

**CITY OF SEATTLE
COMPARATIVE STUDY of the COST of
LOW and HIGH-RISE JAILS**

FINAL REPORT
August 2008

**Summary Space, Operating
Requirements, and Cost Estimates
for a 440-Bed Municipal Jail**



Overview

The analysis of the difference in cost between a low and high-rise jail that follows is based upon 440 beds on either a seven acre or one acre downtown site. As will be demonstrated in text and tables, the high-rise facility requires **10.4** more staff; is **\$906,000** more costly to operate on an annual basis; and (without parking) costs **\$15 million** more to construct. With parking cost considered, the high-rise facility could cost **\$23.5 million** more than a low rise jail. Factoring in land acquisition costs difference between a low and high-rise facility adds another **\$6 to \$25 million** in costs to the project. The two major variables that cause the high-rise development option to be more expensive than a low-rise are parking and land acquisition costs. The following table highlights the operational and construction cost differences.

Table 1
Range of Costs for Major Variables for Low and High-Rise Jails

Variables	Cost Range		Difference
	Low	High	
Estimated Building Cost (w/o parking)	\$ 103,265,261	\$ 110,959,908	\$ 7,694,647
Parking Cost	\$ 687,456	\$ 9,310,075	\$ 8,622,619
Estimated Project Cost	\$ 70,704,813	\$ 77,978,848	\$ 7,274,035
Estimated Total Cost	\$ 174,657,530	\$ 198,248,831	\$ 23,591,301
Estimated Land Acquisition Cost	\$ 15,000,000	\$ 40,000,000	\$ 25,000,000
Estimated Total Staff	155.6	166.1	10.4
Estimated Annual Operating Cost	\$ 17,471,207	\$ 18,377,746	\$ 906,539

Source: Carter Goble Lee/Rider Levett Bucknall; August 2008

Introduction

To assist the City of Seattle in a determination of an appropriate site for a new detention center, an analysis was completed comparing the operating and construction costs of a low versus high rise Seattle Municipal Jail. Jail operators, planners and architects are often asked: what is the difference in cost between a low and high-rise correctional facility? So many variables can impact this difference but for the analysis of the question that has been posed by the City of Seattle, a hypothetical case study was developed using a 440-bed facility to be located on either a seven acre site (low-rise) or a one acre site (assumed to be in downtown Seattle) for the high rise. The basic assumptions for the analysis included:

1. A "site-neutral" analysis would be conducted on a one acre tract for the high rise option and at least seven acres for the low-rise option.
2. Land cost was a factor in the determination of the cost differential.
3. Height limitations are not a factor.
4. On-site surface parking for staff and visitors for the seven acre site and staff only structured parking for the high-rise was considered.
5. Staff salaries would be consistent between a low and high-rise solution.

With these basic assumptions, an assessment of the difference in a low versus high-rise jail was prepared considering the following cost factors:

1. Operational Costs

2. Construction Costs
3. Site Constraints and Costs
4. Other Considerations

The remainder of this report, including the appendices, presents the data that was derived from the analysis.

Methodology

Based upon a block program of major component spaces, a preliminary staffing projection, including a relief factor, was calculated for a 440-bed low-rise and high-rise jail. Using data provided by King County, average salaries per position description were applied against the estimated number of positions. To estimate non-salaried operating costs, budgets from King County and other jurisdictions were used to define the major categories of costs and benchmark data from these jurisdictions were converted to per inmate costs. The salary costs were multiplied times the number of estimated staff while non-salaried costs were multiplied times the number of inmates. The result was an estimated cost to operate a low and high-rise, 440-bed jail.

Industry benchmarked experience was used to define the space allocation per inmate for the various building components for a low-rise jail. A three (3) percent increase in the building grossing factor to account for elevator shafts, lobbies, and mechanical shafts in a high rise was applied to estimate the space differential between a low and high-rise building.

Current per square cost data for Seattle-based construction was developed by Rider Levett Bucknall and multiplied by the space projected for each of the major building components to establish a base construction estimate. The project costs were estimated at approximately 40% of the total costs which is a multiplier currently used by the City of Seattle for items such as furniture, fixture and equipment, fees, site landscaping, security systems, etc. Contingencies for design, construction, and inflation were also developed as percentages of construction. All of these costs were converted to an annual debt retirement cost based upon a 30-year amortization period and a five (5) percent interest rate for government-backed bonds.

The consideration of the site impact involved a low-rise option for seven acres including the building, set-backs, and surface parking and a hypothetical one acre site was used to test the ability to achieve an efficient floor-plate and estimate the potential height of the jail. The land cost for the low rise option was based on recent comparable sales in the area of the four sites that Seattle has identified as candidates ranging from \$15 to 20 million. For the hypothetical one acre Central Business District (CBD) site, land acquisition cost from \$26 to \$40.0 million per acre was used to in the preliminary estimate.

Operational Cost

The basis for estimating the operational cost was the development of preliminary staffing projections for a 440-bed, low-rise jail, followed by an assessment of the additional staff that would be required in a high-rise setting. The basic housing unit is a 64-bed module under the direct supervision of a single correctional officer. This principle applies regardless of the low or high-rise option. Therefore, any difference in the staffing allocation would be in support staff and not the staff required to supervise inmates in the housing units.

The assessment assumed that an additional officer position in Central Control on the 1st and 2nd shifts would be necessary for the high-rise option to accommodate the elevator operations and additional movement control functions. With shift relief factored, this equates to 10.4 Full Time Equivalents' (FTE's) required for Central Control versus 7.0 FTEs for a low-rise jail.

A second area of additional staff for a high-rise would require another escort officer on the 1st and 2nd shifts to accommodate the supervision of vertical inmate movement. With shift relief factored, the additional escort position equates to 8.7 FTE's required for Escort Officers versus 5.2 FTE's for a low-rise jail.

Finally, at this stage of planning with a number of "unknowns" regarding operational approaches for inmate services, additional visitation coverage may be needed for a high-rise jail, depending upon the form of visitation that is implemented (centralized, de-centralized, or video). Video visitation should not require any additional visitation staff. An additional ½ position was included for both centralized and de-centralized visitation to accommodate the supervised movement of inmates and/or visitors in a high-rise jail. This translates to 5.2 FTE's for a high-rise jail versus 3.5 FTE's for a low-rise jail.

In Appendix A, the full staffing model for both options is presented. The table demonstrates that using the assumptions explained in the previous paragraphs, 10.4 additional staff will be required to operate a high rise jail. Caution is again suggested in accepting the estimated total staff of 155.6 (low-rise) and 166.1 (high-rise) for the 440-bed jail options. The important figure is the estimated difference between the two options and not the total staff, although the total staff is a significant factor in calculating an estimated annual operating cost.

As the study progresses a specific operational plan for the jail will be prepared, along with a detailed architectural program at which time a more precise staffing plan will be developed. In Table 2, the summary of the staffing comparison between a low and high-rise, 440-bed jail is presented.

Table 2
Comparison of Summary Staffing for Low and High-Rise Jail

Staff Position	440-BED LOW RISE JAIL					TOTAL	440-BED HIGH-RISE JAIL					TOTAL
	Business Shift	1st	2nd	3rd	Relief		Business Shift	1st	2nd	3rd	Relief	
FACILITY ADMINISTRATION												
Total Facility Administration	13.0		-	-	-	13.0	13.0		-	-	-	13.0
SECURITY ADMINISTRATION/INTAKE and RELEASE												
Security Administration	3.0	5.0	4.0	2.0	8.9	22.9	4.0	6.0	4.0	2.0	10.4	26.4
Intake/Release	3.0	8.0	8.0	4.0	14.8	37.8	3.0	9.0	9.0	4.0	16.3	41.3
Total Security Admin/Intake & Release	6.0	13.0	12.0	6.0	23.7	60.7	7.0	15.0	13.0	6.0	26.6	67.6
PROGRAM SERVICES												
Total Program Services	3.0	-	-	-	-	3.0	3.0	-	-	-	-	3.0
INMATE SERVICES												
Total Support Services	1.0	2.0	2.0	-	3.0	8.0	1.0	3.0	3.0	-	4.4	11.4
MEDICAL SERVICES												
Total Medical Services	1.0	4.5	2.0	1.0	5.6	14.1	1.0	4.5	2.0	1.0	5.6	14.1
FOOD SERVICES												
Total Food Services	1.0	1.5	1.0	-	1.9	5.4	1.0	1.5	1.0	-	1.9	5.4
FACILITY MAINTENANCE, MECHANICAL, & STORES												
TOTAL SUPPORT SERVICES	26.0	23.0	17.0	7.0	34.8	107.8	27.0	26.0	19.0	7.0	39.2	118.2
HOUSING UNITS												
TOTAL INMATE HOUSING	-	10.5	10.5	6.5	20.4	47.9	-	10.5	10.5	6.5	20.4	47.9
TOTAL STAFF	26.0	33.5	27.5	13.5	55.1	155.6	27.0	36.5	29.5	13.5	59.6	166.1
	Overall Inmate to Staff Ratio					2.83	Overall Inmate to Staff Ratio					2.65

Source: Carter Goble Lee, July 2008

As noted earlier, staffing and the number of inmates is the basis for estimating the annual operating costs for a correctional facility. Using the table above and the average salary for each category of staff position, the estimated salary costs for the low and high-rise options was prepared.

In some instances (benefits, administrative costs), the non-salary costs are best reflected as a percentage of salary costs. However, in most instances, the non-salaried costs are driven by the number of inmates and not the number

of staff (e.g., food, medical, utility costs). To calculate the estimated non-salaried costs, jail budgets from various jurisdictions were analyzed and converted to general budget for a 440-bed jail for Seattle.

The last part of the operational cost analysis was converting the operating cost estimate to a *per diem* cost. While not essential in an evaluation such as this, often elected officials want to see a per diem in comparison to current or future contracts. To develop a per diem, 85% of the 440 beds (374 beds) was used as the base for calculation since on any given day some bedspaces will not be occupied due to classification, gender separation, and repairs.

Table 3 summarizes the estimated operational costs for a low and high-rise jail by the two major categories of salary and non-salary costs. Considering an escalated design and construction schedule, the operational cost base is calculated for January 2012. In Appendix B, greater detail is provided on the individual budget category costs.

Table 3
Comparison of Annual Operational Costs for Low and High-Rise Jail

Category	440 LOW-RISE JAIL			440 HIGH-RISE JAIL		
	440	Avg. Cost/Position	Estimated Cost	440	Avg. Cost/Position	Estimated Cost
STAFFING COSTS						
Subtotal Support Services	107.8	\$ 56,533	\$ 6,093,180	118.2	\$ 56,251	\$ 6,649,980
Subtotal Housing	47.9	\$ 61,000	\$ 2,918,850	47.9	\$ 61,000	\$ 2,918,850
Total Staff Costs	155.6	\$ 57,907	\$ 9,012,030	166.1	\$ 57,619	\$ 9,568,830
NON-SALARY COSTS						
Subtotal Non-Salary Costs			\$ 8,459,177			\$ 8,808,916
CPI Factor (3% compounded/year to 2012)			\$ 1,970,957			\$ 2,073,226
Estimated Total Operating Cost	\$ 127.98	Per Diem	\$ 17,471,207	\$ 134.63	Per Diem	\$ 18,377,746

Source: Carter Goble Lee; July 2008

Note: Per diem is based upon 85% average annual occupancy.

Using these parameters, an operational cost comparison was developed for the low and high-rise options as shown in Table 3. The high-rise option is 5.2% more costly, or \$906,000, on an annual basis than a low rise jail.

Capital Cost Comparison for a 440-Bed Low and High Rise Jail

Although the annual operating cost has the greatest long term economic impact, most decisions regarding the need for a new jail are based on the one-time capital costs. The approach for estimating the capital cost involved using a per inmate allocation (SF/inmate) for each of the major components of a jail and multiplying the resultant square footage (SF/inmate X 440 inmates) times a unit cost per square foot for each component. A Seattle-based quantity surveying company with international experience in correctional construction was used to define the base construction costs. While this analysis is "site-neutral", consideration was given to geotechnical factors through reports on various sites that were provided by the City. This approach established the base construction cost.

Project costs are often referred to as "soft costs" meaning that while not a part of construction, these costs are essential for designing, equipping, and preparing the building for occupancy. Many factors impact these non-construction costs, but one of the greatest variables in 2008 is inflation. With the uncertainty surrounding the national and regional economy (especially labor, transportation and material costs), many estimators are not predicting an inflation factor at this time. However, based upon very recent history in the Seattle area, Rider Levett Bucknall has recommended a 19.04% accumulated factor through mid-2011 for low rise construction and a 20.13% factor for high rise construction. Occupancy must be achieved by January 2013.

In Appendix C and D, the detail for the construction and project cost is shown. As can be seen in Table 4 that follows, the project costs represent approximately 40% of the total cost, which is consistent with the City of Seattle's recent experience on other capital projects.

Table 4
Comparison of Construction and Project Costs for Low and High-Rise Jail

Space Desig.	Component	LOW-RISE COST		HIGH-RISE COST		
		Area SF	Total Construction Cost (incl. Escalation)	Area SF	Total Construction Cost (incl. Escalation)	
	No. of Beds	440		440		
1.000	FACILITY ADMINISTRATION & COURTROOM	6,820	\$ 2,887,648	7,025	\$ 3,163,443	
1.100	Public Lobby, Visitor Processing	660	\$ 279,981	680	\$ 306,721	
1.200	Courts Area (Arrestment courtroom and support space)	4,180	\$ 1,859,732	4,305	\$ 2,037,352	
1.300	Facility Administration	1,980	\$ 747,935	2,039	\$ 819,369	
2.000	SECURITY ADMINISTRATION/INTAKE and RELEASE	9,240	\$ 3,775,270	9,517	\$ 4,135,841	
2.100	Security Administration	880	\$ 332,415	906	\$ 364,164	
2.200	Intake and Release	6,160	\$ 2,613,154	6,345	\$ 2,862,733	
2.300	Training and Muster	2,200	\$ 829,701	2,266	\$ 908,944	
3.000	PROGRAM SERVICES	2,860	\$ 1,078,611	2,946	\$ 1,181,627	
3.100	Counseling and Multi-Purpose Rooms	2,860	\$ 1,078,611	2,946	\$ 1,181,627	
4.000	INMATE SERVICES	3,520	\$ 1,492,364	3,626	\$ 1,634,897	
4.100	Inmate Visitation	2,640	\$ 1,119,923	2,719	\$ 1,226,885	
4.200	Laundry	880	\$ 372,441	906	\$ 408,012	
5.000	MEDICAL SERVICES	4,620	\$ 2,059,541	4,759	\$ 2,256,245	
5.100	Clinical Area	2,640	\$ 1,176,881	2,719	\$ 1,289,283	
5.200	Infirmary	1,980	\$ 882,661	2,039	\$ 966,962	
6.000	FOOD SERVICES	6,600	\$ 2,735,414	6,798	\$ 3,025,155	
6.100	Food Preparation Area	4,620	\$ 1,955,313	4,759	\$ 2,142,062	
6.200	Staff Dining Area	880	\$ 298,129	906	\$ 326,603	
6.300	Receiving and Processing Area	1,100	\$ 481,972	1,133	\$ 556,490	
7.000	FACILITY MAINTENANCE, MECHANICAL, & WAREHOUSE	10,560	\$ 3,133,715	10,877	\$ 4,523,963	
7.100	Maintenance Shops	1,540	\$ 359,611	1,586	\$ 524,771	
7.200	Mechanical Room	7,480	\$ 2,414,494	7,704	\$ 3,474,420	
7.300	Institutional Storage	1,540	\$ 359,611	1,586	\$ 524,771	
	TOTAL SUPPORT CORE	44,220	\$ 17,162,563	45,547	\$ 19,921,771	
8.000	INMATE HOUSING	136,840	\$ 60,598,095	140,945	\$ 66,385,731	
8.100	General Custody Dormitories	30%	30,360	\$ 12,967,227	31,271	\$ 14,205,708
8.200	General Custody Cells	70%	100,100	\$ 45,220,856	103,103	\$ 49,539,834
8.300	Housing Support		6,380	\$ 2,410,012	6,571	\$ 2,640,189
	Subtotal Building Construction Costs		\$ 77,760,657		\$ 86,306,901	
	Site Development Costs (Site improvements, parking, on-site utilities, landscaping)		\$ 5,169,312		\$ 9,640,433	
	Construction Contingency @ 15% (Site mitigation, off-site utilities, change-orders)		\$ 12,439,495		\$ 14,392,100	
	ESTIMATED TOTAL AREA for CITY OF SEATTLE JAIL	181,060	\$ 95,369,465	186,492	\$ 110,339,434	
	Local Sales Tax on Construction		\$ 8,583,252		\$ 9,930,549	
	TOTAL ESTIMATED CONSTRUCTION COSTS		\$ 103,952,717		\$ 120,269,983	
	PROJECT COSTS					
	FIXTURES, FURNISHINGS & EQUIPMENT and SPECIALTIES					
	Subtotal Fixtures, Furnishings & Equipment and Specialties Costs		\$ 21,188,288		\$ 21,382,301	
	PROJECT FEES					
	Subtotal Project Fees		\$ 28,264,207		\$ 32,743,819	
	PROJECT CONTINGENCIES					
	Subtotal Project Contingencies		\$ 21,252,318		\$ 23,852,728	
	TOTAL PROJECT COSTS		\$ 70,704,813		\$ 77,978,848	
	TOTAL ESTIMATED COSTS	181,060	\$ 174,657,530	186,492	\$ 198,248,831	
	Annual Debt Service		\$ 11,361,723		\$ 12,896,371	

Source: Carter Goble Lee/Rider Levett Bucknall; August 2008

Construction cost (including structured parking) for a high-rise jail is 15.7% greater due to the additional square footage for elevators and lobbies, mechanical shafts, and stairs. The project cost is also 10.3% higher for high-rise jails primarily attributable to the higher inflation and contingency costs. Overall, considering construction and project costs, the high-rise jail is 13.5% higher, or in this example, \$23.5 million more than a low-rise facility.

Comparison of Site Issues Between a Low and High-Rise Jail

The final area of comparison relates to the size of the sites. As stated in the Introduction, this analysis has been based on a seven acre low-rise site and an acre high-rise site, with an assumption being that the acre high-rise site would be in, or very close to, the Downtown area. In all likelihood, a seven acre site would be located in a less dense portion of the City.

Using the seven and one acre site sizes as the base, a number of important building factors were analyzed to determine which size would have the greatest impact on cost. In Table 5, some of these factors are illustrated.

Table 5
Comparison of Construction Variables Based on Site Size

Variables	440-Bed	
	Low-Rise	High-Rise
Design		
Site Square Footage	304,500	43,500
Total Building SF	198,880	204,846
Building Footprint SF	169,048	37,536
Floor Area Ratio	0.65	4.71
Number of Housing 64-Bed Housing Units/Floor	7	3
Footprint of a 64-Bed Housing Unit (85% of total area)	12,512	12,512
Number of Building Levels (Dayroom + mezzanine = 2 levels)	2	7
Building Height	28	98
Building "Skin" SF	46,300	76,048
Roof Area	169,048	37,536
Aspect Ratio	2.70	1.00

Source: Carter Goble Lee; July 2008

While a number of the factors are obvious, such as the difference in the site square footage and the total building square footage, other factors that impact either operations and/or costs are worthy of note.

1. A one acre site can only accommodate three, 64-bed housing units per floor while a seven acre low-rise site can accommodate all seven housing units on a single floor. As noted in the operational cost analysis, approximately 10 more staff is required for the multi-level option.
2. With three housing units per floor stacked on top of a two level support core, the one acre high-rise option is seven levels or 98 feet high while the low-rise option on seven acres is 28 feet high.
3. The ideal configuration for a jail site is a square or a rectangle where the length of the site is no more than 2 to 3 times the width (i.e., a rectangle). If the building within these parameters exceeds this aspect ratio (1:2-

- 3), the building becomes so elongated that the distances from one end to the other can generate movement and staffing inefficiencies.
4. The low-rise option has 30,000 less square feet of building façade than the high-rise, but the high-rise has only 20% of the roof area as the low rise. Both have capital and operational cost implications.

As noted in these four points, the site size can have a significant impact on a number of cost factors. However, none are nearly as significant as land acquisition cost. While no particular site has been used for this study, the City has identified four, seven-plus acre sites for further study. Recent comparable sales in the areas of these sites have been in the range of approximately \$30 to \$70 per square foot for the Interbay and North Aurora sites, and \$20 to \$25 per square foot for the Myers Way South and W Marginal Way South sites. Comparable sales for downtown sites have been in the range of \$600 to \$1000 per square foot.

These are very broad ranges and, absent more detailed analysis, don't indicate value for specific properties, however, they are useful for a general comparison of the anticipated land cost for a low-rise site vs a downtown high-rise site. Land acquisition for a low-rise jail on seven acres could cost in the range of \$15 to 20+ million, while a single acre in the CBD for a high-rise could cost as much as \$40+ million. These figures are not trended to the date of anticipated acquisition and do not include transaction costs, due diligence, relocation costs or other similar acquisition expenses. As a percentage of the total project cost, land acquisition for a low-rise represents approximately 10% while for the CBD high-rise option, land acquisition represents 18% of the construction and project costs.

Other Considerations

Capital, operating, and land costs are major factors in considering a low or high-rise jail. These should be carefully analyzed as an operational plan for a new 440-bed jail is prepared, but in the following paragraphs some of these concerns are noted.

Service Delivery. Delivery of basic services (food, laundry, medical) will be impacted by waiting for elevators which typically translates into additional time needed to process these activities. Depending upon the volume and frequency of services offered (e.g., access to programs, religious services, visitation), many tasks may have to be spread among multiple shifts. At minimum this could require a longer timeframe for a single shift to deliver all required services, impacting the available time for other, non-essential tasks.

Emergency Response. Responding to emergency situations is a critical aspect of operations. Timely response to volatile situations often lessens the severity of injuries, damage to property, and ultimately the maintenance of facility security. This can include inmate disturbances, fires, medical emergencies, etc.... In a high-rise jail, emergency responses may be delayed when responding to higher floors. Additional planning and preparation must be coordinated when negotiating elevators and multiple flights of stairs. Outside agencies must be included in this planning as well since additional equipment may be required to reach higher floors. Additional planning is not just needed to get emergency responders to the higher floors, but depending on the type of emergency, inmates may need to be evacuated from the building in a safe and secure manner.

Inmate Movement. Staff is always at-risk when moving inmates. An efficient operation is one where the escort of inmates can be accomplished with "another set of eyes" observing staff escort inmates from one location in the jail to another. While CCTV surveillance can supplement this operation, the "disappearance" of staff in an elevator during movement can be less secure than along a horizontal corridor. Escorts are not always required, but certainly must be evaluated from sheer staff numbers and safety considerations.

Transportation. By far, the cost of transportation is staff-based and whether the inmate is transported to a court facility in a vehicle or walked through a corridor, tunnel, or sky-bridge, the number of staff to accomplish this daily occurrence is essentially the same. The issue is time more than mode of escort. If the jail is located adjacent to or within several blocks of a municipal courthouse, the overall transportation costs will be less. Compared to the estimated annual operating cost, in the preliminary budget presented as a part of this study, transportation cost was less than one percent of the total annual budget. For both the low and high-rise options, the assumption is that inmates will have to be transported by van/bus to the Courthouse as no sites are immediately adjacent to the Seattle Municipal Courthouse. When transporting inmates, most of the lapsed time is spent staging the inmates rather than the actual trip time which represents is a small percentage of the total time involved.

Conclusion

Using the 440-bed facility as a test case, the one-time capital and project cost difference without parking included is **\$15 million** greater for the high-rise option. If staff parking is included, this one-time construction cost difference increases to **\$23.5 million**. Annual operating cost increases by approximately **\$906,000** for the high-rise option. Finally, the land acquisition difference is significantly higher for the high-rise option, ranging from **\$6 – 25 million** in additional costs to acquire land in the Central Business District (CBD) than in non-CBD locations suitable for a low-rise option.

Appendix A

Estimated Staffing for a 440-Bed Low and High-Rise Jail

Staff Position	440-BED LOW-RISE JAIL					TOTAL	440-BED HIGH-RISE JAIL					TOTAL
	Business Shift	1st	2nd	3rd	Relief		Business Shift	1st	2nd	3rd	Relief	
FACILITY ADMINISTRATION												
Director	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Secretary	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Assistant Director	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Finance Officer	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Receptionist/Mail Clerk	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Senior Records Clerk	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Records Clerk	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Personnel Officer	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Inventory/Purchasing Clerk	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
IT Manager	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Inmate Accounts/Commissary Clerk	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Training Officer	2.0	-	-	-	-	2.0	2.0	-	-	-	-	2.0
Total Facility Administration	13.0					13.0	13.0					13.0
SECURITY ADMINISTRATION/INTAKE and RELEASE												
Security Administration	3.0	5.0	4.0	2.0	8.9	22.9	4.0	6.0	4.0	2.0	10.4	26.4
Security Administrator	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Security Clerk	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Shift Commander	-	1.0	1.0	1.0	2.2	5.2	-	1.0	1.0	1.0	2.2	5.2
Control Room Officer	1.0	1.0	1.0	1.0	3.0	7.0	2.0	2.0	1.0	1.0	4.4	10.4
Transportation/General Custody Officer	-	3.0	2.0	-	3.7	8.7	-	3.0	2.0	-	3.7	8.7
Intake/Release	3.0	8.0	8.0	4.0	14.8	37.8	3.0	9.0	9.0	4.0	16.3	41.3
Booking Supervisor	-	1.0	1.0	1.0	2.2	5.2	-	1.0	1.0	1.0	2.2	5.2
Booking Officer	-	3.0	3.0	2.0	5.9	13.9	-	3.0	3.0	2.0	5.9	13.9
Pretrial Release Screener	-	2.0	2.0	-	3.0	7.0	-	2.0	2.0	-	3.0	7.0
Classification Officer	3.0	-	-	-	-	3.0	3.0	-	-	-	-	3.0
Property Officer	-	1.0	1.0	-	1.5	3.5	-	1.0	1.0	-	1.5	3.5
Escort Officer (Intake/Release)	-	1.0	1.0	1.0	2.2	5.2	-	2.0	2.0	1.0	3.7	8.7
Total Security Admin/Intake & Release	6.0	13.0	12.0	6.0	23.7	60.7	7.0	15.0	13.0	6.0	26.6	67.6
PROGRAM SERVICES												
Program/Volunteer Coordinator	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Treatment Services Counselor	2.0	-	-	-	-	2.0	2.0	-	-	-	-	2.0
Total Program Services	3.0					3.0	3.0					3.0
INMATE SERVICES												
Lobby Receptionist	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Visitor Processing Officer	-	1.0	1.0	-	1.5	3.5	-	1.0	1.0	-	1.5	3.5
Visitation Officer	-	1.0	1.0	-	1.5	3.5	-	2.0	2.0	-	3.0	7.0
Total Support Services	1.0	2.0	2.0		3.0	8.0	1.0	3.0	3.0		4.4	11.4
MEDICAL SERVICES												
Registered Nurse	-	1.0	1.0	-	1.5	3.5	-	1.0	1.0	-	1.5	3.5
Licensed Practical Nurse	-	1.0	1.0	1.0	2.2	5.2	-	1.0	1.0	1.0	2.2	5.2
Mental Health Evaluator	-	1.0	-	-	0.7	1.7	-	1.0	-	-	0.7	1.7
Psychiatric Nurse	-	1.0	-	-	0.7	1.7	-	1.0	-	-	0.7	1.7
Records Clerk	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Security Officer	-	0.5	-	-	0.4	0.9	-	0.5	-	-	0.4	0.9
Total Medical Services	1.0	4.5	2.0	1.0	5.6	14.1	1.0	4.5	2.0	1.0	5.6	14.1
FOOD SERVICES												
Food Services Supervisor	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Civilian Cooks	-	1.0	1.0	-	1.5	3.5	-	1.0	1.0	-	1.5	3.5
Security Officer	-	0.5	-	-	0.4	0.9	-	0.5	-	-	0.4	0.9
Total Food Services	1.0	1.5	1.0		1.9	5.4	1.0	1.5	1.0		1.9	5.4
FACILITY MAINTENANCE, MECHANICAL, & STORES												
Maintenance Supervisor	-	1.0	-	-	-	1.0	-	1.0	-	-	-	1.0
Maintenance Technician	-	1.0	-	-	0.7	1.7	-	1.0	-	-	0.7	1.7
Stores Supervisor	1.0	-	-	-	-	1.0	1.0	-	-	-	-	1.0
Total Maintenance, Mechanical, & Warehouse	1.0	2.0			0.7	3.7	1.0	2.0			0.7	3.7
TOTAL SUPPORT SERVICES	26.0	23.0	17.0	7.0	34.8	107.8	27.0	26.0	19.0	7.0	39.2	118.2

Estimated Staffing for a 440-Bed Low and High-Rise Jail (Continued)

Staff Position	440-BED LOW-RISE JAIL					TOTAL	440-BED HIGH-RISE JAIL					TOTAL
	Business Shift	Shifts			Relief		Business Shift	Shifts			Relief	
		1st	2nd	3rd				1st	2nd	3rd		
HOUSING UNITS												
Special Management (16 Single Cells)												
Unit Correctional Officers	-	0.5	0.5	0.5	1.1	2.6	-	0.5	0.5	0.5	1.1	2.6
Sub-Total Special Management Housing - Unit 1	-	0.5	0.5	0.5	1.1	2.6	-	0.5	0.5	0.5	1.1	2.6
Women (32 Single Cells)												
Escort Officers	-	1.0	1.0	-	1.5	3.5	-	1.0	1.0	-	1.5	3.5
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2	-	1.0	1.0	1.0	2.2	5.2
Sub-Total Women Housing - Unit 2	-	2.0	2.0	1.0	3.7	8.7	-	2.0	2.0	1.0	3.7	8.7
Special Observation (16 Single Cells)												
Unit Correctional Officers	-	0.5	0.5	0.5	1.1	2.6	-	0.5	0.5	0.5	1.1	2.6
Sub-Total Special Observation Housing - Unit 3	-	0.5	0.5	0.5	1.1	2.6	-	0.5	0.5	0.5	1.1	2.6
General Pretrial Housing (64 Single Cells)												
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 4	-	1.0	1.0	1.0	2.2	5.2	-	1.0	1.0	1.0	2.2	5.2
General Pretrial Housing (64 Single Cells)												
Escort Officers	-	1.0	1.0	-	1.5	3.5	-	1.0	1.0	-	1.5	3.5
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 5	-	2.0	2.0	1.0	3.7	8.7	-	2.0	2.0	1.0	3.7	8.7
General Pretrial Housing (64 Dormitory Beds)												
Escort Officers	-	0.5	0.5	-	0.7	1.7	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 6	-	1.5	1.5	1.0	3.0	7.0	-	1.5	1.5	1.0	3.0	7.0
Sentenced Housing (64 Dormitory Beds)												
Escort Officers	-	0.5	0.5	-	0.7	1.7	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	0.5	1.9	4.4	-	1.0	1.0	0.5	1.9	4.4
Sub-Total Sentenced Housing - Unit 8	-	1.5	1.5	0.5	2.6	6.1	-	1.5	1.5	0.5	2.6	6.1
Sentenced Housing (64 Dormitory Beds)												
Escort Officers	-	0.5	0.5	-	0.7	1.7	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	0.5	1.9	4.4	-	1.0	1.0	0.5	1.9	4.4
Sub-Total Sentenced Housing - Unit 9	-	1.5	1.5	0.5	2.6	6.1	-	1.5	1.5	0.5	2.6	6.1
Trustee Housing (56 Dormitory Beds)												
Unit Correctional Officers	-	-	-	0.5	0.4	0.9	-	-	-	0.5	0.4	0.9
Sub-Total Trustee Housing - Unit 10	-	-	-	0.5	0.4	0.9	-	-	-	0.5	0.4	0.9
TOTAL INMATE HOUSING	-	10.5	10.5	6.5	20.4	47.9	-	10.5	10.5	6.5	20.4	47.9
TOTAL STAFF	26.0	33.5	27.5	13.5	55.1	155.6	27.0	36.5	29.5	13.5	59.6	166.1
					Overall Inmate to Staff Ratio	2.83					Overall Inmate to Staff Ratio	2.65

Source: Carter Goble Lee, July 2008

Appendix B

Estimated Operational Cost for a 440-Bed Low and High-Rise Jail

Category	440 LOW-RISE JAIL			440 HIGH-RISE JAIL		
	440	Avg. Cost/Position	Estimated Cost	440	Avg. Cost/Position	Estimated Cost
STAFFING COSTS						
Administrative	13.0	\$ 65,000	\$ 845,000	13.0	\$ 65,000	\$ 845,000
Security Administration/Intake & Release	60.7	\$ 54,000	\$ 3,276,720	67.6	\$ 54,000	\$ 3,652,560
Program Services	3.0	\$ 58,000	\$ 174,000	3.0	\$ 58,000	\$ 174,000
Inmate Services	8.0	\$ 52,000	\$ 413,920	11.4	\$ 52,000	\$ 594,880
Medical Services	14.1	\$ 67,000	\$ 941,350	14.1	\$ 67,000	\$ 941,350
Food Services	5.4	\$ 47,000	\$ 251,450	5.4	\$ 47,000	\$ 251,450
Maintenance	3.7	\$ 51,000	\$ 190,740	3.7	\$ 51,000	\$ 190,740
Subtotal Support Services	107.8	\$ 56,533	\$ 6,093,180	118.2	\$ 56,251	\$ 6,649,980
Special Housing (Spec. Mngt., Women, Obser)	13.9	\$ 61,000	\$ 849,120	13.9	\$ 61,000	\$ 849,120
Pretrial Housing	20.9	\$ 61,000	\$ 1,273,680	20.9	\$ 61,000	\$ 1,273,680
Sentenced Housing	13.1	\$ 61,000	\$ 796,050	13.1	\$ 61,000	\$ 796,050
Subtotal Housing	47.9	\$ 61,000	\$ 2,918,850	47.9	\$ 61,000	\$ 2,918,850
Total Staff Costs	155.6	\$ 57,907	\$ 9,012,030	166.1	\$ 57,619	\$ 9,568,830
NON-SALARY COSTS						
Benefits	\$ 19.64	35.0%	\$ 3,154,211	\$ 20.85	35.0%	\$ 3,349,091
Administrative Costs	\$ 0.56	1.0%	\$ 90,120	\$ 0.60	1.0%	\$ 95,688
Consumable Supplies	\$ 0.82	1.5%	\$ 131,692	\$ 0.82	1.4%	\$ 131,692
Clothing and Equipment	\$ 0.40	0.7%	\$ 64,240	\$ 0.40	0.7%	\$ 64,240
Travel	\$ 0.08	0.1%	\$ 12,848	\$ 0.08	0.1%	\$ 12,848
Transportation Costs	\$ 0.65	1.2%	\$ 104,390	\$ 0.65	1.1%	\$ 104,390
Legal	\$ 0.20	0.4%	\$ 32,120	\$ 0.20	0.3%	\$ 32,120
Food	\$ 3.65	6.5%	\$ 586,190	\$ 3.65	6.1%	\$ 586,190
Contracts and Claims	\$ 0.79	1.4%	\$ 126,168	\$ 0.83	1.4%	\$ 133,964
Medical	\$ 8.50	15.1%	\$ 1,365,100	\$ 8.50	14.3%	\$ 1,365,100
Rentals	\$ 1.25	2.2%	\$ 200,750	\$ 1.25	2.1%	\$ 200,750
Programs	\$ 0.75	1.3%	\$ 120,450	\$ 0.75	1.3%	\$ 120,450
Insurance	\$ 0.28	0.5%	\$ 44,968	\$ 0.28	0.5%	\$ 44,968
Miscellaneous	\$ 0.55	1.0%	\$ 88,330	\$ 0.55	0.9%	\$ 88,330
Utilities	\$ 3.10	5.5%	\$ 497,860	\$ 3.41	5.7%	\$ 547,646
Grounds	\$ 0.45	0.8%	\$ 72,270	\$ 0.45	0.8%	\$ 72,270
Operating Reserve	\$ 11.01	10% of all costs	\$ 1,767,469	\$ -	10% of all costs	\$ 1,859,179
Subtotal Non-Salary Costs			\$ 8,459,177			\$ 8,808,916
CPI Factor (3% compounded/year to 2012)			\$ 1,970,957			\$ 2,073,226
Estimated Total Operating Cost	\$ 127.98	Per Diem	\$ 17,471,207	\$ 134.63	Per Diem	\$ 18,377,746

Source: Carter Goble Lee; July 2008

Note: Per diem is based upon 85% average annual occupancy.

Appendix C
Estimated Construction and Project Cost for a 440-Bed Low-Rise Jail

Space Desig.	Component	Area SF	Cost / SF	Construction Cost	Forecast Escalation	Escalated Cost / SF	Total Construction Cost (incl. Escalation)	
	No. of Beds	440			19.04%			
1.000	FACILITY ADMINISTRATION & COURTROOM	6,820		\$ 2,425,779			\$ 2,887,648	
1.100	Public Lobby, Visitor Processing	660	\$ 356	\$ 235,199	19.04%	\$ 424	\$ 279,981	
1.200	Courts Area (Arraignment courtroom and support space)	4,180	\$ 374	\$ 1,562,275	19.04%	\$ 445	\$ 1,859,732	
1.300	Facility Administration	1,980	\$ 317	\$ 628,305	19.04%	\$ 378	\$ 747,935	
2.000	SECURITY ADMINISTRATION/INTAKE and RELEASE	9,240		\$ 3,171,430			\$ 3,775,270	
2.100	Security Administration	880	\$ 317	\$ 279,247	19.04%	\$ 378	\$ 332,415	
2.200	Intake and Release	6,160	\$ 356	\$ 2,195,190	19.04%	\$ 424	\$ 2,613,154	
2.300	Training and Muster	2,200	\$ 317	\$ 696,993	19.04%	\$ 377	\$ 829,701	
3.000	PROGRAM SERVICES	2,860		\$ 906,091			\$ 1,078,611	
3.100	Counseling and Multi-Purpose Rooms	2,860	\$ 317	\$ 906,091	19.04%	\$ 377	\$ 1,078,611	
4.000	INMATE SERVICES	3,520		\$ 1,253,666			\$ 1,492,364	
4.100	Inmate Visitation	2,640	\$ 356	\$ 940,796	19.04%	\$ 424	\$ 1,119,923	
4.200	Laundry	880	\$ 356	\$ 312,870	19.04%	\$ 423	\$ 372,441	
5.000	MEDICAL SERVICES	4,620		\$ 1,730,125			\$ 2,059,541	
5.100	Clinical Area	2,640	\$ 374	\$ 988,643	19.04%	\$ 446	\$ 1,176,881	
5.200	Infirmery	1,980	\$ 374	\$ 741,482	19.04%	\$ 446	\$ 882,661	
6.000	FOOD SERVICES	6,600		\$ 2,297,895			\$ 2,735,414	
6.100	Food Preparation Area	4,620	\$ 356	\$ 1,642,568	19.04%	\$ 423	\$ 1,955,313	
6.200	Staff Dining Area	880	\$ 285	\$ 250,444	19.04%	\$ 339	\$ 298,129	
6.300	Receiving and Processing Area	1,100	\$ 368	\$ 404,882	19.04%	\$ 438	\$ 481,972	
7.000	FACILITY MAINTENANCE, MECHANICAL, & WAREHOUSE	10,560		\$ 2,632,489			\$ 3,133,715	
7.100	Maintenance Shops	1,540	\$ 196	\$ 302,092	19.04%	\$ 234	\$ 359,611	
7.200	Mechanical Room	7,480	\$ 271	\$ 2,028,305	19.04%	\$ 323	\$ 2,414,494	
7.300	Institutional Storage	1,540	\$ 196	\$ 302,092	19.04%	\$ 234	\$ 359,611	
TOTAL SUPPORT CORE		44,220		\$ 14,417,475			\$ 17,162,563	
8.000	INMATE HOUSING	% 136,840		\$ 50,905,658			\$ 60,598,095	
8.100	General Custody Dormitories	30%	30,360	\$ 359	\$ 10,893,168	19.04%	\$ 427	\$ 12,967,227
8.200	General Custody Cells	70%	100,100	\$ 380	\$ 37,987,950	19.04%	\$ 452	\$ 45,220,856
8.300	Housing Support		6,380	\$ 317	\$ 2,024,540	19.04%	\$ 378	\$ 2,410,012
Subtotal Building Construction Costs				\$ 65,323,133			\$ 77,760,657	
Site Development Costs (Site improvements, parking, on-site utilities, landscaping)				\$ 4,342,500			\$ 5,169,312	
Construction Contingency @ 15% (Site mitigation, off-site utilities, change-orders)				\$ 10,449,845			\$ 12,439,495	
ESTIMATED TOTAL AREA for CITY OF SEATTLE JAIL		181,060	\$ 442.48	\$ 80,115,478		\$ 526.73	\$ 95,369,465	
Local Sales Tax on Construction			9.00%	\$ 7,210,393		9.00%	\$ 8,583,252	
TOTAL ESTIMATED CONSTRUCTION COSTS				\$ 482.30	\$ 87,325,871	\$ 574.13	\$ 103,952,717	
PROJECT COSTS								
FIXTURES, FURNISHINGS & EQUIPMENT and SPECIALTIES								
	FF&E @ 10.0% Construction			\$ 8,011,548	19.04%		\$ 9,536,946	
	Security Electronics and Telecommunication Equipment @ 10% Construction			\$ 8,011,548	19.04%		\$ 9,536,946	
	Kitchen Equipment @ 25% of Kitchen Construction Cost			\$ 574,474	19.04%		\$ 683,854	
	Computer Equipment Costs @ 1.5% of Construction			\$ 1,201,732	19.04%		\$ 1,430,542	
Subtotal Fixtures, Furnishings & Equipment and Specialties Costs				\$ 17,799,301			\$ 21,188,288	
PROJECT FEES								
	Architectural, Engineering, Specialty Consulting Fees @ 13.0% of Const., Site., FF&E			\$ 13,293,446	19.04%		\$ 15,824,518	
	Program Management @ 4.5% of Total Construction/FF&E			\$ 4,601,578	19.04%		\$ 5,477,718	
	GCCM Premium @ 5.0% of Construction Costs			\$ 4,366,294	19.04%		\$ 5,197,636	
	Legal, Testing, Permitting, Design Review Fees @ 1.5% of Construction			\$ 1,201,732	19.04%		\$ 1,430,542	
	Transition and Activation Fees @ 0.35% of Construction			\$ 280,404	19.04%		\$ 333,793	
Subtotal Project Fees				\$ 23,743,454			\$ 28,264,207	
PROJECT CONTINGENCIES								
	Design Contingency @ 15% of Estimated Design Fees			\$ 1,994,017	19.04%		\$ 2,373,678	
	LEED Contingency @ 5% of All Costs			\$ 5,473,384	19.04%		\$ 6,515,516	
	Design / Estimating Contingency @ 10% of All Costs			\$ -	19.04%		\$ -	
	Project Cost Contingency @ 25% of Project Fees and FF&E Costs			\$ 10,385,689	19.04%		\$ 12,363,124	
Subtotal Project Contingencies				\$ 15,859,072			\$ 21,252,318	
TOTAL PROJECT COSTS				\$ 57,401,828			\$ 70,704,813	
TOTAL ESTIMATED COSTS		181,060	\$ 799.34	\$ 144,727,699		\$ 964.64	\$ 174,657,530	
Source: Carter Goble Lee/Rider Levett Bucknall: August 2008						Annual Debt Service	\$ 11,361,723	

Appendix D Estimated Construction and Project Cost for a 440-Bed High-Rise Jail

Space Desig.	Component	Areas	Cost / SF	Total Construction Cost	Forecast Escalation	Escalated Cost / SF	Total Construction Cost (incl. Escalation)	
	No. of Beds	440			20.13%			
1.000	FACILITY ADMINISTRATION & COURTROOM	7,025		\$ 2,633,349			\$ 3,163,443	
1.100	Public Lobby, Visitor Processing	680	\$ 376	\$ 255,325	20.13%	\$ 451	\$ 306,721	
1.200	Courts Area (Arraignment courtroom and support space)	4,305	\$ 394	\$ 1,695,956	20.13%	\$ 473	\$ 2,037,352	
1.300	Facility Administration	2,039	\$ 334	\$ 682,069	20.13%	\$ 402	\$ 819,369	
2.000	SECURITY ADMINISTRATION/INTAKE and RELEASE	9,517		\$ 3,442,804			\$ 4,135,841	
2.100	Security Administration	906	\$ 334	\$ 303,142	20.13%	\$ 402	\$ 364,164	
2.200	Intake and Release	6,345	\$ 376	\$ 2,383,029	20.13%	\$ 451	\$ 2,862,733	
2.300	Training and Muster	2,266	\$ 334	\$ 756,634	20.13%	\$ 401	\$ 908,944	
3.000	PROGRAM SERVICES	2,946		\$ 983,624			\$ 1,181,627	
3.100	Counseling and Multi-Purpose Rooms	2,946	\$ 334	\$ 983,624	20.13%	\$ 401	\$ 1,181,627	
4.000	INMATE SERVICES	3,626		\$ 1,360,940			\$ 1,634,897	
4.100	Inmate Visitation	2,719	\$ 376	\$ 1,021,298	20.13%	\$ 451	\$ 1,226,885	
4.200	Laundry	906	\$ 375	\$ 339,642	20.13%	\$ 450	\$ 408,012	
5.000	MEDICAL SERVICES	4,759		\$ 1,878,170			\$ 2,256,245	
5.100	Clinical Area	2,719	\$ 395	\$ 1,073,240	20.13%	\$ 474	\$ 1,289,283	
5.200	Infirmery	2,039	\$ 395	\$ 804,930	20.13%	\$ 474	\$ 966,962	
6.000	FOOD SERVICES	6,798		\$ 2,518,235			\$ 3,025,155	
6.100	Food Preparation Area	4,759	\$ 375	\$ 1,783,120	20.13%	\$ 450	\$ 2,142,062	
6.200	Staff Dining Area	906	\$ 300	\$ 271,874	20.13%	\$ 360	\$ 326,603	
6.300	Receiving and Processing Area	1,133	\$ 409	\$ 463,240	20.13%	\$ 491	\$ 556,490	
7.000	FACILITY MAINTENANCE, MECHANICAL, & WAREHOUSE	10,877		\$ 3,765,889			\$ 4,523,963	
7.100	Maintenance Shops	1,586	\$ 275	\$ 436,836	20.13%	\$ 331	\$ 524,771	
7.200	Mechanical Room	7,704	\$ 375	\$ 2,892,216	20.13%	\$ 451	\$ 3,474,420	
7.300	Institutional Storage	1,586	\$ 275	\$ 436,836	20.13%	\$ 331	\$ 524,771	
TOTAL SUPPORT CORE		45,547		\$ 16,583,011			\$ 19,921,171	
8.000	INMATE HOUSING	%	140,945	\$ 55,261,575			\$ 66,385,731	
8.100	General Custody Dormitories	30%	31,271	\$ 378	\$ 11,825,279	20.13%	\$ 454	\$ 14,205,708
8.200	General Custody Cells	70%	103,103	\$ 400	\$ 41,238,520	20.13%	\$ 480	\$ 49,539,834
8.300	Housing Support		6,571	\$ 334	\$ 2,197,776	20.13%	\$ 402	\$ 2,640,189
Subtotal Building Construction Costs				\$ 71,844,586			\$ 86,306,901	
Site Development Costs (Site improvements, parking, on-site utilities, landscaping)				\$ 8,025,000			\$ 9,640,433	
Construction Contingency @ 15% (Site mitigation, off-site utilities, change-orders)				\$ 11,980,438			\$ 14,392,100	
ESTIMATED TOTAL AREA for CITY OF SEATTLE JAIL		186,492	\$ 492.52	\$ 91,850,024		\$ 591.66	\$ 110,339,434	
Local Sales Tax on Construction			9.00%	\$ 8,266,502		9.00%	\$ 9,930,549	
TOTAL ESTIMATED CONSTRUCTION COSTS				\$ 536.84	\$ 100,116,526	\$ 644.91	\$ 120,269,983	
PROJECT COSTS								
FIXTURES, FURNISHINGS & EQUIPMENT and SPECIALTIES (Same base cost as Low Rise Construction)								
	FF&E @ 10.0% Construction			\$ 8,011,548	20.13%		\$ 9,624,272	
	Security Electronics and Telecommunication Equipment @ 10% Construction			\$ 8,011,548	20.13%		\$ 9,624,272	
	Kitchen Equipment @ 25% of Kitchen Construction Cost			\$ 574,474	20.13%		\$ 690,115	
	Computer Equipment Costs @ 1.5% of Construction			\$ 1,201,732	20.13%		\$ 1,443,641	
Subtotal Fixtures, Furnishings & Equipment and Specialties Costs				\$ 17,799,301			\$ 21,382,301	
PROJECT FEES (Based on High Rise Construction Costs)								
	Architectural, Engineering, Specialty Consulting Fees @ 13.0% of Const., Site., FF&E			\$ 15,297,662	20.13%		\$ 18,377,082	
	Program Management @ 4.5% of Total Construction/FF&E			\$ 5,295,345	20.13%		\$ 6,361,298	
	GCCM Premium @ 5.0% of Construction Costs			\$ 5,005,826	20.13%		\$ 6,013,499	
	Legal, Testing, Permitting, Design Review Fees @ 1.5% of Construction			\$ 1,377,750	20.13%		\$ 1,655,092	
	Transition and Activation Fees @ 0.35% of Construction			\$ 280,404	20.13%		\$ 336,850	
Subtotal Project Fees				\$ 27,256,988			\$ 32,743,819	
PROJECT CONTINGENCIES (Based on High Rise Construction Costs)								
	Design Contingency @ 15% of Estimated Design Fees			\$ 2,294,649	20.13%		\$ 2,756,562	
	LEED Contingency @ 5% of All Costs			\$ 6,297,041	20.13%		\$ 7,564,636	
	Project Cost Contingency @ 25% of Project Fees and FF&E Costs			\$ 11,264,072	20.13%		\$ 13,531,530	
Subtotal Project Contingencies				\$ 17,561,114			\$ 23,852,728	
TOTAL PROJECT COSTS				\$ 62,617,403			\$ 77,978,848	
TOTAL ESTIMATED COSTS				186,492	\$ 872.61	\$ 162,733,929	\$ 1,063.04	\$ 198,248,831
						Annual Debt Service based on 30 Years at 5%	\$ 12,896,371	

Source: Carter Goble Lee/Rider Levett Bucknall; August 2008

Appendix E Comparison of Estimated Construction and Project Cost for a 440-Bed Low and High-Rise Jail

Space Desig.	Component	LOW-RISE COST		HIGH-RISE COST		
		Area SF	Total Construction Cost (incl. Escalation)	Area SF	Total Construction Cost (incl. Escalation)	
	No. of Beds	440		440		
1.000	FACILITY ADMINISTRATION & COURTROOM	6,820	\$ 2,887,648	7,025	\$ 3,163,443	
1.100	Public Lobby, Visitor Processing	660	\$ 279,981	680	\$ 306,721	
1.200	Courts Area (Arrestment courtroom and support space)	4,180	\$ 1,859,732	4,305	\$ 2,037,352	
1.300	Facility Administration	1,980	\$ 747,935	2,039	\$ 819,369	
2.000	SECURITY ADMINISTRATION/INTAKE and RELEASE	9,240	\$ 3,775,270	9,517	\$ 4,135,841	
2.100	Security Administration	880	\$ 332,415	906	\$ 364,164	
2.200	Intake and Release	6,160	\$ 2,613,154	6,345	\$ 2,862,733	
2.300	Training and Muster	2,200	\$ 829,701	2,266	\$ 908,944	
3.000	PROGRAM SERVICES	2,860	\$ 1,078,611	2,946	\$ 1,181,627	
3.100	Counseling and Multi-Purpose Rooms	2,860	\$ 1,078,611	2,946	\$ 1,181,627	
4.000	INMATE SERVICES	3,520	\$ 1,492,364	3,626	\$ 1,634,897	
4.100	Inmate Visitation	2,640	\$ 1,119,923	2,719	\$ 1,226,885	
4.200	Laundry	880	\$ 372,441	906	\$ 408,012	
5.000	MEDICAL SERVICES	4,620	\$ 2,059,541	4,759	\$ 2,256,245	
5.100	Clinical Area	2,640	\$ 1,176,881	2,719	\$ 1,289,283	
5.200	Infirmary	1,980	\$ 882,661	2,039	\$ 966,962	
6.000	FOOD SERVICES	6,600	\$ 2,735,414	6,798	\$ 3,025,155	
6.100	Food Preparation Area	4,620	\$ 1,955,313	4,759	\$ 2,142,062	
6.200	Staff Dining Area	880	\$ 298,129	906	\$ 326,603	
6.300	Receiving and Processing Area	1,100	\$ 481,972	1,133	\$ 556,490	
7.000	FACILITY MAINTENANCE, MECHANICAL, & WAREHOUSE	10,560	\$ 3,133,715	10,877	\$ 4,523,963	
7.100	Maintenance Shops	1,540	\$ 359,611	1,586	\$ 524,771	
7.200	Mechanical Room	7,480	\$ 2,414,494	7,704	\$ 3,474,420	
7.300	Institutional Storage	1,540	\$ 359,611	1,586	\$ 524,771	
	TOTAL SUPPORT CORE	44,220	\$ 17,162,563	45,547	\$ 19,921,771	
8.000	INMATE HOUSING	136,840	\$ 60,598,095	140,945	\$ 66,385,731	
8.100	General Custody Dormitories	30%	30,360	\$ 12,967,227	31,271	\$ 14,205,708
8.200	General Custody Cells	70%	100,100	\$ 45,220,856	103,103	\$ 49,539,834
8.300	Housing Support		6,380	\$ 2,410,012	6,571	\$ 2,640,189
	Subtotal Building Construction Costs		\$ 77,760,657		\$ 86,306,901	
	Site Development Costs (Site improvements, parking, on-site utilities, landscaping)		\$ 5,169,312		\$ 9,640,433	
	Construction Contingency @ 15% (Site mitigation, off-site utilities, change-orders)		\$ 12,439,495		\$ 14,392,100	
	ESTIMATED TOTAL AREA for CITY OF SEATTLE JAIL	181,060	\$ 95,369,465	186,492	\$ 110,339,434	
	Local Sales Tax on Construction		\$ 8,583,252		\$ 9,930,549	
	TOTAL ESTIMATED CONSTRUCTION COSTS		\$ 103,952,717		\$ 120,269,983	
	PROJECT COSTS					
	FIXTURES, FURNISHINGS & EQUIPMENT and SPECIALTIES					
	Subtotal Fixtures, Furnishings & Equipment and Specialties Costs		\$ 21,188,288		\$ 21,382,301	
	PROJECT FEES					
	Subtotal Project Fees		\$ 28,264,207		\$ 32,743,819	
	PROJECT CONTINGENCIES					
	Subtotal Project Contingencies		\$ 21,252,318		\$ 23,852,728	
	TOTAL PROJECT COSTS		\$ 70,704,813		\$ 77,978,848	
	TOTAL ESTIMATED COSTS	181,060	\$ 174,657,530	186,492	\$ 198,248,831	
	Annual Debt Service		\$ 11,361,723		\$ 12,896,371	

Source: Carter Goble Lee/Rider Levett Bucknall; August 2008

Appendix E (Continued)
Comparison of Estimated Construction and Project Cost for a 440-Bed Low and High-Rise Jail

PROJECT COSTS			
FIXTURES, FURNISHINGS & EQUIPMENT and SPECIALTIES			
	FF&E @ 10.0% Construction	\$ 9,536,946	\$ 9,624,272
	Security Electronics and Telecommunication Equipment @ 10% Construction	\$ 9,536,946	\$ 9,624,272
	Kitchen Equipment @ 25% of Kitchen Construction Cost	\$ 683,854	\$ 690,115
	Computer Equipment Costs @ 1.5% of Construction	\$ 1,430,542	\$ 1,443,641
	Subtotal Fixtures, Furnishings & Equipment and Specialties Costs	\$ 21,188,288	\$ 21,382,301
PROJECT FEES			
	Architectural, Engineering, Specialty Consulting Fees @ 13.0% of Const., Site., FF&E	\$ 15,824,518	\$ 18,377,082
	Program Management @ 4.5% of Total Construction/FF&E	\$ 5,477,718	\$ 6,361,298
	GCCM Premium @ 5.0% of Construction Costs	\$ 5,197,636	\$ 6,013,499
	Legal, Testing, Permitting, Design Review Fees @ 1.5% of Construction	\$ 1,430,542	\$ 1,655,092
	Transition and Activation Fees @ 0.35% of Construction	\$ 333,793	\$ 336,850
	Subtotal Project Fees	\$ 28,264,207	\$ 32,743,819
PROJECT CONTINGENCIES			
	Design Contingency @ 15% of Estimated Design Fees	\$ 2,373,678	\$ 2,756,562
	LEED Contingency @ 5% of All Costs	\$ 6,515,516	\$ 7,564,636
	Design / Estimating Contingency @ 10% of All Costs	\$ -	
	Project Cost Contingency @ 25% of Project Fees and FF&E Costs)	\$ 12,363,124	\$ 13,531,530
	Subtotal Project Contingencies	\$ 21,252,318	\$ 23,852,728
	TOTAL PROJECT COSTS	\$ 70,704,813	\$ 77,978,848
	TOTAL ESTIMATED COSTS	\$ 181,060	\$ 198,248,831
	Annual Debt Service	\$ 11,361,723	\$ 12,896,371

Source: Carter Goble Lee/Rider Levett Bucknall; August 2008

Note: All costs have been developed without a specific site identified.