

Office of Capital Facilities

LOB #58:

BUILDING DESIGN AND CONSTRUCTION

Purpose

Building Design and Construction Division (BDCD) is responsible for management and implementation of nearly all major County capital building projects including new construction and major renovations. More specifically, BDCD is responsible for: 1) providing overall project management for the planning and design for major building projects; 2) providing construction management, including quality control inspections for major building projects; and 3) providing the coordination and negotiations for major public private partnerships (PPP) and joint infrastructure developments; and for associated major real estate transactions. Approved CIP projects implemented by BDCD include facilities to support critical program needs in areas that include: police stations, fire stations, libraries, homeless shelters, community centers and senior centers, vehicle maintenance facilities, parking garages, administrative office buildings, maintenance facilities, human service treatment and service delivery facilities, and Community Services Board (CSB) facilities. Capital project funding sources include General Fund, General Obligation Bonds, EDA bonds, enterprise agency funds, and other sources including the Fairfax County Department of Transportation Commercial and Industrial (C&I) real estate tax revenue and dedicated Stormwater funds.

Description

BDCD provides professional project management, construction administration and quality control to ensure implementation of CIP building projects in a timely, safe, cost-effective, high quality and environmentally sensitive manner. In addition, BDCD provides the coordination and negotiations for major PPP and joint infrastructure developments; and for associated major real estate transactions.

Major areas of responsibility of BDCD in the implantation of the CIP program include:

- Project Development;
- Project Planning and Land Needs;
- Architectural Consultant Selection, Negotiation and Award;
- Schematic Design (15 percent Design Complete);
- Design Development (30 percent Design);
- Value Engineering;
- Construction Documents (100 percent Design);
- Permits;
- Bidding;
- Construction Management; and,
- Project Warranty.

Other Major Responsibilities:

- Implementation of best practices as recognized by the spring 2015 Office of Financial and Program Auditors report citing BDCD's compliance with industry standards.
- Preparation of budget submissions for Capital Project requirements.
- Collaboration with the Department of Management and Budget (DMB) and Department of Planning and Zoning (DPZ) in the preparation of the Annual Capital Improvement Program for all Capital Projects, including future year project estimates and prioritization.

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- Managing capital project cash flow projections.
- Development and maintenance of design standards for County building projects; Guidelines for architects and engineers, and design standards for fire stations, police stations, libraries and parking garages.
- Development and maintenance of standard operating procedures; Project Management Guide, Construction Management Guide, PPP standards, and contracting procedures.
- Administration of BDCD quality assurance and safety programs.
- Implementation BOS-mandated policies such as Value Engineering and Sustainable Development (LEED), as well as Energy Modeling and Lessons Learned program.
- Preparation of regular project status reports for customers, public, BOS and senior County management.
- Management and accounting for contracts including negotiation of changes in contract scope, including change orders.
- Negotiation of PPP and joint development real estate terms, shared infrastructure development agreements, lease terms, and ongoing operations and maintenance agreements.

BDCD staff provides the overall project management and construction management for CIP building projects in all of the identified areas. BDCD has direct management responsibility for planning, management and implementation of the County's CIP program for design and construction of major building projects, and major joint development and PPP projects. BDCD utilizes an array of professional design consultants, construction contractors, and associated private sector vendors, in accordance with all applicable procurement regulations, to implement the CIP Program. BDCD collaborates closely with County agencies, stakeholders and senior County management.

Benefits

Building Design and Construction Division (BDCD) is key to fulfilling the mission of Capital Facilities to provide Fairfax County with quality, cost-effective buildings and infrastructure in a safe, timely and environmentally-sound manner. The BDCD lines of business area provides the following benefits:

- Provide assurance of quality and regulatory compliance for County building projects, including rezonings and land use entitlement, building and site permits and regulatory inspections, VDOT permits/inspections, Virginia Pollutant Discharge Elimination System (VPDES) permits, Storm Water Pollution Prevention (SWPP) plans.
- Provide a centralized area in managing major building projects (SOPs, Lessons Learned, Design Standards, Quality Assurance Processes, Contracting Procedures, Procurement and Accounting), including professional support to other design/construction agencies such as Fairfax County Department of Transportation (FCDOT) Silver Line Garages, Fairfax County Park Authority (FCPA) and Department of Housing and Community Development (Mondloch Place, Hanley Transitional Housing, Lincolnia Senior Center and Lewinsville Center).
- Provide leadership in promoting BOS Environmental Agenda and Sustainable Development Policy, including project certifications under the United States Green Building Council's LEED program, energy efficiency, and low-impact development stormwater management features in Fairfax County.
- Promote a culture of safety awareness for staff and contractors.
- Contribute to the Strategic Plan for Economic Success by maximizing value of BOS owned property, and development potential (tax base) of adjoining properties. Examples include the Wiehle Avenue Transit Oriented Development (TOD), Innovation Center Station TOD, Reston Town Center North joint-redevelopment, and the Merrifield Center joint-development with Inova.
- Proactive project budget and schedule management, and contract administration.

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- Provide regular project reporting and coordination with wide array of stakeholders, including the BOS, senior County management and the community.
- Provide leadership in the preparation of the annual CIP, capital budgets, project funding strategies, and cash flow projections to support cost-effective bond sales.
- Collaborate with the community to assure awareness and support for County building projects, including Virginia Code 2232 Public Use Determinations.
- Support a wide array of County agencies by providing new and upgraded facilities necessary for the delivery of County services at the necessary levels.

Primary Correlation to County Vision Elements

Building Livable Spaces: Provide planning and development for major PPP developments such as Wiehle Avenue-Reston Station, Innovation Center Station, Reston-Town Center North, and Inova-Merrifield Center. Provide design and construction for priority County projects that become prominent facilities in the community. BDCD program has regularly achieved project awards from APWA, County Exceptional Design Awards, National Association of Industrial and Office Properties (NAIOP) and others for outstanding design and construction;

Practicing Environmental Stewardship: BDCD developed the BOS Sustainable Development Policy and is the regional leader in implementing this policy for achieving LEED Certification for County building projects. BDCD has a perfect record of meeting this BOS Policy, and has exceeded the policy targets on 73 percent of projects, over the past five years. In addition, BDCD has a successful strategic partnership with the Stormwater Planning Division-DPWES to implement stormwater enhancement projects on County building sites, exceeding minimum regulatory requirements. BDCD also collaborates with Facilities Management Department (FMD) and the County Energy Committee to assure energy efficiency in new capital building projects; and

Exercising Corporate Stewardship: BDCD implements award winning, first class facilities in the community, in close collaboration with stakeholders and the local community. BDCD outreaches to the public, and assures compliance with all regulatory requirements. BDCD provides diligent and cost-effective management of capital project budgets using Value Engineering, Quality Control, and proven accounting and contract management processes that have been recognized by the Office of Financial and Program Audit May 2015 Report on Capital Construction Project Costs that recognized the Best Practices implemented by BDCD. BDCD has a 100 percent track record of completing projects within budget over the past five years, and with the support of the BOS, has been able to fund additional projects such as the Woodrow Wilson Library using unused project balances.

Mandates

While not explicitly mandated, the following program requirements are noted:

- The Capital Improvement Program is required by Article 5 of Section 15.2-2239 of the Code of Virginia;
- Responsible for management and implementation of the Capital Improvement Program (CIP) for major building development and PPP projects as adopted by the BOS;
- All approved CIP building development projects are mandated to meet all applicable federal, state and local regulatory requirements, as well as applicable BOS Policies (Sustainable Development, Value Engineering, etc.); and
- Fulfill external County commitments for delivery of certain projects such as the VDOT Administration Building and VDOT Maintenance Facility at West Ox, Wiehle Avenue Parking Garage, Innovation Center Parking and Herndon Parking Garage.

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Implementation of Capital Projects to support the requirements, service level standards and performance metrics/policies adopted for countywide agencies including: Police Department, Fire and Rescue, Library Administration, Department of Vehicle Services, FCDOT, and DPWES field operations agencies (Stormwater, Solid Waste, Wastewater Collection and Recycling).

Trends and Challenges

- Aging County infrastructure and limited funding for infrastructure renewal. The majority of current and upcoming projects consist of capital renewal and expansion of aged County facilities such as libraries, fire stations and police stations.
- Urbanization of the County exhibited in the extremely tight sites for new or renovated/expanded, stand-alone facilities such as Bailey's Fire Station, West Ox Animal Shelter, McLean Governmental Center, and the upcoming Franconia Governmental Center and the Pine Ridge-Operations Support Bureau.
- Limited, unencumbered County real estate assets. The County has virtually no buildable sites that are not currently encumbered with an existing facility that would need to be removed or renovated/expanded in order to realize greater development on the site.
- County inventory of older buildings on small sites and challenge of expanding existing buildings on tight sites while also making required site upgrades for environmental compliance. This challenge continues to be exhibited on numerous projects including Bailey's, Jefferson and Lorton Fire Stations; Woodrow Wilson, John Marshall, Pohick, and Tysons Pimmit Libraries; and the Fair Oaks, McLean and the upcoming Franconia Governmental Centers/Police Stations.
- Complexity of design and construction process and increasing regulatory obligations. This includes more rigorous site plan requirements, especially for stormwater management, and increasing stringent challenges with sustainable development certification and energy efficiency, as well as the communications and IT-related systems in new buildings.
- Increasing complexity and cost of meeting more stringent environmental regulations and policies. The next LEED sustainable development certification program will be more challenging and costly to meet under the Board of Supervisors policy.
- Increase in number of projects that require joint public-private or public-public development or real estate agreements such as Wiehle Avenue-Reston Station, Innovation Center Station, Merrifield Center, Providence Community Center, proffered public facilities in Tysons, Reston Town Center North joint-redevelopment, and redevelopment at Bailey's Crossroads and Seven Corners.
- Focus on increasing the development potential and value of County owned real estate assets, and partnering for public facilities through the DPZ proffer system, including numerous real estate exchange agreements and PPP's already noted, and proffered public facilities such as Providence Community Center and Tysons public facilities.
- Increase in more complex and varied funding mechanisms such as EDA bonds, with over \$200 million for Merrifield Center, Providence Community Center and PSHQ and over \$100 million in additional funding proposed for the Innovation Center and Herndon Station Silver Line Garages. The associated contract management and accounting burden increases due to the unique bond terms and accounting/payment processes required.
- TOD and urbanized centers such as Tysons, Merrifield, Reston, Springfield and Bailey's Crossroads/Seven Corners.
- Uncertainty of multi-year capital funding allocations and associated staff resource demands.
- Potential for significant swings in the regional construction industry, resulting in increases in future project costs.

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- Renovation and expansion of occupied, 24/7 operational facilities on very tight sites that require phased construction and temporary facilities to maintain ongoing operations. Examples include Fair Oaks Police and Fire Station, West Ox Animal Shelter, McLean Government Center, Herndon Fire Station, and the upcoming Lorton and Jefferson Fire Stations, Pine Ridge-Operations Support Bureau and Franconia Governmental Center.
- Ongoing workload associated with County’s portfolio of aging facilities and infrastructure, the CIP long-term schedule for bond supported projects, regular funding stream for priority FCDOT facilities projects.

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #58: Building Design and Construction			
FUNDING			
<u>Expenditures:</u>			
Compensation	\$3,836,169	\$4,069,478	\$3,738,505
Operating Expenses	114,155	102,361	32,747
Work Performed for Others	(2,685,318)	(2,848,635)	(2,536,572)
Total Expenditures	\$1,265,006	\$1,323,204	\$1,234,680
General Fund Revenue	\$0	\$0	\$0
Net Cost/(Savings) to General Fund	\$1,265,006	\$1,323,204	\$1,234,680
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
<u>Positions:</u>			
Regular	42 / 42	45 / 45	45 / 45
Total Positions	42 / 42	45 / 45	45 / 45

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Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Total CIP Program Workload Value	\$820,736,000	\$1,019,833,000	\$906,004,700	\$841,357,528	\$933,707,850
Total CIP Program Workload Value per FTE	\$20,518,400	\$24,281,738	\$20,133,438	\$18,696,834	\$20,749,063
Sustainable Development Policy Performance	100%	100%	100%	100%	90%
Construction Cost Benchmark	86%	95%	95%	95%	95%
Building Design Customer Satisfaction Survey	4.31	4.34	4.34	4.20	4.20

Total CIP Program Workload Value

This metric measures the total value of project workload that is under active management by BDCD as a trend to reflect that value of work, and as a measure of active CIP project workload.

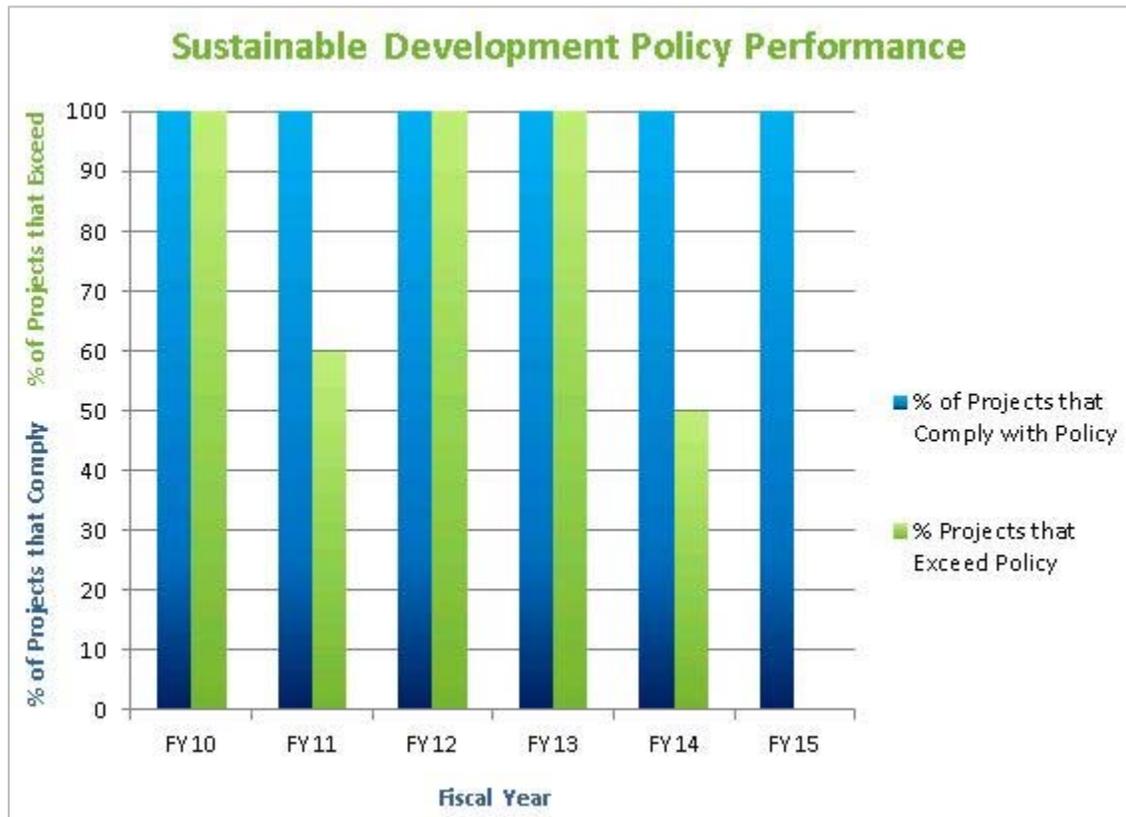
Total CIP Program Workload Value per FTE

This is an efficiency measure calculated as the Total Project Estimate value for all projects that are actively managed by BDCD each year in the planning, design, and construction phases, divided by the total number of approved BDCD merit positions for that fiscal year (date is measured at three month intervals). This metric is important to measure the value of active project workload that is being managed per person to identify the magnitude and the trend of workload being managed per merit position. This metric gauges staff workload levels and staff efficiency.

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Sustainable Development Policy Performance

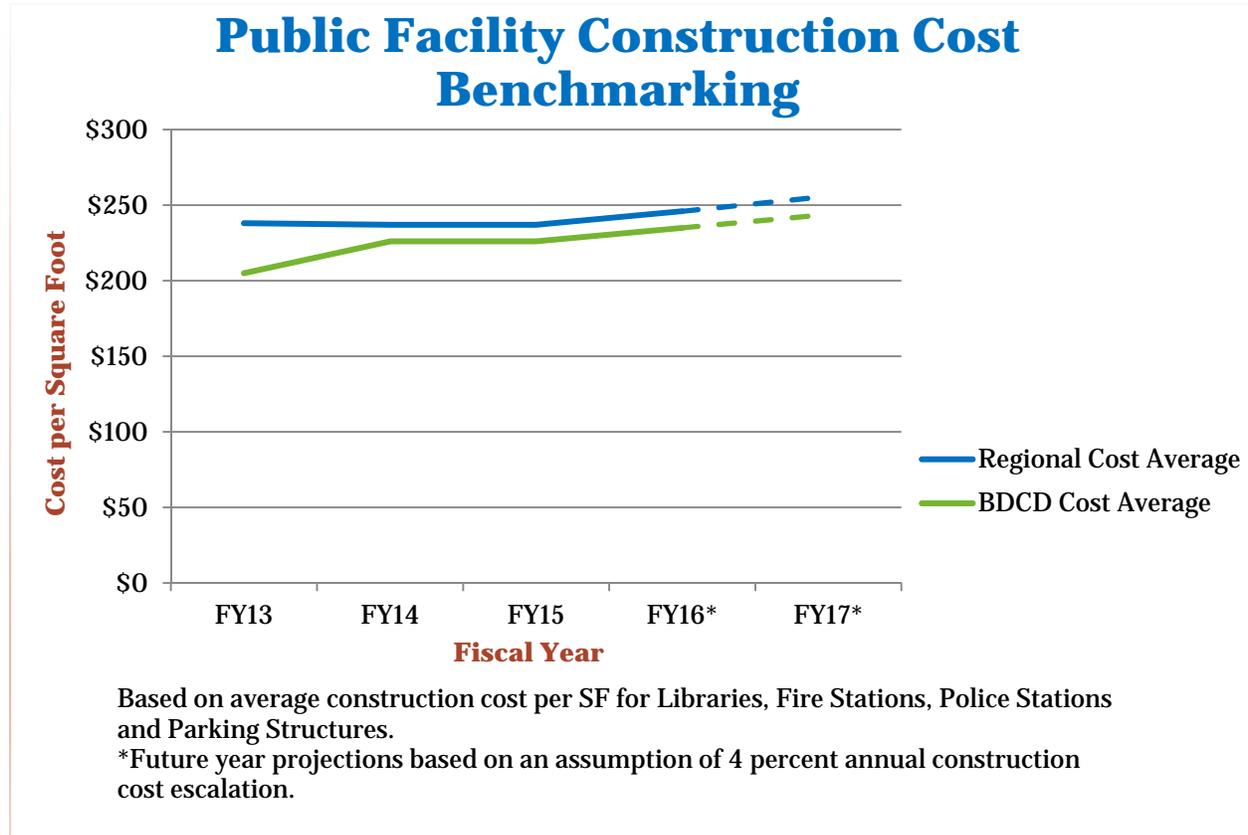
This metric measures BDCD's annual compliance level with the BOS Sustainable Development Policy to gauge the rolling five year average of completed BDCD projects that meet or exceed the BOS Policy for LEED certification. This measure directly reflects BDCD's success level in meeting or exceeding the BOS policy by measuring the percentage of completed projects that achieve the prescribed level of certification under LEED. This program was selected as the standard for the County's environmental/sustainability program for building projects. In FY 2014, there was one project certified, and that one project met the Policy goal. No FY 2015 project will exceed the policy goal.



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Construction Cost Benchmark

A comparative measure of the average cost per square for typical facilities (Libraries, Fire Stations, Police Stations, and Parking Structures) developed by BDCD, as a percentage to the average cost per square foot of the same facility types developed throughout the Washington Metropolitan and Northern Virginia regions. Benchmark data is compiled based on actual cost for Fairfax County facilities managed by BDCD compared to the average costs for other localities based on information gathered from a variety of sources including Independent Cost Estimating Consultants. This metric is important in measuring BDCD's cost-effectiveness in the construction cost for public projects, relative to the regional benchmark construction cost figures. The BOS Auditors have recently reviewed construction costs and have no recommendations.



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Building Design Customer Satisfaction Survey

BDCD conducts a biannual survey to measure the level of satisfaction of the Using Agency and project stakeholders in areas including planning/design, construction, occupancy, and BDCD staff. The survey results are ranked on a scale of 1 (Poor) to 5 (Superior), with a BDCD goal of an average response of 4.0 or higher. Customer satisfaction continues to remain above 4 and this trend is anticipated to continue. BDCD continues to strive to achieve superior customer service quality support on all projects managed by this division. This metric is important to measure the satisfaction level of our BDCD customers and stakeholder agencies with the projects and the process; and is a strong indicator of the level of overall success of the BDCD building development program, including quality of the building product.

