

<b>Furnishings</b>				
Interior Furnishings and Fees	SF	6,248	\$ 25	\$ 156,200
Audio - Visual Equipment	LS	1	\$ 30,000	\$ 30,000
Telecommunication/Data/Technology	LS	1	\$ 12,000	\$ 12,000
Donor Recognition Signage	LS	1	\$ 4,000	\$ 4,000
<b>SUBTOTAL FURNISHINGS</b>				<b>\$ 202,200</b>
CONTINGENCY @ 10%				\$ 20,200
<b>TOTAL FURNISHINGS BUDGET</b>				<b>\$ 222,400</b>

<b>Soft Costs and Fees</b>				
Architect/Engineering Fees & Expenses	%	12	\$ 189,700	\$ 189,700
Site Survey	LS	1	\$ 4,000	\$ 4,000
Soil Borings, Geotechnical Investigations and Report	LS	1	\$ 5,000	\$ 5,000
<b>SUBTOTAL SOFT COSTS AND FEES</b>				<b>\$ 198,700</b>
CONTINGENCY @ 10%				\$ 19,900
<b>TOTAL SOFT COSTS AND FEES BUDGET</b>				<b>\$ 218,600</b>

<b>Cost Summary</b>	
<b>TOTAL BUILDING AND SITE CONSTRUCTION BUDGET</b>	<b>\$ 1,580,760</b>
<b>TOTAL FURNISHINGS BUDGET</b>	<b>\$ 222,400</b>
<b>TOTAL SOFT COSTS AND FEES BUDGET</b>	<b>\$ 218,600</b>
<b>SUBTOTAL PROJECT BUDGET</b>	<b>\$ 2,021,760</b>
<b>INFLATIONARY ADJUSTMENT FOR LATE 2019 BIDDING @ 4%</b>	<b>\$ 80,900</b>
<b>TOTAL PROJECT BUDGET</b>	<b>\$ 2,102,660</b>

Additional Costs not included:

Leadership in Energy and Environmental Design (LEED) costs