SCHEMATIC PLANS

for

RENOVATION & EXPANSION

of the

NEWTON PUBLIC LIBRARY

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Newton, Kansas 67410

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To: Library Director and
Board of Trustees,
Newton Public Library

Introduction:

Enclosed are drawings and related documents reflecting completion of the final phases of the Library Planning Process undertaken by consulting architect, Hans Fischer and consulting engineer, Myron Reed. We are most appreciative of the cooperation extended by all who participated in this process, representing the library, the city, and the general public.

The planning effort to date included preparation of a Needs Assessment, completion of a comprehensive Building Assessment of the condition of the present library, and an on-site design workshop.

The Needs Assessment (copy included with the Building Assessment report), completed with significant involvement and input from library director, staff and trustees, projected both current space needs, and space needs 10 years in the future, in gross square feet (gsf), as follows:

Current	10 years
28, 851	40,433

The present library contains about 23,899 gross square feet, about 5,000 gsf less than needed to provide currently required space.

The Building Assessment described building deficiencies in architectural systems, functionality, accessibility, heating, ventilating and air-conditioning systems, electrical systems, lighting, telecommunications and information systems, fire alarm, plumbing systems, fire protection, and energy efficiency. Estimates of cost to correct the described building deficiencies ranged between $762,000 and $872,000. The Building assessment report was submitted to the library board of trustees in May of 2008.

Schematic Design Process:

An on-site design workshop was held in September 2008, with participation by representatives of the city, library director, staff, trustees and several members of the general public. Two preliminary schematic library site/building sketch plans were developed prior to the workshop to initiate discussion and generate ideas for renovation and expansion of the present library. During the workshop, additional sketches were developed reflecting the input and comments received. Copies of these sketches, labeled A and B, are included with this report. Some of the "wants" and "needs" expressed were:

- outdoor coffee area.
- outdoor children's area
- relocate basement circulation desk
- drive-up book drop
- visual control of elevator and stir from circulation desk
- dual staffing with tech. service and children may remain
- central atrium
- retain downstairs meeting room for story hour function.
- possibly combine friends/coffee shop area
- computer lab
- visual control from offices to circulation desk
- small meeting area in administrative space

- cannon location may not be "sacred"
- ADA parking should not back up into the main drive
- storm water detention.
- phasing of construction
- widen opening into building entry
- possible gallery
- extend basement 30' south for meeting rooms with restrooms
- integrate art, both interior and exterior
- RFID
- Self-check
- study rooms

While integrating many of these items into the project is premature at this stage of planning, the basic schematic plan has been structured to accommodate most, as the design is developed further.

Architectural and Site Planning Considerations:

Site:

How best to utilize the site to expand the library has been a principal consideration in arriving at the schematic plans presented herein. Coupled with the need to provide for almost doubling the size of the library, is the requirement for a significant amount of parking space. Recognized library standards recommend a minimum of 1 parking space for every 300 gsf in the building (about 133 spaces for a 40,000 gsf library). About 111 on-site parking spaces are indicated on the proposed site/building plan. Additional spaces could be provided, but not without eliminating almost all the green space south of the building. Adjacent on-street parking, which currently provides the only parking for the library, should remain available.

Several other site features were discussed. Retaining a historic cannon, located south of the present building, apparently has considerable support in the community. Discussion at the workshop ranged between moving and/or retaining the cannon in its present location. No clear consensus was discernible regarding this issue. Consequently, the proposed schematic plan retains the cannon and features it as a principal element in the west entrance approach to the library.

The existing locomotive at the south of the site could remain, although it was stated that it will likely be relocated to another area in the future. The wading pool and related construction on the east side of the site, are apparently expendable.

Expansion of the building to the south will, unfortunately, necessitate removal of several mature trees. Therefore, development of a comprehensive landscape development plan in conjunction with the building expansion project, is recommended. Storm water detention could also be addressed by the landscape plan.

The proposed schematic plan lends itself well to integrating art (and sculpture) both inside and outside of the building. Both the east and west exterior entrance atrium/arcades and the interior central gallery/display space, are proposed to have a continuous skylit roof covering. This roof affords weather protection for library patrons well before they enter the building, and space for permanent or revolving exhibits of works of art. Furthermore, these atrium/arcades could create a highly visible architectural design element as the "new" entrance to the library.

The atrium/arcade, located on a central east/west axis through the building, provides both much-needed access from the east parking lot, while maintaining the familiar west entrance as well.

Sketch Plan B:

This was the first site/building plan developed. Parking was located south of the building. The main entrance would remain at its present location with the addition of a multi-purpose room, elevator and stairway to the basement, and public restrooms adjacent thereto. This arrangement allows use of the multi-purpose room when the library is closed. Expansion of the building to the south and southeast was envisioned, along with a courtyard surrounding the cannon. Discussion centered around the fairly remote location of parking, from the main building entrance with particular concern expressed about the distance from ADA parking to this entrance. Furthermore, the proposed westward expansion would extend to within 12 ft. of the public sidewalk along north Oak Street.

Expansion of the administrative spaces is limited. Remoteness of the young adult area, proposed to relocate to the present multi-purpose room, was considered problematic. While this schematic plan added about 16,000 gsf to the library, expansion of the basement was minimal, being limited primarily to a new stairway and elevator from the main entrance lobby.

Sketch Plan A:

This plan was the first with parking located along the east side of the property, providing about 100 spaces. Vehicular access from both north and south was provided by a north-south driveway extending through the entire property. Concerns were expressed that this through driveway may become a bypass for adjacent streets, resulting in high speed traffic between the parking lot and the library. It was also noted that vehicles in the area designated for ADA parking, would need to back out into traffic traversing this through-way. The long distance from the driveway to the building would not allow a drive-up book drop.

The idea of an east-west atrium/arcade was started with this plan. Principal building expansion is to the south and southeast. Again, the cannon remained a feature in a west, main entrance courtyard. A multi-purpose room, new entrance lobby, public restrooms, and elevator and stairway to the basement, were added on the east. The multi-purpose room can also be accessed when the library is closed. A circulation work area is shown adjacent to the east main entry and abutting the administrative area, which would be relocated to the present multi-purpose room. Young adults would be relocated to the northwest corner of the present building space with space for genealogy and friends adjacent thereto, in what is now the administrative area. With this plan also, about 16,000 gsf would be added to the library. However, basement expansion would be minimal, limited to the elevator and stairway to the main floor entrance lobby.

Sketch Plan A1:

This plan represents a further development of Plan A. The newly added multi-purpose room on the east side, also available for use when the library is closed, has been rotated 90 degrees, allowing the creation of a one-way access drive passing close to the building. This permits a drive-up book drop. It also provides for a lane where patrons can drive and briefly park to pick up or drop off youngsters or others. However, with the one-way drive as shown, vehicles entering the main driveway from the north must drive past the library and then make a 180 degree turn to access the one-way drive. And, vehicles leaving to the south from the one-way drive must also make a 180 degree turn to exit the site.

The difference in grade elevation between the north entrance from East Seventh Street to the library building is significant (perhaps as much as 7 ft.). Therefore, the design of the drive to the building must necessarily be carefully addressed in the final design process. This issue is also present in Plan A2.

Other building space allocations in Plan A1 are similar to Plan A.

Sketch Plan A2:

This plan creates a two-way, rather than one-way, access drive in front of the east entrance. By so doing, the main east-west driveway can be aligned in a slight curve, creating a larger "island" between the parking lot and the building. Clearly marked signage would be required to properly direct drivers at the intersections between the drive accessing the front of the library and the drive accessing the main parking lot. As noted above under Plan A1, the grade elevation difference between the Seventh street driveway entrance and the present library must be addressed.

A covered book drop is shown adjacent to the building to accommodate north bound vehicles while another book drop on the 'island' accommodates south bound vehicles. ADA parking can be provided in the main parking lot or along either side of the access drive. The through-building, skylit atrium/arcade has been further refined. The elevator/stairway lobby has been enlarged, allowing more space for crowds leaving the multi-purpose room. As suggested during the design workshop, the existing basement has been expanded about 30 ft, to the south, allowing space for several smaller meeting rooms and restrooms which, along with the multipurpose room, could be accessed at times when the main library is closed. Other building space allocations are similar to Plan A1. By expanding the basement for several smaller meeting rooms, the area of the library building additions have been increased to 17,700 gsf.

Mechanical, Electrical, and Plumbing Considerations

Water lines:

The library water supply appears to be served by the water main in north Oak Street, which appears to be a 10 inch line. This line may require an increase in size in order to adequately feed the library additions.

The original building plans indicate that a 2 inch water line was routed around the south side of the library. This line connects from the north Oak Street main line, and was apparently re-routed to make way for the original library building. This 2 inch line runs toward the wading pool and may have been the water source for the pool when it was operational. If this line is no longer in use it should be cut off at the main and abandoned.

However, if this 2 inch line is still used occasionally and terminates at the use location, it will need to be changed to allow for the proposed library additions. Dead-ended, intermittent use lines of this length, are usually prohibited by the Kansas Department of Health and Environment unless they are provided with proper back-flow prevention at the source.

Therefore, if this is the situation, the source for the use must be changed, or proper backflow prevention will need to be installed.

Fire Sprinkler:

As described in the Building Assessment Report, the present library utilizes a fire sprinkler system. However, this system serves only the basement. When additions are built, the system will need to be expanded to serve the entire library, as is required by current codes.

The current water supply source for the fore sprinkler system is believed to be the water main in north Oak Street. Even with this size (10 inch) main line, tests will need to be performed to determine if a fire pump would be required for proper flow in the library.

Energy Sources:

As described in the Building Assessment Report, the present library systems utilize electricity and natural gas as the energy sources for the heating ventilating and air conditioning systems as well as for lighting and equipment operation.

The governmental regulatory climate is quite fluid at this time and can not be readily estimated as to the final outcome. However, electricity from the electric utility will of necessity be the primary source of energy for the foreseeable future due to reliability requirements and usability. When solar generation equipment eventually becomes viable, it will still require a utility source [electricity] to provide service when it is unavailable (night-time, storms, etc.) Nevertheless, major cost increases in electricity should be anticipated in the near future. Also, the relative costs of natural gas and electricity are dependent upon governmental actions/regulations.

Natural gas is expected to remain available for some time, but the cost will probably continue to be difficult to predict.

Geothermal utilizing electricity is viable and dramatically improves operating energy efficiency, but it is not yet well known by very many service and installation companies/personnel. It could be considered for the proposed additions, but because of lack of familiarity by service companies, it is not recommended for these additions. If this approach were to be taken the system would be of the vertical (well) type in order to reduce the amount of real estate required.

Existing Library HVAC Systems:

In order to reduce the cost and difficulty of maintaining the present water-cooled chiller system, it could be replaced with an air-cooled system. To accomplish this task, the existing chiller would be replaced by an air-cooled chiller; the present roof-mounted cooling tower would be replaced by an air-cooled condenser.

Utility cost increases are likely, therefore, the highest efficiency equipment available is recommended.

The operational energy cost of air-cooled systems is usually higher in this area of the country. If average cooling season temperatures rise, the operating energy cost difference between water-cooled and air-cooled systems will widen; if average cooling season temperatures reduce, the operating energy cost difference between water-cooled and air-cooled systems will decrease (current data shows a slight decrease in average annual temperatures over the last ten years). The average temperature change over the life of a new system (15 years) is not expected to be significant and is best ignored in the decision-making process.

The two existing air-cooled direct-expansion split systems could remain.

Library Additions:

For the proposed additions to the library, either one of following two approaches is most common.

One approach utilizes a central chiller that provides chilled water piped to the various spaces to be conditioned. The advantage of this approach is that it allows high quality control of the temperature and space humidity. The main disadvantage is the requirement that the chiller must operate whenever there is any cooling load in the building. Also, if the chiller breaks down, the entire building cooling system is no longer operational.

A second approach is to use a separate direct expansion air-cooled system for each major area of the addition. This approach has the advantage of simplicity of operation and maintenance. These systems can have variable flow on the air handling unit end to better regulate the temperatures of the various spaces within each area. This will add some complexity to the controls. However, present-day controls are fairly standard, reliable, and have widespread use/familiarity by service companies.

Systems of this type utilize dampers controlled by thermostats on the various zones that regulate the flow of air to maintain the temperature in the space. Also, separate systems allow for complete shutdown/setback of a system serving a single-use area independently of other areas.

The down-side of separate systems is that more extensive maintenance may be required if the systems are too numerous. However, the number of units required for this expanded library facility would not be at the level that might cause problems if this nature.

Air side economizers are not recommended for systems where winter humidity control is practiced, and therefore are not recommended for this library.

The heat source can either be electric resistance, a combination of electric resistance and heat pump, or hot water. The use of hot water as a heat source would require replacement of the existing hot water heating boiler with a new, high efficiency boiler, to provide sufficient capacity. If the boiler is replaced, it is recommended that a multiple unit boiler system be utilized, This would provide redundancy and improve operating efficiency by allowing some units to shut down when demand is low.

A gas-fired hot water boiler will probably give the lowest annual energy operating cost, but has the disadvantage of being a bit more complex than the heat pump/electric resistance system.

The heat pump/electric resistance combination is quite well-known by service companies since most total electric homes use this concept. Therefore, maintenance/repair service is easily obtained.

Electrical Items:

The present library systems utilize electricity as the energy source for power, lighting and equipment operation.

Since the electrical service enters the building on the north side near the northwest corner, it would not be displaced by the proposed additions. The electrical service appears to be adequate to handle a significant addition[*~200 amp now & doubled ~400 amp vs. 480 amp capacity*]; however, if engineering calculations performed at the time of the new design determine that a new service is required, the appropriate time to make the change would be during the construction process. With the present arrangement it is likely that a new service entrance could be completely installed and switched over from the old to the new with minimal downtime of the library facility.

The proposed additions will require at least some modifications and additions of panel-boards to the service in order to have the correct arrangement for the new addition(s).

The interior components of the existing electrical service equipment will need to checked and cleaned as a minimum when modifications are made.

If totally new service equipment is desired, this would be the appropriate time to accomplish that task. Furthermore, the construction process may be simplified by keeping the present system "as is" until the change-over date.

Although it does not appear that the library is currently billed with any power factor penalty, it would be appropriate to explore the power factor issue with the proposed addition(s).

Power factor is an inherent part of all power systems. Basically stated, loads such as old style (incandescent) lighting operates at 100% power factor and have none of the "bad" current (poor power factor portion). Newer lights (such as PL lights) can be as low as 50 or 60% lagging. The "bad" portion does no actual work but the current draw (amperage) is real and does heat wiring and causes other efficiency loses.

A perfect power factor is 100%. The ideal power factor goal is 95% lagging. The library may at times be as low as 80% lagging. (The actual number could not be determined since it has not been recorded.)

Poor power factor utilizes significant system service capacity, and will load the lines all the way back to the generating station if not corrected; utility companies know this and correct the poor power factor on their main lines in order to improve efficiency and regain lost capacity, although this action does not improve the customer's internal electrical system power factor.

Individual owners can make the correction to regain lost capacity and improve efficiency, which is usually done by the use of power factor correction devices (capacitors). This is best done on the worst offending equipment [e.g. - motors]. Such correcting devices require some minimum maintenance when a good transient voltage surge suppression system [TVSS] is installed, as recommended in the Building Assessment Report.

The library does not currently have lightning protection, which is recommended by NFPA-780. The present surge arrestors and the additional surge arrestors recommended in the Building Assessment Report will reduce lightning disturbances on the electrical system. However, they do not protect the building itself from lightning damage. The risk of building lightning damage can be reduced by installing a lightning protection system as recommended by NFPA-780, and a good time to do such work is in conjunction with other building alterations, such as additions, roof repair, etc.

Since a lightning protection system necessarily involves work on the roof, such a system is best installed in conjunction with the roof work.

Site lighting would be impacted by the proposed additions. This lighting will need to be redesigned as part of the addition projects. Coordinating the site lighting with the parking lot work would result in the most cost-effective solutions.

At present, site lighting is separate from the library service. For energy accountability purposes, and it may be desirable to maintain this concept.

Systems Selection:

Selection of building systems (structural, mechanical, electrical, plumbing, etc.) will be based on evaluation of the factors described above, coupled with requirements dictated by the architectural design of the library. Serious consideration should be given to the long-term benefits of using sustainable, "green" principles in designing the renovation and expansion of the Newton Public Library.

Project Phasing Potential:

While the cost of doing so would increase the overall project construction cost, the proposed design of the project, as depicted in Plan A2, lends itself well to some phased construction. Certainly, the entire parking lot need not be built at one time. With some minor temporary

adjustments in building configuration, some of the proposed additions could be undertaken as separate projects. However, there will likely be some construction that would necessarily need removal when a subsequent building phase occurs.

A high priority should probably be assigned to the correction of some, if not all, of the present building deficiencies. Although this sub-project could also be phased, it would be more easily undertaken at one time, with a fully vacated building. Consideration should be given to moving the library into temporary quarters while this work is underway (probably 10 to 12 months). Providing contractors full access to the existing building would allow completion of the project sooner and at a lower cost. This cost saving should be weighed against the cost of moving into temporary quarters. Or, this sub-project could be delayed until a substantial building addition is completed, allowing its use as a temporary library while existing building deficiencies are corrected.

An initial, modest phase might include a south building addition, extending both the basement and the main floor about 30 feet to the north line of the proposed atrium/arcade. A new entrance from the east parking lot could be built, also providing access to the present multi-purpose room, which would remain. The new stairway and elevator would also be built. Along with a different arrangement for new restrooms adjacent to this entrance, access to the multi-purpose room and to the new small meeting rooms in the basement addition during non-library hours could be accomplished. Location of the circulation desk and other elements of the library would need to be re-thought under a phase configured as described above. Furthermore, how (or whether) this phase arrangement would meet the current and future needs of the library, and for how long a period, are factors to be considered.

Future phases might complete the parking lot, the atrium/arcade, the new multipurpose room, and the indicated major addition of the adult library to the south.

A carefully thought out phasing plan, coordinated with projections of funding availability, should be prepared as part of a long-term library renovation/expansion program.

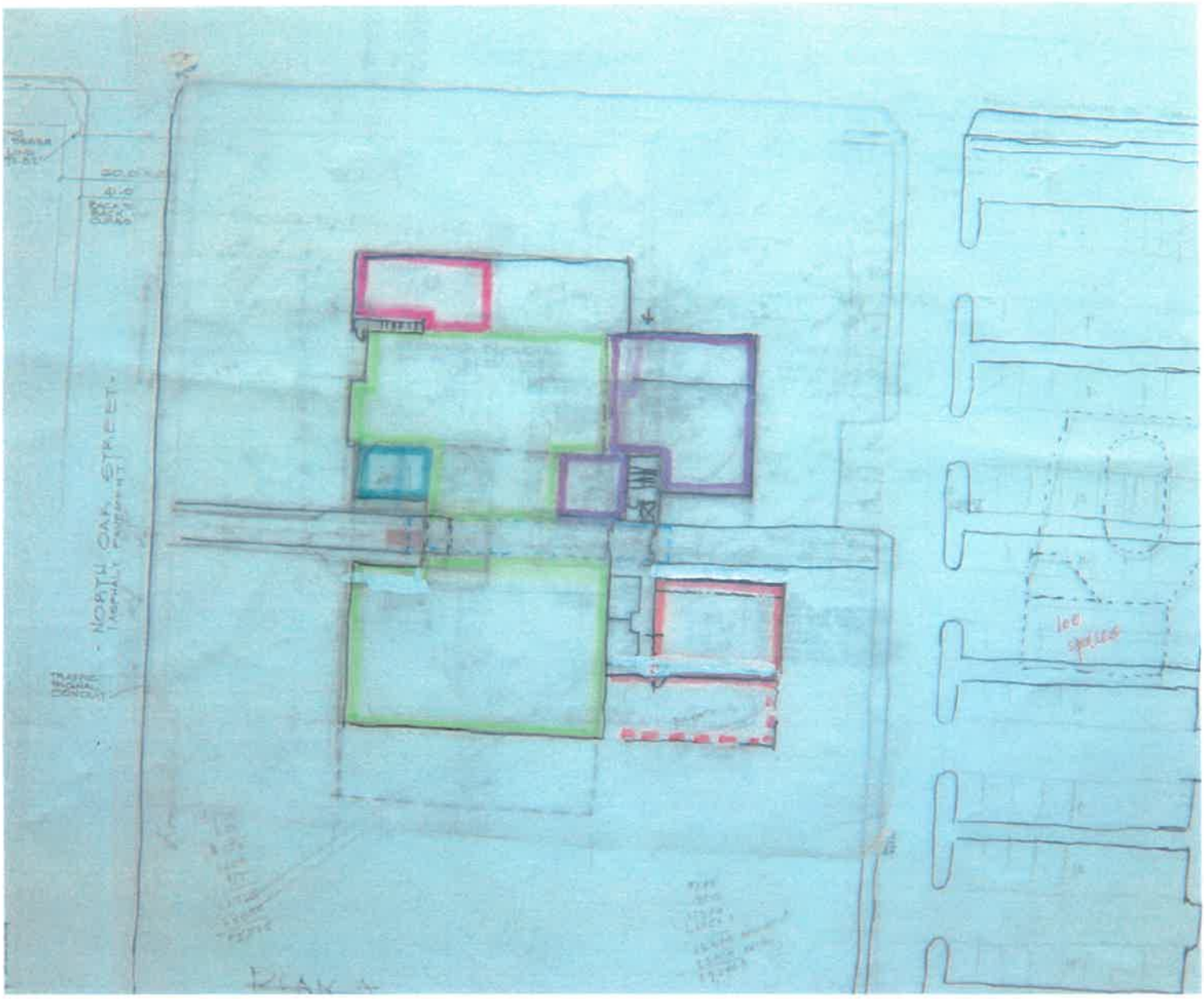
Preliminary Project Budget:

Enclosed herewith is a Preliminary Project Budget estimate anticipating a total budget for the project between $5,341,136 and $5,970,685 This budget estimate includes work required to correct building deficiencies identified in the Building Assessment report, renovation of the existing building to implement changes recommended in Schematic Plan A2, along with site development work and building additions also recommended in Plan A2.

The total project budget for a similar sized, new library is estimated to range between $9 and $10 million, not including the acquisition cost of a 3.5 to 4 acre site or potential off-site construction of utilities, road improvements, and the like.

	Renovation and Expansion of the Newton Public Library Newton, Kansas							
	Preliminary Project Budget - Schematic Planning Phase							**8-Dec-08**
notes					area gross sf	sf cost (average)	subtotal	sf cost (high)	subtotal
	Site Construction						756,000		882,000
	Building Construction								
	Existing Library Building								
1	Correction of deficiences and renovation				23,899	45	1,075,455	50	1,194,950
	Proposed Building Additions (Option A2)								
	Basement				4,000	85	340,000	95	380,000
	Main Floor				13,700	140	1,918,000	150	2,055,000
	Covered Entries				2,250	40	90,000	45	101,250
	Subtotal Building Construction						3,423,455		3,731,200
		Subtotal Site & Building Construction					4,179,455		4,613,200
			Contingency - 10%				417,946		461,320
2		**Total**	**Construction**				**4,597,401**		**5,074,520**
	Non-Construction Costs								
	Professional Fees: a/e, legal, bond counsel. etc..				10.0%		459,740		507,452
	Topographic survey and geotechnical testing						6,500		7,500
	Construction testing services						20,000		25,000
	Data/Telecon/Security						20,000		25,000
	Hazardous material remediation/removal						?		?
	Miscellaneous expenses (printing,shipping, etc.)						12,000		15,000
	Moving expenses						5,500		7,000
		Total	**Non-Construction**				**523,740**		**586,952**
	Furniture, Fixtures, and Equipment (FF& E)								
3	Library furniture				41,599	5.00	207,995	7.00	291,193
	Library Equipment						?		?
	Library Collection expansion						12,000		18,000
		Total	**Furniture, Fixtures & Equipment**				**219,995**		**309,193**
	ESTIMATED	**TOTAL**	**PROJECT BUDGET**				**5,341,136**		**5,970,665**
notes									
1	assumes minimum renovation in existing basement								
2	add minimum .05% per month (compounded) for inflation								
3	assumes re-use of most existing furniture								
*	Total enclosed library space with proposed addtions =				41,599				
	Needs Assessment projected space in 10 years =				40,433				

SCHEMATIC PLANS FOR RENOVATION & EXPANSION OF THE NEWTON PUBLIC LIBRARY



SITE & LIBRARY PLAN - SKETCH OPTION A

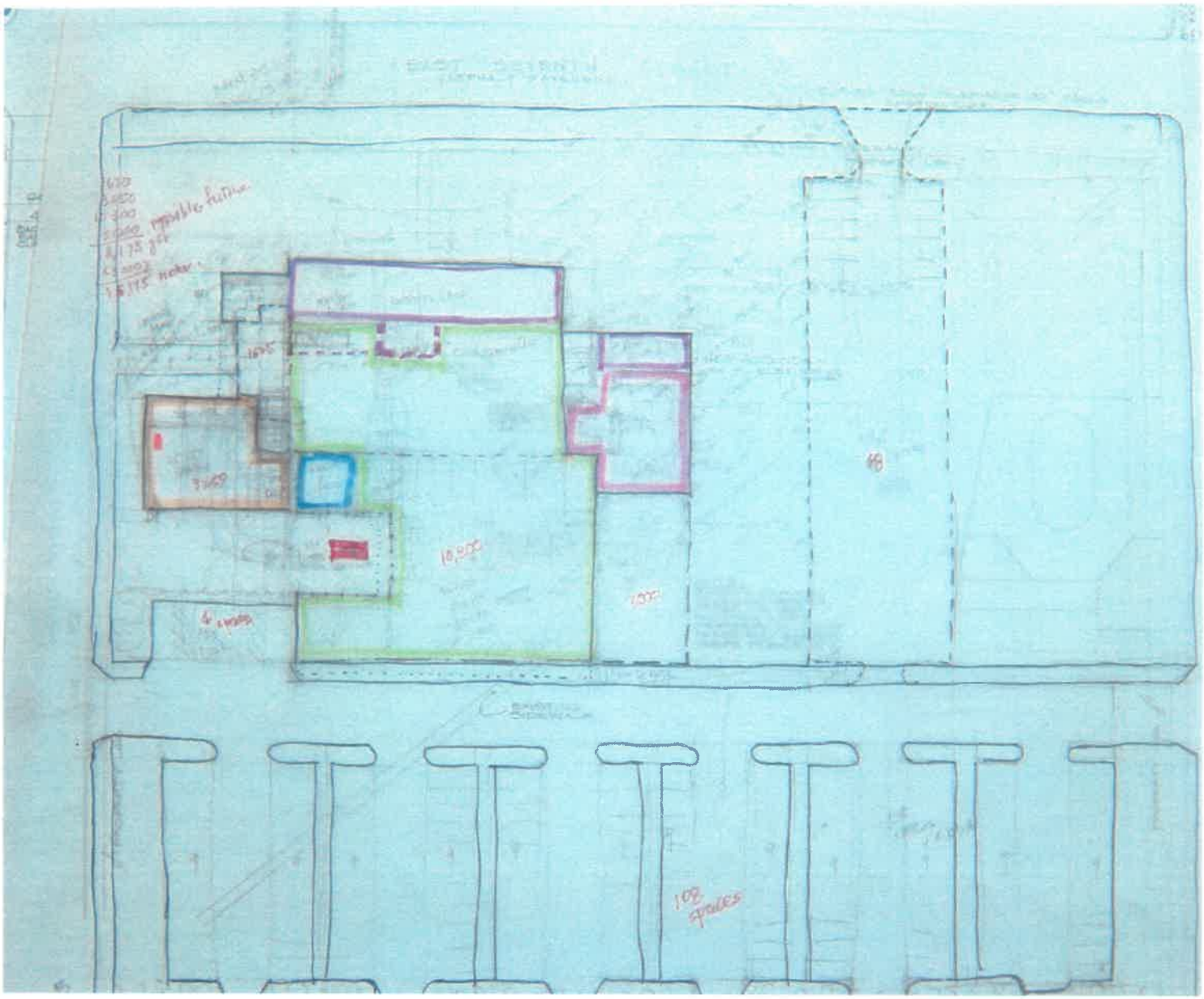
graphic scale 0 20 40 60 80 100

north

Color Codes:

- Adults
- Young Adults
- Multi-Purpose & Storage
- Circulation, Administration & Storage
- Coffee – Café
- Friends & Genealogy

SCHEMATIC PLANS FOR RENOVATION & EXPANSION OF THE NEWTON PUBLIC LIBRARY



SITE & LIBRARY PLAN - SKETCH OPTION B

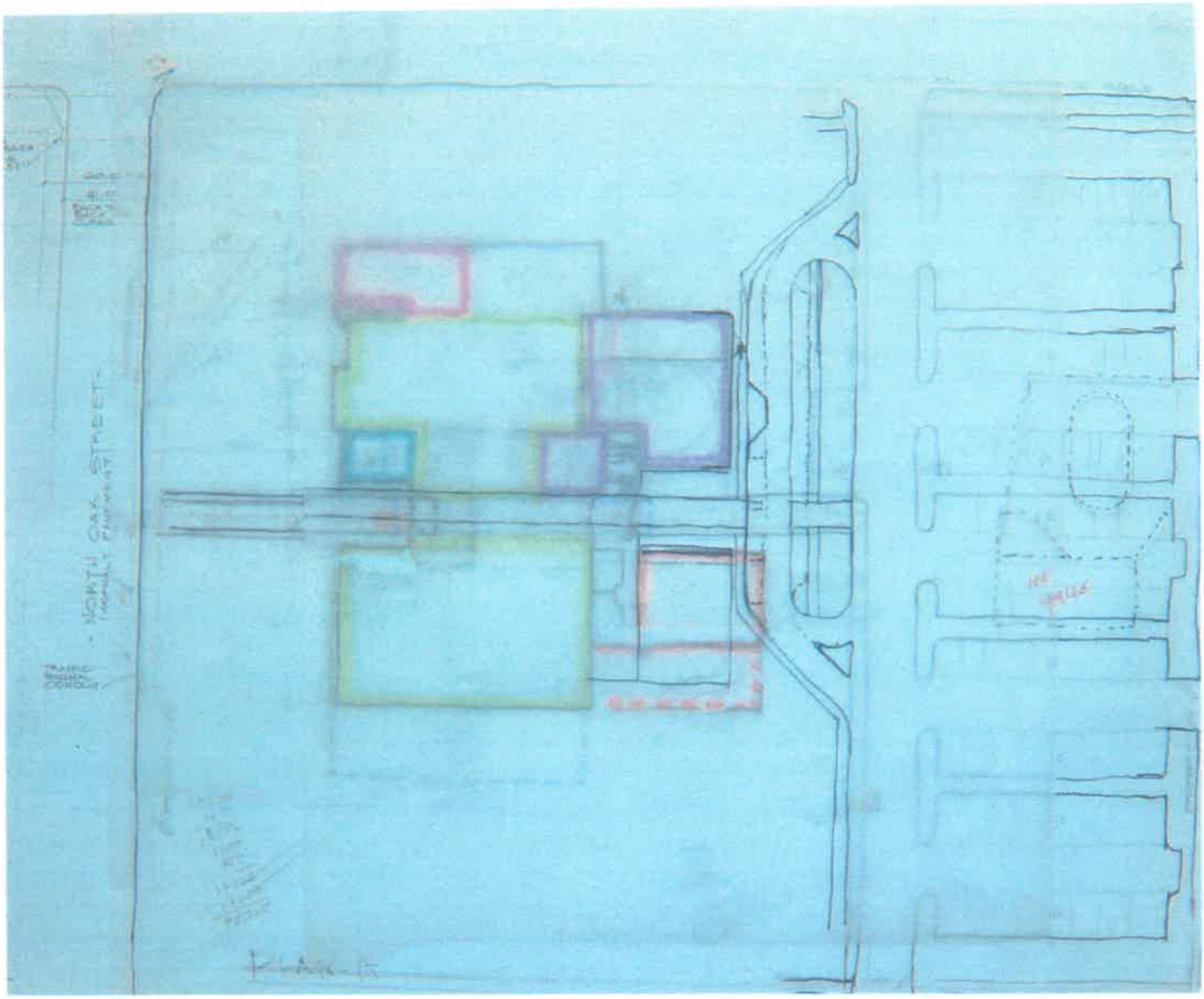
graphic scale 0 20 40 60 80 100

north

Color Codes:

- Adults
- Young Adults
- Multi-Purpose & Storage
- Circulation, Administration & Storage
- Coffee – Café
- Friends & Genealogy

SCHEMATIC PLANS FOR RENOVATION & EXPANSION OF THE NEWTON PUBLIC LIBRARY



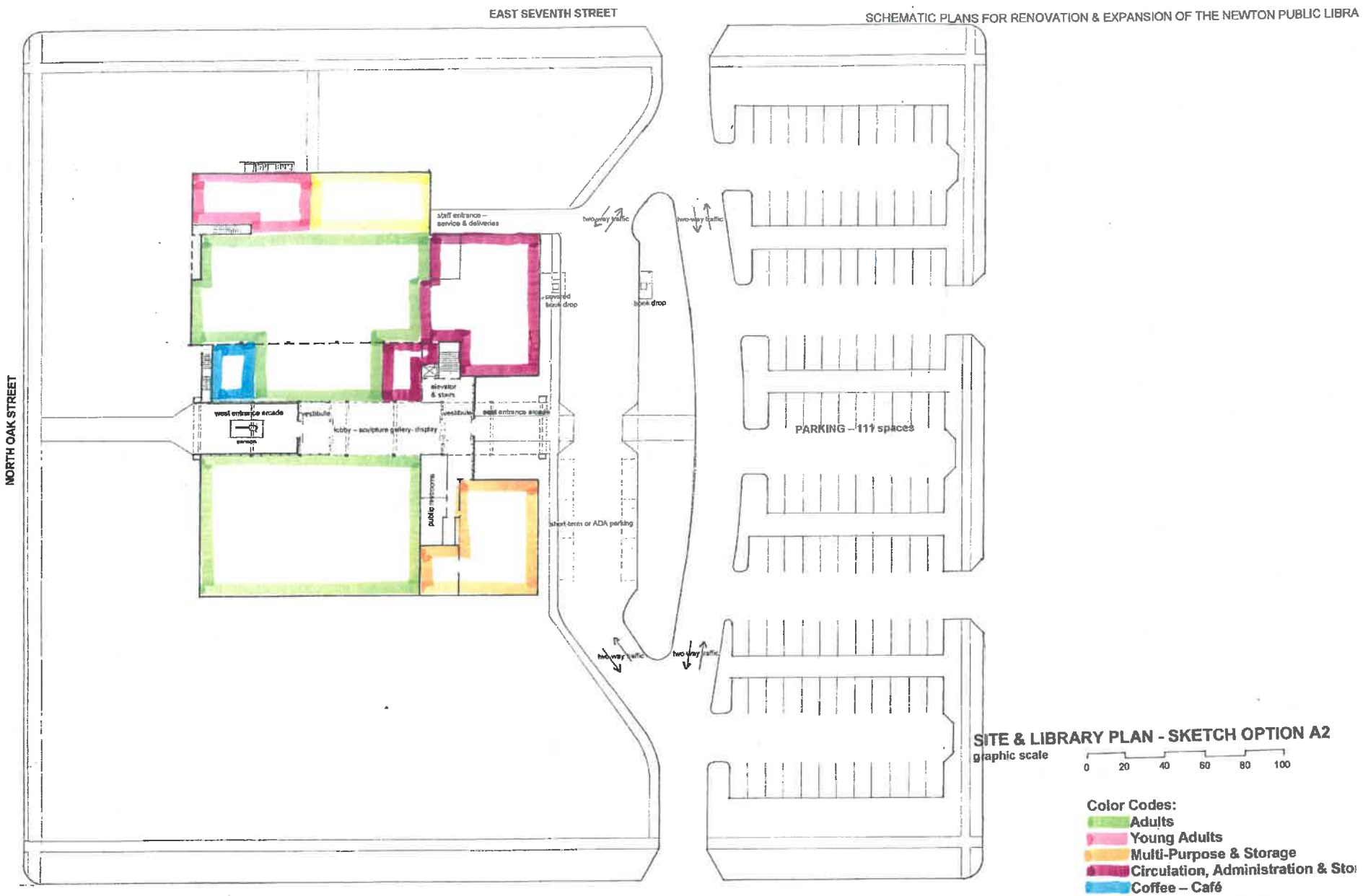
SITE & LIBRARY PLAN - SKETCH OPTION A1

graphic scale 0 20 40 60 80 100

north

Color Codes:

- Adults
- Young Adults
- Multi-Purpose & Storage
- Circulation, Administration & Storage
- Coffee – Café
- Friends & Genealogy



SITE & LIBRARY PLAN - SKETCH OPTION A2

graphic scale

0 20 40 60 80 100

Color Codes:

- Adults
- Young Adults
- Multi-Purpose & Storage
- Circulation, Administration & Sto
- Coffee – Café
- Friends & Genealogy