



FISHBECK, THOMPSON, CARR & HUBER
engineers | scientists | architects | constructors

PROJECT MANAGEMENT 101

MLGMA WINTER INSTITUTE

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PROJECT MANAGEMENT 101

Presentation Outline

- Brief FTCH profile
- Defining project needs and goals
- Establishing a preliminary budget
- Selecting design and construction professionals
- Project delivery options
- Navigating the design and construction process
- Methods for stakeholder and public input
- Trends in sustainable design and project delivery
- Questions



FTCH PROFILE

- Established in 1956 as a multidiscipline firm
- Architecture/Engineering | Civil | Environmental | Construction Management
- Over 360 Staff in Michigan, Ohio, and Indiana
- Grand Rapids | Novi | Macomb | Lansing | Kalamazoo | Cincinnati | Columbus | Lafayette





FTCH PROFILE

Over **70%** municipal/governmental work

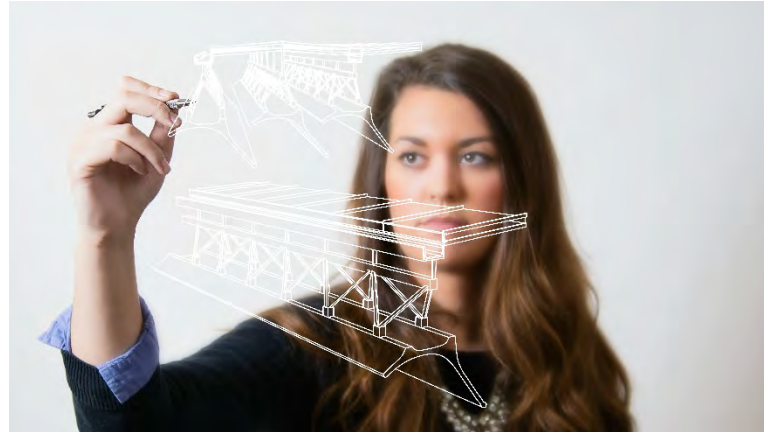
City/Township Halls | Libraries | Community Centers
Public Safety | Public Works | Infrastructure



DEFINING PROJECT NEEDS AND GOALS

Design Process

- **Programming**
- Schematic Design
- Design Development
- Construction Documents
- Bidding and Contract Award
- Construction Administration

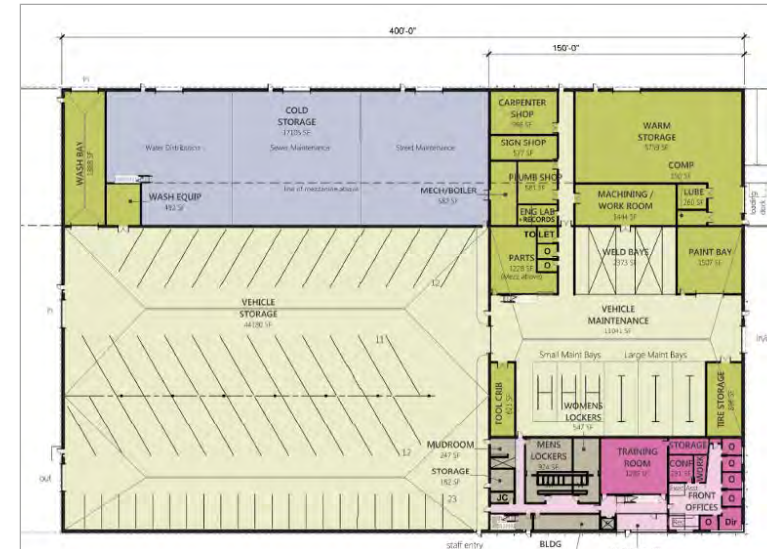




DEFINING PROJECT NEEDS AND GOALS

Programming is the first stage of the design process in which current and projected space needs, goals, and values of the owner and user are identified and documented for all areas including:

- General administrative – offices, conference
- Specialized functions – laboratories, equipment
- Public and common – lobby, restrooms, meeting
- Circulation – corridors, stairs, elevator
- Support – mechanical, electrical, storage





DEFINING PROJECT NEEDS AND GOALS

Programming Process

- Gather information about owner's current and projected space needs
 - Tour existing facility and operation
 - Distribute questionnaire and interview key staff
 - Calculate current areas from existing floor plan
- Research general demographic trends and projections
 - Regional Planning Commission data



DEFINING PROJECT NEEDS AND GOALS

Population Trends and Projections through 2030 for Kent County – DRAFT																	
	Trends					Projections											
	1970	1980	1990	2000	2010	2015			2020			2025			2030		
Cities						Low	Trend	High	Low	Trend	High	Low	Trend	High	Low	Trend	High
Cedar Springs	1,807	2,615	2,600	3,112	3,509	3,708	3,750	3,922	3,906	3,992	4,335	4,105	4,233	4,748	4,303	4,475	5,162
East Grand Rapids	12,565	10,914	10,807	10,764	10,694	10,659	10,615	10,495	10,624	10,536	10,296	10,589	10,457	10,097	10,554	10,378	9,898
Grand Rapids	197,649	181,843	189,126	197,800	188,040	183,160	186,752	186,897	178,280	185,464	185,755	173,400	184,176	184,612	168,520	182,888	183,469
Grandville	10,764	12,412	15,624	16,263	15,378	14,936	15,569	16,202	14,493	15,759	17,026	14,051	15,950	17,850	13,608	16,140	18,674
Kentwood	20,310	30,438	37,826	45,255	48,707	50,433	52,430	57,220	52,159	56,154	65,732	53,885	59,877	74,245	55,611	63,600	82,758
Lowell	3,068	3,707	3,983	4,013	3,783	3,668	3,771	3,893	3,553	3,759	4,003	3,438	3,747	4,114	3,323	3,735	4,224
Rockford	2,428	3,324	3,750	4,626	5,719	6,266	6,335	6,688	6,812	6,952	7,657	7,359	7,568	8,626	7,905	8,185	9,595
Walker	11,492	15,088	17,279	21,842	23,537	24,385	25,243	26,621	25,232	26,950	29,704	26,080	28,656	32,788	26,927	30,362	35,872
Wyoming	56,560	59,616	63,891	69,368	72,125	73,504	74,153	74,606	74,882	76,182	77,087	76,261	78,210	79,568	77,639	80,239	82,049
Villages																	
Caledonia	716	722	885	1,102	1,511	1,716	1,714	1,721	1,920	1,917	1,930	2,125	2,120	2,140	2,329	2,323	2,350
Casnovia (partial)	205	167	189	176	176	176	175	173	176	174	170	176	172	167	176	171	164
Kent City	686	860	899	1,061	1,057	1,055	1,091	1,128	1,053	1,125	1,200	1,051	1,159	1,271	1,049	1,193	1,343
Sand Lake	380	388	456	492	500	504	514	520	508	527	539	512	541	559	516	554	579
Sparta	3,094	3,373	3,698	4,159	4,140	4,131	4,241	4,315	4,121	4,341	4,490	4,112	4,442	4,665	4,102	4,543	4,840
Townships																	
Ada	4,479	6,472	7,578	9,882	13,142	14,772	15,046	16,319	16,402	16,950	19,497	18,032	18,853	22,674	19,662	20,757	25,851
Algoma	3,088	4,411	5,496	7,596	9,932	11,100	11,483	12,684	12,268	13,034	15,435	13,436	14,585	18,187	14,604	16,136	20,938
Alpine	8,163	8,934	9,863	13,976	13,336	13,016	13,955	14,392	12,696	14,573	15,449	12,376	15,192	16,505	12,056	15,810	17,562
Bowne	1,429	1,719	1,907	2,743	3,084	3,255	3,387	3,530	3,425	3,689	3,977	3,596	3,992	4,423	3,766	4,295	4,870
Byron	7,493	10,104	13,235	17,553	20,317	21,699	22,635	24,663	23,081	24,953	29,010	24,463	27,271	33,356	25,845	29,589	37,703
Caledonia	3,126	4,205	5,369	7,862	10,821	12,301	12,803	14,151	13,780	14,785	17,480	15,260	16,768	20,810	16,739	18,750	24,140
Cannon	3,690	4,983	7,928	12,075	13,336	13,967	15,290	17,694	14,597	17,245	22,051	15,228	19,199	26,409	15,858	21,153	30,767
Cascade	5,243	10,120	12,869	15,107	17,134	18,148	18,902	21,991	19,161	20,669	26,849	20,175	22,437	31,706	21,188	24,204	36,564
Courtland	2,196	3,272	3,950	5,817	7,678	8,609	8,983	10,074	9,539	10,288	12,470	10,470	11,593	14,866	11,400	12,898	17,262
Gaines	8,794	10,364	14,533	20,112	25,146	27,663	28,801	30,991	30,180	32,456	36,835	32,697	36,110	42,680	35,214	39,765	48,525
Grand Rapids	6,823	9,294	10,760	14,056	16,661	17,964	18,444	19,664	19,266	20,228	22,667	20,569	22,011	25,670	21,871	23,795	28,673
Grattan	1,893	2,575	2,876	3,551	3,621	3,656	3,814	4,034	3,691	4,006	4,447	3,726	4,199	4,861	3,761	4,391	5,274
Lowell	2,160	3,972	4,774	5,219	5,949	6,314	6,454	7,253	6,679	6,959	8,558	7,044	7,465	9,862	7,409	7,970	11,167
Nelson	1,558	2,253	2,950	3,700	4,264	4,546	4,719	5,190	4,828	5,175	6,115	5,110	5,630	7,041	5,392	6,086	7,967
Oakfield	2,159	2,983	3,842	5,058	5,782	6,144	6,410	6,995	6,506	7,039	8,208	6,868	7,667	9,421	7,230	8,296	10,633
Plainfield	16,935	20,611	24,946	30,195	30,952	31,331	32,627	34,154	31,709	34,301	37,357	32,088	35,976	40,559	32,466	37,651	43,761
Solon	2,114	2,809	3,648	4,662	5,974	6,630	6,790	7,338	7,286	7,605	8,701	7,942	8,421	10,065	8,598	9,237	11,428
Sparta	3,372	3,561	4,749	4,779	4,970	5,066	5,141	5,264	5,161	5,311	5,559	5,257	5,482	5,853	5,352	5,652	6,148
Spencer	1,458	2,385	3,184	3,681	3,960	4,100	4,283	4,809	4,239	4,606	5,659	4,379	4,930	6,508	4,518	5,253	7,358
Tyrone	1,747	2,193	2,669	3,067	3,498	3,714	3,768	3,936	3,929	4,038	4,375	4,145	4,309	4,813	4,360	4,579	5,251
Vergennes	1,400	1,819	2,492	3,611	4,189	4,478	4,746	5,232	4,767	5,304	6,275	5,056	5,861	7,318	5,345	6,418	8,362
Kent County	411,044	444,506	500,631	574,335	602,622	616,766	634,834	664,760	630,909	667,047	726,899	645,053	699,259	789,037	659,196	731,472	851,176

Source: West Michigan Regional Planning Commission; U.S. Census of Population



DEFINING PROJECT NEEDS AND GOALS

Programming Process

- Tour other similar facilities
 - Photograph areas and details
 - Talk with owner to review lessons learned
 - What would you do the same?
 - What would you do differently?
- Review industry standards for specific building type
 - Wisconsin Public Library Space Needs Planning Guide





DEFINING PROJECT NEEDS AND GOALS

Roscommon Area District Library - Space Needs Worksheet

Fishbeck, Thompson, Carr & Huber, Inc. Project No. G110506SD

Date: July 14, 2011
Updated: July 22, 2011; August 10, 2011

Space Needs Assessment prepared utilizing "Public Library Space Needs: A Planning Outline" - 1998 Edition
By: Anders Dahlgren, Consultant for Public Library Construction and Planning, Wisconsin Department of Public Instruction

Step 1. Service Population			
a.	Current 2010 direct service population		6,295
b.	Projected 20 year increase to direct service population (EMCOG estimated 3.3%)		208
c.	Projected 2030 direct service population		6,503
d.	Summer increase to service population (estimated 20%)		1,301
e.	Projected 2030 design service population		7,804
Step 2. Collection Space			
a.	Books		
	design population x volumes per capita =	7,804 x 3.5 = 27,314 volumes	
	27,314 volumes / 8 items per sq.ft.		3,414 sq.ft.
b.	Audio Recordings		
	design population x items per capita =	7,804 x 0.0125 = 98 items	
	98 items / 10 items per sq.ft.		10 sq.ft.
c.	Video Recordings		
	design population x items per capita =	7,804 x 0.116 = 905 items	
	905 items / 10 items per sq.ft.		91 sq.ft.
d.	Periodical display		
	design population x titles per capita =	7,804 x 0.01000 = 78 titles	
	78 titles / 1 items per sq.ft.		78 sq.ft.
	Total projected collection		28,395
e.	Digital Resources (computer stations)		
	15 terminals x 50 sq. ft. per terminal		750 sq.ft.
	TOTAL (a+b+c+d+e)		4,343 sq.ft.



DEFINING PROJECT NEEDS AND GOALS

Programming Process

- Prepare final program document including:
 - Current and projected space needs for each building area
 - Critical success factors for the project
 - Summary of staff comments and recommendations
 - List of preferred elements from tour of similar facilities
- Program is an important tool and becomes the building block for the Schematic Design process

“First define then design.”



DEFINING PROJECT NEEDS AND GOALS

**Cascade Charter Township
 Facility Master Plan and Administrative Office Design Study
 Preliminary Program for Office Areas**

Fishbeck, Thompson, Carr & Huber, Inc.									
Project No. G140721									
December 4, 2014									
EXISTING					PROJECTED				
Department/ Function	# of Staff	# of Rooms	Room Area	Total Area	# of Staff	# of Rooms	Room Area	Total Area	
OFFICE AREAS									
1 ADMINISTRATION									
a Supervisor	1	1	107	107	1	1	120	120	
b Manager	1	1	201	201	1	1	200	200	
c Senior Accountant	1	1	118	118	1	1	120	120	
d Human Resources (future)		0	0	0	1	1	120	120	Asst. Clerk currently performs duties
e Receptionist/Support	1	1	157	157	1	2	120	240	Serves all Departments
f Accounting Clerk (future)		0	0	0	1	1	80	80	
g Public Computer Counter Station		1	40	40		1	40	40	
h Receipt Processing		1	35	35		0	0	0	Absorbed into Reception Area
Subtotal - Admin. (NSF)	4			658	6			920	
2 ASSESSING									
a Assessor	1	1	143	143	1	1	150	150	
b Senior Residential Appraiser	1	1	128	128	1	1	120	120	
c Residential Appraiser	1	1	107	107	1	1	120	120	
d Clerk (future)		0	0	0	1	1	80	80	
e Deed Counter Station		1	108	108		1	110	110	
Subtotal - Assessing (NSF)	3			486	4			580	

ESTABLISHING A PRELIMINARY BUDGET

What Impacts Project Costs?

- Quantity – Programmed areas
- Quality – Materials, finishes, and systems
- Schedule – Labor time
- Location – Labor rates



“Quality, cost, time...pick two.”



ESTABLISHING A PRELIMINARY BUDGET

Preliminary Budgeting Options

Programmed areas and rough square foot costs

- Published cost data guides – RS Means, Dodge
- Past similar projects – regional and inflationary adjustments
- Quickest but most risky

Schematic Design for your specific project

- Accounts for specific site and building conditions
- Provides vision for project design and promotion
- Added time and expense but most accurate approach



ESTABLISHING A PRELIMINARY BUDGET

Design Process

- Programming
- **Schematic Design**
- Design Development
- Construction Documents
- Bidding and Contract Award
- Construction Administration





Site Environment

SCHEMATIC DESIGN



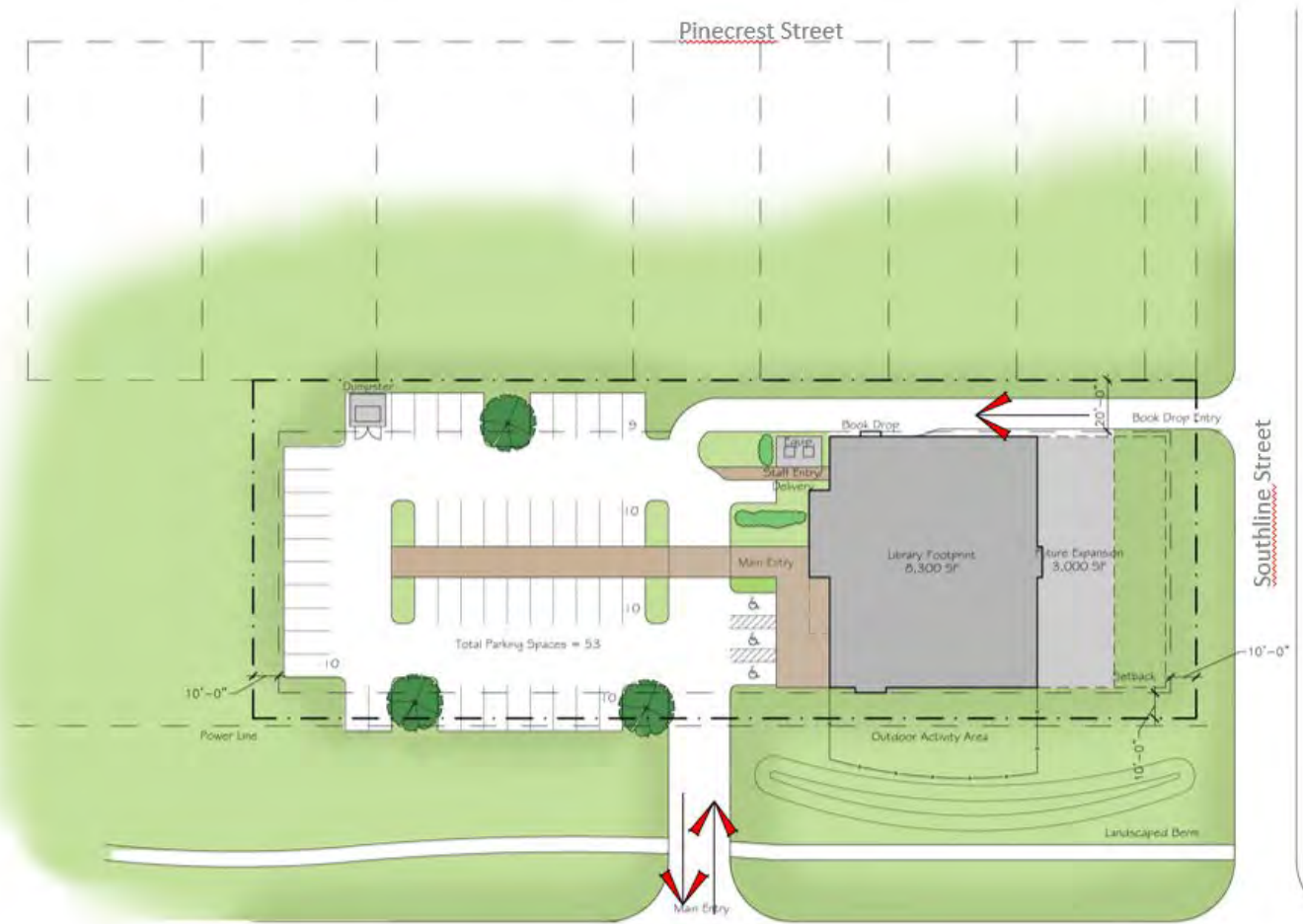
Roscommon Area District Library



Site Analysis

SCHEMATIC DESIGN

Roscommon Area District Library



Site Plan

SCHEMATIC DESIGN

Roscommon Area District Library



Floor Plan

SCHEMATIC DESIGN

Roscommon Area District Library



Exterior Rendering/Photo

SCHEMATIC DESIGN

Roscommon Area District Library



ESTABLISHING A PRELIMINARY BUDGET

Roscommon Area District Library

PROJECT COST MODEL

July 22, 2011
 Fishbeck, Thompson, Carr & Huber, Inc. - Project No. G110506SD
 Cost Model based on 2011 project bidding

I. Building and Site Construction Costs

- A. New Building Construction
- B. Site Improvements
- C. Subtotal of Building and Site Construction Costs
- D. Contingency - 10%
- E. Total Building & Site Construction Costs

II. Supplemental Building Costs - Allowances

- A. Furnishings
- B. Technology & Equipment
- C. Book Security System
- D. Subtotal of Supplemental Building Cost Allowances
- E. Contingency - 10%
- F. Total - Supplemental Building Cost Allowances

III. Project Support Costs - Allowances

- A. Administrative and Legal Expenses
- B. Campaign and Preliminary Planning Costs
- C. A/E Professional Services Fees and Expenses
- D. HVAC Commissioning
- E. Interior Design Professional Service Fees and Expenses
- F. Construction Testing/Soil Borings/Inspections
- G. Site Acquisition
- H. Moving Expenses
- I. Library Collection Expansion
- J. Subtotal of Project Support Cost Allowances
- K. Contingency - 10%
- L. Total - Project Support Cost Allowances

	Conceptual Design OPTION 1 1 Level Building + M/E mezzanine				Conceptual Design OPTION 2 1 Level Building + M/E mezzanine			
	8,000 gsf		11,000 gsf		8,000 gsf		11,000 gsf	
	Cost	Cost/sf	Cost	Cost/sf	Cost	Cost/sf	Cost	Cost/sf
I. Building and Site Construction Costs								
A. New Building Construction	\$800,000	\$100	\$1,000,000	\$125	\$1,100,000	\$100	\$1,375,000	\$125
B. Site Improvements	\$80,000	\$10	\$120,000	\$15	\$110,000	\$10	\$165,000	\$15
C. Subtotal of Building and Site Construction Costs	\$880,000		\$1,120,000		\$1,210,000		\$1,540,000	
D. Contingency - 10%	\$88,000		\$112,000		\$121,000		\$154,000	
E. Total Building & Site Construction Costs	\$968,000	\$121	\$1,232,000	\$154	\$1,331,000	\$121	\$1,694,000	\$154
II. Supplemental Building Costs - Allowances								
A. Furnishings	\$160,000	\$20	\$200,000	\$25	\$220,000	\$20	\$275,000	\$25
B. Technology & Equipment	\$50,000		\$75,000		\$60,000		\$85,000	
C. Book Security System	\$10,000		\$15,000		\$10,000		\$15,000	
D. Subtotal of Supplemental Building Cost Allowances	\$220,000		\$290,000		\$290,000		\$375,000	
E. Contingency - 10%	\$22,000		\$29,000		\$29,000		\$37,500	
F. Total - Supplemental Building Cost Allowances	\$242,000	\$30	\$319,000	\$40	\$319,000	\$29	\$412,500	\$38
III. Project Support Costs - Allowances								
A. Administrative and Legal Expenses	\$10,000		\$25,000		\$10,000		\$25,000	
B. Campaign and Preliminary Planning Costs	\$40,000		\$50,000		\$40,000		\$50,000	
C. A/E Professional Services Fees and Expenses	\$97,000		\$123,000		\$133,100		\$169,400	
D. HVAC Commissioning	\$10,000		\$20,000		\$10,000		\$15,000	
E. Interior Design Professional Service Fees and Expenses	\$20,000		\$30,000		\$25,000		\$35,000	
F. Construction Testing/Soil Borings/Inspections	\$10,000		\$15,000		\$10,000		\$15,000	
G. Site Acquisition	\$0		\$0		\$0		\$0	
H. Moving Expenses	\$10,000		\$15,000		\$10,000		\$15,000	
I. Library Collection Expansion	\$10,000		\$15,000		\$15,000		\$20,000	
J. Subtotal of Project Support Cost Allowances	\$207,000		\$293,000		\$253,100		\$344,400	
K. Contingency - 10%	\$20,700		\$29,300		\$25,300		\$34,400	
L. Total - Project Support Cost Allowances	\$227,700	\$28	\$322,300	\$40	\$278,400	\$25	\$378,800	\$34
GRAND TOTAL ESTIMATED PROJECT COSTS - Range	\$1,437,700	\$180	\$1,873,300	\$234	\$1,928,400	\$175	\$2,485,300	\$226
GRAND TOTAL ESTIMATED PROJECT COSTS - Average			\$1,655,500				\$2,206,850	

Roscommon Area District Library





ESTABLISHING A PRELIMINARY BUDGET

Fishbeck, Thompson, Carr & Huber, Inc.										
Library Projects - Facility Construction Cost Summary										
Updated: October 2014										
Facility	Year Completed	Type of Construction	Total Cost	Bldg Area	Bldg Only Construction Cost/S.F.	Bldg+Site Construction Cost/S.F.	Cost Adjusted to 10-2014	Furnishings Cost	Furnishings Cost/S.F.	Remarks
KDU/Englehardt Branch (Lowell)	1997	New	\$1,014,000	8,900	\$106	\$114	\$198	\$140,000	\$16	
KDU/Flat River (Greenville) Library	1998	New	\$2,480,000	23,000	\$108	\$108	\$177	\$500,000	\$22	
GRPL/Seymour Branch	2000	New	\$1,238,900	10,050	\$123	\$123	\$198	\$146,200	\$15	
GRPL/Yankee Clipper Branch	2000	Add/Renov	\$1,115,800	10,000	\$112	\$112	\$180	\$130,000	\$13	Unique structural issues
GRPL/Madison Square Branch	2001	New	\$695,600	4,640	\$125	\$150	\$233	\$69,000	\$15	
GRPL/Ottawa Hills Branch	2001	Renovation	\$483,900	5,100	\$95	\$95	\$148	\$57,000	\$11	
GRPL/Van Belkum (Creston) Branch	2002	Renovation	\$556,600	8,200	\$68	\$68	\$105	\$69,500	\$8	Renov of existing commercial building
GRPL/West Leonard Branch	2002	New	\$1,247,900	10,050	\$124	\$124	\$191	\$150,000	\$15	Simplified version of Seymour
BCLS/Auburn Branch	2003	Add/Renov	\$2,204,300	14,100	\$150	\$156	\$235	\$200,000	\$14	Union wage agreement
GRPL/Main Library	2003	Renovation	\$18,400,000	153,000	\$120	\$120	\$181	\$2,000,000	\$13	Partial historic renovation
Hart Area Public Library	2003	New	\$1,081,200	6,850	\$147	\$158	\$238	\$125,000	\$18	1000 s.f. basement not incl in total area
BCLS/Sage Branch	2004	Add/Renov	\$3,108,700	18,140	\$171	\$171	\$252	\$250,000	\$14	Union wage agreement / historic renovation
BCLS/Pinconning Branch	2004	New	\$2,100,700	11,800	\$178	\$178	\$263	\$230,000	\$19	Union wage agreement
Coloma Public Library	2004	New	\$2,648,800	18,200	\$140	\$146	\$215	\$255,000	\$14	500 s.f. basement not incl in total area
BCLS/Central Library (Wirt)	2005	New	\$10,847,200	62,420	\$174	\$174	\$239	\$1,058,000	\$17	Union wage agreement
KDU/Cascade (Twp) Branch	2006	Add/Renov	\$1,850,000	8,360	\$133	\$148	\$291	N.A.		Additional basement @ 50% factor
Delta Township District Library	2008	New	\$6,378,445	30,000	\$186	\$213	\$262	\$620,000	\$21	LEED Silver certified facility
Salem-South Lyon District Library	2008	Add/Renov	\$1,395,000	12,900	\$105	\$108	\$133	\$115,000	\$19	Additions sq. ft. cost estimated
Caledonia Township Library	2011	New	\$2,114,725	18,000	\$111	\$117	\$133	\$385,000	\$21	LEED Silver certified facility
Paw Paw District Library	2012	New	\$ 3,064,548	17,200	\$161	\$178	\$191	\$375,000	\$22	Pursuing LEED Silver Certification
Roscommon Area District Library	2014	New	\$ 1,872,425	10,955	\$159	\$171	\$176	\$124,700	\$11	Partial basement
New Buffalo Township Public Library	2014	New	\$ 3,823,115	16,600	\$221	\$230	\$238			Includes demolition of existing library



SELECTING DESIGN PROFESSIONALS

Approaches to A/E Selection

- Reference from an associate or peer
- Select from list of as-needed service providers
 - Common with smaller projects
- Request for qualifications and proposals - RFQ/RFP
 - Common with larger projects
 - Usually involves shortlist and interview process
- Qualifications based selection (QBS)
 - Assures qualifications are primary selection criteria



SELECTING DESIGN PROFESSIONALS

Qualifications Based Selection

- QBS process offers a guideline for evaluation and selection of A/E
- Supported and utilized by numerous federal and state agencies and local municipalities including the GSA

<http://www.qbs-mi.org>





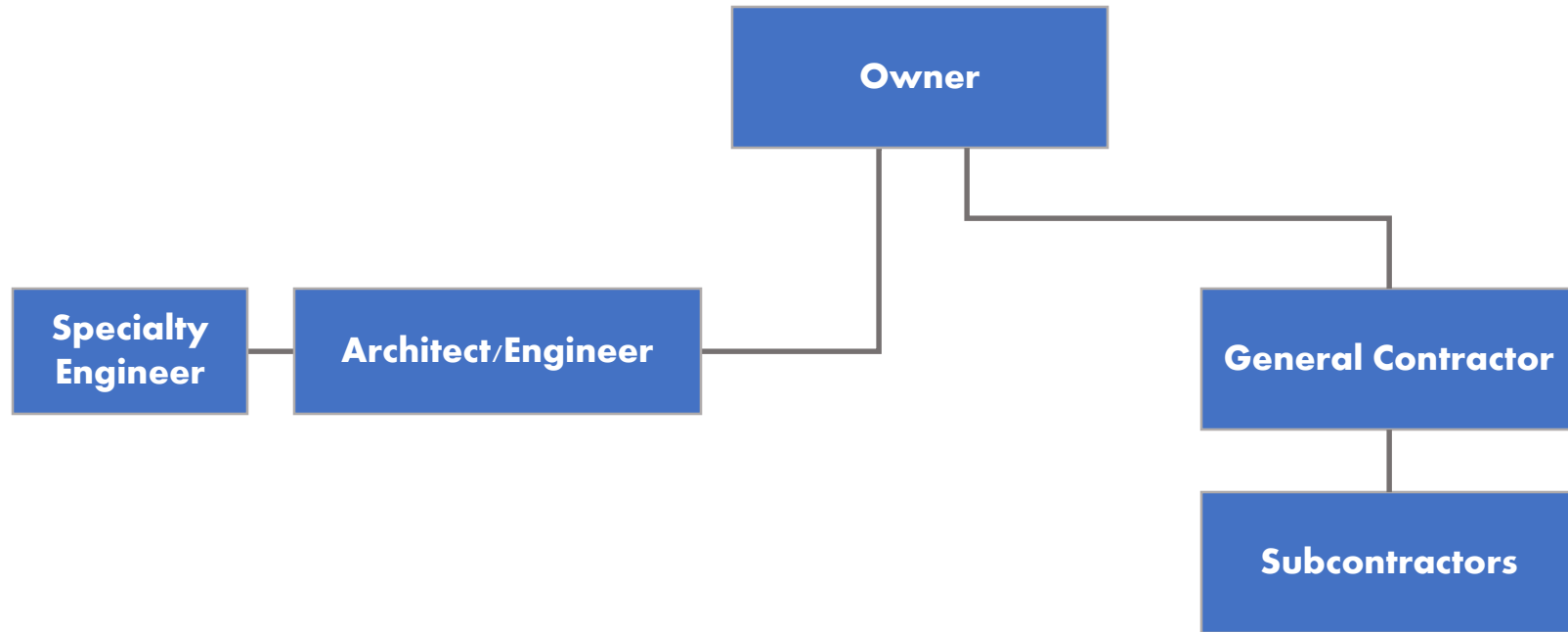
SELECTING CONSTRUCTION PROFESSIONALS

Project Delivery Options

- Design-Bid-Build
 - Traditional General Contractor (GC)
- Design-Build
 - Use growing in municipal market
- Construction Management (CM)
 - At-risk or agency contract
- Integrated Project Delivery (IPD)
 - Three-party shared risk/reward
- Integrated Services
 - Blend A/E with construction management

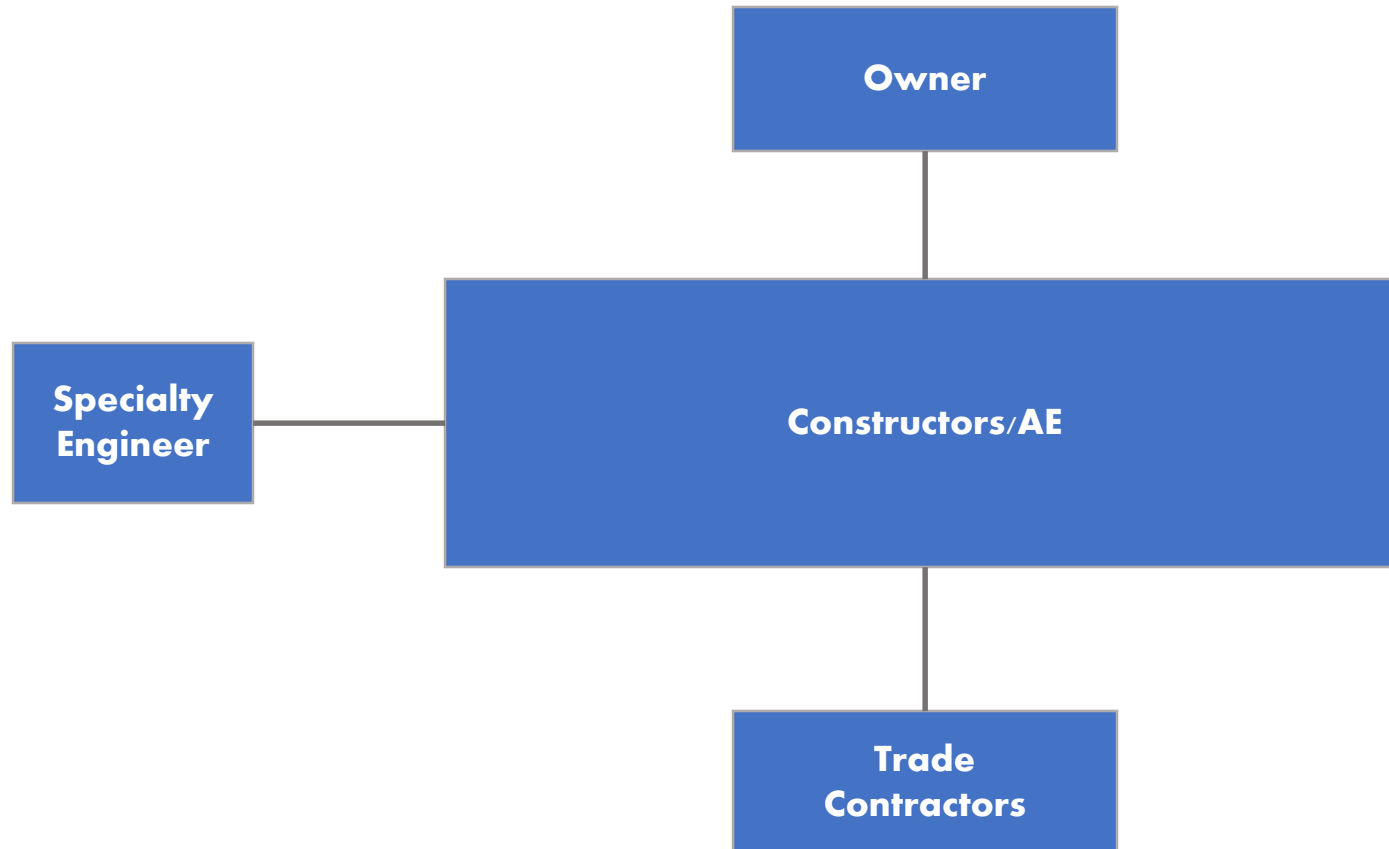


DESIGN-BID-BUILD



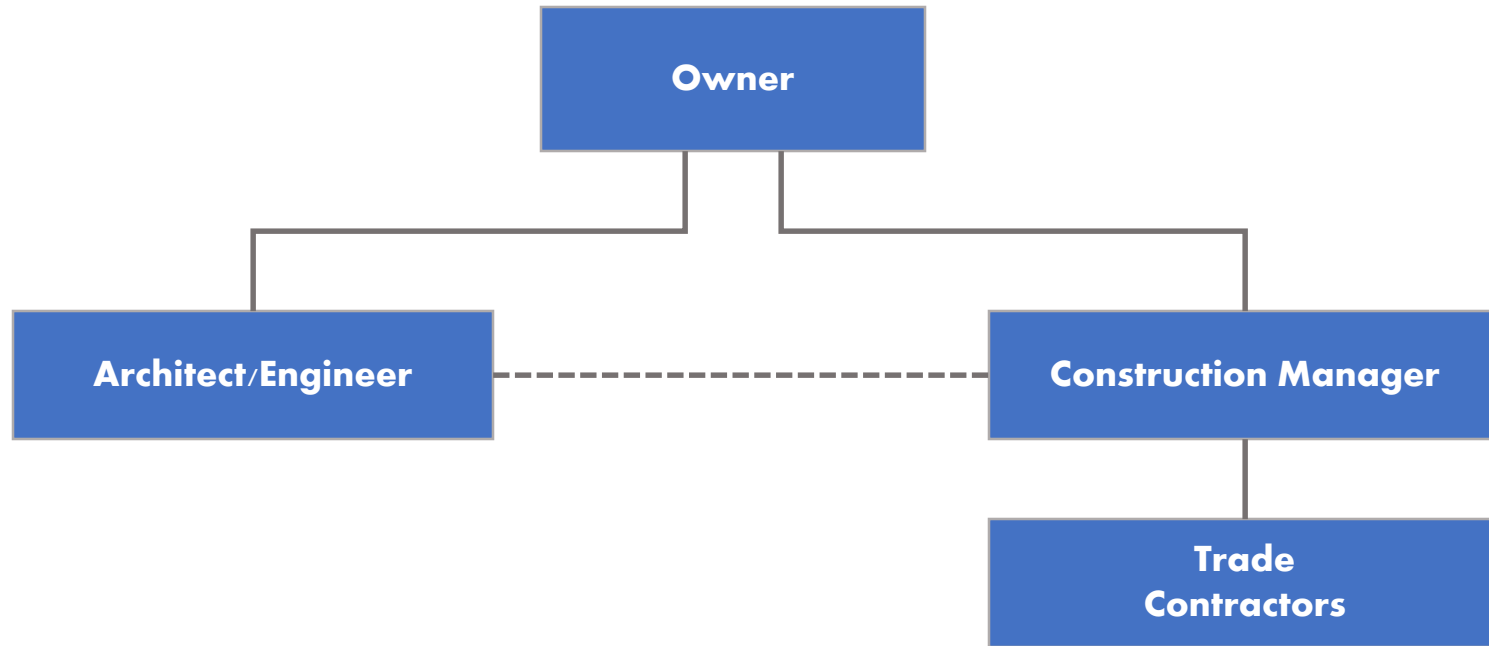


DESIGN-BUILD



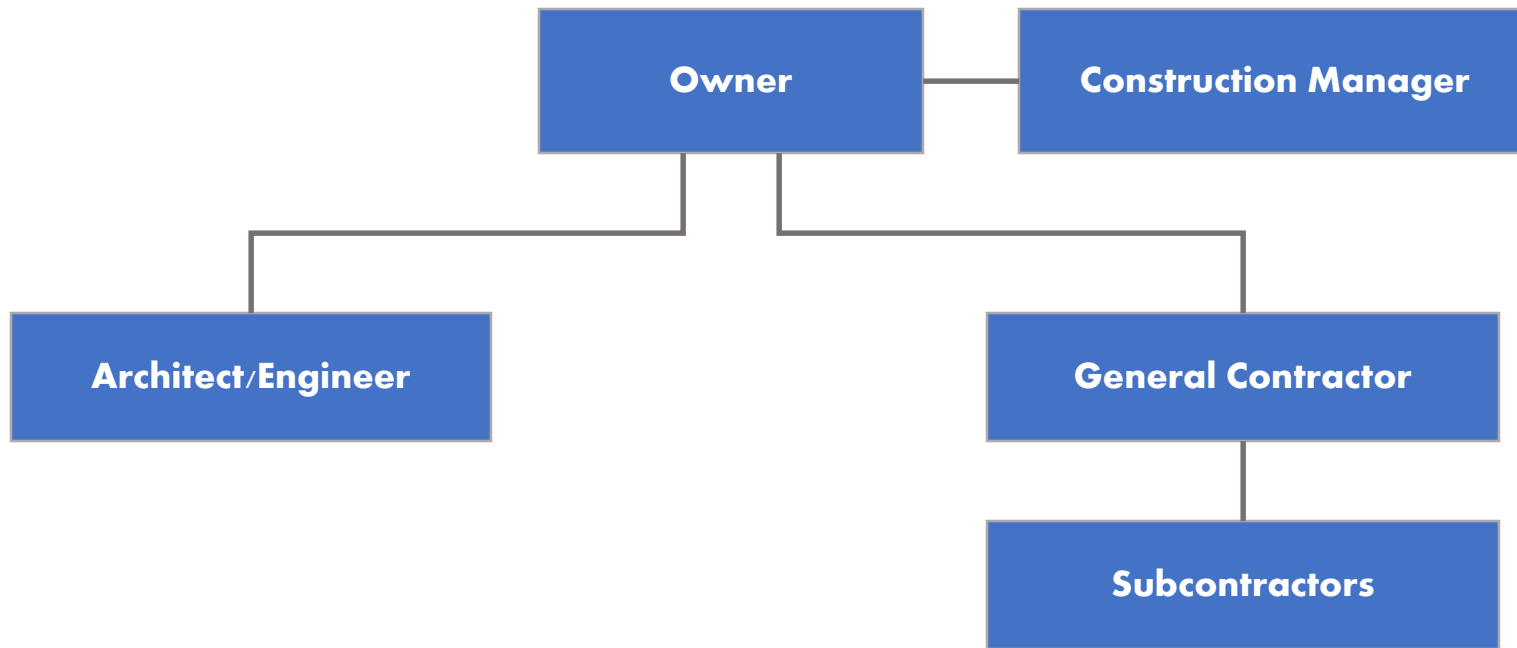


CM AT-RISK



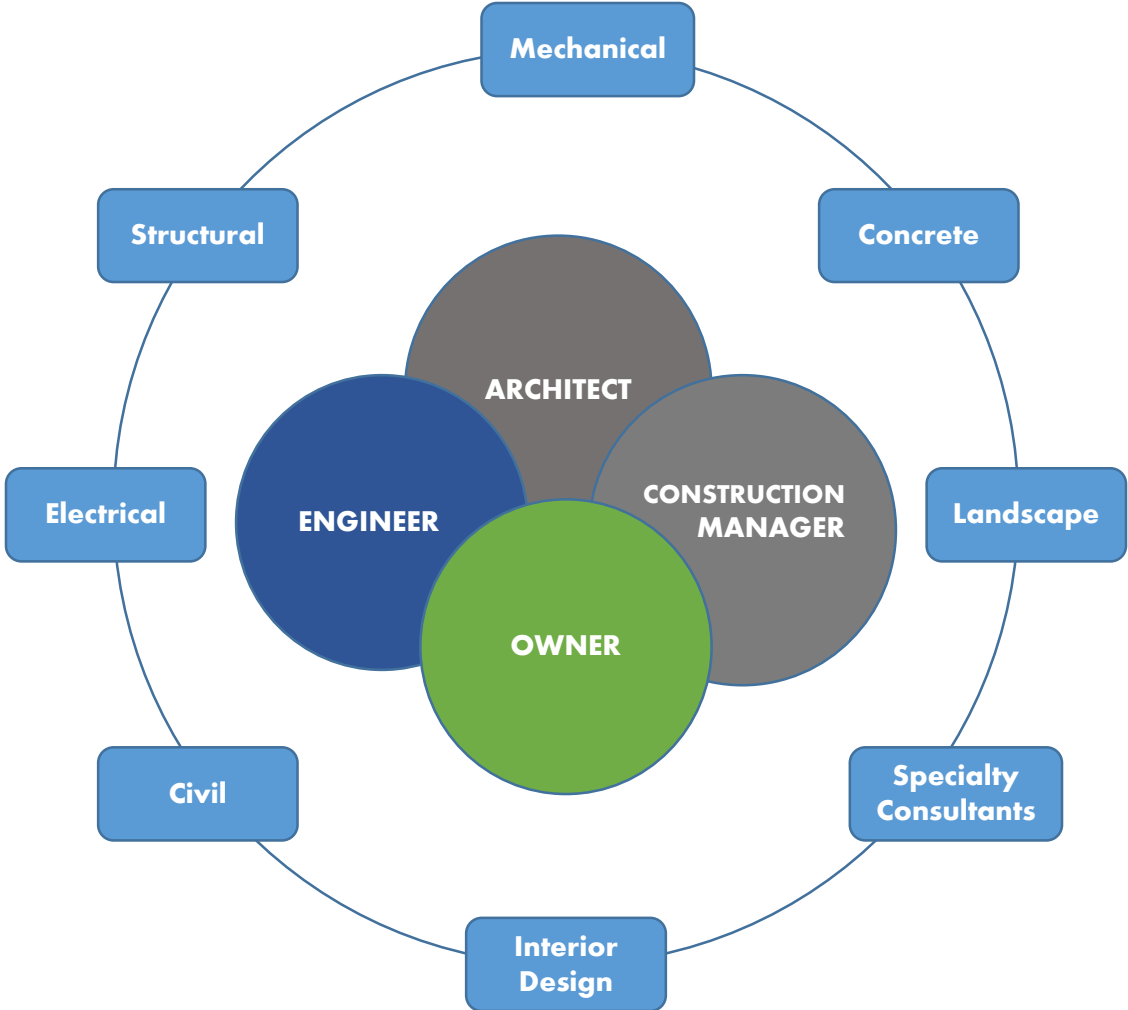


CM AGENCY



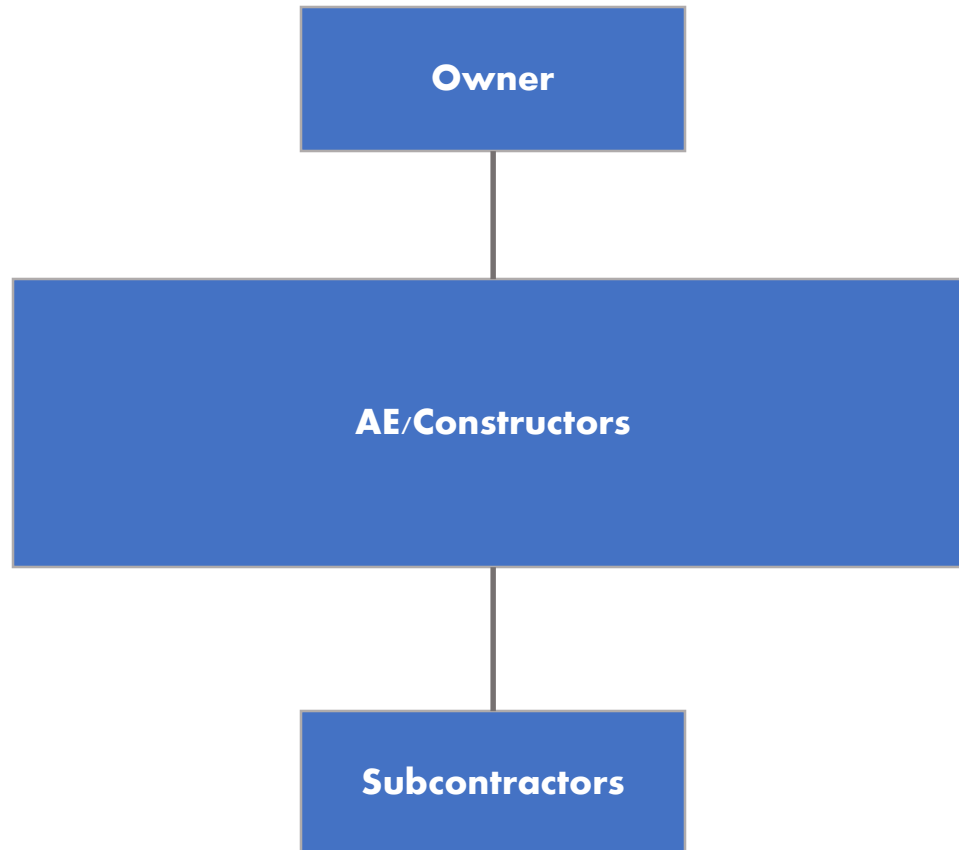


INTEGRATED PROJECT DELIVERY





INTEGRATED SERVICES





NAVIGATING THE DESIGN AND CONSTRUCTION PROCESS

Design Process

- Programming
- Schematic Design
- **Design Development**
- Construction Documents
- Bidding and Contract Award
- Construction Administration



DESIGN DEVELOPMENT

Preparation of Design Development Drawings and Outline Specifications

- Architectural – Floor plan, sections, and interior finishes
- Civil – Site development, utilities, and landscaping
- Structural – Foundations and framing systems
- Mechanical – HVAC and plumbing systems
- Electrical – Power and lighting systems
- Budget – Updated cost estimate
- Schedule – Project timeline

NAVIGATING THE DESIGN AND CONSTRUCTION PROCESS

Design Process

- Programming
- Schematic Design
- Design Development
- **Construction Documents**
- Bidding and Contract Award
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CONSTRUCTION DOCUMENTS

Preparation of Bidding Documents

- Drawings and specifications necessary to illustrate the requirements for the construction of the project
- Comply with local zoning and code requirements
- Coordinate periodic reviews with owner
- Review and update cost estimate and schedule
- Submit for review and approval by permitting agencies

NAVIGATING THE DESIGN AND CONSTRUCTION PROCESS

Design and Construction Process

- Programming
- Schematic Design
- Design Development
- Construction Documents
- **Bidding and Contract Award**
- Construction Administration



BIDDING AND CONTRACT AWARD

Coordinate and Assist with Bidding Process

- Advertisement for bids
- Reproduction and distribution of bidding documents
- Conduct pre-bid conference
- Prepare and release addenda as necessary
- Review bids and make recommendation for award
- Assist with preparation of construction contract

NAVIGATING THE DESIGN AND CONSTRUCTION PROCESS

Design and Construction Process

- Programming
- Schematic Design
- Design Development
- Construction Documents
- Bidding and Contract Award
- **Construction Administration**





CONSTRUCTION ADMINISTRATION

Review Progress and Quality of Construction

- Make periodic site visits throughout construction
- Review and respond to Requests for Information (RFI)
- Review shop drawing and material submissions
- Review applications for payment
- Perform final punch list review of completed project
- Collect equipment manuals and coordinate owner training session
- Conduct warranty site visit



NAVIGATING THE DESIGN AND CONSTRUCTION PROCESS

Owner Involvement and Commitment

DESIGN

- Review and coordinate design contract
- Attend regular project team meetings
- Respond to questions from architect/engineer
- Update staff on project status

CONSTRUCTION

- Review and coordinate construction contract
- Attend regular construction progress meetings
- Respond to questions from contractors
- Review and approve applications for payment



NAVIGATING THE DESIGN AND CONSTRUCTION PROCESS

Internal Project Management

- Planning and design
- Construction
- Furnishings and equipment
- Data, communication, and security systems
- Move management

Optional Approaches

- Add staff/management support – full or part-time
- Retain a program management consultant
- Incorporate with integrated services



METHODS FOR PUBLIC INPUT

Public Informational Meetings

- Held periodically during the programming and design process
- Serves to keep the public informed of design and progress on the project
- Can be supplemented with print and e-mail communication
- Is not designed to solicit input from the public



METHODS FOR PUBLIC INPUT

Public Workshops or Charrette Sessions

- Key representatives of the design team and owner gather for design workshop in space available for extended period
- Opportunity for public to participate in the design process
- Occurs early in design and held over a 1 to 2 day period
- Ideas are generated quickly and evaluated in 'real time'
- Basic conceptual design is defined and refined later
- Need to be sensitive to all ideas presented – good and bad
- Can save time but be costly due to time commitment of team



TRENDS IN SUSTAINABLE DESIGN

- US Green Building Council Leadership in Energy and Environmental Design – LEED Certification
 - Program introduced in 2000 and continuing to be developed – now in Version 4
 - Enhanced requirements for certification – especially in energy conservation
- Other sustainable design programs available
 - Green Building Initiative – Green Globes
 - Society of Environmentally Responsible Facilities (SERF)
 - Many others

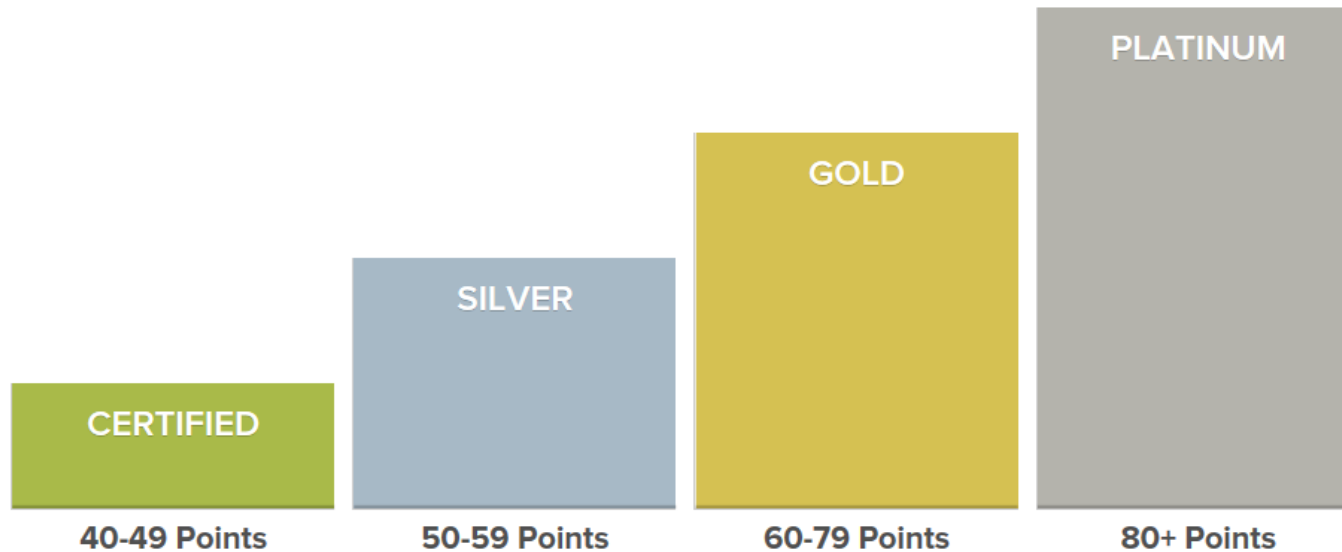




TRENDS IN SUSTAINABLE DESIGN

The number of points a project earns determines the level of LEED certification.

There are four levels of certification - the number of points a project earns determines the level of LEED certification that the project will receive. Typical certification thresholds are:

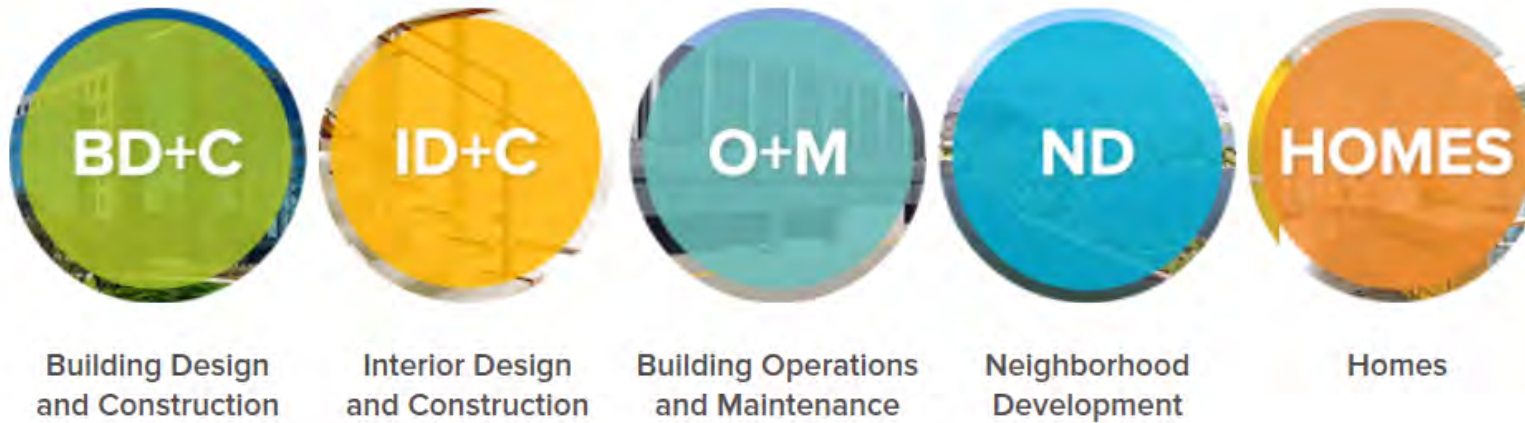


TRENDS IN SUSTAINABLE DESIGN

LEED is flexible enough to apply to all project types.

Each rating system groups requirements that address the unique needs of building and project types on their path towards LEED certification. Once a project team chooses a rating system, they'll use the appropriate credits to guide design and operational decisions.

There are five rating systems that address multiple project types:





TRENDS IN SUSTAINABLE DESIGN



LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name:

Date:

Y ? N

Y	?	N	Credit	Integrative Process	1
0 0 0 Location and Transportation 16					
Y	?	N	Credit	LEED for Neighborhood Development Location	16
Y	?	N	Credit	Sensitive Land Protection	1
Y	?	N	Credit	High Priority Site	2
Y	?	N	Credit	Surrounding Density and Diverse Uses	5
Y	?	N	Credit	Access to Quality Transit	5
Y	?	N	Credit	Bicycle Facilities	1
Y	?	N	Credit	Reduced Parking Footprint	1
Y	?	N	Credit	Green Vehicles	1
0 0 0 Sustainable Sites 10					
Y	?	N	Prereq	Construction Activity Pollution Prevention	Required
Y	?	N	Credit	Site Assessment	1
Y	?	N	Credit	Site Development - Protect or Restore Habitat	2
Y	?	N	Credit	Open Space	1
Y	?	N	Credit	Rainwater Management	3
Y	?	N	Credit	Heat Island Reduction	2
Y	?	N	Credit	Light Pollution Reduction	1
0 0 0 Water Efficiency 11					
Y	?	N	Prereq	Outdoor Water Use Reduction	Required
Y	?	N	Prereq	Indoor Water Use Reduction	Required
Y	?	N	Prereq	Building-Level Water Metering	Required
Y	?	N	Credit	Outdoor Water Use Reduction	2
Y	?	N	Credit	Indoor Water Use Reduction	6
Y	?	N	Credit	Cooling Tower Water Use	2
Y	?	N	Credit	Water Metering	1
0 0 0 Energy and Atmosphere 33					
Y	?	N	Prereq	Fundamental Commissioning and Verification	Required
Y	?	N	Prereq	Minimum Energy Performance	Required
Y	?	N	Prereq	Building-Level Energy Metering	Required
Y	?	N	Prereq	Fundamental Refrigerant Management	Required
Y	?	N	Credit	Enhanced Commissioning	6
Y	?	N	Credit	Optimize Energy Performance	18
Y	?	N	Credit	Advanced Energy Metering	1
Y	?	N	Credit	Demand Response	2
Y	?	N	Credit	Renewable Energy Production	3
Y	?	N	Credit	Enhanced Refrigerant Management	1
Y	?	N	Credit	Green Power and Carbon Offsets	2

0 0 0 Materials and Resources 13					
Y	?	N	Prereq	Storage and Collection of Recyclables	Required
Y	?	N	Prereq	Construction and Demolition Waste Management Planning	Required
Y	?	N	Credit	Building Life-Cycle Impact Reduction	5
Y	?	N	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
Y	?	N	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
Y	?	N	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
Y	?	N	Credit	Construction and Demolition Waste Management	2

0 0 0 Indoor Environmental Quality 16					
Y	?	N	Prereq	Minimum Indoor Air Quality Performance	Required
Y	?	N	Prereq	Environmental Tobacco Smoke Control	Required
Y	?	N	Credit	Enhanced Indoor Air Quality Strategies	2
Y	?	N	Credit	Low-Emitting Materials	3
Y	?	N	Credit	Construction Indoor Air Quality Management Plan	1
Y	?	N	Credit	Indoor Air Quality Assessment	2
Y	?	N	Credit	Thermal Comfort	1
Y	?	N	Credit	Interior Lighting	2
Y	?	N	Credit	Daylight	3
Y	?	N	Credit	Quality Views	1
Y	?	N	Credit	Acoustic Performance	1

0 0 0 Innovation 6					
Y	?	N	Credit	Innovation	5
Y	?	N	Credit	LEED Accredited Professional	1

0 0 0 Regional Priority 4					
Y	?	N	Credit	Regional Priority: Specific Credit	1
Y	?	N	Credit	Regional Priority: Specific Credit	1
Y	?	N	Credit	Regional Priority: Specific Credit	1
Y	?	N	Credit	Regional Priority: Specific Credit	1

0	0	0	TOTALS	Possible Points: 110
Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110				



TRENDS IN PROJECT DELIVERY

Interest in Alternative Project Delivery Models

DESIGN–BUILD

- Involvement by construction professional during design
- Early cost modeling and commitment – GMP
- More municipalities considering – Marquette MSC and SOCRRA

INTEGRATED PROJECT DELIVERY (IPD)

- Geared toward larger, complex projects
- Few local projects completed to date

INTEGRATED SERVICES

- Value in single source, open book delivery

REQUEST FOR QUALIFICATIONS
FOR
DESIGN-BUILD SERVICES



CITY OF MARQUETTE
MUNICIPAL SERVICE CENTER FOR
PUBLIC WORKS OPERATIONS

RFQ 14-03

QUALIFICATION SUBMITTAL DATE:
December 19, 2014

City of Marquette
Attn: Mary Schlicht
300 W. Baraga Ave.
Marquette, MI 49855

ADDITIONAL RESOURCES

American Institute of Architects – AIA/Michigan

<http://www.aiami.com/>

Qualifications Based Selection – QBS/Michigan

<http://www.qbs-mi.org/>

Associated General Contractors – AGC/Michigan

<http://www.agcmichigan.org/>

Design-Build Institute of America - DBIA

<http://www.dbia.org/Pages/default.aspx>

US Green Building Council – LEED Certification

<http://www.usgbc.org/>





QUESTIONS





THANK YOU

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