eCityGov Alliance Budget Workbook 2017-2018 Budget June 2016

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Introduction

The 2017/2018 eCityGov Alliance (Alliance) budget aligns with the Executive Board's priorities stated in the April and May 2016 meetings.

Key Executive Board priorities include:

- Continue investment in MyBuildingPermit to improve services, extend the life of the product, and expand membership.
- Maintain operations for GovJobsToday and NWProperty, but do not invest in development/enhancements at this time.
- Discontinue funding for legacy systems, including MyParksandRecreation and NWMaps.
- Hold off on further investments, such as Open Data or Big Data.

This budget document is separated into two sections: Restricted Program (MyBuildingPermit) and Unrestricted Programs (GovJobsToday and NWProperty).

eCityGov Alliance Restructure:

The Executive Board is currently discussing ways to restructure the Alliance, which will impact both the governance and cost structure organization and all its remaining programs.

The Board plans to define the new governance and cost structure by the end of 2016 and begin implementing the changes in 2017. Therefore, the Board is planning to update to the budget during the bi-annual budget process in mid-2017.

MyBuildingPermit "ePlan" Payback

In 2012 the Principle Agencies agreed to loan MyBuildingPermit \$171,998, providing a continued investment in new development. Principles are to be repaid over five-years (2014 to 2018) with annual installments of \$34,400.

Principal membership has changed and as part of the Interlocal Agreement (ILA), when a City withdrawals as a Principle, it leaves its investments with the Alliance. Therefore the payment plan is revised with shares reapportioned to the remaining Principles.

For historical reference:

- Renton and Woodinville withdrew as Principles prior to the payback beginning in 2014;
- Bothell withdrew as Principle beginning 2016; and
- Mercer Island is withdrawing as of 2017.

The revised annual payment plan is below, showing re-apportioned shares over the years and the total amount to be repaid by 2018.

| Partner | Co | 2012 Intribution | ayback To Date 2014 & 2015)* | - | 16 Planned Payback | 2017 & 2018 anned Payback | Tot | al Payback |
|---------------|----|---------------------|---------------------------------|----|-----------------------|------------------------------|-----|------------|
| Bellevue | \$ | 72,397 | \$ 33,387 | \$ | 18,768 | \$ 40,486 | \$ | 92,640 |
| Bothell all | \$ | 16,487 | \$ 7,603 | \$ | - | \$ - | \$ | 7,603 |
| Issaquah | \$ | 8,220 | \$ 3,791 | \$ | 2,131 | \$ 4,597 | \$ | 10,519 |
| Kenmore | \$ | 4,737 | \$ 2,185 | \$ | 1,228 | \$ 2,649 | \$ | 6,062 |
| Kirkland | \$ | 21,670 | \$ 9,994 | \$ | 5,618 | \$ 12,118 | \$ | 27,730 |
| Mercer Island | \$ | 9,669 | \$ 4,459 | \$ | 2,507 | \$ - | \$ | 6,966 |
| Renton | \$ | 20,263 | | \$ | - | \$ - | \$ | - |
| Sammamish | \$ | 12,592 | \$ 5,807 | \$ | 3,264 | \$ 7,042 | \$ | 16,113 |
| Snoqualmie | \$ | 3,412 | \$ 1,574 | \$ | 885 | \$ 1,908 | \$ | 4,367 |
| Woodinville | \$ | 2,551 | | \$ | - | \$ - | \$ | - |
| Totals | \$ | 171,998 | \$ 68,800 | \$ | 34,400 | \$ 68,799 | \$ | 171,998 |

*In early 2015, eCityGov made a payment for both 2014 and 2015 payments.

Restricted Program – Workplan and Budget

<u>MyBuildingPermit</u>

Mission:

The mission of MyBuildingPermit is to provide a consistent experience for shared permitting customers, offer all development applications online, and set the standard for working in partnership with cities and counties in the region.

Background:

In June 2014 the Executive Board approved a 2015/2016 budget which included significant investments into MyBuildingPermit to re-architect the system and enhance functionality. MyBuildingPermit members contributed a combined \$478,676 over the two-year budget and re-allocated \$229,961 from reserves to fund investments.

Beginning in 2015, several new discoveries coincided, impacting the budget necessary to re-architect MyBuildingPermit:

- Microsoft announced significant future changes to the technology landscape.
- Snohomish County requested a significant enhancement to permit application functionality.
- MyBuildingPermit Program and Management Team outlined their vision for the system, which was not fully considered in the original re-architecture budget.

It became clear that the budget approved in 2014 was not sufficient to 1) Keep pace with the changing technology environment and 2) Deliver the functionality envisioned by the MyBuildingPermit Team.

Below is a brief explanation of the technology and project changes since the last budget cycle.

Technology Changes in the Microsoft Environment:

In June 2015, Microsoft announced that it will no longer support ASP.net Web Forms in future versions of the .net platform. A significant portion of the MyBuildingPermit is built on Web Forms and will need to be re-written using the appropriate .net technology.

It is expected that Microsoft will continue to support Web Forms for the next few years as the technology change impacts all businesses and governments. The revised project workplan extends four (4) years into 2020 and touches all MyBuildingPermit modules, ensuring the system will be compliant with the new .net platform once it is released.

Registered Basic Functionality:

In late 2014 Snohomish County voiced concern that MyBuildingPermit was not able to handle their registered basic permits, which amounted to over 80% of the County's total permits. Upon internal review, it was found that MyBuildingPermit had the ability to accept registered basic applications, but the functionality did not meet the needs of Snohomish County, the member with largest number of registered basic applications. Additionally, Snohomish County announced preparations to discontinue their legacy system for registered basics and needed to either purchase a new system or incorporate registered basics into MyBuildingPermit.

The MyBuildingPermit Management Team and the Executive Board voted in support of adding a registered basic project to the existing workplan in April 2015. This decision was based on the following:

- Snohomish County accounts for 24% of MyBuildingPermit funding. Like all members, Snohomish County pays based on total permit revenue received. However, Snohomish County is only able to put 10% of permits in MyBuildingPermit due to the limited registered basic functionality. Not enhancing registered basic functionality would jeopardize the ability of Snohomish to participate as a member in future years.
- Other existing member Cities, including Sammamish and Snoqualmie, said they would also use the enhanced registered basic functionality.
- Potential members, such as King County, would find enhanced registered basic functionality enticing.

A project to enhance registered basic functionality was added to the workplan for 2016, which subsequently pushed out other project work to future years.

MyBuildingPermit 2020 Vision:

Throughout 2015 and 2016, the MyBuildingPermit Program Team and eCityGov Alliance staff worked together to outline the vision of MyBuildingPermit, including how the system would ideally work as a whole and the functionality needed to improve the customer experience.

The original June 2014 budget estimates for the MyBuildingPermit re-architecture included standard database cleanup and user interface (UI) changes. The original budget estimate did not fund a true "re-architecture", which entails the database tier to be re-architected.

In order to enable the MyBuildingPermit 2020 Vision, several major technology items would need to be addressed that were not accounted for in the original budget.

- Fully re-architect the database tier to improve search functionality, expand user functionality when assigning delegates, improve dashboard functionality, accept additional document types and add mapping (geospatial) functionality.
- Create a single MyBuildingPermit web address (URL) to improve navigation. The system is currently comprised of several URLs, including separate URLs for permit application, permit inspection request site, and permit status site. The multiple URLs make it difficult for the user to navigate seamlessly throughout the system.
- Implement re-architecture of MyBuildingPermit modules to improve design approach and enable easier re-use and testing of code.

Additional information on technology changes necessary can be found in Appendix A.

Workplan and Budget Overview:

Below are the attributes of the workplan for 2017 and 2018. The detailed workplan can be found in Appendix B.

- Implements architectural and technology changes required to keep pace with Microsoft's changing environment.
- Enables the MBP Team to meet an estimated 75% of the 2020 vision objectives by 2020, the previously defined re-architecture would not have enabled a significant portion of MBP vision to be achieved.
- Provides for two (2) full time developers to implement new and enhanced functionality.
- Provides an additional business analyst to assist with documentation and onboarding of new members, especially important when King County joins.
- Enhances functionality, making it more appealing to new organizations to join.
- Allows the members to continue investing in the tool during a revenue upswing, with the expectation that investment in new and enhanced functionality will decline when revenues decline.

• Provides a more consistent approach to Bellevue's resource needs because it moves away from ½ time resources, assigning full resources for business analyst, project manager, and developer positions.

A high level synopsis of MyBuildingPermit budget is below.

| MBP Budget Categories | 2017 | 2018 |
|---|-----------|-----------|
| Personnel | | |
| (0&M) | 175,109 | 180,567 |
| SLA Core - Application Services | | |
| developers and PMs (O&M/Investment) | 405,980 | 419,288 |
| SLA Infrastructure | | |
| equipment, network, database services, replacement (O&M) | 11,023 | 11,276 |
| SLA Other | | |
| finance/budget, help desk, admin support, business analysts (O&M) | 401,695 | 414,933 |
| Other | | |
| professional services, legal, audit support, insurance (O&M) | 75,900 | 75,900 |
| Total MBP Budget | 1,069,708 | 1,101,964 |

Funding Strategy:

An annual fee of 2.2% is applied to each jurisdiction's 5-year average revenue in 2017 and 2018. MyBuildingPermit is not using reserves to fund development, as the reserves are slightly lower after being used in 2015/2016 to fund investments. Below is the total budget and the recommended fees for 2017 and 2018.

| | | 2017 | 2018 | Total | |
|-----------------------------------|-------------|-----------------|-----------------|-----------------|----------|
| MyBuildingPermit Budget | | \$ 1,069,708 | \$ 1,101,964 | \$ 2,171,672 | |
| Less Other Revenue (training fees | & interest) | \$ 6,900 | \$ 7,075 | \$ 13,975 | |
| Remaining to be Funded | | \$ 1,062,808 | \$ 1,094,889 | \$ 2,157,697 | |
| | | | | | |
| MBP Member | 5-Year | 2017 | 2018 | Biennial | % Total |
| | % Avg | Budget | Budget | Total | 76 TOLAI |
| Bellevue | 27% | \$ 288,936 | \$ 297,658 | \$ 586,594 | 27% |
| Issaquah | 6% | \$ 59,311 | \$ 61,102 | \$ 120,413 | 6% |
| Kenmore | 2% | \$ 16,301 | \$ 16,793 | \$ 33,094 | 2% |
| Kirkland | 12% | \$ 128,497 | \$ 132,376 | \$ 260,873 | 12% |
| Sammamish | 6% | \$ 62,925 | \$ 64,825 | \$ 127,750 | 6% |
| Snoqualmie | 1% | \$ 15,333 | \$ 15,795 | \$ 31,128 | 1% |
| Partner Total | 54% | \$ 571,303 | \$ 588,548 | \$ 1,159,852 | 54% |
| Burien | 2% | \$ 24,242 | \$ 24,973 | \$ 49,215 | 2% |
| Mill Creek | 1% | \$ 8,127 | \$ 8,373 | \$ 16,500 | 1% |
| Newcastle | 1% | \$ 13,033 | \$ 13,427 | \$ 26,460 | 1% |
| Renton (S) | 9% | \$ 96,199 | \$ 99,103 | \$ 195,302 | 9% |
| Snohomish Unincorporated | 23% | \$ 240,104 | \$ 247,352 | \$ 487,456 | 23% |
| Woodinville (S) | 1% | \$ 14,396 | \$ 14,831 | \$ 29,227 | 1% |
| Mercer Island (S) | 4% | \$ 38,907 | \$ 40,081 | \$ 78,988 | 4% |
| Bothell all (S) | 5% | \$ 56,495 | \$ 58,201 | \$ 114,696 | 5% |
| Subscriber Total | 46% | \$ 491,504 | \$ 506,341 | \$ 997,845 | 46% |
| Grand Total | 100% | \$ 1,062,808 | \$ 1,094,889 | \$ 2,157,697 | 100% |

The reserve for MyBuildingPermit is estimated to be 38% at the end of 2018.

Rate Comparison to Previous Years

For comparison purposes, prior to the 2015/2016 budget, the MyBuildingPermit Annual Fee was 1.3% of a jurisdiction's total permit revenue for the current year. The 1.3% was applied to member revenue on a quarterly basis and resulted in a fluctuating revenue stream, therefore making it hard to plan investment/capital projects.

During the June 2014 budget process, the Executive Board agreed to a new fee methodology that smoothed payments. The new fee methodology took the average of 5-years permit revenue, calculated the percent that each jurisdiction owned when compared to the other members, and applied to that percent owed to the final budget.

For 2017 and 2018 the budget recommendation is a 2.2% annual fee on the 5-year average revenue. This initially sounds much higher than previous years. However, when the actual dollars for 2017/2018 payments are compared to 2015 jurisdiction permit revenue, the impact to members is, in most cases, closer to the historic 1.3% of current revenue.

| | % of 2015 |
|--------------------------|-----------|
| MBP Member Jurisdiction | Revenue |
| Bellevue | 1.44% |
| Issaquah | 1.40% |
| Kenmore | 1.43% |
| Kirkland | 1.55% |
| Sammamish | 1.86% |
| Snoqualmie | 3.56% |
| Burien | 1.45% |
| Mill Creek | 1.79% |
| Newcastle | 0.69% |
| Renton (S) | 1.40% |
| Snohomish Unincorporated | 1.59% |
| Woodinville (S) | 1.31% |
| Bothell all (S) | 1.77% |
| Mercer Island (S) | 1.03% |

Breakout out of Operations/Maintenance and Investment

Some MyBuildingPermit member jurisdictions are required to breakout their payments by Operations & Maintenance and Investment. For 2017 and 2018 the breakout of the budget is 65% Operations & Maintenance and 35% Investment.

This breakout makes the following assumptions:

Operations & Maintenance Costs is defined as - Costs associated with the administration, supervision, operation, maintenance, preservation, and protection of the MyBuildingPermit program. For example, O&M costs includes facilities, equipment, equipment replacement, database services, network services, finance/budget support, help desk, administrative assistance, business analysts, audit support, insurance, and other professional services that may be required for regular organizational operations.

Investment Costs are defined as - Development of new functionality and enhancement of existing functionality for future use in the hope of improving services, expanding membership, and extending the life of the product.

MBP Operations and Maintenance ONLY

| MBP Budget Categories | 2017 | 2018 |
|---|---------|---------|
| Personnel | 175,109 | 180,567 |
| SLA Core - Application Services for Maintenance/Bug Fixes | | |
| developers and PMs | 36,538 | 37,736 |
| SLA Infrastructure | | |
| equipment, network, database services, replacement | 11,023 | 11,276 |
| SLA Other | | |
| finance/budget, help desk, admin support, business analysts | 401,695 | 414,933 |
| Other | | |
| professional services, legal, audit support, insurance | 75,900 | 75,900 |
| Total MBP O&M Budget | 700,266 | 720,412 |

MBP Investment ONLY

| MBP Budget Categories | 2017 | 2018 |
|--|---------|---------|
| SLA Core - Application Services for Dev and Enh Projects | | |
| developers and PMs | 369,442 | 381,552 |
| Total MBP Investment Budget | 369,442 | 381,552 |
| | | |

Unrestricted Programs – Workplan and Budget

Population Update

The State of Washington Office of Financial Management provided 2015 population figures, which were used to update the 2017 and 2018 population and cost allocation for Principles.

For both GovJobsToday and NWProperty each Principle's annual fee is allocated based on weighted population figures.

| Partner Member | Population for 2015 /2016 Budget | % of Total for 2015 /2016 Budget | Population for 2017 / 2018 Budget | % of Total for 2015 /2016 Budget |
|--------------------------------|--|-------------------------------------|---|-------------------------------------|
| Bellevue | 134,400 | 37.8% | 135,000 | 40.2% |
| Issaquah | 32,880 | 9.2% | 33,330 | 9.9% |
| Kenmore | 21,370 | 6.0% | 21,500 | 6.4% |
| Kirkland | 82,590 | 23.2% | 83,460 | 24.8% |
| Mercer Island Withdrawing 2017 | 23,310 | 6.5% | - | 0.0% |
| Sammamish | 49,260 | 13.8% | 49,980 | 14.9% |
| Snoqualmie | 12,130 | 3.4% | 12,850 | 3.8% |
| Total | 355,940 | 100% | 336,120 | 100% |

<u>GovJobsToday</u>

Mission:

The mission of GovJobsToday is to provide a gateway to public service jobs in the Pacific Northwest, providing applicants easy access to posted jobs, streamlining the hiring process for agency staff, and increasing the visibility of all jurisdictions.

Background:

In 2016 GovJobsToday received significant development hours to clean-up the database, address security issues, and add some enhancements for both applicants and hiring staff. Since eCityGov is going to be restructuring in 2017, additional investments are being postponed at this time.

Workplan and Budget Overview:

There are no development or enhancement projects scheduled for GovJobsToday during the 2017/2018 budget cycle. The budget does allow for 150 hours of general system maintenance and bug fixes each year.

A high level synopsis of GovJobsToday budget is below.

| GovJobsToday Budget Categories | 2017 | 2018 |
|---|--------------|--------------|
| Personnel | | |
| (O&M) | \$ 29,185 | \$ 30,095 |
| SLA Core - Application Services | | |
| developers and PMs (O&M) | \$ 14,701 | \$ 15,182 |
| SLA Infrastructure | | |
| equipment, network, database services, replacement (O&M) | \$ 10,813 | \$ 11,061 |
| | | |
| SLA Other | | |
| finance/budget, help desk, admin support, business analysts (O&M) | \$ 20,893 | \$ 21,593 |
| Other | | |
| professional services, legal, audit support, insurance (O&M) | \$ 8,320 | \$ 7,820 |
| Total GovJobsToday Budget | \$ 83,912 | \$ 85,750 |

Funding Strategy:

Below is the breakout of Partner and Subscriber fees for GovJobsToday. One of the main priorities of the restructure is to address the gap between Partner and Subscriber fees.

| | 2017 | 2018 | Total |
|-------------------------------|----------------|----------------|-------------------|
| GovJobsToday Budget | \$ 83,912 | \$ 85,750 | \$ 169,662 |
| Less Other Revenue (interest) | \$ 150 | \$ 156 | \$ 306 |
| Remaining to be Funded | \$ 83,762 | \$ 85,594 | \$ 169,355 |
| GovJobsToday Members | 2017 Budget | 2018 Budget | Biennial Total |
| Bellevue | \$ 24,163 | \$ 24,618 | \$ 48,782 |
| Issaquah | \$ 5,966 | \$ 6,078 | \$ 12,044 |
| Kenmore | \$ 3,848 | \$ 3,921 | \$ 7,769 |
| Kirkland | \$ 14,938 | \$ 15,220 | \$ 30,158 |
| Sammamish | \$ 8,946 | \$ 9,114 | \$ 18,060 |
| Snoqualmie | \$ 2,300 | \$ 2,343 | \$ 4,643 |
| Partner Total | \$ 60,162 | \$ 61,294 | \$ 121,455 |
| Newcastle | \$ 2,500 | \$ 2,600 | \$ 5,100 |
| NORCOM | \$ 5,100 | \$ 5,100 | \$ 10,200 |
| Oak Harbor | \$ 3,500 | \$ 3,600 | \$ 7,100 |
| Woodinville (S) | \$ 2,500 | \$ 2,600 | \$ 5,100 |
| Gig Harbor | \$ 1,500 | \$ 1,600 | \$ 3,100 |
| Mercer Island (S) | \$ 3,500 | \$ 3,600 | \$ 7,100 |
| Lake Stevens | \$ 5,000 | \$ 5,200 | \$ 10,200 |
| Suscriber Total | \$ 23,600 | \$ 24,300 | \$ 47,900 |
| | \$ 83,762 | \$ 85,594 | \$ 169,355 |

The reserve for GovJobsToday is estimated to be 25% at the end of 2018.

NWProperty

Mission:

The mission of NWProperty is to provide single source of regional commercial property data, including comprehensive lease and sales information, demographic reports, and links to the County Assessor.

Background:

During the April 2016 meeting, the Executive Board discussed the future of NWProperty and whether it should be discontinued. It was agreed that eCityGov would conduct an outreach to determine the usage and satisfaction with NWProperty.

In May 2016, Milloy and Associates were hired to conduct NWProperty a user satisfaction assessment. The assessment found municipalities with sizable commercial districts regularly used NWProperty with a high degree of satisfaction. Smaller municipalities' use of NWProperty is less regular and it has a lower perceived value, especially true for cities without personnel charged with economic development functions. In addition, Milloy and Associates also reached out to Chambers of Commerce and found that in most cases they were unaware of the tool. Most of the Chambers expressed appreciation for information and stated NWProperty would become a tool they would use in the future.

Based on feedback, the NWProperty Team and Executive Director are going to conduct a marketing campaign. No additional investments are being considered at this time.

Workplan and Budget Overview:

There are no development or enhancement projects scheduled for NWProperty during the 2017/2018 budget cycle. The budget does allow for 150 hours of general system maintenance and bug fixes each year.

| NWProperty Budget Categories | 2017 | 2018 |
|---|--------------|--------------|
| Personnel | | |
| (O&M) | \$ 29,185 | \$ 30,095 |
| SLA Core - Application Services | | |
| developers and PMs (O&M) | \$ 14,701 | \$ 15,182 |
| SLA Infrastructure | | |
| equipment, network, database services, replacement (O&M) | \$ 10,813 | \$ 11,061 |
| SLA Other | | |
| finance/budget, help desk, admin support, business analysts (O&M) | \$ 20,893 | \$ 21,593 |
| Other | | |
| professional services, legal, audit support, insurance (O&M) | \$ 15,820 | \$ 15,820 |
| Total NWProperty Budget | \$ 91,412 | \$ 93,750 |

A high level synopsis of NWProperty budget is below.

Funding Strategy:

Below is the breakout of Partner and Subscriber fees. One of the main priorities of the restructure is to address the gap between Partner and Subscriber fees.

| | 2017 | 2018 | Total |
|-------------------------------|--------------|--------------|---------------|
| NWProperty Budget | \$ 91,412 | \$ 93,750 | \$ 185,162 |
| Less Other Revenue (interest) | \$ 150 | \$ 156 | \$ 306 |
| Remaining to be Funded | \$ 91,262 | \$ 93,594 | \$ 184,855 |
| | | | |

| NWProperty Members | | 2017 | | 2018 | | Biennial | |
|--------------------|----|--------|----|--------|----|----------|--|
| | | Budget | | Budget | | Total | |
| Bellevue | \$ | 26,895 | \$ | 27,831 | \$ | 54,726 | |
| Issaquah | \$ | 6,640 | \$ | 6,871 | \$ | 13,511 | |
| Kenmore | \$ | 4,283 | \$ | 4,432 | \$ | 8,716 | |
| Kirkland | \$ | 16,627 | \$ | 17,206 | \$ | 33,833 | |
| Sammamish | \$ | 9,957 | \$ | 10,304 | \$ | 20,261 | |
| Snoqualmie | \$ | 2,560 | \$ | 2,649 | \$ | 5,209 | |
| Partner Total | \$ | 66,962 | \$ | 69,294 | \$ | 136,255 | |
| | | | | | | | |
| Covington | \$ | 2,500 | \$ | 2,500 | \$ | 5,000 | |
| Des Moines | \$ | 3,600 | \$ | 3,600 | \$ | 7,200 | |
| North Bend | \$ | 800 | \$ | 800 | \$ | 1,600 | |
| SeaTac | \$ | 3,600 | \$ | 3,600 | \$ | 7,200 | |
| Tukwila | \$ | 2,500 | \$ | 2,500 | \$ | 5,000 | |
| Everett | \$ | 7,700 | \$ | 7,700 | \$ | 15,400 | |
| Bothell all (S) | \$ | 3,600 | \$ | 3,600 | \$ | 7,200 | |
| Suscriber Total | \$ | 24,300 | \$ | 24,300 | \$ | 48,600 | |
| | \$ | 91,262 | \$ | 93,594 | \$ | 184,855 | |

The reserve for NWProperty is estimated to be 25% at the end of 2018.

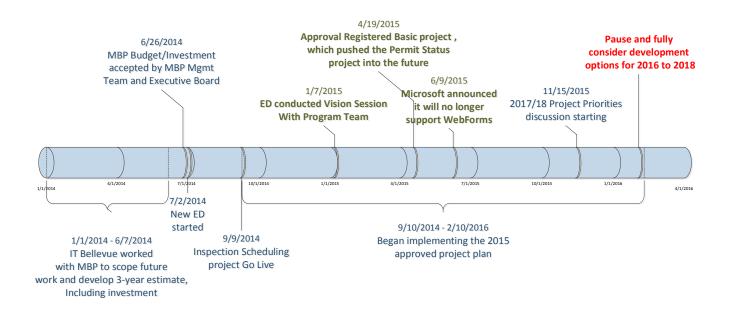
Appendix A – Information for MyBuildingPermit Investment

The timeline below shows the conversation history around project development on the MyBuildingPermit tool.

In 2015, three new discoveries coincided, impacting the budget necessary to re-architect MyBuildingPermit:

- Microsoft announced significant future changes to the technology landscape.
- Snohomish County requested a significant enhancement to permit application functionality.
- MyBuildingPermit Program and Management Team outlined their vision for the system, which was not fully considered in the original re-architecture budget.

The new discoveries are highlighted in green and resulting in the need to pause and re-assess the development plan for MyBuildingPermit.



Significant technology considerations are necessary to keep pace with the Microsoft environment, develop registered basics functionality in the optimal way, and provide the architecture to meet the MBP Team 2020 Vision.

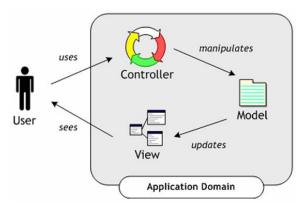
Implement MVC (Model-View-Controller) is an architectural pattern.

Microsoft will no longer support ASP.net web forms in future versions of the .net platform. All businesses/governments are in process of transitioning MVC.

What is MVC exactly?

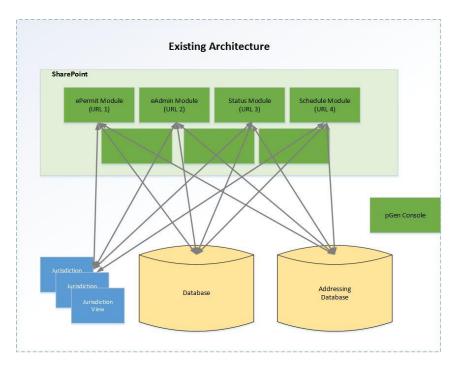
MVC (Model-View-Controller) is an architectural pattern for web based applications. The application is separated among Model, View, and Controller functionality, providing loose coupling of UI logic, business logic, and input logic. MVC provides ability to plug-n-play and have more flexibility when developing and testing.

The diagram to the right illustrates how the user can interact with the control panel to easily pull information from the database (model) and create different types of views.



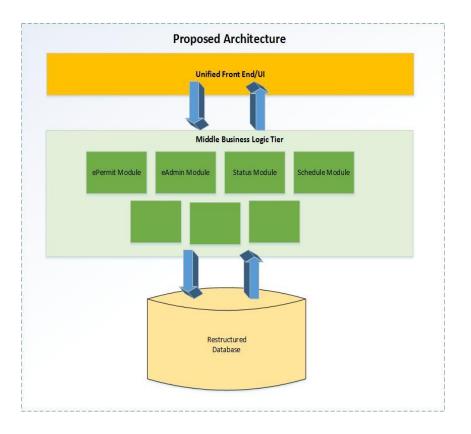
Existing Architecture

The existing database is stable and provides our current level of functionality, but it does not enable the MyBuildingPermit Team's 2020 Vision. Additionally, the MyBuildingPermit components with Web Forms will have to be re-architected at some point in the future as they will not be supported by Microsoft.



Proposed Architecture

The workplan aligned with the 2017/2018 budget provides resources to align technology to Microsoft's environment and business goals. It re-architect the database, providing efficiencies in future development and enables MyBuildingPermit Team's 2020 Vision. The planned database will use MVC to create modules that are plug-n-play and enable a more flexible system. It will also enhance customer navigation with a single URL.



The following are items from the MyBuildingPermit Team's 2020 Vision that require the technology changes described above. Items in italics will not be completed with projects in the four-year workplan (Appendix B), but the architecture implemented in 2017 and 2018 will enable future projects and functionality to be delivered.

| Technology | 2020 Vision |
|---------------------|---|
| Create a Single URL | Improve navigation, the program team's #1 priority |
| | • Enable "permit application" specific URL in future (20/20 Vision) |
| Fully Re-architect | Improve quick search functionality between various identifiers |
| database Tier | • Expand the "delegate" functionality, ie. add a delegate that does not have an account |
| | • Add non-plan review (over the counter) permits to the dashboards with reprint |
| | Enable jurisdiction dashboard functionality - mass closure/deletion of files |
| | Upload additional document types and store on status site |
| | Add mapping functionality with geospacial referencing |
| | • Enable creation of workflows for the 20/20 vision, for instance combo permits |
| Implement MVC | • Enable plug-n-play approach (flexible), easier to add/remove modules |
| | Support multiple file formats |
| | Make easier to re-use and independently test code |
| | Make more design approaches possible |
| | Use web services more efficiently |
| | • Enables the use of RESTful URLs, which allow search engine optimization and could allow MBP to provide direct URLs for application permits (20/20 Vision) |
| | • Enables the use of RESTful URLs, which allow search engine optimization and could allow MBP to provide direct URLs for application permits (20/20 Vision) |

Appendix B – MyBuildingPermit Workplan

<u>MyBuildingPermit Estimates – 2 Developers per Year (3320 hours)</u>

Assumptions:

- If database is not re-architected in 2016, then add 20% to each future project (including Registered Basics) for database work and implementation
- Assumes 480 hours of Maintenance and On-Boarding each year, if not all Maintenance is used, then hours will roll into Project work
- This workplan contains estimates and will be finalized once requirements gathering for each project is complete

| Milestone | Dev Estimate | РМ | Total IT |
|---|-----------------|--------|----------|
| 2016 | | | |
| ePermit & ePermit Admin | 1620 | 486 | 2106 |
| Registered Basics | 1320 | 396 | 1716 |
| Automation of Local Business License Approval | | | |
| Jurisdictions will provide views to their local business licenses | 336 | 100.8 | 436.8 |
| Developers will automate the approval and expiration update on local licenses (if | | | |
| Design Module-Based Tiered Architecture | 500 | 150 | 650 |
| Maintenance and On-boarding | 480 | 144 | 624 |
| Total Hours | 4256 | 1276.8 | 5532.8 |
| Total FTE | 2.7 | 0.8 | 3.5 |
| 2017 | | | |
| Implement Database Tier and Migrate Data | 800 | 240 | 1040 |
| PGen Console Application | | | |
| Rewrite the code to current technology standards | 840 | 252 | 1092 |
| Improved timing for batch processes | | | |
| Modifications to the notification processes | | | |
| New Payment Processor Implementation | 720 | 216 | 936 |
| ePermit functionality modifications | | | |
| Examples: creating dynamic links to jurisdiction forms based on application | 480 | 144 | 624 |
| configuration | 480 | 144 | 024 |
| Adding multiple types of contacts | | | |
| Maintenance and On-boarding | 480 | 144 | 624 |
| Total Hours | 3320 | 996 | 4316 |
| Total FTE | 2.0 | 0.6 | 2.7 |

2018 through 2020 are continued on next page.

| | Dev | | |
|---|---|--|---|
| Milestone | Estimate | РМ | Total IT |
| 2018 | | | |
| Finish ePermit functionality modifications | | | |
| Examples: creating dynamic links to jurisdiction forms based on application | | | |
| configuration | 336 | 101 | 437 |
| Adding multiple types of contacts | | | |
| Adding parcel owner phone numbers | | | |
| Redesign Customer Dashboard | | | |
| Technology update to meet current standards | | | |
| This is not fully defined. Part of this project is outreach to customers to determine | | | |
| modifications they would like. Considered changes: | | | |
| Removal of tabs - more " I want to" | 1536 | 461 | 1997 |
| More OTC capabilities including printing/storing permits | | | |
| Better search capabilities | | | |
| Improved delegate functionality | | | |
| | | | |
| Customer Key Word Search for application types | | | |
| This would be the ability of customers to put in words or phrases of the work they | 216 | 65 | 281 |
| would like to do and let them know what application configuration would be correct | | | |
| Redesign Jurisdiction Dashboard | | | |
| Update to current technology platform | | | |
| Example of modifications: | | | |
| Improved delegate functionality | 752 | 226 | 978 |
| Ability to mass close permits | | | |
| Ability to change project contacts | | | |
| Ability to mass delete files | | | |
| Maintenance and On-boarding | 480 | 144 | 624 |
| Total Hours | 3320 | 996 | 4316 |
| Total FTE | 2.0 | 0.6 | 2.7 |
| 2019 | 1 | | |
| Finish Redesign Jurisdiction Dashboard | | | |
| Update to current technology platform | | | |
| Example of modifications: | | | |
| Improved delegate functionality | E02 | 170 | 770 |
| Improved delegate functionality | 592 | 178 | 770 |
| Ability to mass close permits | 592 | 178 | 770 |
| Ability to mass close permits Ability to change project contacts | 592 | 178 | 770 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files | 592 | 178 | 770 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier | 592 | 178 | 770 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology | | | 2402 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality | 1848 | 554 | |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology | | | |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files | | | |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality | | | |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update | | | |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform | 1848 | 554 | 2402 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents | 1848 | 554 | 2402 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching | 1848 | 554 | 2402 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets | 1848 400 | 554 | 2402 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total Hours Total FTE | 1848 400 480 | 554 120 144 | 2402 520 624 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total Hours Total FTE 2020 | 1848 400 <u>480</u> 3320 | 554 120 144 996 | 2402 520 <u>624</u> 4316 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total Hours Total FTE 2020 <u>Finish</u> Inspection Scheduling Update | 1848 400 <u>480</u> 3320 | 554 120 144 996 | 2402 520 <u>624</u> 4316 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total Hours Total FTE 2020 Finish Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform | 1848 400 <u>480</u> 3320 2.0 | 554 120 144 996 0.6 | 2402 520 <u>624</u> 4316 2.7 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total Hours Total FTE 2020 Finish Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider changes that may make it easier to view in mobile platform Consider changes that may make it easier to view in mobile platform | 1848 400 <u>480</u> 3320 | 554 120 144 996 | 2402 520 <u>624</u> 4316 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total Hours Total FTE 2020 Finish Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total FTE 2020 | 1848 400 <u>480</u> 3320 2.0 | 554 120 144 996 0.6 | 2402 520 <u>624</u> 4316 2.7 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total Hours Total FTE 2020 <u>Finish Inspection Scheduling Update</u> Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets | 1848 400 <u>480</u> 3320 2.0 344 | 554 120 144 996 0.6 103 | 2402 520 624 4316 2.7 447 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total Hours Total FTE 2020 Finish Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider changes that may make it easier to view in mobile platform Consider changes that may make it easier to view in mobile platform Consider changes that may make it easier to view in mobile platform Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Improved searching Links to checklists and tip sheets Improve General Navigation | 1848 400 3320 2.0 344 576 | 554 120 144 996 0.6 103 103 | 2402 520 624 4316 2.7 447 447 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total Hours Total FTE 2020 Finish Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider changes that may make it easier to view in mobile platform Consider changes that may make it easier to view in mobile platform Consider changes that may make it easier to view in mobile platform Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Improve General Navigation Maintenance and On-boarding | 1848 400 3320 2.0 344 576 480 | 554 120 144 996 0.6 103 173 144 | 2402 520 624 4316 2.7 447 447 749 624 |
| Ability to mass close permits Ability to change project contacts Ability to mass delete files Permit Status to Middle Tier update to current technology improve search functionality add the ability to store pictures & files mapping & exporting functionality Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total Hours Total FTE 2020 Finish Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Maintenance and On-boarding Total FTE 2020 Finish Inspection Scheduling Update Consider changes that may make it easier to view in mobile platform Consider posting correction documents Improved searching Links to checklists and tip sheets Improved searching Links to checklists and tip sheets Improve General Navigation | 1848 400 3320 2.0 344 576 | 554 120 144 996 0.6 103 103 | 2402 520 624 4316 2.7 447 447 |