KING COUNTY AUDITOR'S OFFICE

CAPITAL PROJECTS OVERSIGHT PROGRAM

FINAL OVERSIGHT REPORT ON DATA CENTER RELOCATION PROJECT

EXECUTIVE SUMMARY

The county successfully opened its new data center in November 2009. The Data Center Relocation Project was undertaken due to concerns about the adequacy of the electrical, HVAC and fire suppression systems, and server capacity at the county's main data center in the Seattle Municipal Tower Building (SMT). The county also needed to vacate SMT because as of March 2007, the data center was in a month-to-month lease. All work on the project was completed in September 2010.

The county relocated its data center to a facility built to its specifications at the Sabey Data Center in Tukwila. The new facility opened on schedule, but milestone delays occurred. Completion was on budget, but secondary fiber and decommissioning costs at SMT significantly more than estimated. This required spending 75 percent of contingency. The total budget for the project was $20.3 million; the actual cost of the project was approximately $19.3 million.

Appropriate operating procedures for the new facility are in place. Most user agencies report satisfaction with the new location.

The new data center is capable of eventually housing all of the county's network servers. This project relocated about half of them. The executive is working on a new project to relocate additional servers to the site in response to council provisos included in the 2011 budget.

LESSONS LEARNED AND RECOMMENDATIONS

1. The lead agency model was largely successful for this project, but closer coordination between the Facilities Management Division (FMD) and the Office of Information Resources Management (OIRM) could have improved project schedule and cost outcomes.
2. Early attention to project elements on the critical path is important to lessen schedule risks.
3. OIRM gained valuable experience, which should help with future server relocations
4. Consistent reporting of staff labor charges is recommended to provide a more accurate assessment of capital project costs.

   Recommendation: The executive should establish policies to ensure consistent budgeting and reporting of the staff labor costs on capital projects, including costs for staff funded by agency operating budgets.
5. The executive should provide advance notice to council before exercising lease options involving significant potential cost, schedule, or operational impacts.
6. The executive's process for lease transactions should be strengthened.

   Recommendation: The executive should evaluate the adequacy of its policies and procedures for authorizing lease acquisitions and amendments.

May 18, 2011

King County Auditor's Office – Cheryle Broom, County Auditor

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Capital Projects Oversight Program – Tina Rogers, Manager

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ALTERNATIVE FORMATS AVAILABLE UPON REQUEST

INTRODUCTION

This report provides a final assessment of the Data Center Relocation Project (Data Center or project), which relocated King County's primary data center from leased space in the Seattle Municipal Tower (SMT) to leased space in the Sabey Data Center in Tukwila. The project was completed in September 2010. In addition to assessing the final scope, schedule, and budget results, this report summarizes project lessons learned based on feedback from major stakeholders, the project team, and data center customers.

The Metropolitan King County Council (council) added independent oversight of the Data Center Project to the King County Auditor's Office (KCAO) work program in September 2008. We provided 11 project status reports to council between December 2008 and April 2010 and briefed the Government Accountability and Oversight Committee on two occasions. This report closes out KCAO's oversight effort.

PROJECT HISTORY

The county decided to relocate the data center because of concerns about the adequacy of the electrical, HVAC, and fire suppression systems available at SMT and the suitability of the space for future growth. In addition, the county needed to vacate SMT because, as of March 2007, the data center was in a month-to-month lease, which created schedule urgency for the Data Center Relocation Project. This situation was the result of actions taken by the executive changing the lease expiration date from March 2009 to March 2007. We discuss this in detail in the lessons learned section of this report.

The executive evaluated 11 potential relocation sites for the data center between 2005 and 2008.

Ultimately, the executive selected the Sabey Data Center as the preferred relocation site, because it offered the lowest lifecycle cost of the final sites considered. A letter of intent was agreed to with the

Sabey Corporation (Sabey) on July 27, 2007, the lease was transmitted to council in April 2008, and the county's lease was executed on August 12, 2008. Two ordinances were enacted in August 2008 to fund relocation. Ordinance 16213 authorized the executive to execute a build-to-suite lease agreement with Sabey. Ordinance 16214 funded the design and construction of the new data center and the relocation of the county's mainframe computer, high-volume printers, and 500 rack mounted servers from SMT and the Fortress Building[1] to the new facility, which is officially named the King County Data Center at Sabey (KCDCS).

The Facilities Management Division (FMD) and the Office of Information Resources Management (OIRM) served as the project team. The executive designated FMD to be the county's lead agency. Their role included overall project schedule and budget coordination, reporting, and the management of all related real estate transactions, including the Sabey Data Center lease and terminating the SMT lease. FMD also oversaw Sabey's tenant improvement design and construction and managed the tenant improvement budget. The Sazan Group served as an outside technical consultant to FMD for tenant improvement design and construction issues.

OIRM's role included assisting FMD and Sazan to develop the performance specifications for the lease document and to review and approve Sabey's tenant improvement design. They also led the planning and implementation of the equipment relocations to KCDCS, including managing the scope, schedule, and budget for this work. The Hewlett-Packard Corporation (Hewlett-Packard) served as OIRM's technical consultant and conducted the server moves.

The Office of Performance, Strategy, and Budget (OPSB) assisted the project team with budget development, budget tracking, and contingency project notifications required by council. The Project Review Board[2] reviewed and approved the project team's schedule and budget and authorized the release of phased funding upon satisfactory achievement of agreed-to milestones.

PROJECT RESULTS

The project team successfully delivered the Data Center project but opportunities for improvement exist.

The project team successfully completed the data center relocation within the approved budget, managing scope and schedule variances to avoid major impacts to the county. The work required extensive coordination with multiple agencies to minimize disruption to critical server operations. Feedback received from agency customers during a KCAO survey about the project was positive, with 79 percent satisfied with the server moves and 66 percent satisfied with KCDCS overall.[3]

<u>Scope</u>

The project team successfully delivered the final scope but the lease acquisition process could be improved.

The project scope included tenant improvement work at the old and new data center locations. It also included the installation of new or relocated network equipment and the construction of fiber optic lines.

<u>Tenant Improvements at KCDCS</u>

The original scope included leasing and constructing 7,500 square feet (sf) of data center space and 580 sf of storage. It also included leasing 3,402 sf of existing office space for use by OIRM's Help Desk, Network Operations Control, and Production Control staff that needed to move from SMT. However, four months after lease execution, new management at OIRM revisited the need for office

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[1] Fortress was a short-term leased facility at Sabey Center used to temporarily house servers displaced when agencies moved into the Chinook Building in 2007 and 2008.
[2] The Project Review Board was established by Ordinance 14155 in July 2001. Its role is to review and approve the release of technology project funding based on work progress.
[3] Anonymous online survey of agency representatives conducted by KCAO between February 2, 2011 and February 17, 2011. The respondents included 64 IT program managers and network administrators.

space at Sabey and decided to move this staff to vacant space in the Chinook Building instead. FMD successfully negotiated an amendment removing the office space from the lease. This reduced the county's rent by approximately $1.3 million over the lease term.

FMD also negotiated first refusal rights for 3,114 sf of unfinished adjacent data center space for expansion use, if needed. The county chose not to exercise this right earlier this year after Sabey identified a potential tenant for the space.

Network Equipment Installation and Relocation

The scope included installing new network switches and other infrastructure equipment at KCDCS. It also relocated the county's mainframe computer, high-volume printers, and 500 servers and related network equipment from SMT and the Fortress building to KCDCS. Based on a recommendation from Hewlett-Packard, OIRM decided to purchase a refurbished mainframe computer instead of moving the existing one because of concerns it would not survive relocation. This did not affect the project budget because OIRM paid the $220,000 cost for the refurbished mainframe by drawing from their equipment replacement funds three years in advance of the scheduled replacement. OIRM also chose to replace the high-volume printers early to avoid risking damage during the move. The refurbished mainframe and new printers were delivered directly to KCDCS.

Fiber Optic Line Installation

Primary and secondary fiber optic lines were installed to provide a redundant connection between the KCDCS site in Tukwila and King County's wide area network (KCWAN) core in downtown Seattle.[4] Installing the primary fiber line was comparatively simple, since it was possible to connect to an existing KCWAN hub at the King County Airport, a short distance away. The secondary fiber line required building a new, approximately 15-mile-long line between Tukwila and downtown Seattle. A temporary line was leased through Sabey from AboveNet Communications, Inc. (AboveNet) to provide a redundant connection while the permanent secondary line was constructed. OIRM contracted with the City of Seattle Department of Information Technology (Seattle DoIT) to install both lines.

Lease Restoration Work at SMT

The project scope included restoration of the county's vacated data center space at SMT. The initial schedule and cost estimates prepared in September 2008 assumed restoration would be minimal since the City of Seattle indicated they planned to continue using the space as a data center. In June 2009, the city notified the county that they planned to use the premises for office space instead. Under the lease terms, the county had to pay for removal of extensive data center improvements to restore the premises to its original condition, adding $241,247 to the project cost.

Schedule

The new data center opened on schedule, but delays occurred in three major project elements one of which increased project costs.

The new data center was fully functional and the former data center location at SMT was vacated by December 31, 2009 as planned. OIRM coordinated six separate server moves between June 2009 and October 2009. The refurbished mainframe installation and data center staff move was completed in November 2009. All moves were completed on schedule with minimal disruption to agency operations.

[4] Redundant connections are used whenever possible for computer networks to minimize the risk of downtime due to equipment or infrastructure failure.

As summarized below, delays in three major project elements occurred, one increasing the project cost. Project schedule results are shown in Attachment 1.

Exhibit A: Schedule Delays

Project Element	Completion Date		Delay
	Target	Actual	
KCDCS Network Infrastructure Equipment	05/11/2009	07/17/2009	67 days
SMT Restoration[1]	12/31/2009	04/15/2010	105 days[2]
Phased Fiber Optic Line Installation	04/06/2010	09/22/2010	169 days

[1]This occurred after OIRM relocated its equipment, which was completed on schedule. The delay was associated with the City of Seattle requirements to convert the space to office space instead of a data center.
[2]FMD took additional time to negotiate lower restoration costs. The City of Seattle only charged King County for one month additional rent despite three-months delay in reaching agreement on the restoration scope.

<u>KCDCS Network Infrastructure Equipment</u>

OIRM was unable to begin installing network infrastructure equipment at KCDCS as early as planned due to a miscommunication with FMD about entering the premises before commissioning[5] was complete. This delayed the start of their work by five weeks. Due to liability issues, FMD's leasing staff recommended that OIRM not enter KCDCS early. The liability issues included the risk of damage to the county's equipment during the commissioning process and the risk of undermining any future claims for tenant improvement defects. According to OIRM, this required their network engineers to work a number of 80-hour weeks to keep the server relocation schedule on track. This did not affect the project budget, because OIRM paid for the network engineering staff time using its operations budget. The impact on OIRM's operations budget is unknown.

<u>SMT Restoration</u>

OIRM successfully removed all of the county's network equipment from SMT by the December 31, 2009 target completion date. The original schedule did not contemplate any additional time for restoration work, which included removal of the raised floor system, HVAC system, and computer cabling installed by the county, because the city's intent at the time the budget was established was to keep the area as a data center. The city changed its mind and it took three additional months for FMD to reach agreement with them regarding the scope, cost, and responsibility for restoring the vacated space for office use. They elected to charge the county for one month in additional rent, which cost $37,941. This was charged to the county's lease fund, so it did not affect the project budget.

<u>Phased Fiber Optic Line Installation</u>

A five-month delay occurred for installing the permanent secondary fiber optic line. This delay forced the county to extend the lease with AboveNet for two months, increasing the project cost by $229,920. Additional AboveNet charges were avoided because Seattle DoIT allowed the county to temporarily connect to an unused fiber optic line belonging to the City of Seattle while work on the permanent line was completed. Seattle DoIT indicated the delay was caused by a severe permitting backlog for fiber optic projects due to staffing cutbacks and a commitment to prioritize a major fiber optic line project for the Seattle Public Schools system.

[5]American Society of Heating, Refrigerating and Air-Conditioning Engineers Guideline 0, "The Commissioning Process," defines commissioning as "a quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meets defined objectives and criteria." It is an essential part of the tenant improvement acceptance process.

Budget

The project was delivered within budget but several project elements cost significantly more than estimated.

Approximately $19.5 million of the total $20.3 million appropriated for the data center relocation was spent. These figures do not reflect the cost of operations staff work on the capital improvement project. Detailed project costs are provided in Attachment 2. The final budget is summarized below.

Exhibit B: Budget Results

Project	Final Budget (A)	Forecast Cost at Completion (B)	% Budget Expended (B/A)	Forecast Balance (A-B)
KCDCS Tenant Improvements	$10,756,213	$10,756,213[1]	100%	$ 0
Network Equipment & Server Relocation[2]	8,193,679	7,544,468[2]	92%	649,211
Contingency	1,368,821	1,037,450[3]	76%	331,371
Total	$20,318,713	$19,338,131	95%	$980,582

1 – Actual costs shown in county's ARMS financial system through December 2010.

2 – Executive's forecast at completion provided 5/4/2011. Actual final cost cannot be determined until all Seattle DoIT invoices are received, which is expected later this year.

3 – Executive's forecast at completion provided 5/4/2011.

Use of Contingency Funds

While the project was delivered within budget, cost overruns occurred on three project elements. They were charged to the Network Equipment and Server Relocation and Contingency project appropriations.

Exhibit C: Use of Project Contingency Funds

Project Element	Original Cost Estimate	Actual Cost	Cost Overrun	Charged to Contingency Project
KCDCS Tenant Improvements	$9,575,529	$9,817,056	$241,527	$241,527
SMT Lease Restoration	$3,400	$244,647	$241,247.00	$221,123 [1]
AboveNet Temporary Fiber Optic Line Lease	$1,256,830	$1,831,630	$574,800	$574,800
		Total	**$1,057,574**	**$1,037,450**

[1] $20,124 was charged to the Network Equipment and Server Relocation budget.

KCDCS Tenant Improvement Cost

The county paid Sabey $241,527 more than the $9.6 million included in the lease agreement to cover additional tenant improvement work. This represents a 2.5 percent increase, which is reasonable for a project of this complexity. Most of the increase was due to differing interpretations over the county's equipment specifications. FMD negotiated a reduction of $101,926 from Sabey's original claim for $343,473. Because the specifications were clarified prior to construction, no work had to be redone and there were no schedule impacts.

SMT Lease Restoration Cost

The final cost to restore SMT was $244,647 or $241,247 more than budgeted. As noted earlier, the budget assumed that the City of Seattle would continue using the space as a data center and would require only limited restoration work estimated at $3,400. FMD's leasing staff worked diligently to negotiate lower restoration costs with the city, ultimately reducing the impact to the project budget by $129,753 from the city's original request of $374,400.

AboveNet Temporary Fiber Optic Line Lease Cost

OIRM originally estimated the AboveNet cost based on a twelve-month lease. While preparing the appropriation request for the project, OPSB reduced the cost estimate for this item, basing it on nine months to be consistent with the project schedule. It was not, however, consistent with the cost of a twelve-month lease, which was the shortest lease term available from AboveNet. Eventually the county needed to extend the lease for two additional months due to the installation delay for the permanent secondary optic fiber line. In total, the project incurred a $574,800 cost overrun in the temporary fiber optic line budget.

DATA CENTER OPERATIONS

Service level agreements with Sabey help assure that KCDCS is providing a suitable environment for the county's network operations. Most customer agencies are satisfied with OIRM's management of the new data center.

The county's lease includes service level agreements guaranteeing that Sabey Data Center meets strict security, temperature, humidity, and electrical system reliability requirements. Sabey is providing monthly performance reports to the county. They are subject to financial penalty if they do not meet the service level requirements.

KCAO's survey of KCDCS customers indicates that approximately two-thirds are satisfied with the new data center overall. Slightly more than half are satisfied with the support provided by the data center staff and the convenience of operating their servers remotely.[6] The survey results have been shared with OIRM.

OIRM PLANS ADDITIONAL SERVER RELOCATIONS

OIRM believes KCDCS is sized to meet the county's current and future server needs during the lease term. The initial relocation effort vacated the SMT and Fortress buildings, moving approximately half of the county's 1,000 current servers (estimated) to the new data center. The executive's August 20, 2007 appropriation request for KCDCS indicated additional server relocations would be evaluated following project completion.

As part of our ongoing oversight, we confirmed in June 2010, or seven months after KCDCS opened, that OIRM was not actively planning additional server moves.[7] We also learned that FMD favored fully utilizing the available capacity at KCDCS to reduce the county's energy costs and avoid unnecessary capital improvements required to continue supporting servers in other county buildings.

KCAO briefed council staff on these issues, and, together, we encouraged OIRM to consider accelerating the work to move remaining county servers to KCDCS. Council staff's work during the 2011 budget review and subsequent proviso resulted in the executive starting work on a follow-up project to consolidate servers at KCDCS.[8] OIRM's goal is to relocate all remaining servers to KCDCS by November 2011, except those that must remain in agency facilities due to verified operational needs. As part of the executive's effort, FMD has put a hold on requests to upgrade or construct server rooms in other buildings. OIRM is using the balance remaining from the Data Center

[6] Anonymous online survey of data center customer representatives conducted between February 2, 2011 and February 17, 2011. The respondents included 64 IT program managers and network administrators.
[7] June 17, 2010 meeting with OIRM management and council staff to discuss IT reorganization and server consolidation.
[8] Data Center Relocation Phase II Project Plan, February 28, 2011 revision.

Relocation Project, about $800,000, as seed money for planning additional server relocations. OIRM is leveraging the experience gained from this project to complete most of the planning and design activities required in-house.

LESSONS LEARNED AND RECOMMENDATIONS

The lessons learned described below were derived from interviews with project participants and the KCDCS customer survey results. In addition, they reflect our observations from a review of related legislative records; monthly oversight meetings; attendance at Project Review Board meetings; a review of cost data from the county's financial systems; FMD's project reporting; and an assessment of the project delivery results. We make two recommendations based on these lessons learned.

1) The lead agency model was largely successful for this project, but closer coordination between FMD and OIRM could have improved project schedule and cost outcomes.

Under FMD's leadership, FMD and OIRM worked together effectively to deliver the project scope under budget. Both agencies reported that project roles and responsibilities were clear and that they were satisfied with team communications. FMD's project reports provided comprehensive and timely status updates. Coordination and approval of contingency use proved effective, as did assistance from the Office of Performance, Strategy, and Budget in confirming the adequacy of final cost estimates used for the supplemental appropriation request. Although some schedule milestones were missed, this did not have an adverse effect on data center operations.

FMD may have improved project outcomes through review and validation of OIRM's schedule and cost assumptions, especially those dependent on real estate negotiations. OIRM's relocation plan assumed they could start installing network server equipment at KCDCS prior to the commissioning of the space, which FMD's real estate services staff would not allow due to liability risks. This resulted in OIRM's network engineers working 80 hours a week for a number of weeks to keep server relocation on track. OIRM's cost estimate for leasing the temporary secondary fiber optic line was planned using nine months, and the minimum lease term available was 12 months. This cost $344,880 more than expected. Closer coordination between FMD, OIRM and OPSB might have resulted in more manageable staff workload and improved schedule and cost estimate accuracy.

2) Early attention to project elements on the critical path is important to lessen schedule risks.

Greater attention to three aspects of the project might have minimized the risk of schedule delays and cost increases:

First, if OIRM had contracted with Hewlett-Packard sooner, it could have allowed more time for developing and implementing the server relocation plan. Hewlett-Packard's work was on the critical path for planning and implementing the server moves, yet OIRM did not finalize the contract with them until five months after the lease with Sabey was approved. This contributed to a delay in finalizing the detailed server relocation plan until June 2009, or approximately one month after KCDCS was commissioned. This reduced the time OIRM had available for server relocation.

Second, OIRM needed to work more proactively with the City of Seattle to insure completion of the permanent secondary fiber optic line installation on schedule and to manage cost risk. Because of permitting delays, KCAO recommended that OIRM escalate the installation request with the city, as their emails and other correspondence did not appear to be effective. After a twelve-month delay, OIRM had the county's Chief Information Officer contact the Chief Technology Officer, City of Seattle Department of Information Technology about the installation. While this helped the schedule, Seattle DoIT told us that, despite the unusually high demand on Seattle for fiber installation work, they might have performed the installation earlier, had OIRM communicated the cost impacts and urgency of the county's needs sooner. Had installation occurred sooner, the county could potentially have avoided up to $229,920 in costs for additional rent paid to AboveNet due to the delay.

Finally, beginning with our April 20, 2009 monitoring report, we suggested the need for a supplemental appropriation to avoid a possible cash-flow risk that might have delayed the project. Due to delayed billing from Seattle DoIT and other factors, the project retained adequate cash flow until a supplemental appropriation was approved.

3) OIRM gained valuable experience, which should help with future server relocations.

OIRM believes their ability to manage server relocations was improved through their experience with the Data Center project. They developed, refined, and documented strategies and materials for agency communication and readiness activities that proved effective and can be used again. They also conducted lessons learned assessments throughout the project and identified ways to improve upon Hewlett-Packard's techniques to streamline delivery. OIRM anticipates their experience and feedback from customers will help them reduce the county's cost for the new server relocation effort by increasing efficiency and completing more work in-house.

4) Consistent reporting of staff labor charges is recommended to provide a more accurate assessment of capital project costs.

There is no policy on reporting labor costs when staff funded by the operating budget of an agency works on a capital project. Oversight identified inconsistencies in the reporting and budgeting of staff labor used on the data center project. This made it difficult to determine the total project cost, information that is useful for project benchmarking, performance measurement, and cost estimating for future relocation efforts. This information is also important for evaluating and managing employee workload and determining program staffing needs. The inconsistencies identified included:

- OIRM excluded all labor costs for their lead project manager from the budget approved by council, but included more than $780,000 in labor costs for other project staff.
- While the lead project manager's labor cost was not reported to council, OIRM included $300,269 for it in the project budget tracked by the Project Review Board as an operating expense.
- FMD charged their lead project manager's time to the project, but stopped doing so when the tenant improvements were completed. Staff cost associated with the follow-up server relocations is unknown.
- FMD does not charge or track the hours spent by their real estate staff on individual projects, leaving a significant and important element of staff support out of the project cost.

The Accountable Business Transformation project presents a good opportunity to improve the consistency of agency budgeting and reporting for staff labor costs on capital projects. Implementing the recommendation below will help facilitate this.

Recommendation: The executive should establish policies to ensure consistent budgeting and reporting of the staff labor costs on capital projects, including costs for staff funded by agency operating budgets.

5) The executive should provide advance notice to council before exercising lease options involving significant potential cost, schedule, or operational impacts.

The executive exercised the early out option of the SMT lease[9] in March 2005, while there was uncertainty about council support for the relocation strategy for the SMT tenants. This action posed significant potential cost and operational impacts for the county and created schedule urgency for the data center relocation project. The executive took action before obtaining council's approval of requests to relocate OIRM staff from SMT to the Chinook Building and the data center and the County Elections Office to 1130 Rainier Avenue. Council did not approve either request, instead waiting for

[9] The SMT lease had been renewed in March 2004 for a five-year term. It included 46,936 square feet of space. Approximately 39,936 square feet was OIRM office space. Approximately 7,000 square feet was data center space.

the Citizen's Election Oversight Committee's final recommendation regarding County Elections Office space requirements first, since it had implications for the relocation for both OIRM functions at SMT. Because approval was not obtained when expected, this put the timing for both relocations at risk and the executive sought to withdraw the early-out notice. The City of Seattle did not grant the request.

The Citizen's Election Oversight Committee report was received in February 2006. Its recommendations ruled out both the Chinook Building and 1130 Rainier Avenue as consolidation sites. This cleared the way for council to approve the relocation of OIRM to the Chinook Building. It also caused the executive to need to identify another location for the data center.

The executive's decision was constrained by the terms of the SMT lease options. There were two early out dates available, March 2007 or March 2008. Exercising either date required notifying City of Seattle at least 24 months in advance. Rent for any month-to-month occupancy past the lease expiration date carried a 50-percent increase. We have confirmed that exercising the March 2007 date was financially advantageous to the county, because OIRM vacated approximately 85 percent of the leased space within six months. However, this could not have been certain in March 2005, given review of Elections Office space needs and pending council's approval of the relocation strategies. This provides a lesson learned regarding the need for improved communication with council before exercising similar lease options in the future.

6) The executive's process for lease transactions should be strengthened.

FMD told us that, prior to lease signing, they were concerned about the need for office space at KCDCS because OIRM was still working through aspects of the IT Reorganization project. They included it in the lease because OIRM requested it and FMD had to move forward with lease approval to keep the relocation project on schedule. OIRM decided four months after lease approval that it did not need office space at the new data center, relocating its Help Desk, Network Operations Control, and Production Control staff to vacant space in the Chinook Building instead. While OIRM's decision reduced lease costs, the timing of this scope change would have resulted in the county being liable for $1.3 million in rent if FMD had not been successful in removing the office space from the lease. Independent review and approval of OIRM's request could have avoided this risk by clarifying that the need for office space was uncertain and pursuing an alternative strategy for fulfilling OIRM's request, such as negotiating first refusal rights for the office space with Sabey instead of including it in the initial lease term.

Recommendation: The executive should evaluate the adequacy of its policies and procedures for authorizing lease acquisitions and amendments.

ACKNOWLEDGEMENTS

We appreciate the collaborative efforts of the Facilities Management Division, Office of Information Resource Management, and the Sabey Corporation in providing for effective oversight of the Data Center Relocation Project consistent with council intent. Tom Wood of the auditor's office prepared this report. Should you have questions or comments regarding this report or the Data Center Relocation Project, please contact Tom Wood, Capital Projects Oversight Analyst or Tina Rogers, Capital Projects Oversight Manager.

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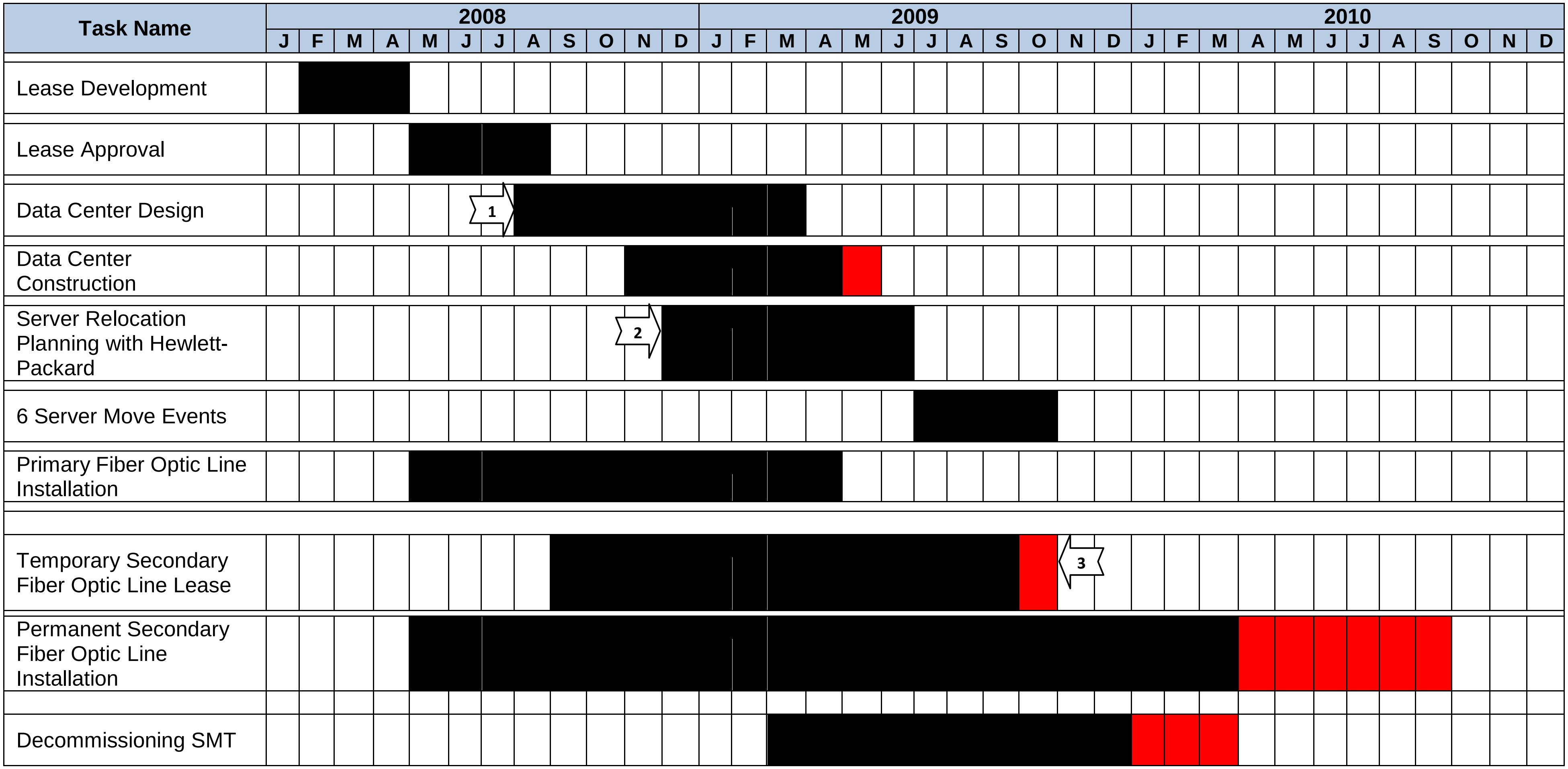
Attachment 1 – Detailed Schedule Results
Attachment 2 – Detailed Budget Results

ATTACHMENT 1 – DETAILED SCHEDULE RESULTS



Legend

- Planned Schedule

- Schedule Delay

1 - Sazan Group consulting contract with FMD approved

2 - Hewlett-Packard contract with OIRM approved

3 - AboveNet lease ended when the City of Seattle allowed King County to temporarily connect to an unused fiber optic line

ATTACHMENT 2 – DETAILED BUDGET RESULTS

Cost Element	Description	A. Original Budget	B. Revisions	C. Final Budget (A+B)	D. Forecast Cost at Completion	Forecast Balance[5] (C-D)
395657	Data Center Relocation[1.2]					
1	Design	$746,903	($100,323)	$646,580	$646,580	$0
3	Construction	$9,821,838	($246,309)	$9,575,529	$9,510,587	$64,942
4	Equipment/Furnishings	-	$268,984	$268,984	$268,984	-
5	Contingency	-	-	-	-	-
6	1% for Art	-	-	-	-	-
7	County Force Design	-	-	-	-	-
8	Project Management	$187,472	$77,648	$265,120	$330,062	($64,942)
	Total	$10,756,213	$0	$10,756,213	$10,756,213	-
377219	OIRM Data Center Relocation[1,3]					
101	Data Center Infrastructure	$730,936	-	$730,936	$748,061	($17,125)
102	Network Engineering	$1,883,060	-	$1,883,060	$1,845,682	$37,378
103	Telephony	$28,276	$8,391	$36,667	$18,197	$18,470
104	Wireless & KCPAN	$5,914	-	$5,914	$5,431	$483
105	Server Build Area	$10,890	($10,890)	-	-	-
106	I-Net Equipment	$107,101	-	$107,101	$65,111	$41,990
107	KCWAN Fiber[4]	$1,839,866	-	$1,839,866	$1,378,438	$461,428
108	AboveNet Fiber	$704,861	$358,758	$1,063,619	$1,256,830	($193,211)
109	Systems Engineering	-	$109,500	$109,500	$36,194	$73,306
110	Relocation Consultant	$1,000,000	$366,404	$1,366,404	$1,374,877	($8,473)
111	OIRM Labor	$1,005,030	-	$1,005,030	$784,593	$220,437
	Council Auditor	-	$45,583	$45,582	$31,054	$14,528
	Total	$6,891,294	$1,283,122	$8,193,679	$7,544,468	$649,211
377220	OIRM Data Center Contingency[1,3]					
3	Construction Revisions				$241,527	
101	Data Center Infrastructure				$221,123	
108	AboveNet Fiber				$574,800	
	Total	$1,238,607	$130,214	$1,368,821	$1,037,450	$331,371
	Grand Total All Projects	**$18,886,114**	**$1,413,336**	**$20,318,713**	**$19,338,131**	**$980,582**

Notes

[1-] Final budget reported by the executive as of 5/4/2011.

[2-] Forecast Cost at Completion represents actual cost reported in ARMS accounting system as of December 2010.

[3-] Forecast Cost at Completion reported by the executive as of 5/4/2011.

[4-] KCWAN fiber forecast cost at completion reflects a $121,243 credit and a $542 bill still expected by OIRM as of 5/4/2011.

[5] The executive is using the Forecast Balance to help pay for its new project to relocate additional servers to KCDCS.