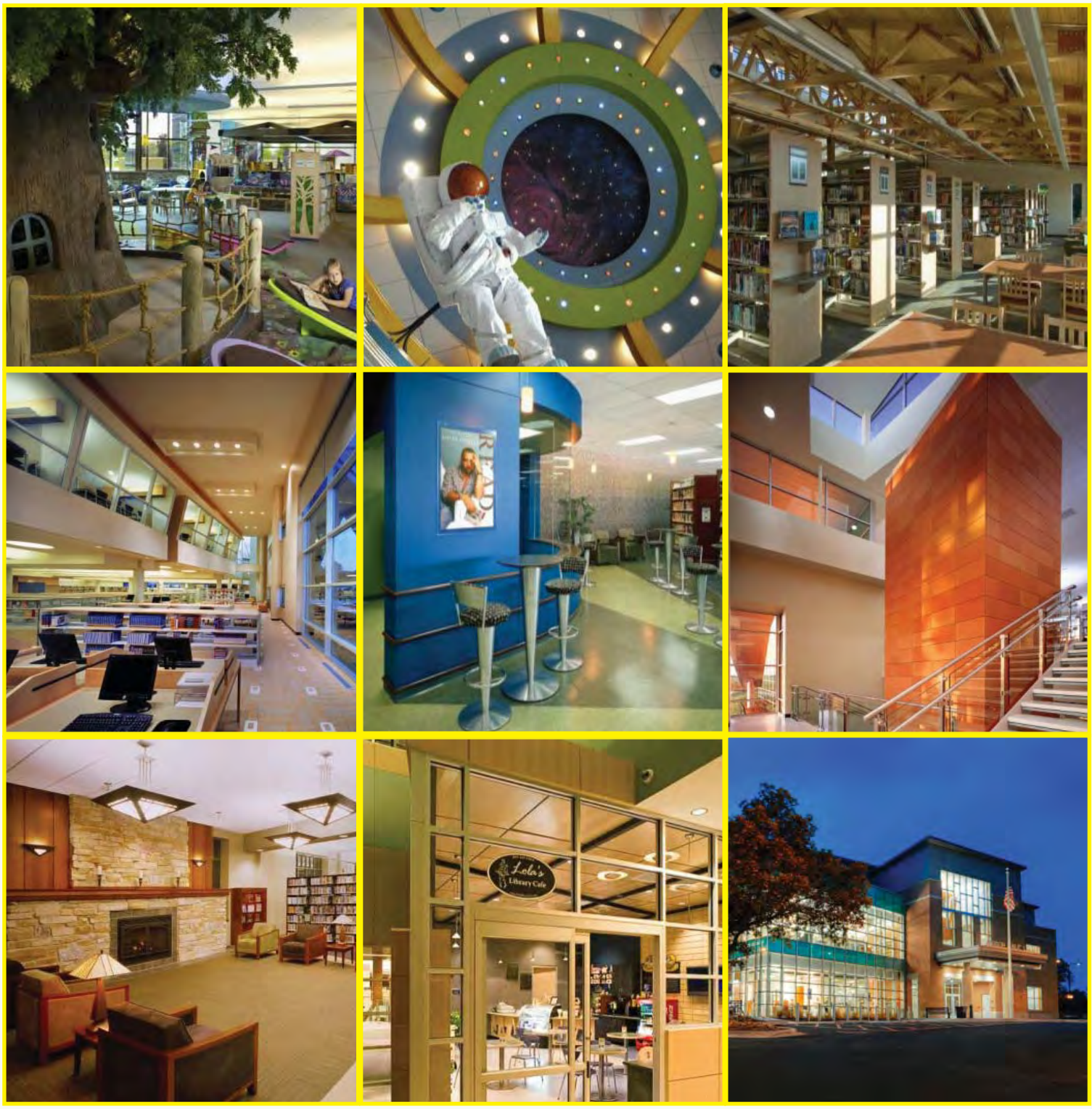


GRAND FORKS PUBLIC LIBRARY
SITE FEASIBILITY STUDY

JANUARY 27, 2011

Dewberry®

PSA Dewberry

January 27, 2011

Wendy Wendt
Library Director
Grand Forks Public Library District
2110 Library Circle
Grand Forks, ND 58201

Dear Ms. Wendt,

PSA-Dewberry and our partners Widseth Smith Nolting are pleased to present these site analyses for the Grand Forks Public Library. This report utilizes data provided by the Grand Forks Public Library, the City of Grand Forks, and PSA-Dewberry & Widseth Smith Nolting site observations.

We look forward to helping you make the right choices as you move forward with this public library project. Should you have any questions or comments regarding this feasibility study, please feel free to call us at any time.

PSA-Dewberry Inc.

Rick McCarthy

Rick McCarthy, AIA, NCARB, *LEED® AP*

Principal

Study Goals

This study was commissioned to explore the feasibility of three different sites in the City of Grand Forks as potential locations for the Grand Forks Public Library. The goal is to give the Library Board sufficient information to compare the sites and to make an informed decision regarding which site best meets the needs put forth in the library revitalization process.

Site Information

Information for each site is summarized on the site analysis drawings at the end of this study. Each study considers the site's dimensions, easements, utilities, setbacks, and environmental characteristics. We understand that the Library is evaluating the possibility of acquiring additional contiguous parcels at the current library location and one other potential parcel to the east, across Library Circle. For the purposes of this report, the need for property acquisition is individually addressed within each scenario.

Building Size

In determining which of the sites will be able to accommodate the future library, a size for the proposed building must be established. For this study we are using the recommended size provided in the building program by Library Consulting, P.A. dated February 11, 2010. The program recommends that the Grand Forks Public Library design a building size based on a project design population of 65,000 to 70,000 people. In order to provide good library service for this population, the library will need to provide a building of approximately 62,267 gross square feet.

Parking Requirements

Grand Forks Zoning codes reference parking needs associated with specific building uses. The base need for small library facilities is one space per 250 square feet of gross floor area plus one space per employee. Due to the size of the facility being considered and the various specific uses within the building itself, Grand Forks Planning Department personnel have preliminarily identified a total parking space requirement of 178 vehicle spaces for this project. This nets out to an overall parking space requirement of approximately one space to 500 square feet of gross floor area plus staff requirements.

The space report from Library Consultants, PA suggested a total of 109 spaces or 1 space per 600 square feet of library. The staff of Dewberry feels a reasonable and conservative parking goal for the library could be in the range of 180 to 220 spaces to be appropriate. From this perspective, it would appear that there should be little or no conflict with meeting Grand Forks City code parking requirements.

Building Floor Plate

To enable a meaningful comparison of relative costs of developing each site, we are inserting the same hypothetical building on each site. The footprint of the assumed building is based upon the footprint required to fit the library on the most constrained of the sites. This assumes a library with two full floors and a partial third floor. Note that this is only one of many possible floor area distribution solutions. An appropriate floor area distribution will be determined during the Schematic Design phase.

For the purposes of this report, the floor area distribution is utilized as follows:

Assumed Space Distribution by Floor

Grand Forks Public Library Space Summary - 3 Floors, Option 2
Adult Non-Fiction & Media on First / Children, YA, & Adult Fiction on Second / Staff on Third

Functional Area			First Floor	Second Floor	Third Floor
Library Entrance	**1109 SF**				
Coffee Alcove		312 SF	312 SF		
Friend's Book Sale		97 SF	97 SF		
Public Entry and Lobby		700 SF	700 SF		
Public Meeting Rooms	**3170 SF**				
Conference Room		858 SF			858 SF
Large Mtg. Rm + Kitchenette		2312 SF	2312 SF		
Customer Service	**670 SF**				
Customer/Self-Service Area		670 SF	670 SF		
New Book & Media Display	**476 SF**				
		476 SF	476 SF		
World Languages	**256 SF**				
		256 SF		256 SF	
Media Area	**1016 SF**				
		1016 SF	1016 SF		
Children's Library	**9708 SF**				
Children's Collection & Services		5118 SF		5118 SF	
Juvenile Collection		4316 SF		4316 SF	
Parenting & Teachers' Collection		274 SF		274 SF	
Fiction Area	**4934 SF**				
Fiction Collection		4934 SF		4934 SF	
Large Print	**760 SF**				
Large Print Collection		760 SF		760 SF	
Non-Fiction	**7466 SF**				
Non-Fiction Collection & Seating		7466 SF	7466 SF		
Teen Services	**3418 SF**				
Teen Collection & Services		3418 SF		3418 SF	
Information & Technology	**4317 SF**				
Information & Technology Services		3200 SF	3200 SF		
Public Computers		616 SF	616 SF		
Study Rooms		501 SF			501 SF
Local History	**1474 SF**				
		1474 SF		1474 SF	
Periodicals	**1224 SF**				
Periodical Collection		1224 SF	1224 SF		
Library Administration	**655 SF**				
		655 SF			655 SF
General Staff Work Areas	**2656 SF**				
Friend's Work & Storage Area		636 SF			636 SF
Staff Workroom & Offices		1559 SF	1559 SF		
Returns Room		461 SF	461 SF		
Technical Services	**425 SF**				
		425 SF			425 SF
Computer Management	**526 SF**				
		526 SF			526 SF
Staff Services	**826 SF**				
Staff Lobby/Kitchenette/Lounge		826 SF			826 SF
Building Services	**2104 SF**				
Custodial Workroom		296 SF	296 SF		
Garage, Shipping, & Receiving		860 SF	860 SF		
General Library Storage Room		854 SF			854 SF
Outdoor Equipment Storage		94 SF	94 SF		
Total Net Area		**47190 SF**	21355 SF	20550 SF	5281 SF
First Floor Gross		28407 SF			
Second Floor Gross		27332 SF			
Third Floor Gross		7024 SF			
Total Gross Area		**62267 SF**			
Total Non-Assignable Space	**15567 SF**				
25% of Gross Area		15567 SF			

Space distribution per floor assumed for report. 2 full stories with a partial 3rd level

Proposed Site Scenarios

The following five scenarios were studied for this report:

Scenario #1 The existing Grand Forks Public Library will remain in its current location, at 2110 Library Circle with an addition to accommodate the future building needs. Four additional properties will be purchased to increase the size of the site. The library will temporarily relocate during construction.

Scenario #2 The existing Grand Forks Public Library is to be demolished and a new library will be constructed on the existing site. The site will be expanded by purchasing adjacent property to the south and to the east. The library will temporarily relocate during construction.

Scenario #2a The existing Grand Forks Public Library is to be demolished and a new library will be constructed on the existing site. The site will be expanded by purchasing adjacent property to the north and to the east. The library will remain on its current site during construction.

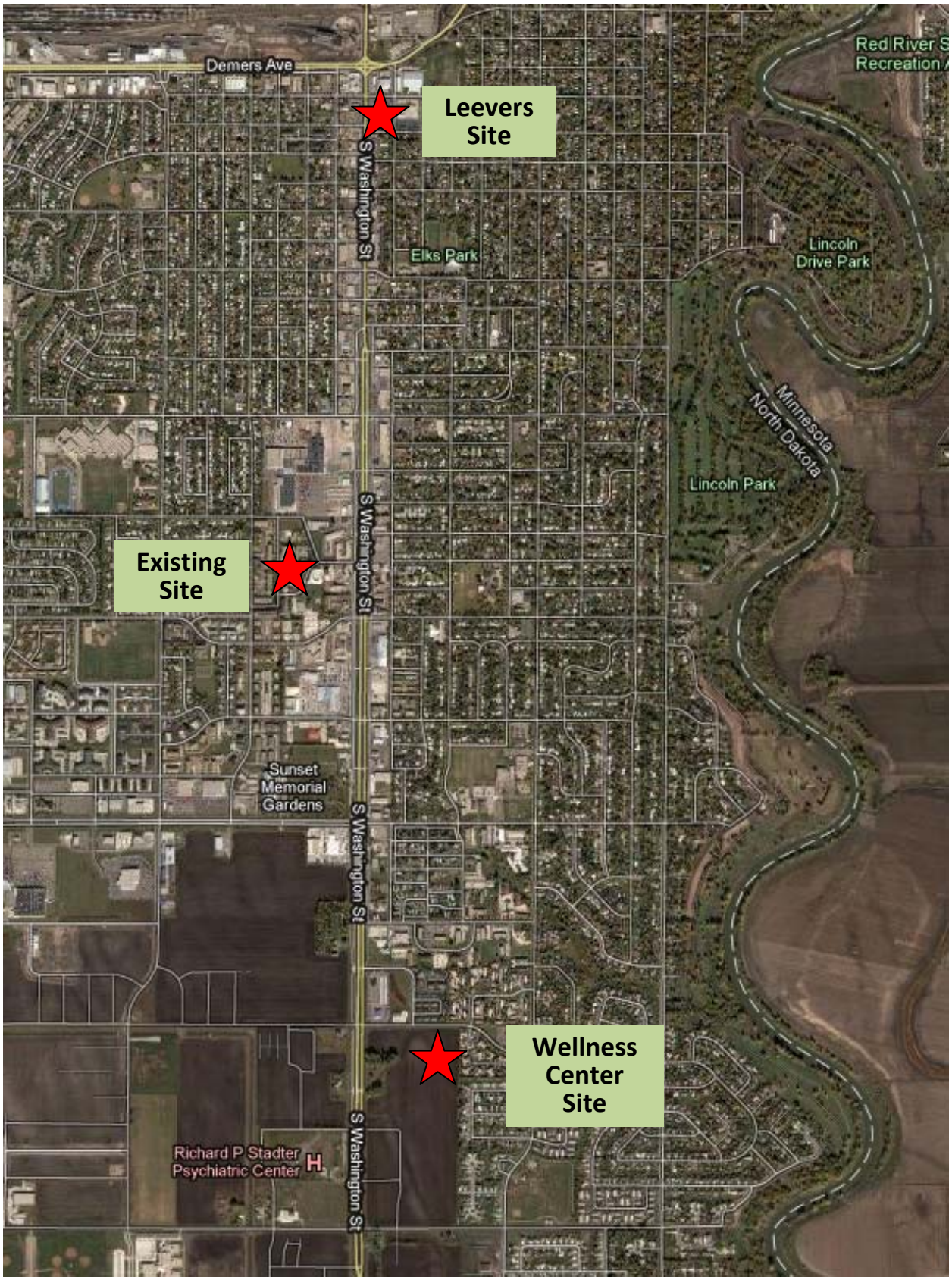
Scenario #3 A new library facility to be built and located at the "Leevers" site at 715 South Washington, Grand Forks.

Scenario #4 A new facility to be built and located at the "Wellness Center" site at 40th Avenue South and South 11th Street.

The site analyses have been conducted to determine if each site can accommodate the proposed library. Comparative cost estimates are provided as well to aid in the decision-making process.

Zoning Considerations

Each site is part of a zoning district; only certain types of uses are allowed in each zoning district. The zoning district for each site is indicated for each of the following site analyses. In order to build the library at any of the proposed sites, the project may require a zoning variance from the City of Grand Forks. This process may have an impact on the project timeline.


Demers Ave
Leevers Site
S Washington St
Elks Park
Red River S Recreation
Lincoln Drive Park
Minnesota
North Dakota
Lincoln Park
Existing Site
S Washington St
Sunset Memorial Gardens
S Washington St
Wellness Center Site
Richard P Stadter Psychiatric Center
H
S Washington St

Civil Engineering Considerations

Detailed civil engineering is beyond the scope of this report, but it is important to note that each site studied will pose different civil engineering challenges. The two major considerations are storm water management and site utilities. In general, the larger and more undeveloped the site, the easier it is to solve storm water management issues. Existing developed sites that are already tied into a storm water system must be studied to prove that the expanded development does not exceed the capacity of the existing system and trigger the need for potentially expensive upgrades.

Flood Hazard

Flood information and maps are on record with the city or county municipal offices. The three proposed sites are located outside the 0.2% annual chance floodplain, as indicated by FEMA Flood Insurance Rate Maps. Flood hazard is not a consideration for any of the sites.

Conceptual Site Plans

PSA-Dewberry's land planners developed a conceptual site plan for each site illustrating the characteristics of the site and how it could be utilized for the proposed library. Our goals for the site designs included the following:

- The site should accommodate a library with a gross area of 62,267 square feet.
- There should be area for future expansion.
- Depending on the site constraints, a two- or three-story facility may be required to meet the overall square footage described by the building program.
- To provide a building footprint with geometry appropriate for public library use with an orientation that is optimized for the maximum use of natural light within the building.
- To provide, if possible, at least one option for each site that incorporates a drive-up book drop and/or pickup.
- To provide adequate parking for the library. This number may vary depending upon the site selected and the potential of overflow parking. Please see Page 1 for additional discussion of parking considerations.

For the new construction options, we are inserting the same hypothetical building on each site to facilitate an 'apples to apples' comparison. We have assumed a library with two full floors and a partial third floor.

Each site analysis begins with some general zoning information. **(Please note that the diagrammatic site plans are concept plans only and are only intended to analyze the viability of each site.)**

SCENARIO #1:

The existing Grand Forks Public Library will remain in its current location, at 2110 Library Circle, it will be remodeled and expanded with an addition to attain the area required by the building program.

SCENARIOS #2 & 2A:

The existing Grand Forks Public Library is to be demolished and a new library will be constructed on the existing site. The site will be expanded by purchasing adjacent property.

Assessment of existing library building for Scenario #1:

The general architectural aspects of the existing library were discussed in the 2009 Needs Assessment report prepared by Library Consulting, P.A. That report gives a good overall review of the existing structure. The report mentions that the existing building is poorly insulated, makes little use of natural light, has mechanical/electrical/plumbing systems that are at the end of their service lives and that the existing structure is difficult to modify. As a part of this report, we conducted a more thorough study of the existing building systems.

Mechanical Assessment

Existing Systems

The current mechanical system consists of air handling units (AHU), condensing units, perimeter radiation, reheat coils, gas-fired boilers, hot water circulating pumps, and a mixture of pneumatic and Direct Digital Controls (DDC) controls. With the exception of the DDC controls and a booster fan installed to serve the 1984 second-story remodel, the mechanical equipment is original to the building and approximately 40 years old.

If we assume additions and/or a substantial remodel to the existing building, it is recommended that the mechanical systems be replaced. While the majority of the equipment appears to be in working order, its estimated useful life span has been met or exceeded and it would not be cost effective to try to salvage and reinstall equipment which may need to be replaced in five to ten years. Along with improving energy efficiency, replacing the mechanical systems will allow a number of issues with the current systems to be addressed:

- The current hydronic system is 100% water. Propylene glycol should be provided to prevent coils from freezing.
- The existing perimeter radiation has no zone control, which results in uneven heat distribution in the building. Control valves and room temperature sensors should be provided to improve temperature control.
- Server and computer rooms should be provided with cooling split systems outfitted with low ambient kits to ensure proper temperature control regardless of the outside air temperature.
- The air handling unit serving the library pressurizes a tunnel around the perimeter of the building. Grilles cut into the floor allow air from the tunnel to ventilate the library. A booster fan pulls air from the tunnel and distributes it to the second story addition. The first and second floors of the library are a single zone and to properly heat or cool the second floor results in the overheating or overcooling of the first floor. A separate air handling unit should be installed to serve the second story to provide better temperature control.

The existing plumbing fixtures should be replaced with low water consumption flush valves, urinals, water closets, and lavatory faucets. A new 6" water service would need to be provided to install a fire sprinkler system in the existing building.

Electrical Assessment

Existing Systems

The existing library's electrical distribution equipment has been in place since the original construction of the building. Although the equipment is operational, it is nearing the end of its useful life. The desired design is to allow for a fifty-year building. In order to reach this goal, the electrical distribution and branch panel boards will need to be replaced. The replacement would ensure adequate space and capacity for new systems, mechanical equipment, and future expansion. It will also provide increased flexibility for future modifications.

The existing lighting is comprised of fluorescent, incandescent, and metal halide light fixtures. The majority of the fluorescent lighting consists of T12 fluorescent lamps. Fewer than 25% of the fluorescent fixtures have been retrofitted to more efficient T8 fluorescent lamps. The two-story open area utilizes metal halide surface mounted fixtures. The users have indicated that these fixtures are difficult to relamp and because of the setup required to gain access to the lamps, the staff waits until several lamps are out prior to replacing.

The city is considering adoption of the 2009 IECC as well as LEED certification for the library. In order to meet the energy savings requirements, the lighting will need to be replaced with more energy efficient fixtures. Replacing the existing lighting will also allow adequate light levels at the stacks and reading areas, designed to meet the design standards of the Illuminating Engineering Society (IES).

The existing lighting control consists of wall switches and contactors. To achieve energy efficiency goals and/or LEED credits, the lighting controls will have to be completely replaced and must include sensors to turn off lights in unoccupied spaces.

The existing telecommunications equipment is located within a room that also contains office space for support staff. The area does not currently provide year-round cooling that is typically required for this type of space. It is highly recommended that the remodel option provide a centralized telecom room with a dedicated HVAC system. Additionally, it appears that several of the cables exceed building standards for overall cable length. Replacing the existing cabling and infrastructure will allow the library to meet the most recent building standards for telecommunications work per the TIA and BICSI, also allowing for future developments and growth.

Remodeling of the existing building would also require the fire alarm system to be revised and upgraded to meet current standards.

Electrical Capacity

The electrical, telecommunications, and fire alarm requirements for a new building at either of the new possible sites or the existing location are similar in nature. Each of the sites will require coordination of utilities with the service providers and other trades. Differences between sites will be minor and should have little impact on overall project cost.

A new building will allow the design to meet all the current building and energy codes/standards as well as capacity for future growth. Dedicated spaces will be available for telecommunications and electrical rooms, allowing for the ability to better serve the library's needs.

Zoning Analysis

The following zoning analysis applies to Scenario #1, Scenario #2 and Scenario #2a:

Location: 2110 Library Circle

Zoning District: B1

Special Use: A Library can be considered as a special use – a zoning variance will be required.

Utilities: The utilities are present and connections will be straightforward. An existing 8" water main and 8" sanitary sewer on Library Lane, west of the site, should provide sufficient capacity for the proposed building.

Site Acreage: 124,727 square feet (2.86 acres)

Impervious Area Requirements: 65% (35% must be green space)

Maximum Height: Six (6) stories or seventy-five (75) feet, in height

Front Yard: 35 feet (less than twenty-five (25) feet with one (1) additional foot for each foot in height the building exceeds twenty-five (25) feet)

Side Yards: 10 feet

Rear Yard: 20 feet

Off-Street Parking: One (1) space per five hundred (500) square feet of gross floor area plus one (1) space per employee on the largest work shift.

Number of Spaces Required By Zoning Code: 156 plus 22 employees = 178 spaces.

Minimum Parking Space Size: Minimum 9 feet wide by 18 feet deep.

Minimum Aisle Width: Minimum 24 feet wide for two-way traffic and 18 feet wide for one-way traffic.

Parking Setback:

- Unpaved front yard: 5 feet
- Unpaved side and rear yard setback: 5 feet
- Cross aisle one way: 14 feet
- Cross aisle two way: 24 feet
- Setback from principle building: 5 feet
- Front lot line to drive: 10 feet
- Side and rear lot line to drive (landscape area): 5 feet

Landscaping requirements:

Interior coverage requirements -- not less than five (5) percent of the interior of a parking lot shall be landscaped.

Storm water Management:

The existing storm sewer system is constrained. Runoff from the existing library parking lot during a 2-year storm event places the system on Library Circle at near capacity, with runoff from surrounding areas exacerbating the problem. The area is subjected to flooded streets in relatively frequent rainfall events.

An expansion of the site for a new building and increased parking will compound the current problems without some means of controlling the quantity and quality of water from the site into the storm water system. A storm water management system to provide additional quantity or quality control may include one or a combination of systems, including aboveground retention pond(s) or below-grade detention systems.

Other options which can be considered include the use of a pervious pavement system on a portion of the parking areas and along walkways. Additionally, rain gardens, filter strips, a vegetated roof and other features can be incorporated into the storm water management system.

The code requires that storm water runoff from the site not be increased from its current rate. A total of 65% of the existing library site is currently covered by impervious surfaces (building, parking etc.). As the amount of impervious surface is increased by additional construction, detention facilities will be required to deal with the increased amount of storm water runoff. Because of the site constraints, an underground detention system with storage capacity of 12,000 – 15,000 cubic feet will most likely be required. Additionally, above-ground improvements such as rain gardens and grass swales should be incorporated to improve the water quality of the runoff.

Streets/Access:

A single access to the existing facility is by means of a 31-foot wide street, with lane crossing required when access is via Library Circle from Washington Street, which is where the directional signs are located. The facility is not served by an existing bus route.

Signage:

One (1) identification sign, not to exceed fifty (50) square feet in area and not more than fifteen (15) feet in height. No off-premises advertising sign or sign structure shall be located within five hundred (500) feet of another such off-premises advertising sign or sign structure. The maximum number of off-premises advertising sign structures allowed within the Highway 81 Corridor (Washington Street), between DeMers Avenue and the city's southerly extraterritorial zoning and subdivision jurisdiction boundary, shall be nine (9).

Program Requirements:

The site can accommodate the potential maximum of 178 parking spaces.

Expansion Potential:

The Library District is considering acquiring adjacent properties which would allow for future building expansion and additional off-street parking.

Scenario #1 Conceptual Site Plan

EXISTING + ADDITION

ZONING:	B1
SITE SIZE:	206,402 SF (4.74 ACRES)
IMPERVIOUS AREA ALLOWED:	134,161 (65%)
IMPERVIOUS AREA SHOWN:	145,866 SF (71%)
BUILDING FOOTPRINT:	44,312 SF (24,076 EXIST. + 20,236 NEW)
NUMBER OF PARKING STALLS:	278

Grand Forks Public Library - Exist. Site + Addition, Opt. 1

Grand Forks, North Dakota

0 25 50
Scale: 1" = 25'-0"
January 26, 2011

PSA Dewberry
25 South Grove Avenue
Suite 500
Elgin, Illinois 60120
ph. 847-695-5840
fax 847-695-6579
psadewberry.com
WIDSETH SMITH NOLTING

Commentary on Scenario #1

This scenario assumes that additional property is purchased to the south of the existing library site and that an addition is built to bring the library to its programmed area of approximately 62,267 square feet. Additionally, another property across Library Circle to the east will be purchased and utilized for parking and potentially a turn-around for city busses.

The existing floor to floor height in the existing library is approximately 10'-10". This floor to floor height is workable for a limited area such as vicinities under the existing mezzanine, but is inadequate for larger spaces in a public library. We typically utilize a 15'-4" floor to floor height to provide sufficient space for appropriate mechanical systems and a ceiling height that is suitable for library lighting.

Considering the above, any additions to the existing building should not replicate the existing floor to floor height. If an addition were to have a second floor with an appropriate floor to floor height, the second floor would be up to 4'-6" feet above the level of the existing mezzanine. This difference in floor height will create significant complications in terms of operations, accessibility and exiting. The 26' existing roof height results in approximately 24' clear from the existing floor to the underside of the existing roof structure. This is insufficient height for a two-story library. The nature of the connections between the building addition and the existing library is also problematic. The exterior walls of the existing library are reinforced masonry bearing walls. Creating large openings in these walls is a relatively expensive process.

Resolving the above complexities will be expensive and the final result would be a library with a number of different floor levels, separated spaces, poor sight lines and a relatively inefficient layout. A multi-story addition to the existing structure will create significant limitations that will persist throughout the life of the building.

As indicated on the conceptual plan, we are showing a library with a total area of approximately 62,267 square feet. For this scenario, the parking count can meet the most conservative interpretation of the zoning code parking requirements.

As noted elsewhere, the mechanical/electrical/plumbing systems for the existing library would have to be substantially replaced if the building were to be reused. In addition, the existing structure has little natural light and only a minimal amount of insulation. The construction of the walls and the roof make it difficult to add additional windows or skylights to the existing space. The lack of insulation in the existing library and the inability to optimize the building orientation will result in increased operating costs for the life of the building.

Scenarios #1 and #2 require that the library temporarily relocate during construction. This is a significant consideration, as relocation requires finding a suitable temporary location, two moves, outfitting the temporary space for use as a library and rental/lease costs.

In summary, the structure and existing site design have built-in limitations that would have permanent repercussions in terms of library operations, operating costs and the aesthetics of an expanded library. We do not believe that Scenario #1 is a preferred option.

Scenario #2 Conceptual Site Plan

NEW BUILDING

ZONING:	B1
SITE SIZE:	206,403 SF (4.74 ACRES)
IMPERVIOUS AREA ALLOWED:	134,162 (65%)
IMPERVIOUS AREA SHOWN:	133,749 SF (64.8%)
BUILDING FOOTPRINT:	29,680 SF
NUMBER OF PARKING STALLS:	240

Grand Forks Public Library - Exist. Site, New Build., Opt. 2

Grand Forks, North Dakota

0 25 50

Scale: 1" = 25'-0"

January 26, 2011

PSA Dewberry
25 South Grove Avenue
Suite 500
Elgin, Illinois 60120
ph. 847-695-5840
fax 847-695-6579
psadewberry.com
WIDSETH SMITH NOLTING

Commentary on Scenario #2

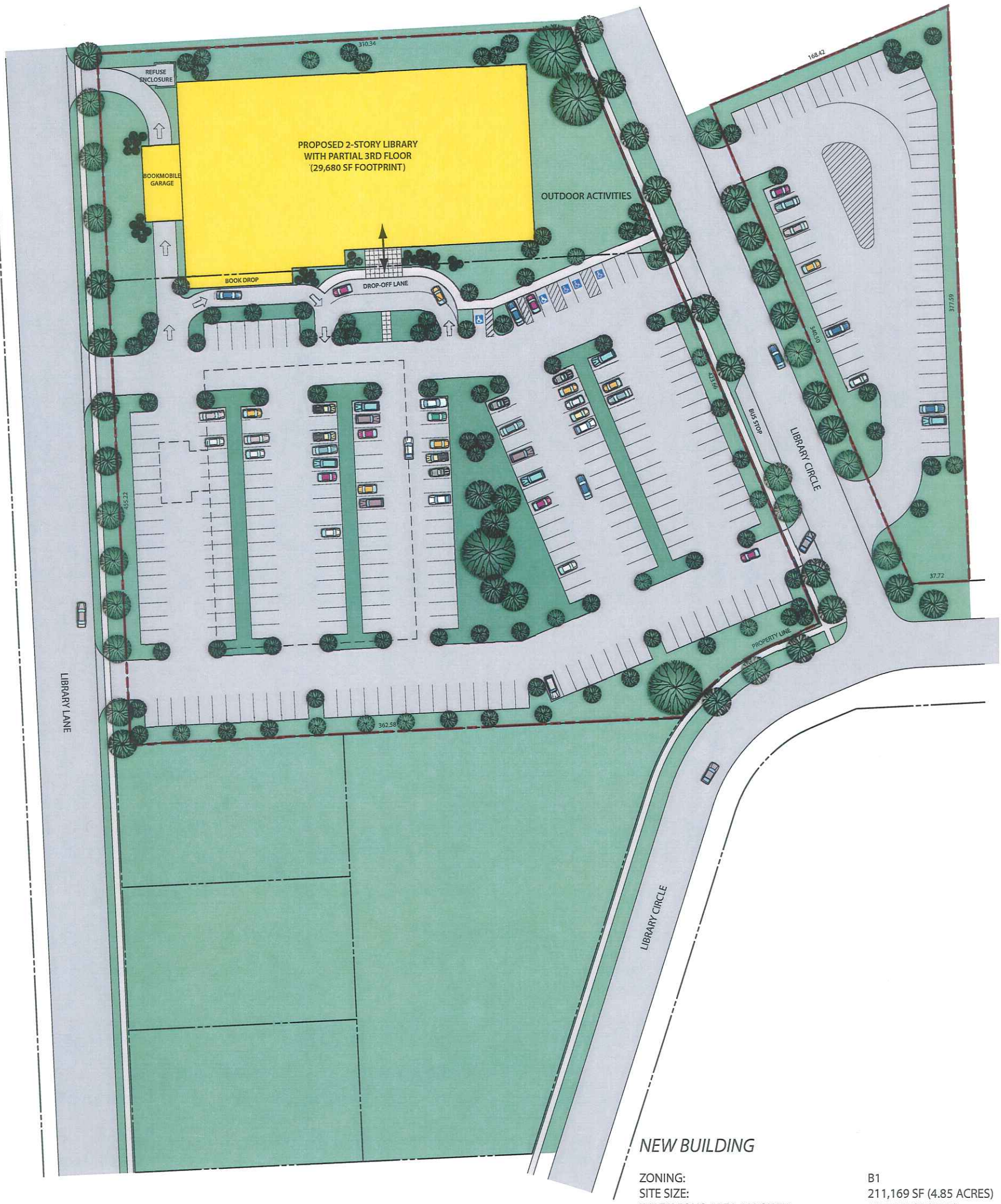
Scenario #2 assumes that the existing library will be demolished and a new structure built in its place. This scenario assumes the purchase of several properties to the south as well as one to the east, across Library Circle. The conceptual site plan indicates a library with a floor plate that meets the 28,400 square foot goal for this exercise. It should be noted that it is possible for the library to have a floor plate in excess of 35,000 square feet in this scenario which would enable the library to be constructed as a two story building if desired.

The building as shown has an east-west axis and an overall proportion that is suitable for effective use of natural light. The plan also shows that access to both Library Circle and Library Lane is possible.

The site plan presented offers 240 parking spaces, which is well within interpretation of the zoning code.

Scenario #2 comes with several limitations regarding the existing site. These include: relatively low visibility with respect to an arterial road, nearby streets that occasionally flood during storm events and no existing mass transit. In both scenarios we have indicated that a bus turn-around could be provided if the property across Library Circle is purchased. This could accommodate a bus drop off adjacent to the library.

Scenario #2a Conceptual Site Plan



NEW BUILDING

ZONING:	B1
SITE SIZE:	211,169 SF (4.85 ACRES)
IMPERVIOUS AREA ALLOWED:	137,259 SF (65%)
IMPERVIOUS AREA SHOWN:	148,771 SF (70.45%)
BUILDING FOOTPRINT:	29,680 SF
NUMBER OF PARKING STALLS:	284

Grand Forks Public Library - Exist. Site, New Build., Opt. 2A

Grand Forks, North Dakota

0 25 50
Scale: 1" = 25'-0"
January 26, 2011

PSA Dewberry
25 South Grove Avenue
Suite 500
Elgin, Illinois 60120
ph. 847-695-5840
fax 847-695-6579
psadewberry.com
WIDSETH SMITH NOLTING

Commentary on Scenario #2a

Scenario #2a assumes that the existing library will be demolished and a new structure built in its place. This scenario assumes the purchase of a property to the north as well as one to the east, across Library Circle. The conceptual site plan indicates a library with a floor plate that meets the 28,400 square foot goal for this exercise. This option can allow the library to remain in operation during construction of the new facility, thereby eliminating the difficulty and expense of temporary relocation.

The building as shown has an east-west axis and an overall proportion that is suitable for effective use of natural light. The plan also shows that access to both Library Circle and Library Lane is possible.

The site plan presented offers 284 parking spaces, which exceeds the most conservative interpretation of the zoning code.

Scenarios #1, #2, and #2a come with several limitations regarding the existing site. These include: relatively low visibility with respect to an arterial road, nearby streets that occasionally flood during storm events and no existing mass transit. In these scenarios we have indicated that a bus turn-around could be provided if the property across Library Circle is purchased. This could accommodate a bus drop off adjacent to the library.

Scenario #3: Leevers Site

Location: 715 South Washington Street

Zoning District: B-3; site abuts R-2 districts to the north and east and R-4 to the south.

Special Use: Libraries will be considered as special uses.

Utilities: The utilities are present and connections would be relatively straightforward. Water and sanitary sewer services are of adequate capacity to serve the proposed library. An 8" water main and 12" sanitary sewer mains adjacent to the site should provide sufficient capacity for the proposed building.

Site Acreage: 119,529 square feet (2.74 acres)

Impervious Area: 85% (by code, 15% must be green space)

Maximum Height: 4 stories or 50 feet max.

Front Yard: Prevailing front yard setback is 25 feet minimum plus one foot for each foot building exceeds 25 feet. Corner lots second front yard is ½ the depth of the prevailing front yard.

Side Yards: 7 feet.

Rear Yard: 20 feet (Note: alleys are not counted as part of this setback.)

Off-Street Parking: One (1) space per five hundred (500) square feet of gross floor area plus one (1) space per employee on the largest work shift.

Number of parking spaces required: 156 plus 22 employees = 178 spaces.

Minimum Space Size: Minimum 9 feet wide by 18 feet deep.

Minimum Aisle Width: Minimum 24 feet wide for two-way traffic and 18 feet wide for one-way traffic.

Parking Setback:

- Unpaved Front Yard: 5 feet
- Unpaved side and rear yard setback: 5 feet
- Cross aisle one way: 14 feet
- Cross aisle two way: 24 feet
- Setback from principle building: 5 feet
- Front lot line to drive: 10 feet
- Side and rear lot line to drive (landscape area): 5 feet

Landscaping requirements: Interior coverage requirements. Not less than five (5) percent of the interior of a parking lot shall be landscaped.

Storm water management: The B3 zoning for the Leevers site limits the maximum impervious surface to 85 percent of the area of the site. The existing impervious area exceeds that amount by approximately 10 percent. Additional permeable area must be provided to meet the code; this will reduce the amount of surface runoff. The storm water management provisions of the code require that the amount of storm water runoff from the improved site does not increase the existing rate of storm water runoff. Reducing the impervious surface on the lot to 85% from the existing 95%± will meet that requirement. To meet LEED certification requirements retention/detention may be needed. Consideration of an underground detention system providing up to 10,000 cubic feet of capacity would provide additional water quality/quantity controls.

Streets/Access: The site currently fronts on a principal arterial street, South Washington Street. Access to the site would likely be from 7th Avenue South or from 8th Avenue South, collector streets on the north or south sides of the site, respectively. This site is located along a section of street which is the busiest street in Grand Forks. This could result in increased traffic conflicts and an increase in crossing movements to the site. Eighth Avenue South is a 37-foot wide street at the intersection with Washington Street, but reduces to 31-foot width about 150 feet from the intersection. Seventh Avenue South is a 31-foot wide street. The City of Grand Forks is undertaking a traffic study to evaluate the impact of the proposed site improvements.

Mass transit is available by way of an existing bus route on Washington Street, in front of the site.

Signage: One (1) identification sign, not to exceed fifty (50) square feet in area and not more than fifteen (15) feet in height.

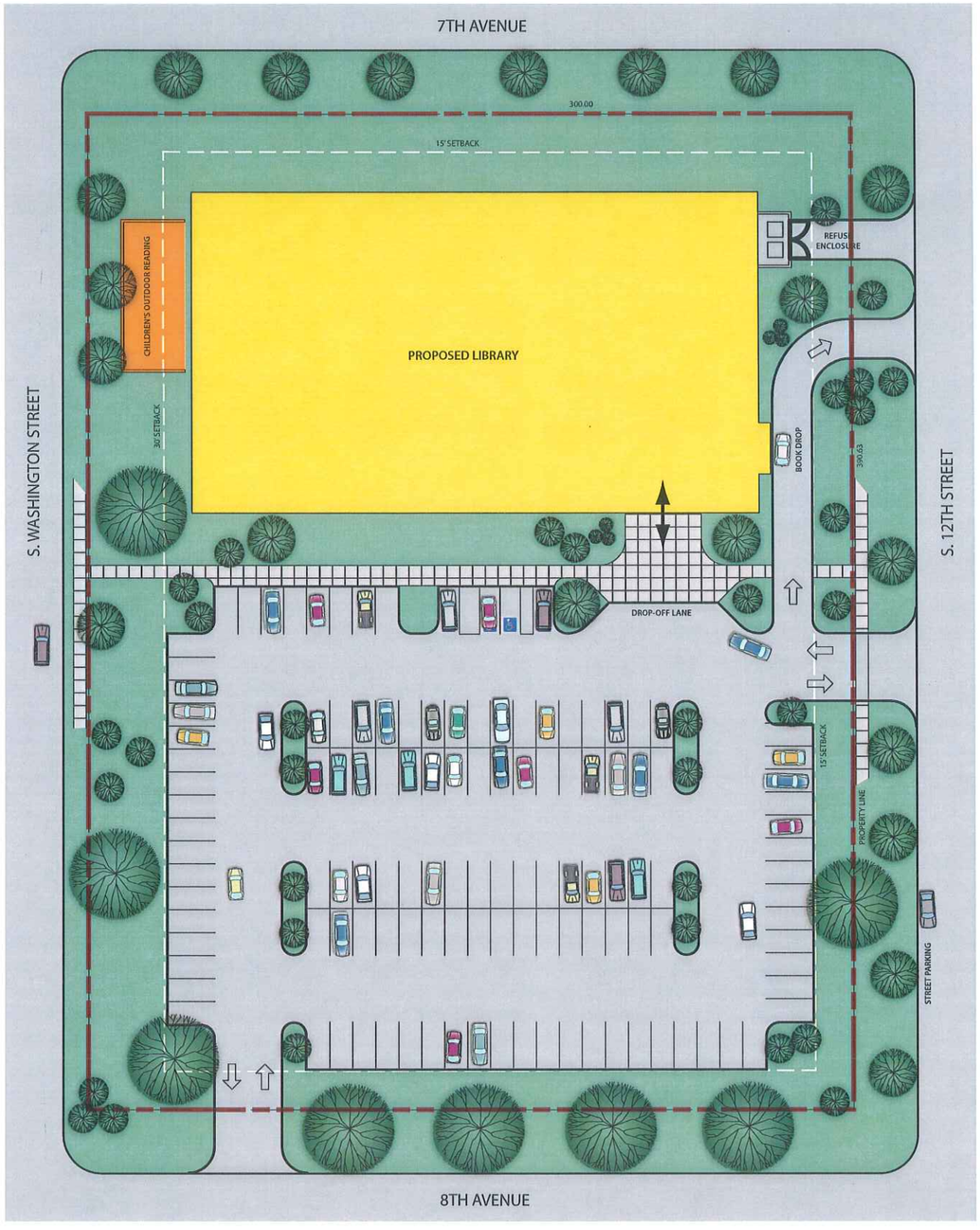
No off-premises advertising sign or sign structure shall be located within five hundred (500) feet of another such off-premises advertising sign or sign structure.

The maximum number of off-premises advertising sign structures allowed within the Highway 81 Corridor (Washington Street), between DeMers Avenue and the city's southerly extraterritorial zoning and subdivision jurisdiction boundary, shall be nine (9).

Program Requirement: The site is large enough if the required parking spaces are at 178 spaces.

Expansion Potential: There is no room for significant expansion on this site.

Scenario #3 Conceptual Site Plan



LEEVERS

ZONING:	B3
SITE SIZE:	119,529 SF (2.86 ACRES)
IMPERVIOUS AREA ALLOWED:	101,600 (85%)
IMPERVIOUS AREA SHOWN:	78,825 SF (65%)
BUILDING FOOTPRINT:	28,000 SF
NUMBER OF PARKING STALLS:	126

Grand Forks Public Library - Leevers Site, Opt. 3

Grand Forks, North Dakota

0 5 10 20 40
Scale: 1" = 20'-0"
January 14, 2011

PSA Dewberry
25 South Grove Avenue
Suite 500
Elgin, Illinois 60120
ph. 847-695-5840
fax 847-695-6579
psadewberry.com
WIDSETH SMITH NOLTING

Commentary on Scenario #3 (Leevers Site)

Scenario #3 utilizes an entire block and assumes all existing development on the site is demolished. The building orientation as presented is well oriented in terms of natural lighting, building proportion and a south-facing entry.

This site has the least amount of parking space, but the Grand Forks City Planning Department indicated they would work within interpretations of the existing zoning code in order to meet the basic parking requirements for a library. There is limited adjacent on-street parking. The Leevers lot sometimes functions as overflow parking for the Purpur Arena parking lot across South 12th Street.

South Washington Street is the busiest street in Grand Forks and the City of Grand Forks has undertaken a traffic study to evaluate the impact of placing the library on the Leevers site. The amount of traffic on South Washington Street was seen as one of the potential advantages of the Leevers site as it would give the library the highest visibility of any of the sites in this study. The traffic study has indicated; however, that the adjacent intersections are already over-utilized and that the situation would be exacerbated by building the library at this site. City traffic engineers also stated that there is a possibility that the right-of-way for South Washington Street may be widened in the future to accommodate additional turning lanes, thus reducing the size of the site.

We inquired about the potential of closing part of South 12th Street to join the potential library site to the land owned by the Park District and create an urban civic campus. Although a study was not done to evaluate this option, we were given an informal opinion by city staff that it was unlikely that 12th could be closed due to the amount of traffic it carries.

The Grand Forks Public library conducted an opinion poll regarding the potential future locations of the library. In this poll, the Leevers site was preferred by 70% of the respondents.

Scenario #4: Wellness Center Site

Location: 40th Avenue South and South 11th Street.

Zoning District:

PUD (Planned Unit Development District) B-3 zoning requirements will generally be in effect for the site; modifications to the requirements may be reviewed by city zoning officials.

The proponents of a PUD project shall submit a concept development plan to the planning department for review, comments, and recommendation.

Any change in land use or increase in development density or intensity in the approved concept development plan will require a re-submission to the city planning and zoning commission and the City Council.

Changes in the approved detailed development plan involving rearrangement of structures; building size modifications; change in location of open spaces, signage, sidewalks, parking spaces; bikeways; access; set-back requirements; impervious surface area; and landscaping may be authorized by the city planning department when such specific changes are consistent with the design intent of the approved detailed development plan.

Note: PUD fees likely will not be waived and will need to be included in the project cost.

Special Use: Libraries will be considered as special uses.

Utilities: Currently, the site is not developed. An existing 12" water main located on 40th Avenue South, to the north of the site, should provide sufficient capacity for the proposed facility. Eight-inch water and sewer mains are proposed in conjunction with the development of adjacent property but are not in place at this time.

Site Acreage: To be determined as a part of the PUD, 5 acres is assumed

Impervious Area: Subject to PUD agreement

Maximum Height: Subject to PUD agreement

Front Yard: Subject to PUD agreement

Side Yards: Subject to PUD agreement

Rear Yard Subject to PUD agreement

Off-Street Parking: Subject to PUD agreement

Number of Spaces Required: Subject to PUD agreement

Minimum Space Size: Subject to PUD agreement

Minimum Aisle Width: Subject to PUD agreement.

Parking Setback: Subject to PUD agreement

Landscaping Requirements: Subject to PUD agreement

Storm Water Management:

There is an existing large-diameter storm sewer along 40th Avenue South; however, this system will not be an option for storm water discharge from the proposed site. City staff has indicated that the 40th Avenue South storm sewer system is at capacity.

A storm water management plan has been completed in conjunction with development of a Wellness Center adjacent to the proposed library site. The proposed storm water retention pond will accommodate runoff for both the Wellness Center and library sites and will be located to the west of the proposed library site. The proposed design indicates the pond would be an integral part of the system to the south, with ultimate drainage to the west. The detention area extends from 40th Avenue South to 47th Avenue South. This pond, and associated crossings, will be constructed if development of the proposed library site proceeds. From our discussions with Grand Forks Planning and Zoning, this construction is separate from development of a library site if selected, and therefore would be outside the scope of the library project.

Streets/Access:

The site is bounded on the north by 40th Avenue South, a 45-foot wide collector street which connects with South Washington Street, three blocks to the west. South 11th Street is proposed to the west of the site, and is separated from the site by a proposed retention pond. Access control along 40th Avenue South will limit access to the site from that street and will require access from South 11th Street, or possibly from an interior roadway access on the west side of the detention pond.

A bus route along 40th Avenue South provides mass transit services near the proposed site.

Signage: Subject to PUD agreement

Program Requirement: The site is large enough to accommodate the building and the required parking spaces.

Expansion Potential: There is sufficient area available to expand the library and its associated parking.

Scenario #4 Conceptual Site Plan

WELLNESS

ZONING:	PUD
SITE SIZE:	559,487 SF (12.84 ACRES)
IMPERVIOUS AREA ALLOWED:	475,563 (85%)
IMPERVIOUS AREA SHOWN:	110,400 SF (20%)
BUILDING FOOTPRINT:	28,000 SF
PARKING STALLS PROVIDED:	148

Grand Forks Public Library - Wellness Site, Opt. 4

Grand Forks, North Dakota

0 10 20 40 80
Scale: 1" = 40'-0"
January 14, 2011

PSA Dewberry
25 South Grove Avenue
Suite 500
Elgin, Illinois 60120
ph. 847-695-5840
fax 847-695-6579
psadewberry.com
WIDSETH SMITH NOLTING

Commentary on Scenario #4 (Wellness Center Site)

Scenario #4 is part of a larger planned unit development project. The site is sufficiently large for the planned library, parking and a future addition. Depending on the site design, it may be possible to share storm water detention and parking with the Wellness Center. Drawbacks related to this site are primarily unrelated to the design potential of the site. They include:

- Use of the site will require cooperation with another entity -- the planned Wellness Center. In terms of planning and project timing, coordinating with another entity adds complexity to the process and can reduce the Library Board's control of the project.
- Of the sites studied, this site had the lowest public approval rating due to its location. This could have an impact on the necessary approval from voters.

A General Note about Mechanical Systems and Building Performance for the Proposed Library

The following is important information regarding the qualities of the mechanical system assumed for the cost estimates.

One of the goals of this project is to emphasize sustainable design. We therefore propose to provide a "High Performance" building for the new Grand Forks Public Library. A High Performance building will significantly reduce energy expenditures for the life of the building. We plan to utilize a process called 'integrated design' in the construction of this library. The approach will incorporate energy efficiency and life cycle costing into each step of the design process. The final design will incorporate appropriate building orientation, additional insulation, efficient use of natural light, high performance glazing systems and a mechanical system that is fine-tuned to the specifics of the proposed building. Note that LEED certification and a high performance building are independent considerations. A high performance building does not have to be LEED certified.

The mechanical system will be one of the cornerstones of this approach. The following mechanical commentary is common to all of the solutions.

The mechanical systems play an important role in producing a high performance building, as they affect many factors related to sustainability including energy consumption, indoor air quality, and thermal comfort. This commentary focuses on two energy efficient systems appropriate for a library application, whether for a new building or a replacement of existing mechanical systems required for an addition/remodel to the existing building:

1. Geothermal
2. Variable air volume (VAV) with hydronic heating and cooling

Geothermal

The geothermal system would be a closed loop, ground source system. This means a water/glycol mixture would be pumped through a well field consisting of a series of vertical wells, rejecting heat to the ground during the cooling season and absorbing heat from the ground during the heating season. If this is the system to be used, a test bore will be drilled on-site to determine the thermal conductivity of the soil. This in turn will determine the required quantity, depth, and spacing of the vertical wells necessary to meet the heating and cooling loads of the building. The design of the well field is crucial, as an undersized field will result in changing the ground temperature over a period of years which would reduce both the capacity and the efficiency of the system. Preliminary calculations show that this well field would fit in the proposed public parking lots.

This system would also consist of building and well field circulation pumps, air-to-water heat pumps, energy recovery ventilators, and water-to-water heat pumps. To improve energy efficiency, both the building and well field circulation pumps would be provided with variable frequency drives (VFD) to modulate the flow as required by the building's heating and cooling needs. Air-to-water heat pumps would provide ventilation and maintain the air temperature set points of the building. Energy recovery ventilators would transfer both heat and humidity from the building's exhaust air to the outside air required for ventilation, greatly reducing energy costs. Water-to-water heat pumps could be utilized to provide perimeter in-floor heat, contributing to the thermal comfort of the building.

VAV with Hydronic Heating and Cooling

This system would consist of air handling units, VAV boxes with reheat coils, high efficiency air cooled chillers and boilers. The air handling units would be equipped with the following energy efficient features: economizer cooling, variable frequency fan drives, and energy recovery. The hydronic heating and cooling systems would incorporate two-way control valves and pumps with variable frequency drives. Perimeter heating can be provided by way of in-floor heat or fin tube radiation.

Regardless of the mechanical system, Direct Digital Control (DDC), Demand Control Ventilation (DCV), and building commissioning should be utilized in the design.

DDC is a necessity for an energy efficient mechanical system. DDC uses inputs from sensors to control equipment such as valves, dampers, and fans. These controls are used in conjunction with a software package or Building Automation System (BAS), which graphically displays equipment operation, building temperatures, trending, and alarms. The BAS also allows maintenance personnel to monitor and control the building's mechanical systems remotely via the internet.

Libraries experience a wide range of occupancy during the course of a day. Demand control ventilation (DCV) should be utilized in the air handling unit(s) serving the library to vary the amount of outside air depending on the occupancy. This would greatly reduce energy costs, as typically the tempering of outside air accounts for over half of the heating and cooling costs of a building. DCV would consist of a series of CO_2 sensors located throughout the library. These sensors would determine the occupancy level of the library and modulate the amount of outside air to maintain acceptable levels of CO_2. A modulating fan would adjust the amount of exhaust air to ensure proper building pressurization.

Building commissioning ensures that building systems are installed and operating per the owner's requirements and the design documents. Commissioning is required for LEED certification; however, even if LEED is not pursued for this project, commissioning is highly recommended to make sure the building is fully functional upon occupancy.

Other sustainable options that will be considered for this project include solar domestic hot water heating, natural ventilation, daylight harvesting, solar plenums, and green roofs.

To determine which systems are the best fit for the library, a detailed energy and life cycle cost analysis will be performed. These analyses will take into account estimated capital, energy, and maintenance costs of the proposed building systems.

Construction Cost Estimates – Cost Estimate Assumptions

- Gross square feet: 62,267 gsf for new construction
- Number of Floors: 2 with a partial 3rd floor (new construction options)
- Framing System: Steel frame on a 5'-6" module
- Exterior Envelope: Brick/block cavity wall system
- Mechanical System: See previous section.
- Emergency Generator: Provided in the estimates
- Minimum LEED Silver obtained by utilizing higher end controls, heat recovery, efficient systems, some solar control louvers, high efficiency glazing, creative storm water, light roofing, alternative vehicle parking, skylight for more interior natural light, shade trees, landscaping, and porous paving
- Parking Stalls: As provided on each site plan
- Lighting: 90% of lights will be direct/indirect fixtures
- Interior Finishes: Gypsum board walls with architectural finish; gypsum board and lay-in acoustical ceiling panels, carpeting throughout with areas of hard surface at entries. Allowance for specialized ceiling systems at selected areas
- Exterior book drop will be provided
- Garage for delivery vehicle will be provided

The cost estimates incorporate allowances for the kinds of mechanical systems previously described. It is imperative that the reader understands the following;

- The cost numbers are conservative in an attempt to respond to the current uncertainties of the construction market. Due to the current economic slump, many contractors have been bidding projects with little or no profit. The cost numbers must assume that there may be an economic upturn between the time of this estimate and the construction of the library.
- The cost estimates aim at the average bid, not the low bid. It is likely that the low bid will be up to 5% lower than the average bid.
- The estimates include a significant contingency of 15% to account for the fact that at the conceptual stage there are many unknowns; none of the buildings in this study have yet been designed and the square footage amounts given in the program haven't been tested. As the design progresses and the number of uncertainties diminish, the contingency amount will progressively be reduced until we carry a 5% contingency at the time of bidding.
- Given the above, these estimates should be regarded as prudent planning numbers for this point in the process.
- The conceptual cost estimates that follow are based upon the estimates appended to the end of this report. Due to the conceptual stage of the project design, there may be minor discrepancies in square footage but the summaries will represent a good overall picture of each option.

Grand Forks Public Library

Conceptual Project Cost - Scenario #1, Remodeling and Addition to Existing Library

	New Construction Allowance	**$10,709,924**
Fees (Including fees based on estimate's contingency)	**Professional Fees:** Architectural, Mechanical Engineering, Electrical Engineering, Plumbing Engineering and Civil Engineering based upon estimated construction cost	$759,334
	Technology Design Data Cable, Bldg. Security Systems Alarms, Cameras etc. - By Owner	$0
	On-Site observation allowance (Fee hourly not to exceed)	$35,000
	Reimbursable Expenses	$75,000
Owner Provided Info/Services		
	Soil Borings	$8,000
	Environmental Surveying (Phase 1 and 2)	$6,000
	LEED Certification	$50,000
	Building Commissioning	$40,000
	Site Surveying	$4,500
	Materials and Special Testing	$35,343
	Independent, Professional Cost Estimating	$26,775
	Special Consultant	$0
	Printing Costs (Bid/Construction Documents)	$12,000
Owner Costs-Items Purchased		
	Telephone, Data, Fire Alarm included elsewhere	$0
	Structured Cabling included elsewhere	$0
	Equipment (computers, printers, copiers, AV, etc.)	$100,000
	Book Security (gates)	$30,000
	Inventory Control (RFID)	$100,000
	Self Check Stations	$70,000
	Interior Signage	$12,500
	Appliances (residential refrig., stove, microwave, etc.)	$4,000
	Bond Costs-counsel, consultants, insurance, fees	$0
Owner Costs-Potential + Project Specific	**Energy Modeling - Integrated Design Charrette**	$60,000
	Site Acquisition 3 sites to south, one across library circle	$652,800
	Temporary Facility Lease	$300,000
	Temporary Facility Buildout	$100,000
	Permit Costs	$0
	Utility Tie-in & Misc Sewer & Rehab Costs	$26,000
	Geothermal Well System	$400,000
	Environmental Abatement (if required)	$100,000
	Moving-collection/equipment/furniture/fixtures	$180,000
	Demolish Existing Buildings to South	$100,000
Subtotal, Misc Costs and Fees		**$3,287,251**
Target Cost per Square Foot Of New Construction:		**$172**
Estimated Total Potential Library Size	Estimated Potential Addition Area + Existing Building Area	**62,267 SF**
Furniture Allowance $/GSF		**$24**
Estimated Furniture Cost	Including Design Fees	$1,494,408
Contingency @ 15.00%	Design and Construction Contingency	$2,323,737
Estimated Project Cost	Construction Cost + Fees + Miscellaneous Expenses	**$17,815,321**

PSA Dewberry

Grand Forks Public Library

Conceptual Project Cost - Scenario #2, New Library on Existing Site

	New Construction Allowance	**$13,636,473**
Fees (Including fees based on estimate's contingency)	**Professional Fees:** Architectural, Mechanical Engineering, Electrical Engineering, Plumbing Engineering and Civil Engineering based upon estimated construction cost	$958,644
	Technology Design Data Cable, Bldg. Security Systems Alarms, Cameras etc. - By Owner	$0
	On-Site observation allowance (Fee hourly not to exceed)	$35,000
	Reimbursable Expenses	$75,000
Owner Provided Info/Services		
	Soil Borings	$8,000
	Environmental Surveying (Phase 1 and 2)	$6,000
	LEED Certification	$50,000
	Building Commissioning	$40,000
	Site Surveying	$4,500
	Materials and Special Testing	$45,000
	Independent, Professional Cost Estimating	$34,091
	Special Consultant	$0
	Printing Costs (Bid/Construction Documents)	$12,000
Owner Costs-Items Purchased		
	Telephone, Data, Fire Alarm included elsewhere	$0
	Structured Cabling included elsewhere	$0
	Equipment (computers, printers, copiers, AV, etc.)	$100,000
	Book Security (gates)	$30,000
	Inventory Control (RFID)	$100,000
	Self Check Stations	$70,000
	Interior Signage	$12,500
	Appliances (residential refrig., stove, microwave, etc.)	$4,000
	Bond Costs-counsel, consultants, insurance, fees	$0
Owner Costs-Potential + Project Specific	**Energy Modeling - Integrated Design Charrette**	$60,000
	Site Acquisition 3 sites to south, one across library circle	$652,800
	Temporary Facility Lease	$300,000
	Temporary Facility Buildout	$100,000
	Permit Costs	$0
	Utility Tie-in & Misc Sewer & Rehab Costs	$26,000
	Geothermal Well System	$400,000
	Environmental Abatement (if required)	$100,000
	Moving-collection/equipment/furniture/fixtures	$180,000
	Demolish Existing Buildings to South	$100,000
Subtotal, Misc Costs and Fees		**$3,503,536**
Target Cost per Square Foot Of New Construction:		**$219**
Estimated Total Potential Library Size		**62,267 SF**
Furniture Allowance $/GSF		**$24**
Estimated Furniture Cost	Including Design Fees	$1,494,408
Contingency @ 15.00%	Design and Construction Contingency	$2,795,162
Estimated Project Cost	Construction Cost + Fees + Miscellaneous Expenses	**$21,429,579**

PSA Dewberry

Grand Forks Public Library

Conceptual Project Cost - Scenario #2a, New Library to North of Existing Library

	New Construction Allowance (including demo of existing library)	**$13,636,473**
Fees (Including fees based on estimate's contingency)	**Professional Fees:** Architectural, Mechanical Engineering, Electrical Engineering, Plumbing Engineering and Civil Engineering based upon estimated construction cost	$958,644
	Technology Design Data Cable, Bldg. Security Systems Alarms, Cameras etc. - By Owner	$0
	On-Site observation allowance (Fee hourly not to exceed)	$35,000
	Reimbursable Expenses	$75,000
Owner Provided Info/Services		
	Soil Borings	$8,000
	Environmental Surveying (Phase 1 and 2)	$6,000
	LEED Certification	$50,000
	Building Commissioning	$40,000
	Site Surveying	$4,500
	Materials and Special Testing	$45,000
	Independent, Professional Cost Estimating	$34,091
	Special Consultant	$0
	Printing Costs (Bid/Construction Documents)	$12,000
Owner Costs-Items Purchased		
	Telephone, Data, Fire Alarm included elsewhere	$0
	Structured Cabling included elsewhere	$0
	Equipment (computers, printers, copiers, AV, etc.)	$100,000
	Book Security (gates)	$30,000
	Inventory Control (RFID)	$100,000
	Self Check Stations	$70,000
	Interior Signage	$12,500
	Appliances (residential refrig., stove, microwave, etc.)	$4,000
	Bond Costs-counsel, consultants, insurance, fees	$0
Owner Costs-Potential + Project Specific	**Energy Modeling - Integrated Design Charrette**	$60,000
	Site Acquisition 1 sites to north, one across library circle	$630,000
	Temporary Facility Lease	$0
	Temporary Facility Buildout	$0
	Permit Costs	$0
	Utility Tie-in & Misc Sewer & Rehab Costs	$26,000
	Geothermal Well System	$400,000
	Environmental Abatement (if required)	$100,000
	Moving-collection/equipment/furniture/fixtures	$120,000
	Demolish Existing Building to North	$60,000
Subtotal, Misc Costs and Fees		**$2,980,736**
Target Cost per Square Foot Of New Construction:		**$219**
Estimated Total Potential Library Size		**62,267 SF**
Furniture Allowance $/GSF		**$24**
Estimated Furniture Cost	Including Design Fees	$1,494,408
Contingency @ 15.00%	Design and Construction Contingency	$2,716,742
Estimated Project Cost	Construction Cost + Fees + Miscellaneous Expenses	**$20,828,359**

PSA Dewberry

Grand Forks Public Library

Conceptual Project Cost - Scenario #3, Leevers site

	New Construction Allowance	**$13,325,138**
Fees (Including fees based on estimate's contingency)	**Professional Fees:** Architectural, Mechanical Engineering, Electrical Engineering, Plumbing Engineering and Civil Engineering based upon estimated construction cost	$936,757
	Technology Design Data Cable, Bldg. Security Systems Alarms, Cameras etc. - By Owner	$0
	On-Site observation allowance (Fee hourly not to exceed)	$35,000
	Reimbursable Expenses	$75,000
Owner Provided Info/Services		
	Soil Borings	$8,000
	Environmental Surveying (Phase 1 and 2)	$6,000
	LEED Certification	$50,000
	Building Commissioning	$40,000
	Site Surveying	$4,500
	Materials and Special Testing	$43,973
	Independent, Professional Cost Estimating	$33,313
	Special Consultant	$0
	Printing Costs (Bid/Construction Documents)	$12,000
Owner Costs-Items Purchased		
	Telephone, Data, Fire Alarm included elsewhere	$0
	Structured Cabling included elsewhere	$0
	Equipment (computers, printers, copiers, AV, etc.)	$100,000
	Book Security (gates)	$30,000
	Inventory Control (RFID)	$100,000
	Self Check Stations	$70,000
	Interior Signage	$12,500
	Appliances (residential refrig., stove, microwave, etc.)	$4,000
	Bond Costs-counsel, consultants, insurance, fees	$0
Owner Costs-Potential + Project Specific	**Energy Modeling - Integrated Design Charrette**	$60,000
	Site Acquisition	$800,000
	Temporary Facility Lease	$0
	Temporary Facility Buildout	$0
	Permit Costs	$0
	Utility Tie-in & Misc. Site Costs	$33,100
	Geothermal Well System	$400,000
	Environmental Abatement (if required)	$100,000
	Moving-collection/equipment/furniture/fixtures	$100,000
	Demolish Existing Building included in acquisition cost	$0
Subtotal, Misc Costs and Fees		**$3,054,143**
Target Cost per Square Foot Of New Construction:		**$214**
Estimated Area of New Construction (Or Bldg. Addition, If Applicable)	Estimated using per square foot cost above on New Construction Allowance	62,267 SF
Estimated Total Potential Library Size		**62,267 SF**
Furniture Allowance $/GSF		**$24**
Estimated Furniture Cost	Including Design Fees	$1,494,408
Contingency @ 15.00%	Design and Construction Contingency	$2,681,053
Estimated Project Cost	Construction Cost + Fees + Miscellaneous Expenses	**$20,554,742**

PSA Dewberry

Grand Forks Public Library

Conceptual Project Cost - Scenario #4, Wellness Center site

	New Construction Allowance	**$13,138,337**
Fees (Including fees based on estimate's contingency)	**Professional Fees:** Architectural, Mechanical Engineering, Electrical Engineering, Plumbing Engineering and Civil Engineering based upon estimated construction cost	$923,625
	Technology Design Data Cable, Bldg. Security Systems Alarms, Cameras etc. - By Owner	$0
	On-Site observation allowance (Fee hourly not to exceed)	$35,000
	Reimbursable Expenses	$75,000
Owner Provided Info/Services		
	Soil Borings	$8,000
	Environmental Surveying (Phase 1 and 2)	$6,000
	LEED Certification	$50,000
	Building Commissioning	$40,000
	Site Surveying	$4,500
	Materials and Special Testing	$43,357
	Independent, Professional Cost Estimating	$32,846
	Special Consultant	$0
	Printing Costs (Bid/Construction Documents)	$12,000
Owner Costs-Items Purchased		
	Telephone, Data, Fire Alarm included elsewhere	$0
	Structured Cabling included elsewhere	$0
	Equipment (computers, printers, copiers, AV, etc.)	$100,000
	Book Security (gates)	$30,000
	Inventory Control (RFID)	$100,000
	Self Check Stations	$70,000
	Interior Signage	$12,500
	Appliances (residential refrig., stove, microwave, etc.)	$4,000
	Bond Costs-counsel, consultants, insurance, fees	$0
Owner Costs-Potential + Project Specific	**Energy Modeling - Integrated Design Charrette**	$60,000
	Site Acquisition	$1,000,000
	Temporary Facility Lease	$0
	Temporary Facility Buildout	$0
	Permit Costs	$0
	Utility Tie-in included in assessments	$0
	Geothermal Well System	$400,000
	Environmental Abatement (if required)	$100,000
	Moving-collection/equipment/furniture/fixtures	$100,000
	Misc Site Assessments - sewer, drainway, flood etc.	$331,600
Subtotal, Misc Costs and Fees		**$3,538,427**
Target Cost per Square Foot Of New Construction:		**$211**
Estimated Area of New Construction		62,267 SF
Estimated Total Potential Library Size	Estimated Potential Addition Area + Existing Building Area	**62,267 SF**
Furniture Allowance $/GSF		**$24**
Estimated Furniture Cost	Including Design Fees	$1,494,408
Contingency @ 15.00%	Design and Construction Contingency	$2,725,676
Estimated Project Cost	Construction Cost + Fees + Miscellaneous Expenses	**$20,896,848**

PSA Dewberry

Conceptual, Comparative Energy Costs

We used historic energy cost data to comparative energy costs for the different design solutions. Please note that predicting energy usage is an inexact science. There are a number of factors that are out of the design team's control including the number of hours a week that the building is used, electrical usage within the building, thermostat settings, weather etc. The design is also conceptual at this stage of development and the type of mechanical systems has not been selected. Later in the process when a design is developed we can use true energy modeling to more accurately predict energy usage.

We looked at historical data for the existing library as well as data for Fargo's new library, which can be taken as an example of a recently constructed building of similar usage. Our project goal of producing a high performance building may enable us to improve on the energy efficiency of the Fargo project. A modest improvement is utilized for this analysis. Along with the newly constructed additions, design option #1 utilizes the existing library with its poorly insulated envelope and poor solar/wind orientation. This has a negative impact on the comparative energy usage for that option.

Grand Forks Public Library - Conceptual, Comparative Energy Costs

	Fargo - 2009 Historical Data	Grand Forks 2009 Historical Data	Grand Forks Projected 2013 Design Scenarios 2,2a,3,4 (New Building)	Notes	Grand Forks Projected 2013 Design Scenario 1 (Addition + Remodeling)	
Building Area	58,000 SF	36,841 SF	**62,267 SF**		**62,267 SF**	
Natural Gas	$ 17,874	$ 12,022	$ 22,986.47	*1*	$ 26,427.96	*1*
Electric	$ 58,848	$ 47,100	$ 75,680.19	*1*	$ 96,990.56	*1*
Natural Gas $ per SF per Year	$ 0.31	$ 0.33	$ 0.37	*1*	$ 0.42	*3*
Elec $ per SF per Year	$ 1.01	$ 1.28	$ 1.22	*1*	$ 1.56	*3*
Gas + Elect $ per SF per Year	**$ 1.32**	**$ 1.60**	**$ 1.58**	*1*	**$ 1.98**	*3*
Water / Sewer		$ 4,314.00	$ 7,291.33	*2*	$ 7,291.33	*2*
Water & Sewer $ per SF per Year		$ 0.12	$ 0.12	*1*	$ 0.12	
Combined Total $ per SF per Year		**$ 1.72**	**$ 1.70**	*1*	**$ 2.10**	
Combined Predicted Total Utility Cost per Year	$ 76,722.00	$ 63,436.00	$ 105,958		$ 130,710	

Notes

1 Based on a new building with and energy performance improvement of 10% over Fargo's Library. Incl

2 Linear interpolation based on increased building size + 9% annual inflation

3 Assumes that existing portion of library maintains current rate of energy use. New portion matches energy performance of Fargo Library. Includes 9% annual inflation

Conclusions and Recommendations

- PSA-Dewberry Inc. recommends that the Library perform a geotechnical investigation of the project sites prior to acquisition of any property. Such an investigation identifies soil conditions present at the site and provides preliminary information regarding suitable foundation types for a new building.
- The Leevers site, design scenario #3, has minimal on-site parking and is also subject to overflow parking from the adjacent Park District facilities. There is insufficient room for future expansion of the library on this site. According to the traffic study commissioned by the City of Grand Forks, placing a library on the Leevers site would have an unacceptable impact on the surrounding traffic flow. Portions of this site are also at risk of condemnation for additional turning lanes on South Washington. Due to these shortcomings, the Leevers site is not a viable design option.
- Design Scenarios #1, #2, #2a and #4 represent viable options.
- Design Scenario #1 (remodeling of, and adding to the existing library) is the least appropriate of any of the viable scenarios due to the limitations of the existing site and the existing building. While it comes in at the lowest first cost, the resulting facility will have significant shortcomings in terms of operational efficiency, operational cost, energy efficiency and aesthetics.
- There is not a significant difference in the cost of construction for any of the new-build scenarios.

Summary of Project Costs by Scenario– Includes 15% contingency, furnishings, land acquisition, fees, equipment and miscellaneous project expenses

Scenario #1	Existing library + addition	**$ 17,815,321**
Scenario #2	New construction on existing site, the library will temporarily relocate during construction.	**$ 21,429,579**
Scenario #2a	New construction on existing site, the library will remain at its current location during construction.	**$ 20,828,359**
Scenario #3	A new library facility to be built and located at the "Leevers" site at 715 South Washington, Grand Forks.	**$ 20,554,742**
Scenario #4	A new facility to be built and located at the "Wellness Center" site at 40th Avenue South and South 11th Street	**$ 20,896,848**

Cost Estimate backup follows on Pages 39-53.

Project Title : Grand Forks Public Library - Remodeling and Addition Scenario #1

Estimate Type : Preliminary (Program)

Date : January 25, 2011

Description	Quantity	Rate $	Unit	Subtotal	Total
Demolition:					
Gut interior - partitions, floor and ceiling finishes, specialties, mechanical and electrical systems	36,556	5.50	SF	201,058	
Disposal of debris	1	25,000.00	LS	25,000	
Miscellaneous demolition	1	5,000.00	LS	5,000	231,058
Modifications:					
Form opening at junction with addition	2	25,000.00	EA	50,000	
Remove roofing and prepare substrate to receive new	24,076	3.55	SF	85,470	135,470
Additions - substructure, superstructure and exterior closure:					
Excavation, cast-in-place concrete, steel framing, composite floors, metal decking roof, masonry walls, windows and exterior doors (gross area basis)	25,711	67.50	SF	1,735,493	1,735,493
Roofing:					
Single ply EPDM, rigid insulation (4" minimum), associated flashings and trim	34,542	12.50	SF	431,775	
Green roofing (allowance)	20,000	15.00	SF	300,000	731,775
Interiors:					
Partitions - gypsum board/metal studs, metal frame/glass, interior windows, etc.	62,250	11.50	SF	715,875	
Interior finishes - VCT, carpet, paint, ceramic tiles, suspended gypsum board, ACT and miscellaneous painting	62,250	12.00	SF	747,000	
Specialties - bathroom accessories, lockers, casework, millwork, projection screen and miscellanoeus specialties	62,250	3.75	SF	233,438	1,462,875

Note: library casework, magazine racks, etc. are excluded from this estimate

Description	Quantity	Rate $	Unit	Subtotal	Total
Plumbing, HVAC and fire protection systems:					
Plumbing - fixtures, equipment, piping, insulation, testing, etc	62,250	10.75	SF	669,188	
HVAC - equipment (boilers, chiller), distribution ductwork, insulation, devices, controls, testing, etc.	62,250	24.75	SF	1,540,688	
Fire protection - wet pipe sprinkler system, standpipe, etc.	62,250	3.15	SF	196,088	
General work associated with mechanical systems - slab cutting and replacement, cutting openings, coring, housekeeping pads, etc.	1	20,000.00	LS	20,000	4,122,275.0
Electrical Systems:					
Service and distribution - incoming service, switchgear, panels, feeders, equipment connections, etc.	62,250	8.50	SF	529,125	
Emergency generator, panel, transfer switch, feeders, etc.	1	150,000.00	LS	150,000	
Lighting and power - lighting fixtures, power receptacles, controls, etc.	62,250	17.75	SF	1,104,938	
Special electrical systems - fire alarm, tel/data, public address, cable trays, technology infrastructure, etc.	62,250	5.55	SF	345,488	
General work associated with the electrical systems, cutting and patching slabs, etc.	1	15,000.00	LS	15,000	2,144,550
Site Work:					
Demolition and preparation:					
Miscellaneous demolition	1	15,000.00	LS	15,000	
Break up and remove asphalt paving, curbs etc.	3,470	0.75	SF	2,603	
Excavation and grading	2,570	15.00	CY	38,550	
Improvements:					
Asphalt paving and gravel base	92,200	2.95	SF	271,990	
Cast-in-place concrete walks, gravel base	2,110	4.50	SF	9,495	
Cast-in-place concrete curbs	3,500	11.00	LF	38,500	
Curb cut and apron	2	6,000.00	EA	12,000	
Dumpster enclosure	1	25,000.00	LS	25,000	
Flagpole	1	3,500.00	EA	3,500	
Parking bay line marking	121	10.00	EA	1,210	
Ditto-handicapped	5	250.00	EA	1,250	

Description	Quantity	Rate $	Unit	Subtotal	Total
Site Work (Continued):					
Facility Sign	1	15,000.00	LS	15,000	
Traffic signage	1	5,000.00	LS	5,000	
Site furniture - benches, etc	1	10,000.00	LS	10,000	
Landscaping, planting, sodding and imported topsoil, etc.	1	60,000.00	LS	60,000	
Utilities:					
Water service - fire protection	1	15,000.00	LS	15,000	
Sanitary sewers - modify to suit new conditions	1	15,000.00	LS	15,000	
Stormwater service - piping, manholes, catchbasins, inlets and connection to existing service	1	80,000.00	LS	80,000	
Underground stormwater storage system	1	200,000.00	LS	200,000	
Bio-swales and rain gardens	1	25,000.00	LS	25,000	
Site-lighting - pole mounted fixtures	1	45,000.00	LS	45,000	889,098
General conditions and contingencies:		Subtotal			9,717,101
General conditions, overhead and profit		10.00%			971,710
Design contingency		15.00%			1,603,322
Escalation					Excluded
Construction contingency					Excluded
		Estimated Cost			12,292,132
		Average cost per SF			197.46
		Average cost per SF (No Contingency)			171.7078

Project Title : Grand Forks Public Library - New Construction Option 2 **Gross Floor Area:** **62,267 SF**

Estimate Type : Preliminary (Program) **Date : January 25, 2011** 62,267

Element / Category	$/Cost per SF	Subtotal/$
Substructure-Cast-in place concrete foundations, Column footings, slab on grade, elevator pit, etc.	9.50	591,537
Superstructure	21.35	1,329,400
Superstructure - two story = partial 3 story construction, steel framing, joists, composite slabs and roof deck, etc.	20.00	
Staircases - steel staricase, concrete filled metal pan treads and landings, steel handrails and finishes (2 staircases)	1.35	
Exterior Closure	37.45	2,331,899
Exterior walls-brick/stone masonry exterior wythe, rigid insulation, vapor barrier, CMU inner wythe and associated flashings, feature canopy	35.00	
Exterior doors and windows - access/egress doors and sidelights, aluminum frame/insulated glass windows	2.45	
Roofing - single ply EPDM, insulation, associated flashings and trim; green roofing in selected areas	8.20	510,589
Interior construction	27.25	1,696,776
Partitions - gypsum board/metal studs, metal frame/glass, interior windows, etc.	11.50	
Interior finishes - VCT , carpet, paint ceramic tiles, suspended gypsum board, ACT and miscellaneous painting	12.00	
Specialties - bathroom accessories, lockers, casework, millwork, projection screen and miscellaneous specialties	3.75	
Elevators - hydraulic passenger elevator, 3500# capacity, 150 fpm, 3 stops-approximatley 25' travel	2.15	133,874

Element / Category	$/Cost per SF	Subtotal/$
Mechanical	38.65	2,406,620
Plumbing - fixtures, equipmwent, piping, insulation, testing, etc.	10.75	
HVAC - equipment (boilers, chiller), distribution ductwork, insulation, devices, controls, testing, etc	24.75	
Fire Protection - wet pipe sprinkler system, standpipe, etc	3.15	
Electrical	33.95	2,113,965
Service and distribution - incoming service, switchgear, panels, feeders, equipment conncections, etc	8.25	
Emergency generator, panel, transfer switch, feeders, etc. ($150,000 allowance)	2.40	
Lighting and power - lighting fixtures, power receptacles, controls, etc.	17.75	
Special electrical systems - fire alarm, tel/data, public address, cable trays, technology infrastructure, etc.	5.55	
Site Work - see separate estimate		1,257,758
	Subtotal	12,372,417
General conditions, overhead and profit @ 10.00%		1,237,242
	Subtotal	13,609,659
Contingencies	2,041,449	2,041,449
Design @ 15.00%	0	0
Escalation @ 0%	0	
Construction @ 0%	0	
Total Estimated Cost		$15,651,108
Average cost per SF		$251.35
Average cost per SF (before contingency)		$218.57

Site Work:

Demolition and preparation:					
Demolish and remove 2 story building and associated foundations, etc. approximatley 36,500/SF	1	235,000.00	LS	235,000	
Miscellaneous demolition	1	20,000.00	LS	20,000	
Break up and remove asphalt paving, curbs etc.	3,470	0.75	SF	2,603	
Excavation and grading	3,930	15.00	CY	58,950	
Improvements:					
Asphalt paving and gravel base	100,827	2.95	SF	297,440	
Cast-in-place concrete walks, gravel base	2,639	4.50	SF	11,876	
Cast-in-place concrete curbs	5,210	11.00	LF	57,310	
Curb cut and apron	7	6,000.00	EA	42,000	
Dumpster enclosure	1	25,000.00	LS	25,000	
Flagpole	1	3,500.00	EA	3,500	
Parking bay line marking	233	10.00	EA	2,330	
Ditto-handicapped	7	250.00	EA	1,750	
Facility Sign	1	15,000.00	LS	15,000	
Traffic signage	1	5,000.00	LS	5,000	
Site furniture - benches, etc	1	10,000.00	LS	10,000	
Landscaping, planting, sodding and imported topsoil, etc.	1	90,000.00	LS	90,000	
Utilities:					
Water service - fire protection	1	15,000.00	LS	15,000	
Sanitary sewers - modify to suit new conditions	1	15,000.00	LS	15,000	
Stormwater service - piping, manholes, catchbasins, inlets and connection to existing service	1	80,000.00	LS	80,000	
Underground stormwater storage system	1	200,000.00	LS	200,000	
Bio-swales and rain gardens	1	25,000.00	LS	25,000	
Site-lighting - pole mounted fixtures	1	45,000.00	LS	45,000	1,257,758
		Subtotal			1,257,758

Project Title : Grand Forks Public Library - New Construction Option 2a **Gross Floor Area:** **62,267 SF**

Estimate Type : Preliminary (Program) **Date : January 25, 2011** 62,267

Element / Category	$/Cost per SF	Subtotal/$
Substructure-Cast-in place concrete foundations, Column footings, slab on grade, elevator pit, etc.	9.50	591,537
Superstructure	21.35	1,329,400
Superstructure - two story = partial 3 story construction, steel framing, joists, composite slabs and roof deck, etc.	20.00	
Staircases - steel staricase, concrete filled metal pan treads and landings, steel handrails and finishes (2 staircases)	1.35	
Exterior Closure	37.45	2,331,899
Exterior walls-brick/stone masonry exterior wythe, rigid insulation, vapor barrier, CMU inner wythe and associated flashings, feature canopy	35.00	
Exterior doors and windows - access/egress doors and sidelights, aluminum frame/insulated glass windows	2.45	
Roofing - single ply EPDM, insulation, associated flashings and trim; green roofing in selected areas	8.20	510,589
Interior construction	27.25	1,696,776
Partitions - gypsum board/metal studs, metal frame/glass, interior windows, etc.	11.50	
Interior finishes - VCT , carpet, paint ceramic tiles, suspended gypsum board, ACT and miscellaneous painting	12.00	
Specialties - bathroom accessories, lockers, casework, millwork, projection screen and miscellaneous specialties	3.75	
Elevators - hydraulic passenger elevator, 3500# capacity, 150 fpm, 3 stops-approximatley 25' travel	2.15	133,874

Element / Category	$/Cost per SF	Subtotal/$
Mechanical	38.65	2,406,620
Plumbing - fixtures, equipmwent, piping, insulation, testing, etc.	10.75	
HVAC - equipment (boilers, chiller), distribution ductwork, insulation, devices, controls, testing, etc	24.75	
Fire Protection - wet pipe sprinkler system, standpipe, etc	3.15	
Electrical	33.95	2,113,965
Service and distribution - incoming service, switchgear, panels, feeders, equipment conncections, etc	8.25	
Emergency generator, panel, transfer switch, feeders, etc. ($150,000 allowance)	2.40	
Lighting and power - lighting fixtures, power receptacles, controls, etc.	17.75	
Special electrical systems - fire alarm, tel/data, public address, cable trays, technology infrastructure, etc.	5.55	
Site Work - see separate estimate		1,299,478
	Subtotal	12,414,138
General conditions, overhead and profit @ 10.00%		1,241,414
	Subtotal	13,655,552
Contingencies	2,048,333	2,048,333
Design @ 15.00%	0	0
Escalation @ 0%	0	
Construction @ 0%	0	
Total Estimated Cost		$15,703,884
Average cost per SF		$252.20
Average cost per SF (before contingency)		$219.31

Site Work:

Demolition and preparation:					
Demolish and remove 2 story building and associated foundations, etc. (approximatley 36,500/SF)	1	235000.00	LS	235,000	
Miscellaneous demolition	1	15,000.00	LS	15,000	
Break up and remove asphalt paving, curbs etc.	3,470	0.75	SF	2,603	
Excavation and grading	3,930	15.00	CY	58,950	
Improvements:					
Asphalt paving and gravel base	116,764	2.95	SF	344,454	
Cast-in-place concrete walks, gravel base	1,904	4.50	SF	8,568	
Cast-in-place concrete curbs	5,444	11.00	LF	59,884	
Curb cut and apron	7	6,000.00	EA	42,000	
Dumpster enclosure	1	25,000.00	LS	25,000	
Flagpole	1	3,500.00	EA	3,500	
Parking bay line marking	277	10.00	EA	2,770	
Ditto-handicapped	7	250.00	EA	1,750	
Facility Sign	1	15,000.00	LS	15,000	
Traffic signage	1	5,000.00	LS	5,000	
Site furniture - benches, etc	1	10,000.00	LS	10,000	
Landscaping, planting, sodding and imported topsoil, etc.	1	90,000.00	LS	90,000	
Utilities:					
Water service - fire protection	1	15,000.00	LS	15,000	
Sanitary sewers - modify to suit new conditions	1	15,000.00	LS	15,000	
Stormwater service - piping, manholes, catchbasins, inlets and connection to existing service	1	80,000.00	LS	80,000	
Underground stormwater storage system	1	200,000.00	LS	200,000	
Bio-swales and rain gardens	1	25,000.00	LS	25,000	
Site-lighting - pole mounted fixtures	1	45,000.00	LS	45,000	1,299,478
		Subtotal			1,299,478

Project Title : Grand Forks Public Library - New Construction (Leevers Site) **Gross Floor Area : 62,267 SF**

Estimate Type : Preliminary (Program) **Date : January 12, 2011**

Element / Category	$/Cost per SF	Subtotal/$
Substructure - Cast-in-place concrete foundations, column footings, slab on grade, elevator pit, etc.	9.50	591,537
Superstructure	21.35	1,329,400
Superstructure - two story + partial 3 story construction, steel framing, joists, composite slabs and roof deck, etc.	20.00	
Staircases - steel staircase, concrete filled metal pan treads and landings, steel handrails and finishes (2 staircases)	1.35	
Exterior closure	37.45	2,331,899
Exterior walls - brick/stone masonry exterior wythe, rigid insulation, vapor barrier, CMU inner wythe and associated flashings, feature canopy	35.00	
Exterior doors and windows - access/egress doors and sidelights, aluminum frame/insulated glass windows	2.45	
Roofing - single ply EPDM, insulation, associated flashings and trim; green roofing in selected areas	8.20	510,589
Interior construction	27.25	1,696,776
Partitions - gypsum board/metal studs, metal frame/glass, interior windows, etc.	11.50	
Interior finishes - VCT, carpet, paint, ceramic tiles, suspended gypsum board, ACT and miscellaneous painting	12.00	
Specialties - bathroom accessories, lockers, casework, millwork, projection screen and miscellaneous specialties	3.75	
Elevators - hydraulic passenger elevator, 3500# capacity, 150fpm, 3 stops - approximately 25' travel	2.15	133,874
Mechanical	38.65	2,406,620
Plumbing - fixtures, equipment, piping, insulation, testing, etc.	10.75	
HVAC - equipment (boilers, chiller), distribution ductwork, insulation, devices, controls, testing, etc	24.75	
Fire protection - wet pipe sprinkler system, standpipe, etc.	3.15	

Project Title : Grand Forks Public Library - New Construction (Leevers Site) **Gross Floor Area : 62,267 SF**

Estimate Type : Preliminary (Program) **Date : January 12, 2011**

Element / Category	$/Cost per SF	Subtotal/$
Electrical	33.95	2,113,965
Service and distribution - incoming service, switchgear, panels, feeders, equipment connections, etc.	8.25	
Emergency generator, panel, transfer switch, feeders, etc. ($150,000 allowance)	2.40	
Lighting and power - lighting fixtures, power receptacles, controls, etc.	17.75	
Special electrical systems - fire alarm, tel/data, public address, cable trays, technology infrastructure, etc.	5.55	
Site work - see separate estimate		950,390
	Subtotal	12,127,317
General conditions, overhead and profit @ 10.00%		1,212,732
	Subtotal	13,340,048
Contingencies	2,001,007	2,001,007
Design @ 15.00%	2,001,007	
Escalation @ 0%	0	
Construction @ 0%	0	
Total Estimated Cost		**$15,341,055**
Average cost per SF		**$246.38**

Project Title : Grand Forks Public Library - New Construction (Leevers Site) **Estimate Type : Preliminary (Program)**

Project Location : Grand Forks, ND **Date : January 12, 2011**

Description	Quantity	Rate $	Unit	Subtotal $	Total $
Demolition and preparation:					
Demolish and remove single story building and associated foundations, etc. (approximately 36,000/SF)	1	215,000.00	LS	215,000	
Miscellaneous demolition	1	25,000.00	LS	25,000	
Break up and remove asphalt paving, curbs, etc.	91,000	0.75	SF	68,250	
Excavation and grading	4,700	15.00	CY	70,500	
Improvements:					
Asphalt paving and gravel base	48,500	2.95	SF	143,075	
Cast-in-place concrete walks, gravel base	2,930	4.50	SF	13,185	
Delivery access (heavy duty)	650	8.00	SF	5,200	
Sidewalks - perimeter of site adjacent highways	1,300	24.00	LF	31,200	
Cast-in-place concrete curbs	1,750	11.00	LF	19,250	
Curb cut and apron	4	6,000.00	EA	24,000	
Dumpster enclosure	1	20,000.00	LS	20,000	
Flagpole	1	3,500.00	EA	3,500	
Parking bay line marking	123	10.00	EA	1,230	
Ditto - handicapped	4	250.00	EA	1,000	
Facility sign	1	15,000.00	LS	15,000	
Traffic signage	1	5,000.00	LS	5,000	
Site furniture - benches, etc.	1	10,000.00	LS	10,000	
Landscaping, planting, sodding and imported topsoil, etc.	1	125,000.00	LS	125,000	
Utilities:					
Water service - piping, vault and connection to existing main	1	15,000.00	LS	15,000	
Sanitary sewers - piping, manholes and connection to existing service	1	25,000.00	LS	25,000	
Stormwater service - piping, manholes, catchbasins, inlets and connection to existing service	1	75,000.00	LS	75,000	
Site lighting - pole mounted fixtures	1	40,000.00	LS	40,000	950,390
		Subtotal			950,390

Project Title : Grand Forks Public Library - New Construction (Wellness Site) **Gross Floor Area : 62,267 SF**

Estimate Type : Preliminary (Program) **Date : January 12, 2011**

Element / Category	$/Cost per SF	Subtotal/$
Substructure - Cast-in-place concrete foundations, column footings, slab on grade, elevator pit, etc.	9.50	591,537
Superstructure	21.35	1,329,400
Superstructure - two story + partial 3 story construction, steel framing, joists, composite slabs and roof deck, etc.	20.00	
Staircases - steel staircase, concrete filled metal pan treads and landings, steel handrails and finishes (2 staircases)	1.35	
Exterior closure	37.45	2,331,899
Exterior walls - brick/stone masonry exterior wythe, rigid insulation, vapor barrier, CMU inner wythe and associated flashings, feature canopy	35.00	
Exterior doors and windows - access/egress doors and sidelights, aluminum frame/insulated glass windows	2.45	
Roofing - single ply EPDM, insulation, associated flashings and trim; green roofing in selected areas	8.20	510,589
Interior construction	27.25	1,696,776
Partitions - gypsum board/metal studs, metal frame/glass, interior windows, etc.	11.50	
Interior finishes - VCT, carpet, paint, ceramic tiles, suspended gypsum board, ACT and miscellaneous painting	12.00	
Specialties - bathroom accessories, lockers, casework, millwork, projection screen and miscellaneous specialties	3.75	
Elevators - hydraulic passenger elevator, 3500# capacity, 150fpm, 3 stops - approximately 25' travel	2.15	133,874
Mechanical	38.65	2,406,620
Plumbing - fixtures, equipment, piping, insulation, testing, etc.	10.75	
HVAC - equipment (boilers, chiller), distribution ductwork, insulation, devices, controls, testing, etc	24.75	
Fire protection - wet pipe sprinkler system, standpipe, etc.	3.15	

Project Title : Grand Forks Public Library - New Construction (Wellness Site) **Gross Floor Area : 62,267 SF**

Estimate Type : Preliminary (Program) **Date : January 12, 2011**

Element / Category	$/Cost per SF	Subtotal/$
Electrical	33.95	2,113,965
Service and distribution - incoming service, switchgear, panels, feeders, equipment connections, etc.	8.25	
Emergency generator, panel, transfer switch, feeders, etc. ($150,000 allowance)	2.40	
Lighting and power - lighting fixtures, power receptacles, controls, etc.	17.75	
Special electrical systems - fire alarm, tel/data, public address, cable trays, technology infrastructure, etc.	5.55	
Site work - see separate estimate		761,747
	Subtotal	11,938,673
General conditions, overhead and profit @ 10.00%		1,193,867
	Subtotal	13,132,541
Contingencies	1,969,881	1,969,881
Design @ 15.00%	1,969,881	
Escalation @ 0%	0	
Construction @ 0%	0	
Total Estimated Cost		**$15,102,422**
Average cost per SF		**$242.54**

Project Title : Grand Forks Public Library - New Construction (Wellness Site) **Estimate Type : Preliminary (Program)**

Project Location : Grand Forks, ND **Date : January 12, 2011**

Description	Quantity	Rate $	Unit	Subtotal $	Total $
Improvements:					
Excavation and grading	6,666	15.00	CY	99,990	
Asphalt paving and gravel base	71,715	2.95	SF	211,559	
Cast-in-place concrete walks, gravel base	2,855	4.50	SF	12,848	
Cast-in-place concrete curbs	1,200	11.00	LF	13,200	
Curb cut and apron	2	6,000.00	EA	12,000	
Dumpster enclosure	1	25,000.00	LS	25,000	
Flagpole	1	3,500.00	EA	3,500	
Parking bay line marking	142	10.00	EA	1,420	
Ditto - handicapped	6	250.00	EA	1,500	
Facility sign	1	15,000.00	LS	15,000	
Traffic signage	1	5,000.00	LS	5,000	
Site furniture - benches, etc.	1	10,000.00	LS	10,000	
Landscaping, planting, sodding and imported topsoil, etc.	1	150,000.00	LS	150,000	
Utilities:					
Water service - piping, vault and connection to existing main	1	25,000.00	LS	25,000	
Sanitary sewers - piping, manholes and connection to existing service	1	40,000.00	LS	40,000	
Retention basin and associated outfalls, piping, etc.	1	62,500.00	LS	62,500	
Bio-swales	882	15.00	LF	13,230	
Site lighting - pole mounted fixtures	1	60,000.00	LS	60,000	761,747
		Subtotal			761,747

Excludes: outdoor reading area and cafe area and sculpture park

Southfield Public Library, Southfield, Michigan