

Memorandum

To: David Corliss, City Manager
Tarik Khatib, Chief of Police

From: Andrew Pitts, Principal

Date: July 31, 2014

RE: Lawrence Police Department New Facility

On July 22 our team presented to the Lawrence City Commission an update on the program (list of spaces and size of facility) and site selection for a new facility for the Lawrence Police Department. The commission requested additional information concerning this study and for this to be presented at the August 5, 2104 City Commission meeting. The following items were requested:

1. What is the impact on the project program (size and scope of facility) if the project budget (costs) is reduced to \$20 million or less?
2. What is the impact on the program (size and scope of facility) and costs with the addition of Municipal Court?
3. Provide an updated project budget to include additional site development costs associated with the preferred site. Include a description of the contingencies included within the project budget.

The following is a summary of the requested information.

Program and Cost Reductions

Background: As we have previously discussed, our office has worked with the Police Department to develop a project program of spaces that will meet both the current and future needs of the department. The primary factor influencing the area of a new facility is gross square footage (the total area of the building's floor plans measured to the outside face of the exterior walls). Total area is directly related to the number of personnel and the functions they perform in a given space. Therefore, planning new buildings requires the projection of future personnel in order to avoid premature inadequacy. Selecting the point in the future (planning horizon) that will provide the best planning results is a judgment decision based upon experience.

The planning horizon used for the previous space study and this study was a 20-year horizon. A planning horizon of about 20 years provides a reasonable degree of longevity, funding practicality, and predictability of operational methods and requirements. In planning to a 20-year time frame, the increase in required floor area will allow for expected growth and change without unreasonably large areas of initially unused space.

Personnel Projections: One method to benchmark current personnel versus personnel projections is to review the current and future ratio of staff to population. While this is not a method to measure staffing growth, it is a standard measure to indicate the current level of service desired within a community to that of a population in the future. The consultant team worked with the City of Lawrence Planning Department to utilize current population numbers used by the city along with their accepted method of projecting population. These population numbers were recently used to assist in the development of other public works projects in the City.

The primary determinant of the size of a building is the number of occupants (personnel assigned and visitors) that use a space, activities that occur within the space and equipment that supports the personnel and activities. Therefore, a properly sized building requires projecting the appropriate number of personnel who will occupy the building for the desired planning horizon.

The intent of the space needs program is not to conduct a management/staffing analysis and any discussion of personnel projections is not to be taken as a recommendation for hiring additional personnel. However, prudent planning dictates making an allowance for probable staff growth. Our team worked with the Police Department administration and division managers in ascertaining likely personnel growth in the department over the next 20 years. These projections were reviewed, division by division, again prior to our July 22nd meeting.

While our goal is to be as accurate as possible, minor inaccuracies in the projected personnel requirements will not result in a decreased level of operational efficiency. It will, however, mean that the 'perfect fit' projected to occur in the adequacy year will occur earlier, or perhaps later, than projected depending upon when the total number of personnel projected for a planning period is reached.

Building Size Benchmarking: In order to establish a credible and justifiable result, planning is based on standards for the building type. In this case, police facilities. The police facility for any given community should be planned specifically to meet their needs. At the same time there is a commonality that is apparent in police facilities throughout the country. This is seen in departments large and small, and everything in between. The International Association of Chiefs of Police (IACP) has for years offered a planning guide to its members. In it, it has stated that the average size for new facilities for police departments around the country is about 400 square feet per full-time equivalent staff member. This statistic incorporates all departments in their database from very small to very large. Aware that there is a proportional reduction in area per staff member with a corresponding increase in the staff size of a given police department, Wilson Estes Police Architects maintains its own database that uses similar statistics to create multiple categories based on department size.

Within this database, for departments built around the country with a staff size between 175 and 250 personnel, it indicates a mean average of 258 gross square feet per full-time staff member. When we look at the core facilities for the Lawrence Police Department, the currently proposed space program recommends a building sized to accommodate a staff of 240 at 62,426 gross square feet. This is equivalent to 260 square feet per staff member, or within one-percent of the mean average of similar sized departments.

Program Reductions: Our design team met with the Police Department administration to review a second round of potential scope reductions that could be achieved to reduce the overall project budget to \$20 million or less. The initial reduction, presented on July 22nd, resulted in an approximate \$4.3 million reduction of the project budget (costs.) These reductions would be in addition to the previous reductions presented at the July 22 Commission meeting.

Our team discussed a variety of scenarios to reduce the program size and their impact to the construction costs. These include:

1. **Reduce the planning horizon from 20-years to 10-years.** The team reviewed the project program that would be required to project staffing for only 10-years in lieu of the previous planning horizon of 20-years. This would reduce the building gross square footage from 82,025 gsf to 76,198 gsf. The project budget would be reduced to \$23,432,656. The impact to this reduction would be the department would reach the facilities "perfect fit" for the building's personnel and their functional requirements within 10-years of occupying the facility (reference attachment "Scope Reduction Option #1.)
2. **Eliminate specific program spaces.** Another option reviewed was the elimination of specific program spaces to reduce the overall project square footage. The following program areas were eliminated under this scenario:
 - a. **Garage:** All marked, undercover, and specialty vehicles planned for this space (approximately 43 vehicles) would not be stored in a secure indoor garage but in the exterior parking lot or other existing indoor facilities. Currently the department utilizes facilities to store some of these items. These facilities could be retained under this scenario.
 - b. **Firing Range:** No range would be included. The department would continue to utilize the current facilities at the Lawrence Fraternal Order of Police. Time and expenses associated with travel and scheduling conflicts currently experienced by the department would not be corrected.

- c. Outbuilding: These following program spaces included in the outbuilding would not be provided:
 - i. Storage for seized vehicles,
 - ii. Speed trailer and accessories,
 - iii. Evidence van and accessories,
 - iv. Found property storage
 - v. Vehicle maintenance bay
 - vi. Blue Santa storage

The above items will need to be stored in existing facilities or relocated to other existing facilities. This would reduce the building gross square footage from 82,025 gsf to 62,426 gsf. The project budget would be reduced to \$20,282,346 (reference attachment "Scope Reduction Option #2.)

- 3. **Reduce gross square footage of facility by 25% while maintaining all program spaces.** The team reviewed the option of reducing the overall square footage of the facility by 25% (including the indoor garage.) This scenario also eliminated the outbuilding from the program. A summary of the reductions is as follows:

- a. Reduction of 15,607 gsf from building program,
- b. Reduction of 3,905 gsf from indoor garage,
- c. The firing range remained as previously programmed.

This would reduce the building gross square footage from 82,025 gsf to 62,514 gsf. The project budget would be reduced to \$19,982,377 (reference attachment "Scope Reduction Option #3.)

A detailed analysis of the impact to growth and staffing has not been completed at this point to the overall impact to the program, but with this reduction the net square footage of the program spaces would be approximately 32,800 nsf. This is less than the current net square feet the department currently utilizes (37,489 nsf.) This reduction would eliminate any potential growth within the new facility and maintain, if not reduce, the current square footage used by the department. It could be assumed an addition and renovation to this facility could occur prior to the 20-year planning horizon with this reduction. The combined first costs, along with potential future costs would exceed the current proposed project budget.

All of the program reductions reviewed greatly impact the operational and functional needs of the department. The options either will reduce the ability for the department to grow within the proposed facility, therefore requiring a renovation and addition to the facility or an additional new facility in a sooner period of time or will eliminate specific program spaces required by law enforcement personnel.

Construction costs reductions: The project team also discussed potential changes to the construction costs utilized for the study. The cost per square foot utilized for this study is based upon the experience of our collective team, evaluating recent project bids, and comparing it to national industry standards.

Preliminary new construction cost can be estimated by utilizing average new facility square footage construction costs for typical police facilities built around the country. By adjusting these numbers to the local construction market and factoring in inflation, the total probable cost can be developed for the Lawrence police facility for a predetermined point in time. The process begins with a review of the cost of a typical new public safety facility. Cost information and other survey data has been collected by our team from over 200 new facilities. The facilities have been constructed in many locations and bidding climates over many years. Therefore, the cost figures from the database have been adjusted for inflation and regional cost differences to develop the average.

RS Mean, a national construction cost estimate database, lists the construction cost for a police facility in the Midwest to average \$252 per square foot. Recently bid police facilities in this market have ranged from \$240 to \$285 per square foot. For this study we are using an average cost per square foot of \$245 per square foot. After further review we do not recommend reducing the costs per square foot in order to reduce the construction costs.

Building configuration changes: Another avenue studied was the possibility to move program square footage from higher costs per square foot to lower costs per square foot. This would move program spaces from above-grade construction (the first or second floor) to below-grade construction (basement) or the outbuilding.

During the Facility Needs Assessment a detailed review of the desired adjacencies of program spaces was provided. Placement of functions, or adjacencies, depends upon the required interaction. Interaction requirements include many factors. Those key to police and public safety functions include: safety, security, confidentiality, productivity, and service.

Also during this study a building configuration concept was developed. The configuration concept looked at on what floor level a specific functional element should be located. Making a determination of the most appropriate placement on a floor level - and therefore establishing the direction of the building's design - requires an understanding of the required functional interaction. The desired placement of any given element on a specific floor level is influenced by two elements; internal, placement based on the specific design needs of the given functional element; and external, which relates to the impact the given conditions of the site to be developed have on the design of the building. Without consideration for the external forces, typical police buildings could most often work quite well with all functional elements on the ground level. Given that this is seldom the most efficient or cost effective way to construct buildings, consideration has to be given to the functions that have the greatest need to be on the first floor.

In a police building, these spaces are usually those that require frequent contact with the public, like records; those spaces that get a high flow of traffic, such as uniform patrol; detention, where it is undesirable to move detainees up and down multiple levels; and areas like evidence and property, where bulk items are moved to and from at frequent intervals. Frequently, in police facility design, Administration and perhaps Investigations represent the most efficient compromise - along with some meeting rooms – on the above grade levels. Storage, mechanical, building support and garage space are ideally suited for below-grade.

Based upon the functional requirements developed under this study we would not recommend significant revisions to the building configuration concepts developed that would result in any significant changes to construction costs.

Municipal Court

Our team met with the City Attorney, Prosecutor's office, and the Municipal Court's office to review the current program of spaces and develop a program for a future facility. For the purpose of this review we utilized a 20-year planning horizon similar to that used for the Police Department. As summary of the program of spaces is as follows:

Program Name	Quantity	Net SF/Space	Subtotal	Totals
Municipal Court				4,742
Courtroom	1	2,500	2,500	
Community Room/ Courtroom II	1	1,250	1,250	
Staff Security Vestibule	1	64	64	
Public Sound Vestibule	1	180	180	
Judicial Office	2	120	240	
A/V Storage	1	80	80	
Holding	2	64	128	
Client/Attorney Meeting Rooms	3	100	300	
Prosecuting Attorney Office				1,542

Public Service Counter	3	64	192
Prosecuting Attorney Office	1	120	120
Human Relations Office	1	120	120
Asst. Prosecuting Attorney Office	2	110	220
Legal Assistants Open Office	5	64	320
Copy/Workroom	1	120	120
Active Files	1	150	150
Inactive Files	1	200	200
Storage Room	1	100	100
Court Clerk's Office			1,522
Public Service Counter	3	64	192
Court Administrator	1	120	120
Court Clerk Open Office	10	64	640
Copy/Workroom	1	120	120
Active Files	1	150	150
Inactive Files	1	200	200
Storage Room	1	100	100
Probation			344
Probation Office	2	100	200
Secure Waiting	1	80	80
U/A Restroom	1	64	64
Shared Spaces			440
Breakroom	2	100	200
Conference room	1	80	80
Women's Staff Restroom	1	160	160
Men's Staff Restroom	1	160	160
Women's Public Restroom	1	230	230
Men's Public restroom	1	230	230
IT/Data	1	80	80
Subtotal			8,590
Accessory Support	3%		258
Circulation Grossing Factor	27%		2,389
Walls and Unusable Spaces	9%		1,011
TOTAL			12,248

This program document has not been reviewed in detail with the departments but reflects the discussions and projections required for the departments.

The increased program spaces would equate to construction costs of approximately \$2,645,000 (using \$216/sf.)

Revised Project Budget

It was requested that an updated project budget, including the additional site development costs associated with developing the preferred site be presented. It was also asked to clarify what project contingencies have been included in the project.

As previously presented, we estimate the costs to extend water and sanitary sewer service, along with additional road infrastructure required for development of the facility on the Hallmark site would be approximately \$825,000. The extent of utility and road extensions along with the appropriate costs was discussed with a variety of City departments, including planning, public works, and utilities.

The previously developed construction cost estimate included a design contingency of ten percent. This contingency was included to account for items as noted above. Prior to the July 22nd Commission meeting a variety of sites were being reviewed and each had varying costs associated with their development. It was anticipated that any additional development costs could come from this contingency.

The design contingency also accounts for the potential increase in construction costs from the time of this study to the bidding of the project. This potential increase, called escalation, has been approximately three percent per year. The contingency also accounts for unknowns in the site development or in construction costs at this level of design and project development. As specific plans and design documents are developed more specific construction cost estimates will be developed. It is possible that none of this contingency will be required and therefore not utilized in the project therefore reducing the overall project budget.

A revised project budget has been included with this document (reference attachment "Revised Cost Estimate.")

REVISED COST ESTIMATE**Scope/floor**

Basement	6,729
First Floor	30,010
Second Floor	25,687
Garage	15,620
Range	3,979
Outbuilding	4,006

86,031**Construction Costs (2014 dollars)**

	Unit Cost	Quantity	Units	Sub-Total
Building Construction- Above Grade	\$ 216	55,697	sf	\$ 12,030,552
Building Construction- Basement	\$ 147	26,328	sf	\$ 3,870,216
Building Construction-Outbuilding	\$ 80	4,006	sf	\$ 320,480
Site Development Allowance	\$ 20	86,031	sf	\$ 1,720,620
Additional site development costs	1.00	825,000	allowance	\$ 825,000
Phone/Data	\$ 4	62,426	sf	\$ 249,704
Security	\$ 5	62,426	sf	\$ 312,130
Landscape	1%	17,941,868	bldg/site costs	\$ 179,418
Firing Range	\$ 210	3,979	sf	\$ 835,485
SUBTOTAL				\$ 20,343,605
Escalation (mid 2015)		3.0%		\$ 610,308
Design Contingency		2.0%		\$ 406,872
TOTAL				\$ 21,360,785

Soft Project Costs

Item	Sub-Total
Professional Fees	\$1,815,667
Construction/Owners Contingency	5% \$1,068,039
Geotechnical and Surveying	Lump sum \$25,000
Construction Testing	Lump sum \$75,000
Furnishings/Fixtures/Equipment	\$1,189,500
Percent for Art	1% \$213,608
TOTAL	\$ 4,386,814

Total Project Costs

Construction Costs	\$ 21,360,785
Soft Costs	\$ 4,386,814
Total Project Costs	\$ 25,747,599

SCOPE REDUCTION OPTION #1

(10-year Planning Horizon)

Scope/floor

Basement	5,198
First Floor	28,856
Second Floor	20,156
Garage	15,620
Range	3,979
Outbuilding	4,006
	77,815

Construction Costs (2014 dollars)

	Unit Cost	Quantity	Units	Sub-Total
Building Construction- Above Grade	\$ 216	49,012	sf	\$ 10,586,592
Building Construction- Basement	\$ 147	24,797	sf	\$ 3,645,159
Building Construction-Outbuilding	\$ 80	4,006	sf	\$ 320,480
Site Development Allowance	\$ 20	77,815	sf	\$ 1,556,300
Additional site development costs	1.00	825,000	allowance	\$ 825,000
Phone/Data	\$ 4	54,210	sf	\$ 216,840
Security	\$ 5	54,210	sf	\$ 271,050
Landscape	1%	16,108,531	bldg/site costs	\$ 161,085
Firing Range	\$ 210	3,979	sf	\$ 835,590
SUBTOTAL				\$ 18,418,096
Escalation (mid 2015)		3.0%		\$ 552,543
Design Contingency		2.0%		\$ 368,362
TOTAL				\$ 19,339,001

Soft Project Costs

Item	Sub-Total
Professional Fees	\$1,643,815
Construction/Owners Contingency	5% \$966,950
Geotechnical and Surveying	Lump sum \$25,000
Construction Testing	Lump sum \$75,000
Furnishings/Fixtures/Equipment	\$1,189,500
Percent for Art	1% \$193,390
TOTAL	\$ 4,093,655

Total Project Costs

Construction Costs	\$ 19,339,001
Soft Costs	\$ 4,093,655
Total Project Costs	\$ 23,432,656

Summary of changes:

10 year planning horizon

SCOPE REDUCTION OPTION #2

(Eliminate Program Spaces)

Scope/floor

Basement	6,729
First Floor	30,010
Second Floor	25,687
Garage	-
Range	-
Outbuilding	-
	62,426

Construction Costs (2014 dollars)

	Unit Cost	Quantity	Units	Sub-Total
Building Construction- Above Grade	\$ 216	55,697	sf	\$ 12,030,552
Building Construction- Basement	\$ 147	6,729	sf	\$ 989,163
Building Construction-Outbuilding	\$ -	-	sf	\$ -
Site Development Allowance	\$ 20	62,426	sf	\$ 1,248,520
Additional site development costs	1.00	825,000	allowance	\$ 825,000
Phone/Data	\$ 4	62,426	sf	\$ 249,704
Security	\$ 5	62,426	sf	\$ 312,130
Landscape	1%	14,268,235	bldg/site costs	\$ 142,682
Firing Range	\$ -	-	sf	\$ -
SUBTOTAL				\$ 15,797,751
Escalation (mid 2015)		3.0%		\$ 473,933
Design Contingency		2.0%		\$ 315,955
TOTAL				\$ 16,587,639

Soft Project Costs

Item	Sub-Total
Professional Fees	\$1,409,949
Construction/Owners Contingency	5% \$829,382
Geotechnical and Surveying	Lump sum \$25,000
Construction Testing	Lump sum \$75,000
Furnishings/Fixtures/Equipment	\$1,189,500
Percent for Art	1% \$165,876
TOTAL	\$ 3,694,708

Total Project Costs

Construction Costs	\$ 16,587,639
Soft Costs	\$ 3,694,708
Total Project Costs	\$ 20,282,346

Summary of changes:

- Eliminate Firing Range
- Eliminate Garage
- Eliminate Outbuilding

SCOPE REDUCTION OPTION #3

(25% Scope Reduction)

Scope/floor	Revised GSF		Original GSF	Difference
Basement	5,047	75%	6,729	(1,682)
First Floor	22,508		30,010	(7,503)
Second Floor	19,265		25,687	(6,422)
Garage	11,715		15,620	(3,905)
Range	3,979		3,979	-
Outbuilding	-		4,006	(4,006)
	62,514		86,031	(23,518)

Construction Costs (2014 dollars)

	Unit Cost	Quantity	Units	Sub-Total
Building Construction- Above Grade	\$ 216	41,773	sf	\$ 9,022,914
Building Construction- Basement	\$ 147	20,741	sf	\$ 3,048,890
Building Construction-Outbuilding	\$ 80	-	sf	\$ -
Site Development Allowance	\$ 20	62,514	sf	\$ 1,250,270
Additional site development costs	1.00	825,000	allowance	\$ 825,000
Phone/Data	\$ 4	46,820	sf	\$ 187,278
Security	\$ 5	46,820	sf	\$ 234,098
Landscape	1%	13,322,074	bldg/site costs	\$ 133,220
Firing Range	\$ 210	3,979	sf	\$ 835,590
SUBTOTAL				\$ 15,537,260
Escalation (mid 2015)		3.0%		\$ 466,118
Design Contingency		2.0%		\$ 310,745
TOTAL				\$ 16,314,123

Soft Project Costs

Item	Sub-Total
Professional Fees	\$1,386,700
Construction/Owners Contingency	5% \$815,706
Geotechnical and Surveying	Lump sum \$25,000
Construction Testing	Lump sum \$75,000
Furnishings/Fixtures/Equipment	\$1,189,500
Percent for Art	1% \$163,141
TOTAL	\$ 3,655,048

Total Project Costs

Construction Costs	\$ 16,314,123
Soft Costs	\$ 3,655,048
Total Project Costs	\$ 19,969,171

Summary of changes:

Reduction of square footage by 75% (This equates to NSF = ~32,800 sf, less than the existing 37,489 NSF)
Eliminate Outbuilding