

Building Assessment Studies and Cost Estimates
for
Capital Improvements
at the
Jail (Public Safety Building)
and
Work Center

Whatcom County - Contract 201607005 – PHASE 1A

11 OCTOBER 2016

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This document was amended on
07 November 2016. Changes
and additions are shown with a
blue line on the left.

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EXECUTIVE SUMMARY

design2 LAST was retained by Whatcom County to perform building assessments on the existing Jail, (Public Safety Building) and the existing Work Center. These assessments were to address two issues; the physical condition of each building; and the operational condition of each facility. **The objective of the assessments was to identify building systems, materials, and procedures that can be improved to increase building safety and reform processes which would allow the facilities to remain in operation until such time as a new Public Safety Building can be procured, constructed, and occupied.** Our objective was to complete a high level review of overall systems without getting into a full, invasive study of each piece of equipment. We also reviewed the existing plans, upgrades, studies and evaluations that were done previously. In addition, this report identifies changes and upgrades for consideration, and the costs associated with those. The costs are rough order of magnitude (ROM) and are reflective of the limited level of detail desired by Whatcom County at this stage. The costs are intended to allow the County to make informed decisions to select from a list of issues they would like to address in more detail in future phases.

The design2 LAST team consisted of the following firms and disciplines:

design2 LAST, inc.....	Architecture, Civil Engineering, Project Manager (PM)
Architects Rasmussen Triebelhorn (A-RT).....	Criminal Justice Facility Design and Operations
MENG Analysis	Facility Condition Assessment Manager
Hargis Engineers	Mechanical, Electrical, and Security Engineering
SCBC Engineers	Structural Engineering
Clevenger and Associates.....	Kitchen and Laundry Design and Operations

On August 18, 2016, the team (minus civil) performed the facility condition assessment (FCA) of the Jail and Work Center Buildings. On August 22, the civil engineer performed his facility condition assessment (FCA) on the sites of the Jail and Work Center. The results of the facility condition assessment (FCA) are included in Tab 1. Owner questionnaires and team score sheets used as a basis of this report are included in the appendices in Tab 5.

On August 25, 2016, the Project Manager and Justice Architect interviewed the Chief and Deputies of the Jail and Work Center, the Sheriff, Undersheriff, and representatives from facilities management, regarding operations. The results of this interview are included in Tab 3. Notes from this interview used as basis for this assessment are included in the appendices in Tab 5.

The Jail, constructed in 1984, is showing its age. While the structure appears sound, it was built prior to current, more stringent, seismic codes and may be at risk for failure during a seismic event. The heating system is operational but requires almost daily maintenance. It lacks seismic bracing and redundancy. The plumbing piping similarly is operational but has had many recent failures in isolated locations. Recent repairs to pipe leaks show significant corrosion at joints and connections. The waste pipe lacks suitable design for a Jail population and thus, the inmates are able to obstruct waste piping regularly. The lighting appears to be designed at a level too low for safety. When the power goes off, there is a delay of 10-15 seconds before the emergency lights come on, which poses a safety risk to guards and inmates. On some doors, the security hardware is non-functional and some inmates have been able to compromise the lock and exit their cells. The finishes in all the spaces, public and secure, are worn and damaged, contributing to the somber atmosphere throughout the facility. Smoke evacuation was a code requirement at the time of construction but was not installed. The lack of a smoke evacuation system is a significant code violation that jeopardizes life safety of the occupants. Past smoke events prove how quickly the housing units can fill with smoke.



There are no handicap accessible housing units. Inmates with disabilities have to be separated from the population in order to accommodate their movement, and no cells fully meet accessibility guidelines.

The Work Center, constructed in 2006 as a temporary facility, is still in good condition. While the structure is sound, the facility does have some issues. The lighting levels are too low and pose a security risk when the power goes out. There are several areas that do not meet current exiting or ADA codes. The dormitory style cells result in problematic management of unruly inmates. The facility also regularly houses inmates over its designed security level.

Whatcom County has received several opinions over the years that strongly recommend that a new jail be designed and constructed and that a remodel of the existing jail is not a viable option. Those opinions were provided by architectural firms, the National Institute of Correction and the Whatcom County Law and Justice Council. **We concur with those recommendations and strongly recommend that a new jail be designed and constructed.** The existing jail does not provide a safe and secure environment for staff, inmates and visitors.

The building assessment found 12 issues that significantly affect performance and operations of the Jail and Work Center:

1. Because of the Jail **housing unit's linear cell layout**, observation by staff into the housing units is very limited and in some cases non-existent.
2. The linear and split level layout **inhibits movement of the inmates**
3. There are no **ambient noise level alarms** in either facility.
4. The **design of the medical area gives little thought to privacy** with limited space for normal functions and does not comply with HIPA privacy requirements
5. There is **no inmate holding at the courts**.
6. The Jail is filled **over its designed occupancy capacity**; and the Work Center, with dormitory style cells, holds **inmates above its designed security level**.
7. The County's adopted **Jail Standards have been suspended** for a number of years.
8. The jail does **not contain a smoke evacuation system**, a mandatory code requirement.
9. Doors and **door locks are failing** which is a major safety and security problem.
10. Upon a power outage, there is a **10 to 15 second delay before emergency lighting comes on**.
11. The facility has numerous **non-compliance issues with the Americans with Disabilities Act (ADA)**.
12. The **natural gas line is unprotected** where it enters the building on the exterior of the jail and poses a safety issue.

The facility Condition Assessment found **18 significant building deficiencies** (reference Facility Condition Assessment Exhibit 1B) that were estimated for this report. Projected costs summarized here include markups and are calculated as 2016 present value costs.

- Current Observed Deficiencies (2016 - 2021) = \$10,470,823.00 for both buildings and site systems
- 20-year (2016-2035) Predicted Renewal
 - Jail = \$27,446,895
 - Work Center = \$4,986,206

System	
Interior Construction	2,020,750
Interior Finishes	1,944,667
Electrical	1,492,886
Plumbing	1,431,716
Vertical Transportation	985,739
HVAC	890,137
Equipment	714,692
Roofing	678,223
Fire Protection	190,585
Site Improvements	121,428
Grand Total	10,470,823



The Facility Condition Analysis (FCA) Database generates parametric cost estimates for the renewal or replacement of all facility systems as they reach the end of their predicted life cycle. For Whatcom County Jail and Work Center facilities, a 20-year horizon was selected, which will support planning and budgeting for long-term major maintenance needs. Renewal costs are projected to be \$32M for this period.

Site	
Whatcom County Jail	27,446,895
Whatcom County Work Center	4,986,206
Grand Total	32,433,102

It is important to note, we do not believe that the minor shifting of functions between the jail and the work center discussed in the August 25th meeting will result in significant relief from crowding in the jail. Further, the existing jail configuration and footprint preclude any meaningful and permanent answers to space related issues such as medical, booking, classification and programs. Some relief might be gained by an addition, but cost of that would outweigh the benefits and so should be carefully considered as topic for further analysis.

We believe **the best and only permanent solution is to build a new Jail.**

The following report details the findings of the team's assessment, and provides considerations for upgrades including rough order of magnitude ROM costs.





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FACILITY CONDITION ASSESSMENT ...TAB 1





TAB 1

FACILITY CONDITION ASSESSMENT

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A. FACILITY CONDITION ASSESSMENT

A.1 Introduction

Whatcom County engaged design2 LAST to conduct Facility Condition Assessments (FCAs) of two (2) County owned, operated, and managed facilities. Our consultant, MENG Analysis, conducted and compiled this report which includes both summary and detailed results of that assessment.

The purpose of this FCA is to assist County staff and leadership in more proactive management of the County's facility assets, including planning and budgeting for short-term correction of Observed Deficiencies (ODs), and long-term major maintenance –Predicted Renewals (PRs).

The following facilities are included in the Whatcom County FCA.

1. Jail Building
2. Work Center Building

A.2 General Findings

The surveyed sites and buildings are well maintained by knowledgeable, dedicated maintenance staff given limited resources available. Highlighted examples of the findings include: (reference item numbers in Exhibit 1B p.17 for complete list)

- Items 1 & 2 - Doors and door locks are failing due to inmate abuse which is a major safety and security problem.
- Item 7 - There is a 10 to 15 second delay before emergency lighting comes on because this lighting is on "house" power and does not have battery backup power. This could represent a serious safety problem.
- Items 9 & 13 - Seismic bracing; bracing for several types of HVAC and plumbing systems and equipment do not appear to be present. We are reporting on these deficiencies by showing additional cost within those several building systems including plumbing, HVAC and Fire Sprinkler.
- Items 10 & 11 - Plumbing systems at the Jail are reported as having deterioration of piping. Upon inspection of sample removed piping, full, planned replacement is recommended for the domestic plumbing system and portions of the sanitary sewer system. By planning for both budget and time, replacement of the system will benefit the County opposed to repairing leaks as they occur.
- Item 12 - Original elevators have reached the end of their useful life and problems are being reported.
- Item 14 - The jail does not contain a smoke evacuation system, a mandatory code requirement. This system was required but not installed in the original construction.
- Item 15 - At 35 years old, the institutional kitchen and laundry equipment has reached the end of useful life.
- Item #16 - The roofing has reached the end of useful life. There are no overflow drains as is required by code.



A.3. General Condition Scores

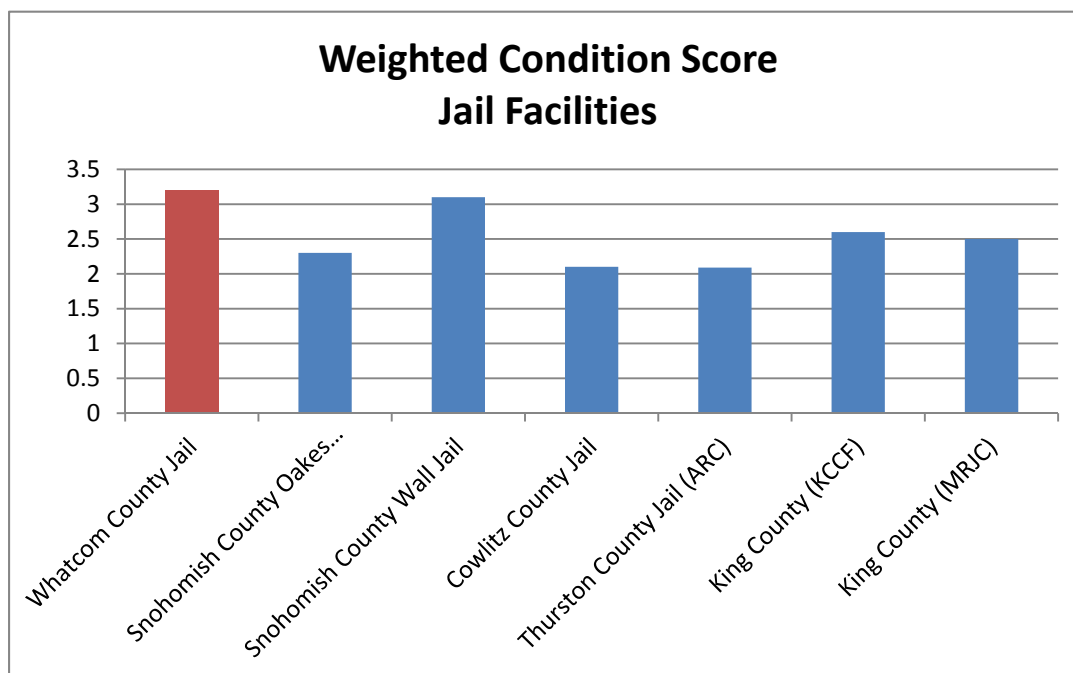
The condition assessment process rates each subsystem in a facility with a qualitative score of 1 through 5 where:

- 1 = excellent
- 2 = good
- 3 = fair
- 4 = poor
- 5 = unacceptable

Subsystem scores are weighted by the cost of that subsystem relative to the total replacement value of the facility. A weighted average score is compiled for both of the County's facilities. The following table summarizes these qualitative assessment scores (sorted from best to worse condition) for the surveyed facilities:

Facility	Weighted Average Condition Score
Whatcom County Work Center	1.6
Whatcom County Jail	3.2

In comparison, we reviewed the condition scores for similar facilities that have surveyed using this system within the past two years. Below represents weighted condition scores for similar facilities for Snohomish County, Thurston County, King County and Cowlitz County. The scoring criteria and building systems are calculated similarly to Whatcom County Facilities.

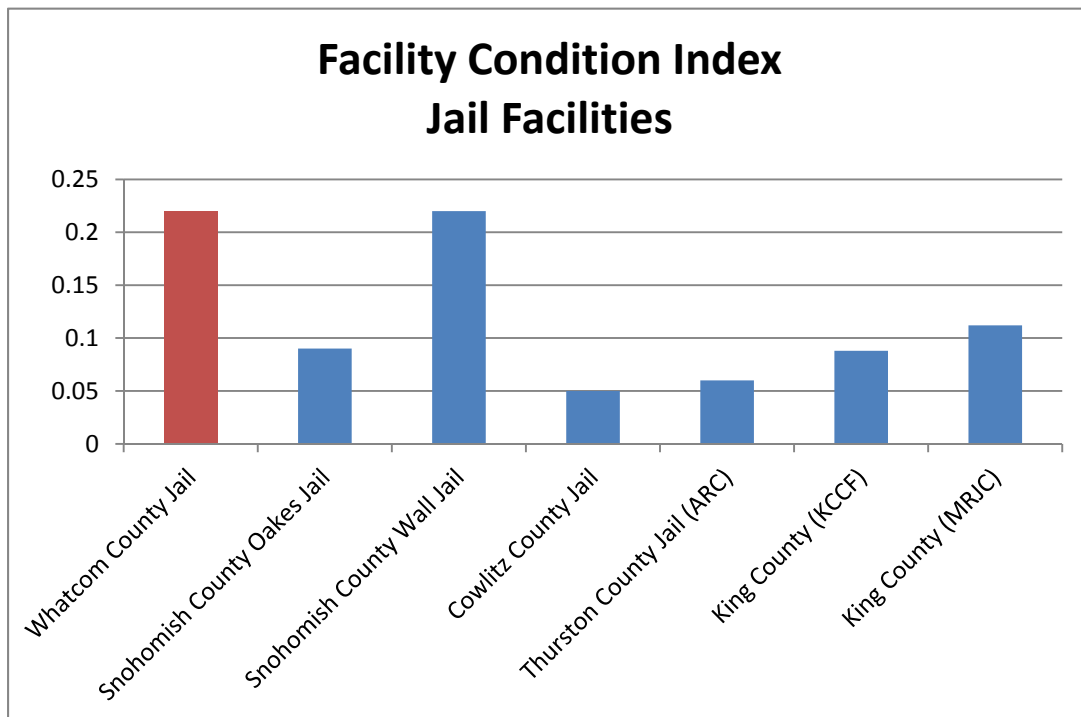


A.4. Facility Condition Index

A Facility Condition Index (FCI) is an industry standard used for benchmarking and evaluating a portfolio of facility assets over time. The FCI is the ratio between a facility's Backlog of Maintenance and Repair (BMAR) and the Current Replacement Value (CRV) of the facility. Please see the list of FCA terminology in Appendix section E.1 for further explanation of FCI. The following list is sorted from lowest (best) to highest (worst) FCI.

Facility	FCI
Whatcom County Work Center	.03
Whatcom County Jail	.22

In comparison, we reviewed the FCI for similar facilities that have surveyed using this system within the past two years. Below represents weighted condition scores for similar facilities for Snohomish County, Thurston County, King County and Cowlitz County. The calculated index is the same formula as used for Whatcom County Facilities.



A.5. Projected Cost Summary

Estimated costs are calculated for both short-term Observed Deficiencies (ODs) as well as for long-term Predicted Renewals (PRs). The costs summarized here include typical construction markups as well as project development markups (design, management, etc.) and are calculated as 2016 present value costs.

Deficiency Costs, Jail Facility

- Current Observed Deficiencies (2016 - 2021) = \$10,470,823.00 for all building and site systems
 - Eighteen building deficiencies
 - Items with a direct cost of less than \$50,000 are not included in deficiency report
- Observed Deficiencies Peak Cost Years:
 - 2017 = \$4,094,704
 - 2018 = \$1,477,929
 - 2019 = \$3,089,125
- Observed Deficiencies System Deficiencies:
 - Interior Construction: \$2,020,750
 - Interior Finishes: \$1,944,667
 - Electrical: \$1,492,886
 - Plumbing: \$1,431,716

Renewal Costs, Jail and Work Center combined

- 20-year (2016-2035) Predicted Renewal:
 - Jail (including site) = \$27,446,895
 - Work Center (including site) = \$4,986,206
- Predicted Renewal, Peak Cost Years: (Jail only)
 - 2018 = \$6,094,889
 - 2024 = \$5,466,912
 - 2027 = \$4,178,329
- Predicted Renewal System Deficiencies: (Jail only)
 - HVAC: \$6,441,929
 - Electrical: \$5,929,294
 - Interior Finishes: \$2,368,425
 - Plumbing: \$2,171,691

*Note 5-year Observed Deficiencies should not be added to 20-year Predicted Renewals. **Observed Deficiencies are short-term** condition issues observed by field surveyors, while **Predicted Renewals are long-term** based on a predictive model that factors system costs, condition scores and life cycles.*



B. OBSERVED DEFICIENCIES

B.1 Observed Deficiencies Summary

The majority of the costs for addressing Observed Deficiencies (ODs) for the five-year period of 2016 - 2021 are found in years 2017, 2018 and 2019. The subsystems that are driving these costs are the replacement of cell door hardware, domestic piping replacement and smoke evacuation system during 2017. For year 2019, we show interior cell door repainting and lighting deficiencies are driving the majority of the cost that year. In year 2019 the ceiling replacements and roofing make up most of the anticipated deficiency costs. All observed deficiencies are for the Jail facility. Due to the newer condition, **no deficiencies were identified for the Work Center Facility.**

DeficiencyBudgetYear	
2016	688,401
2017	4,094,704
2018	1,477,929
2019	3,089,125
2020	985,739
2021	134,925
Grand Total	10,470,823

*Cost shown for Jail only

Exhibit 1A. Observed Deficiency Costs by System - Jail

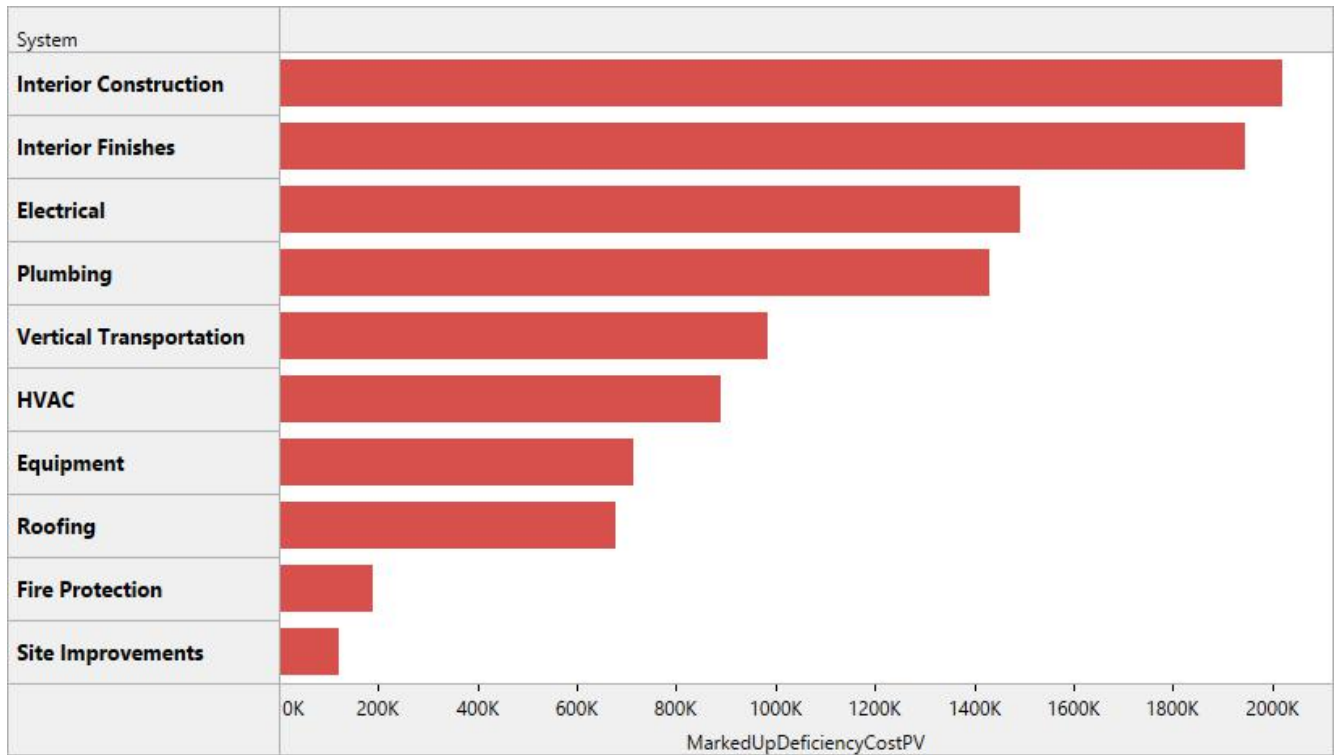
System	
Interior Construction	2,020,750
Interior Finishes	1,944,667
Electrical	1,492,886
Plumbing	1,431,716
Vertical Transportation	985,739
HVAC	890,137
Equipment	714,692
Roofing	678,223
Fire Protection	190,585
Site Improvements	121,428
Grand Total	10,470,823

Exhibit 1B. Observed Deficiency Cost by Item - Jail

	System	Subsystem	Deficiency	Marked Up Cost
1	Interior Construct.	Interior Doors	Doors are in disrepair.	\$490,755
2	Interior Construct.	Interior Doors	Door security hardware	\$1,529,995
3	Interior Finishes	Wall Finishes	Walls are in disrepair	\$688,401
4	Interior Finishes	Ceiling Finishes	Ceiling finishes are in disrepair	\$1,256,266
5	Electrical	Low Voltage Fire Alarm	Fire alarm system not certified	\$121,428
6	Electrical	Lighting and Branch Wiring	Inadequate lighting levels in the sally port	\$134,925
7	Electrical	Lighting and Branch Wiring	Delay of emergency egress lighting	\$572,652
8	Electrical	Lighting and Branch Wiring	Lighting system does not comply with Energy Code	\$663,881
9	Plumbing	Domestic Water Distribution	No seismic bracing	\$48,571
10	Plumbing	Sanitary Waste	Sanitary sewer near basement	\$279,285
11	Plumbing	Domestic Water Distribution	Domestic piping failures	\$1,103,860
12	Vertical Transport.	Elevators and Lifts	Elevators at end of useful life	\$985,739
13	HVAC	Heat Generating Systems	No seismic bracing	\$72,857
14	HVAC	HVAC Distribution Systems	No smoke evacuation system	\$817,280
15	Equipment	Institutional Equipment	Equipment at end of useful life	\$714,692
16	Roofing	Roof Coverings	Roofing is near end of useful life	\$678,223
17	Fire Protection	Fire Protection Sprinkler Syst.	Sprinkler coverage in the stairwells	\$190,585
18	Site Improvements	Landscaping	Trees on south side of building	\$121,428
GRAND TOTAL				\$10,470,823



Exhibit 1C. Observed Deficiency Costs by System - Jail



*Cost shown with markups in present value



C. PREDICTED RENEWALS

C.1 20-Year Predicted Renewals (PRs)

Renewal costs for Building Systems are based on 2016 dollars for a 20-year period spanning 2016 through 2035.

C.2 20-Year Predicted Renewals (PRs)

The MENG Analysis Facility Condition Analysis (FCA) Database generates parametric cost estimates for the renewal or replacement of all facility systems as they reach the end of their predicted life cycle. For Whatcom County Jail and Work Center facilities, a 20-year horizon was selected, which will support planning and budgeting for long-term major maintenance needs. Renewal costs are projected to be \$32M for this period.

Site	
Whatcom County Jail	27,446,895
Whatcom County Work Center	4,986,206
Grand Total	32,433,102

It is important to note that for planning and budgeting purposes, one should not add both the 2016-2020 ODs and the 2016-2020 PRs. ODs are Observed Deficiencies that are specifically identified by the FCA Survey Team, whereas the Predicted Renewals (PR) from the same period are theoretical projections that factor the age of systems, their relative conditions, and modeled costs of systems. PRs are useful to highlight systems that may not have been observable.

Exhibit 2. Predicted Renewals by Site Graph

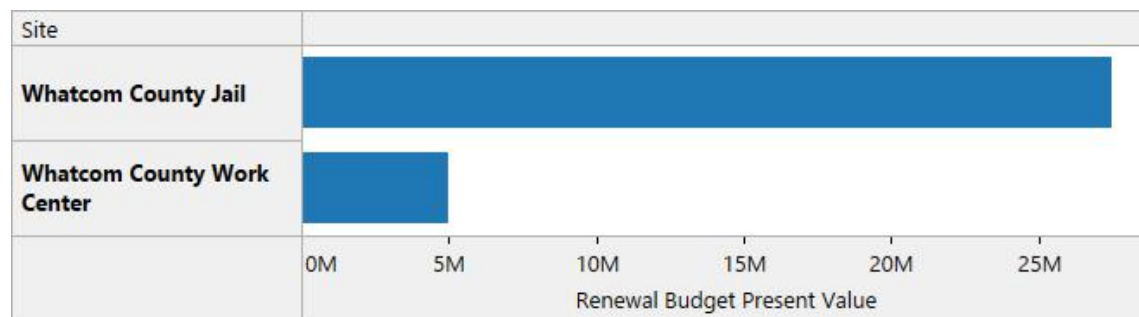


Exhibit 3A. Predicted Renewals by System Tables

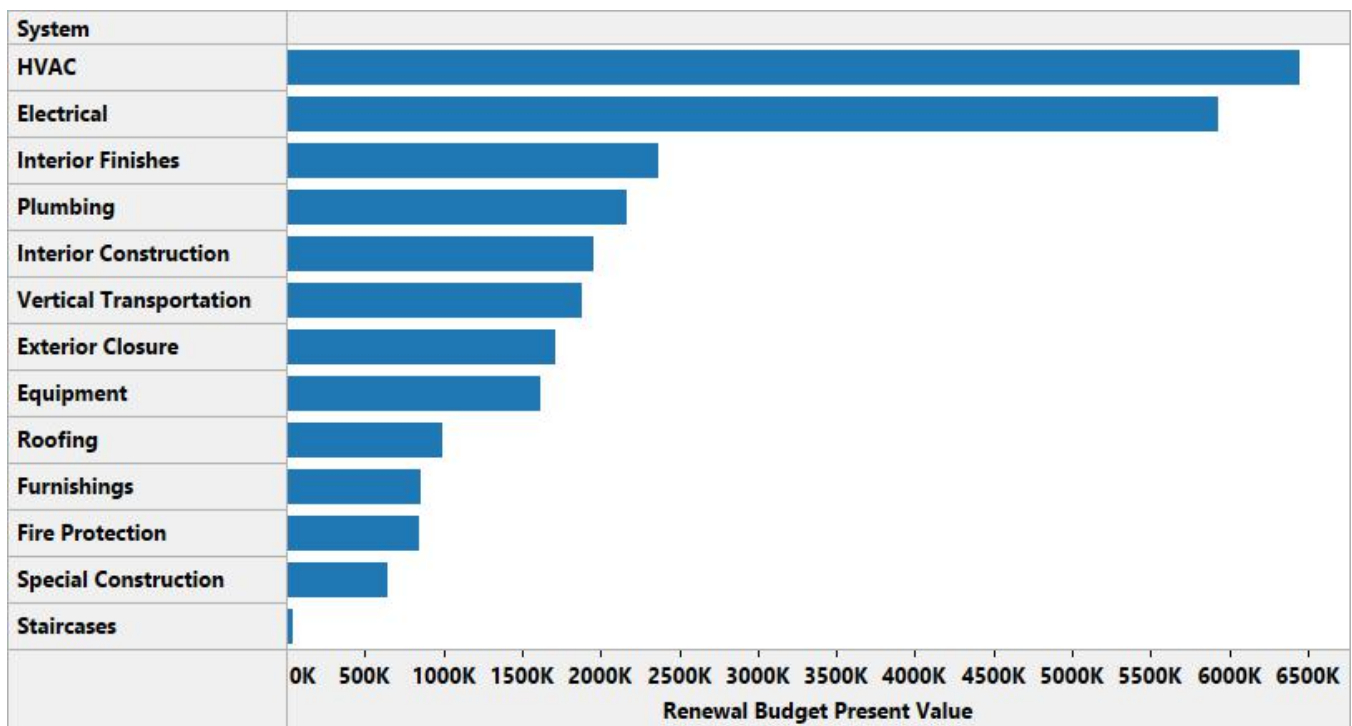
Jail Renewals

System	
HVAC	6,441,929
Electrical	5,929,294
Interior Finishes	2,368,425
Plumbing	2,171,691
Interior Construction	1,951,288
Vertical Transportation	1,876,712
Exterior Closure	1,713,865
Equipment	1,619,866
Roofing	989,917
Furnishings	855,725
Fire Protection	846,066
Special Construction	642,251
Staircases	39,865
Grand Total	27,446,895

Work Center Renewals

System	
HVAC	1,387,885
Electrical	1,213,944
Equipment	933,324
Interior Finishes	809,450
Roofing	275,177
Special Construction	246,704
Interior Construction	86,859
Plumbing	32,863
Grand Total	4,986,206

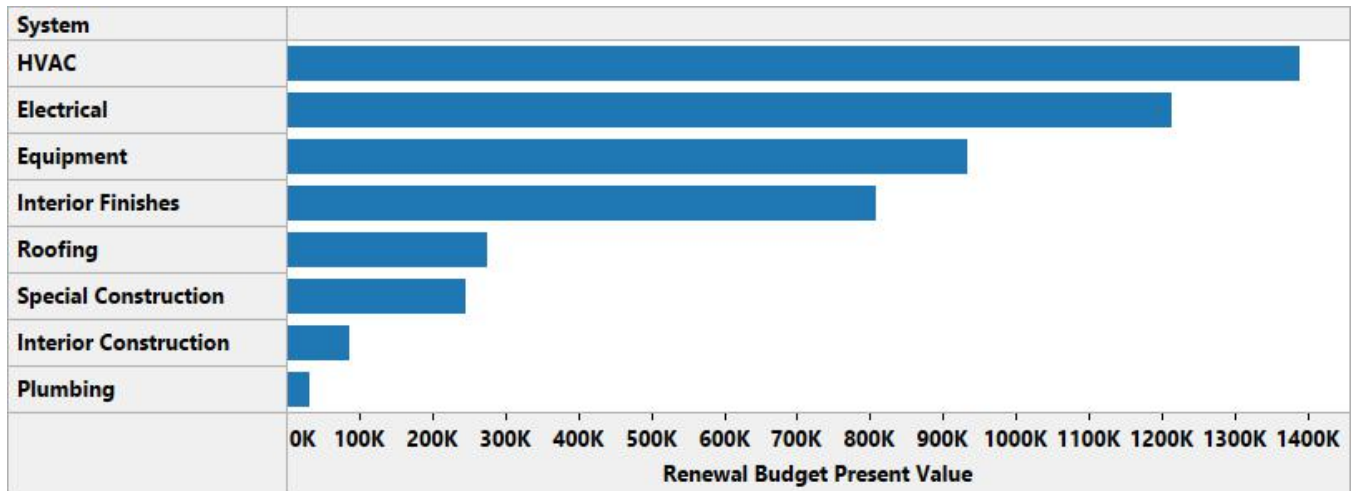
Exhibit 3B. Predicted Renewals by System Graph - Jail



*Cost shown with markups in present value

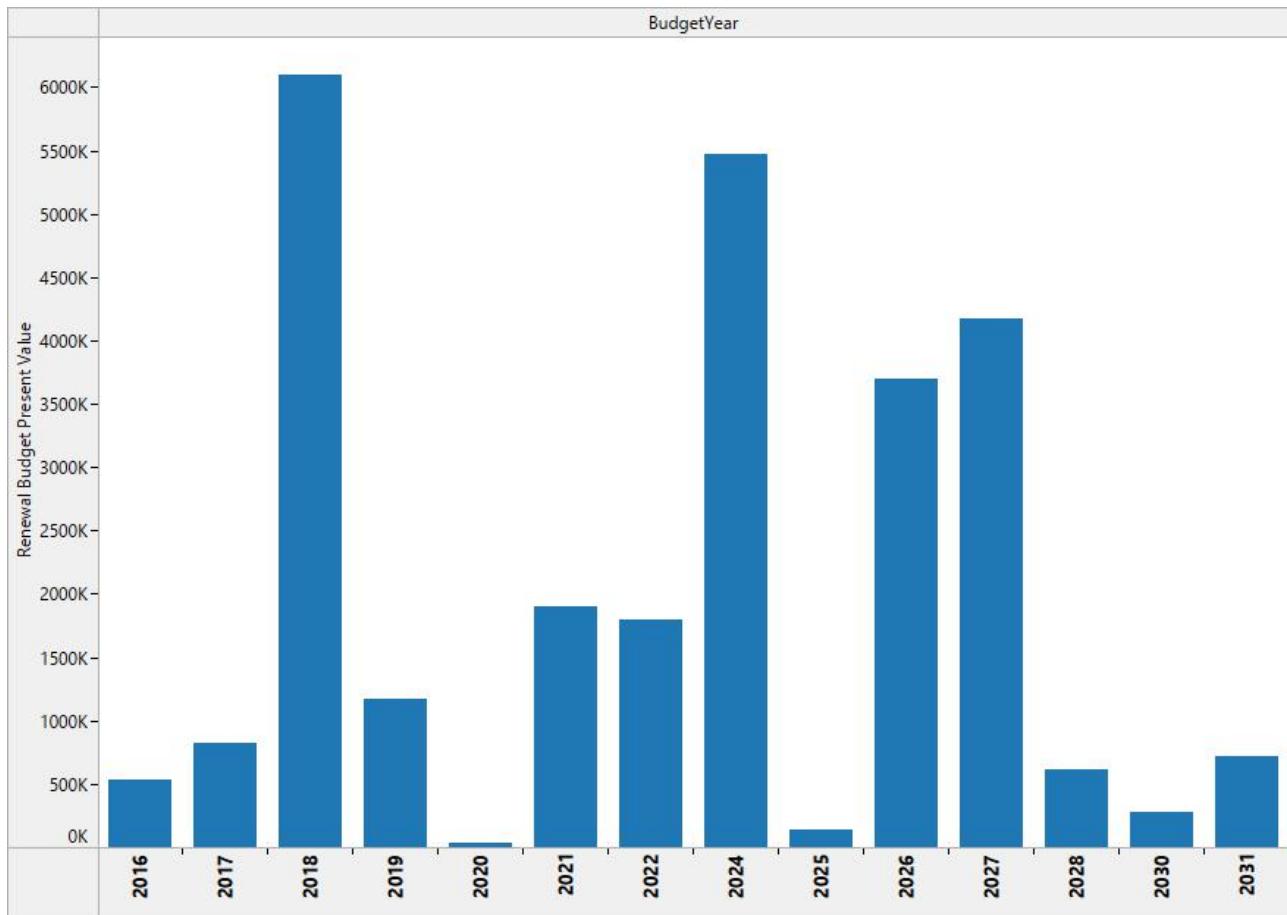


Exhibit 3C. Predicted Renewals by System Graph – Work Center



*Cost shown with markups in present value

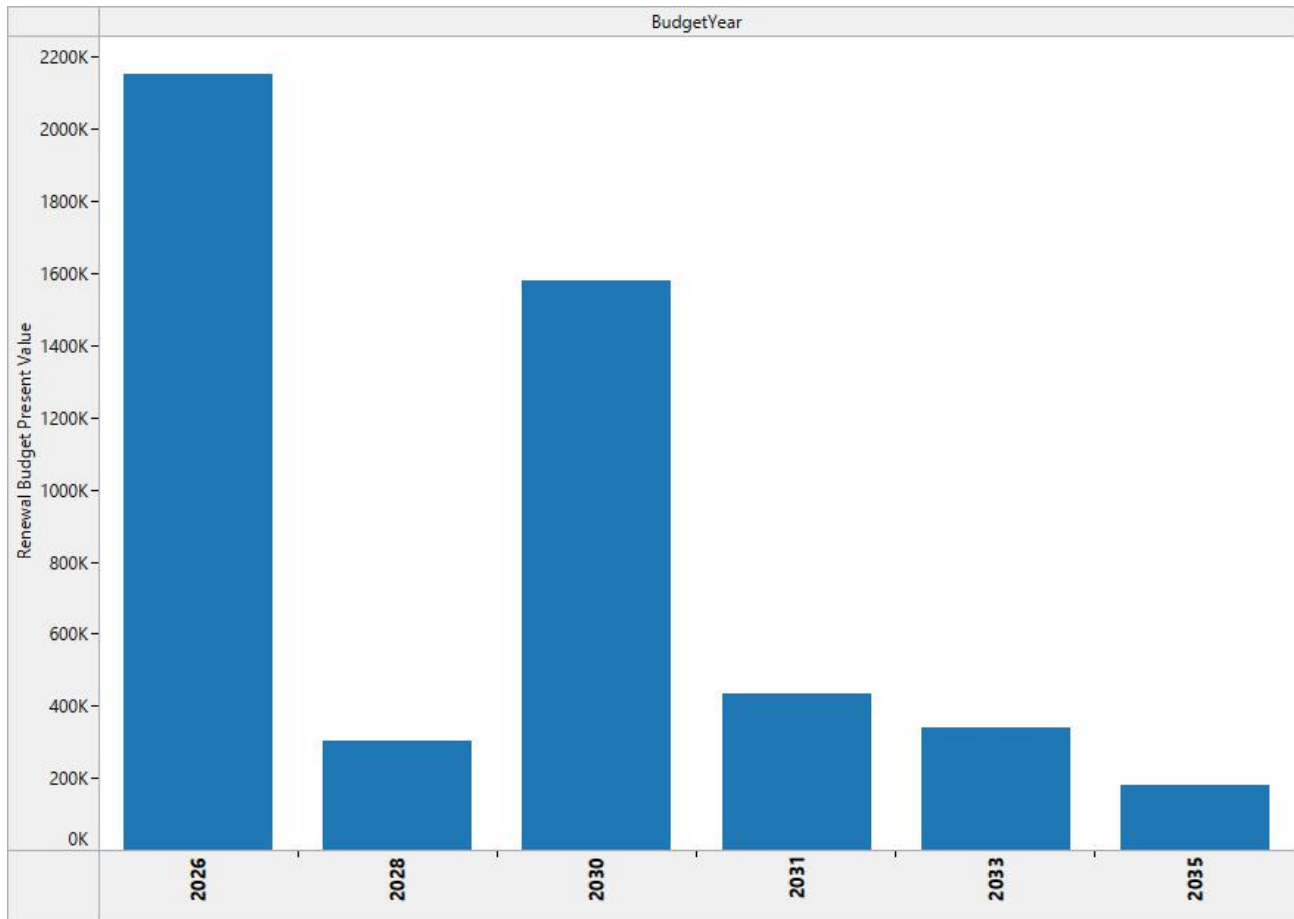
Exhibit 4A. Predicted Renewals by Year Graph - Jail



*Cost shown with markups in present value. Years not shown reflect no renewal cost scheduled for that year.



Exhibit 4B. Predicted Renewals by Year Graph – Work Center



*Cost shown with markups in present value. Years not shown reflect no renewal cost scheduled for that year. Due to newer age of facility, renewals are not generated by renewal model until 2026.



D. FACILITY REPORTS

D.1 Facility Reports

The three primary reports documenting current facility system conditions and costs include:

- a) **Facility Summary** – The overall facility condition, including Facility Condition Index (FCI), systems and sub-systems condition scores and remaining useful life. Also includes qualitative assessments with system descriptions and condition comments from field surveys.
- b) **Observed Deficiency Cost with Markups** – Break down of Observed Deficiencies by Uniformat system with markups. For repair cost planning purposes, the following project mark-ups are used:

Contingency	30%
General Contractor Mark-ups (overhead & profit)	20%
Project Soft Costs	58.7%

Project Soft Costs include:

Design Fees	13%
Permitting	2%
Art	0%
*Whatcom County Management Cost	10%
Project Contingency	15%
Temporary Housing, swing space	10%
Sales Tax	8.7%
	S/T 58.7%

Observed system deficiencies for each facility include a detailed itemization of facility system components that are in need of major maintenance or repair in order to maintain functionality. All building systems (e.g. exterior shell, mechanical systems, electrical systems, etc.) are evaluated and estimates presented for noted deficiencies.

- c) **Detailed Assessment – Observed Deficiency Report** – Qualitative assessments and costs including condition score, remaining useful life, and cost estimates of Observed Deficiencies.



E. APPENDIX

This appendix includes supporting documentation related to the FCA process.

E.1. FCA Terminology & Abbreviations

Facility Condition Assessment (FCA): A structured process to document the conditions of site infrastructure and building systems. FCAs are typically performed by a multi-disciplinary team of architects, engineers, construction, and cost specialists. Facility information and condition data should be maintained in a database for ease of updating and reporting. The data should be renewed over time.

Facility Condition Index (FCI): A benchmark used to compare relative condition of facilities within a portfolio of assets; derived by the following formula:

$$\text{FCI} = \frac{\text{Backlog of Maintenance and Repair (BMAR)}}{\text{Current Replacement Value (CRV)}}$$

There are a number of different methods used by various organizations to calculate that backlog. For this reason, using FCIs to compare a County's facilities to other organizations is not always appropriate.

This study uses a parametric method that calculates BMAR based on the assessed condition scores. The statistical basis is a study conducted by NASA on over 10,000 surveyed facilities that evaluated the backlog of repair items relative to qualitative condition scores 1 through 5. The parametric backlog for each system is calculated based on a statistical theoretical percentage of that system that would need repair or replacement for each of the qualitative condition scores. The costs of those systems are the facility use cost models customized for Whatcom County.

Life Cycle Renewal Model: A theoretical forecast of when building systems will exceed their typical lifespan and funding will be required for renewals.

Parametric Costs: Parametric cost estimating is a technique that uses statistical relationships between historical cost data and other program variables such as system condition or age. Historical cost data is typically used at a high level (e.g., cost per square foot) and often represent conceptual, order-of-magnitude costs for initial planning or discussion purposes.

Remaining Useful Life: An estimate of the years that a facility system may remain serviceable or in operation before failure; which would then require system renewal or replacement

Subsystem: The term "subsystem" in this report refers to a Uniformat Level 3 building systems category (e.g., B3010 - Roof Coverings; or B3020 – Roof Opening; or B3030 – Projections).



System: The term “system” in this report refers to a Unifomat Level 2 building system category (e.g., B3000 – Roofing)

The following terms are used in the MENG Analysis FCA Database:
(See also the database user’s manual for more specific definitions.)

Last Major System Renewal: The year in which a system was last renewed (substantially repaired or replaced).

Original System Date: The year a system was originally constructed/installed.

Subsystem Assessed Condition Score: The field surveyors’ assessment of condition assigned to each facility subsystem. The rating uses a scale of 1 through 5, where 1=excellent, 2=good, 3=fair, 4=poor, 5=unacceptable. Different subsystem % of CRV’s are included in the database for each of the different facility use types (e.g. Maintenance shops vs. police station Vs fire station, etc.)

BMAR (backlog of maintenance and repair): This is an estimated amount that would need to be spent to bring the facility up to good condition.

Subsystem Normal Life: Industry standard subsystem life between renewals or replacement cycles.

System Coverage: The amount of area in a facility containing a specific system, expressed as percent of building or site size.

Certain FCA terms are also expressed as formulas in the MENG Analysis FCA Database, as follows:

Adjusted Current Replacement Value (CRV) (\$/SF) = Base CRV * Geographic Adjustment Factor *
Construction Type Adjustment Factor * Gross Square Footage Adjustment Factor

Base CRV: is the current replacement cost of the facility, including construction and project cost markups. It is contained in the CRV models for each facility use type. That base CRV is factored by geographic, size, and type of construction specific to each facility to attain the facility specific CRV.

Current Replacement Value (CRV) = Adjusted CRV * Gross Square Footage

Renewal Budget (for Infrastructure) = [Site Area]*[System Coverage]*[Infrastructure Unit Cost]*[Subsystem Renewal Factor]

Renewal Budget (for Building) = ([Facility Size Gross]*[System Coverage]*[Subsystem Unit Cost]*[Subsystem Renewal Factor])

Subsystem Age = Age of system in years since last major system renewal = Year of Survey – Year of Last Major System Renewal



List of Commonly Used Abbreviations

AC = Asphalt Concrete

A/V = Audio/video

AHU = Air handling unit

ASHRAE = American Society of Heating, Refrigeration, & Air Conditioning Engineers

BacNET = Building automation & control network (an ASHRAE standard for DDC systems)

CCTV = Closed circuit television

CFH = Cubic feet per hour (of natural gas)

CFL = Compact fluorescent

CI = Cast iron

CO₂ = Carbon dioxide

CU = Condensing unit

Cx = Commissioning

DDC = Direct digital control

DHW = Domestic hot water

DW&V = Drain, waste, & vent

Dx = Direct expansion

EA = Each (measurable unit)

EF = Exhaust fan

EMT = Electrical metallic tubing (conduit)

FDC = Fire department connection

FSD = Fire smoke damper

GFCI = Ground fault circuit interrupter

GI = Grease interceptor

GRD = Grills, Registers, & Diffusers

HID = High intensity discharge (lamps)

HVAC = Heating, ventilating, and air conditioning

IDF = Intermediate distribution frame

IDP = Integrated Data Processing

IES = Illuminating Engineering Society

IT = Information technology

Kva = (kilovolt-amp)



LF = Linear feet (measurable unit)
LED = Light emitting diode
LS = Lump sum (measurable unit)
MAU = Make-up air unit
MDF = Main distribution frame
Min = Minimum
NEC= National electric code
ORD = Overflow roof drain
OWS = Oil/water separator
PA = Public address
POU = Point of use
PRV = Pressure regulating valve
Psig = Pounds per square inch (pressure)
PVC = Polyvinyl chloride
R-22 = Refrigerant No. 22 (generic refrigerant type)
RBPB = Reduce pressure backflow preventer
RD = Roof drain (occasionally Resident Director)
RTU = Roof top unit
SF = Square feet (measurable unit)
SOG = Slab on grade
TAB = Test, adjust, & balance
Ton = One ton of air conditioning = 12,000 Btu/hr (British thermal units per hour)
TU = Terminal unit
UH = Unit heater
UPS = Uninterruptible power supply
VAV = Variable air volume
VFD = Variable frequency drive
VOIP = Voice over internet protocol
WAP = Wireless access point
WiFi = Wireless fidelity



E.2. FCA Survey Forms & Methodology

E.2.a Condition Survey Form Development

Survey forms were developed for the facility condition assessments based on the Uniformat Level 3. All Level 3 subsystems are described with evaluation criteria. The evaluation criteria descriptions clearly explain what elements were included and excluded from each Level 3 subsystem.

Each survey form is accompanied by a deficiency report form that is completed when Observed Deficiencies (ODs) are noted. This Observed Deficiency form notes the problem and the recommended action to correct the deficiency. Raw construction costs (i.e., labor and materials) for facility component replacements or repairs are estimated.

E.2.b Sample Condition Scoring Criteria

The following section provides six examples of the condition scoring definitions that were used during the condition surveys.

Roof Construction B1020	Roof structural frame, structural interior walls supporting roof, roof decks, slabs and sheathing, canopies. Excludes insulation and roofing. 1 - Excellent: New; Structure is sound and stable; no evidence of cracking, deflection or separation of framing members. Preventative inspection. 2 - Good: Structure is sound and stable; no evidence of cracking, deflection or separation of framing members. Minor preventative maintenance: rust proofing and / or sealants and tightening of connections. 3 - Fair: Minor surface cracking or separation of framing members. Preventative maintenance and minor restorative repairs of isolated items. 4 - Poor: Structural damage evident; Twisting, cracking, or separation of structural members affecting surrounding finishes or moisture intrusion. Restorative repairs. 5 - Unsatisfactory: Structurally deficient or damaged beyond repair; major damage to surrounding finishes; jeopardizing occupancy. Replacement.
--	--



Exterior Windows B2020	<p>Screens, storm windows, exterior louvers, frame, trim, sills, caulking, flashing. Excludes window shades and treatments.</p> <p>1 -Excellent: New; doors operating smoothly; no finish degradation. Preventative inspection.</p> <p>2 - Good: Functioning smoothly; no finish degradation. Secure hardware and emergency exiting. Minor preventative maintenance.</p> <p>3 - Fair: Worn but functional; requires paint or resealing; glass or hardware damage only in isolated doors. Preventative maintenance and minor restorative repairs of isolated items.</p> <p>4 - Poor: Damaged or deficient hardware, glass, trim or seals; water intrusion. Restorative repairs.</p> <p>5 - Unsatisfactory: Extensive damage, deficient beyond repair; Hardware not operating, moisture intrusion. Replacement.</p>
---	--

Exterior Wall Finishes B2040	<p>Exterior wall - exterior applied finishes</p> <p>1 - Excellent: New; no finish degradation. Preventative inspection.</p> <p>2 - Good: no cracking or moisture intrusion. Minor finish degradation. Minor preventative maintenance. Cleaning.</p> <p>3 - Fair: Minor undamaged but requires sealing. Preventative maintenance and minor restorative repairs of isolated items.</p> <p>4 - Poor: Restorative repairs.</p> <p>5 - Unsatisfactory: Damaged beyond repair, Replacement.</p>
---	--

Plumbing Fixtures D2010	<p>Water closets, urinals, lavatories, sink, showers, bathtubs, drinking fountains. Excludes hot water heaters.</p> <p>1 – Excellent: New; All fixtures operating well. Preventative inspection.</p> <p>2 – Good: system components operational, free of defect, and of adequate utility service and capacity for intended use. Includes water saving features. Minor preventative maintenance.</p> <p>3 – Fair: Some components worn, fixtures stained. Preventative maintenance and minor restorative repairs of isolated items.</p> <p>4 – Poor: Many components damaged; limited parts; leaking valves, rust and corrosion. Operating parts > 30 years old. Restoration repairs.</p> <p>5 – Unsatisfactory: Many fixtures not operational. Rust, corrosion, and mineral deposits. Leaks causing damage to other finishes and components. Replacement.</p>
--	---



Heat Generating Systems D3020	Boilers, piping and fittings adjacent to boilers, primary pumps, auxiliary equipment, equipment and piping insulation. 1 - Excellent: New. Preventative inspection. 2 - Good: System is fully operational, suitable capacity, efficient utility utilization, integrated energy management controls. Minor preventative maintenance. 3 - Fair: Equipment worn but reliable, older energy controls; Preventative maintenance and minor restorative repairs of isolated items. 4 - Poor: Equipment marginal/hard to obtain parts, insulated ext. ductwork, no energy controls. > 40 years old. Restorative repairs. 5 - Unsatisfactory: System non-functional or seriously deficient, not delivering supply to required spaces. Replacement.
--	---

Distribution Systems D3040	Supply & return air systems, ventilation & exhaust systems, steam, hot water & chilled water distribution, terminal devices, heat recovery equipment, auxiliary equipment such as secondary pumps, and heat exchangers, piping, duct & equipment insulation. 1 - Excellent: New. Preventative inspection. 2 - Good: System is fully operational, suitable capacity, efficient utility utilization, integrated energy management controls. Good insulation. Minor preventative maintenance. 3 - Fair: Equipment worn but reliable, older energy controls; Insulation. Some joints/ sealants loose. Preventative maintenance and minor restorative repairs of isolated items. 4 - Poor: Equipment marginal/hard to obtain parts, no energy controls; Many grilles missing or loose. Air leaks and unbalance. Restorative repair 5 - Unsatisfactory: Non-functional or seriously deficient. Grilles corroded, missing. Replacement.
---	--

E.2.c Facility Survey Methodology

The general methodology for recording the Whatcom County FCA surveys started with an initial familiarization tour of the facilities for an initial scope assessment. Site and floor plan drawings were reviewed in advance of the FCA surveys. Information was gathered during the O&M workshop. This was followed by on-site field surveys of architectural, site/civil, structural, mechanical, electrical, kitchen and laundry systems for each facility building and site infrastructure. The facility surveys were facilitated by an FCA Team Leader to maintain consistency in evaluation and on-going training with survey forms, condition ratings and system categorization. Following each facility walk-through, the FCA Team completed condition survey and observed deficiency forms.



Each team member used survey forms to document the apparent facility conditions including:

- i. Describing the nature of facility systems per UNIFORMAT
- ii. Determining the overall condition score and useful remaining life of each system
- iii. Identifying major maintenance deficiencies greater than \$50,000 (direct cost) that are likely to be required for immediate major maintenance repairs (i.e., 2016), plus the next 5-year period (i.e., 2016-2021)
- iv. Documenting specific deficiencies of systems with narrative as well as budgetary level cost estimates to repair or replace deficiencies

E.3 Cost Model and Cost Estimating

E.3.1 Cost Models

The cost models developed for Whatcom County identify general facility use types that were included in the facility condition assessment scope of work. Therefore, the application of the cost model's facility use types to other new types of facilities is not recommended.

E.3.2 Cost Estimating

This report section discusses the basis of cost estimating that was utilized both to develop conceptual cost estimates for Observed Deficiencies during the facility condition surveys as well as the replacement costs that are used as factors in the Predicted Renewals.

E.3.2.a Estimating Methodology

The MENG Analysis team uses the Uniformat II system to organize cost estimates. Depending upon the condition and type of system, cost estimates are based upon square foot area (SF), linear feet (LF), and lump-sum (LS) quantity factors.

For the cost estimating of Observed Deficiencies of building systems, the FCA survey team estimated costs for system repairs or replacements. A proprietary cost model was used for the cost estimating that is used to support the PR costs of building systems. This model is updated on a yearly basis and adjusted to the specific geographical region. It uses a Uniformat II systems categorization for buildings and site infrastructure. The model also provides an overall building cost per square foot (\$/SF) for various building types. The team refined SF costs for structural, mechanical, plumbing and electrical sub-systems to reflect the systems typically found in Whatcom County facilities. Specific analysis of similar projects that have been estimated and managed by the team were also referenced against the modeled costs for additional verification of recent costs. Once the basic cost model was established to represent a strong correlation with Whatcom County facilities, the team went through several iterations of independent peer reviews by local cost estimating professionals.



E.3.2.b Estimating Accuracy

Cost estimates made using square foot costs can anticipate 20% to 30% accuracy.¹ Cost estimates that were developed for ODs do consider impacts to related building systems. For example, costs for the demolition and replacement/refinishing of interior walls are considered and included when replacing water piping. Therefore, these cost estimates also include, but do not delineate contingency costs to address reasonable, unforeseen conditions.

E.3.2.c Estimating Limitations

The cost estimating for the Observed Deficiencies and the cost model used for Predicted Renewals should both be considered useful for Whatcom County project planning purposes. These costs provide planners with a good order-of-magnitude understanding of potential costs. Moving to the next level of accuracy for budgeting actual projects, additional analysis of each specific system deficiency and related systems is recommended. Costs are developed to reflect each system replacement or repair and as such do not make any assumptions relative to project packaging. For example, one should assume that aggregating multiple system deficiencies into a single project, either within a given facility or system-wide, would result in lower costs due to economy of scale.

Exhibit 5A. Deficiencies, by Subsystem, by Year – Jail

Site	Subsystem	Deficiency Budget Year					
		2016	2017	2018	2019	2020	2021
Whatcom County Jail	Elevators and Lifts					985,739	
	Ceiling Finishes				1,256,266		
	Domestic Water Distribution		1,152,431				
	Fire Protection Sprinkler Systems			190,585			
	Heat Generating Systems		72,857				
	HVAC Distribution Systems		817,280				
	Institutional Equipment			714,692			
	Interior Doors		1,529,995		490,755		
	Landscaping		121,428				
	Lighting and Branch Wiring			572,652	663,881		134,925
	Low Voltage Fire Alarm		121,428				
	Roof Coverings				678,223		
	Sanitary Waste		279,285				
	Wall Finishes	688,401					
Subtotals		688,401	4,094,704	1,477,929	3,089,125	985,739	134,925
Grand Total						\$ 10,470,823	

¹ *Successful Estimating Methods: From Concept to Bid* by John D. Bledsoe
11 October 2016
MENG Analysis



Exhibit 5B. Predicted Renewals, by Subsystem, by Year – Work Center

Facility	Subsystem	Budget Year								Total
		2016	2026	2027	2028	2030	2031	2033	2035	
Whatcom County Work Center	Ceiling Finishes								180,059	180,059
	Controls and Instrumentation		424,193							424,193
	Cooling Generating Systems							253,132		253,132
	Fittings							86,859		86,859
	Floor Finishes					327,759				327,759
	Institutional Equipment					933,324				933,324
	Low Voltage Communication						227,984			227,984
	Low Voltage Data		408,292							408,292
	Low Voltage Fire Alarm						204,773			204,773
	Other Electrical Systems		372,895							372,895
	Other HVAC Systems and Equipment					10,954				10,954
	Other Plumbing Systems					32,863				32,863
	Roof Coverings					275,177				275,177
	Special Controls and Instrumentation		246,704							246,704
	Terminal and Package Units		699,605							699,605
	Wall Finishes				301,632					301,632
Subtotal			2,151,690		301,632	1,580,078	432,757	339,991	180,059	4,986,206
*Cost shown with markups in present value.										



Exhibit 5C. Predicted Renewals, by Subsystem, by Year – Jail

Facility	Subsystem	Budget Year					
		2016	2017	2018	2019	2020	2021
Whatcom County Jail	Ceiling Finishes			820,285			
	Commercial Equipment						
	Controls and Instrumentation						
	Cooling Generating Systems						
	Domestic Water Distribution				435,580		
	Electrical Service and Distribution						
	Elevators and Lifts			1,876,712			
	Energy Supply						
	Exterior Doors						
	Exterior Walls						
	Exterior Windows						
	Fire Protection Sprinkler Systems				731,509		
	Fittings						
	Fixed Furnishings						
	Floor Finishes			729,895			
	Heat Generating Systems						
	HVAC Distribution Systems						
	Institutional Equipment			1,318,557			
	Interior Doors			1,192,388			
	Lighting and Branch Wiring						
	Low Voltage Communication						
	Low Voltage Data						
	Low Voltage Fire Alarm	532,605					
	Low Voltage Security						
	Other Electrical Systems						
	Other Equipment						
	Other HVAC Systems and Equipment						
	Other Plumbing Systems						
	Partitions						
	Plumbing Fixtures						
	Projections						
	Rain Water Drainage						
	Roof Coverings						
	Roof Openings						
	Sanitary Waste			157,052			
	Special Construction Systems						
	Special Controls and Instrumentation						
	Stair Finishes					39,865	
	Stand-Pipe and Hose Systems						
	Terminal and Package Units						1,904,391
	Vehicular Equipment						
	Wall Finishes		818,245				
Subtotal		532,605	818,245	6,094,889	1,167,090	39,865	1,904,391
*Cost shown with markups in present value.							



Exhibit 5C. Predicted Renewals, by Subsystem, by Year – Jail (cont.)

Budget Year										Total	
2022	2024	2025	2026	2027	2028	2030	2031	2033	2035		
										820,285	Ceiling Finishes
156,932										156,932	Commercial Equipment
				1,135,795						1,135,795	Controls and Instrumentation
	839,618									839,618	Cooling Generating Systems
										435,580	Domestic Water Distribution
			931,937							931,937	Electrical Service and Distribution
										1,876,712	Elevators and Lifts
			130,781							130,781	Energy Supply
					53,694					53,694	Exterior Doors
							724,128			724,128	Exterior Walls
				936,043						936,043	Exterior Windows
										731,509	Fire Protection Sprinkler Systems
	202,689									202,689	Fittings
	855,725									855,725	Fixed Furnishings
										729,895	Floor Finishes
	1,406,410									1,406,410	Heat Generating Systems
			946,468							946,468	HVAC Distribution Systems
										1,318,557	Institutional Equipment
										1,192,388	Interior Doors
	2,162,469									2,162,469	Lighting and Branch Wiring
528,546										528,546	Low Voltage Communication
				781,144						781,144	Low Voltage Data
										532,605	Low Voltage Fire Alarm
						279,871				279,871	Low Voltage Security
				712,723						712,723	Other Electrical Systems
37,663										37,663	Other Equipment
78,466										78,466	Other HVAC Systems and Equipment
78,466										78,466	Other Plumbing Systems
					556,210					556,210	Partitions
			1,427,936							1,427,936	Plumbing Fixtures
			61,031							61,031	Projections
			72,656							72,656	Rain Water Drainage
804,886										804,886	Roof Coverings
			124,000							124,000	Roof Openings
										157,052	Sanitary Waste
		29,627								29,627	Special Construction Systems
				612,625						612,625	Special Controls and Instrumentation
										39,865	Stair Finishes
		114,557								114,557	Stand-Pipe and Hose Systems
										1,904,391	Terminal and Package Units
106,714										106,714	Vehicular Equipment
										818,245	Wall Finishes
1,791,673	5,466,912	144,184	3,694,810	4,178,329	609,905	279,871	724,128			27,446,895	





SUMMARY NARRATIVES ...TAB 2





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A. JAIL SUMMARY NARRATIVE

1. Existing Conditions

a) GENERAL

The Jail, constructed in 1984, is showing its age. While the structure appears sound, it was built prior to current, more stringent, seismic codes and may be at risk for failure during a seismic event. The heating system is operational but requires almost daily maintenance. It lacks seismic bracing and redundancy. The plumbing piping similarly is operational but has had many recent failures in isolated locations. Recent repairs to pipe leaks show significant corrosion at joints and connections. The waste pipe lacks suitable design for a Jail population and thus, the inmates are able to obstruct waste piping regularly. The lighting appears to be designed at a level too low for safety. When the power goes off, there is a delay of 10-15 seconds before the emergency lights come on, which poses a safety risk to guards and inmates. On some doors, the security hardware is non-functional and some inmates have been able to compromise the lock and exit their cells. The finishes in all the spaces, public and secure, are worn and damaged, contributing to the somber atmosphere throughout the facility. Smoke evacuation was a code requirement at the time of construction but was not installed. The lack of a smoke evacuation system is a significant code violation that jeopardizes life safety of the occupants. Past smoke events prove how quickly the housing units can fill with smoke. There are no handicap accessible housing units. Inmates with disabilities have to be separated from the population in order to accommodate their movement, and no cells fully meet accessibility guidelines. The following sections describe these issues in further detail.

b) ARCHITECTURAL AND INTERIOR FINISH ASSESSMENT

- I. The exterior finish of the building is gunite applied to cast-in-place concrete walls. There are some vertical cracks in the gunite, notably where control joints were left out. These have been filled with sealant and painted over some years ago. The gunite finish is dirty but otherwise in good condition.
- II. There are very few exterior openings. Most are in fair condition and doors are operable but could also use cleaning and new paint. No window leaks were mentioned. Exterior door hardware appear to be operable and in good condition.
- III. The Thermoplastic Polyolefin (TPO) roofing is approximately 15 years old. The insulation below may be delaminating, as the roofing "crackles" when it is walked on. It is not fully adhered to the substrate and is thus causing many areas of ponding. The paint on the parapet cap is peeling which will cause it



Jail Summary Narrative

- to deteriorate more rapidly. The vents thru the roof are well flashed but are made of metal and have deteriorated from rust. There are no overflow drains adjacent to the roof drains.
- IV. Steps to the basement entrance of the Sheriff office included a metal tread and riser set over the concrete, which may not meet the slip resistance required for exterior stairs. Handrails do not meet current code. There is no ramp to comply with accessible entrance requirements.
 - V. Interior metal doors are all in poor condition. Paint has peeled off in many locations, promoting rust and dirt to increase the deterioration of the doors.



- VI. Interior wall finishes are in extremely poor condition. Walls need a thorough cleaning. Cell and dayroom walls are covered with graffiti and need to be cleaned.
- VII. Ceilings are in poor condition. Cracks and peeling paint are apparent in many locations.
- VIII. Floors in most of the Jail are sealed concrete and shrinkage cracks are visible.
- IX. Floor finish in the Kitchen is extremely slippery when standing water is present. This is a fairly new "slip-resistant" floor finish. Poor cleaning of grease off the floor is blamed for the slippery condition. Better maintenance is needed to keep the floor clean and free from grease.
- X. Built-in casework in the medical office space is reaching its useful life. This space is overcrowded and the casework is not configured to maximize usage and personnel productivity.
- XI. The elevators are within 5 years of reaching their useful life. Problems are likely to continue and become increasingly more major and more costly.



c) CIVIL/SITE ASSESSMENT

I. Summary:

The site is in generally good condition, particularly given the age of the facility. It was constructed in 1984, so most of the site improvements are over 20 years old. The paving is showing signs of aging and in some areas are worn and uneven. The pavement is still functioning adequately and there are no signs of impending failure. There are a few minor areas of cracking and spalling in the sidewalks, but these are not significant relative to the scale of the site. Site walls appear to be in fair condition, with the exception of some handrails which are in need of painting.

The site utilities (water, sanitary and storm) appear to be functioning well and although aging, are expected to have many useful years of service remaining. Other site utilities (gas, power, communication, etc.) are also in good working condition. The landscape plantings are sparse and simple but what remains of the original plantings is well established, particularly the mature trees and a few large shrubs. Many of the planting beds are empty, but thoroughly mulched. The lawn appears well watered and mowed which appears to be representative of the general maintenance and upkeep of the facility.

II. Site Improvements (G2010): Roadways

The alley at the northeast corner of the site is the only site roadway. The Hot Mixed Asphalt paving is aging and is uneven and the asphaltic material has eroded leaving the aggregate exposed. There are however, no signs of raveling or base failure so the paving is in good condition for its age. The roadway at the north driveway entrance has significant cracking. These cracks have been sealed and are in the right of way, so any long-term repairs would not be associated with the building.

III. Site Improvements (G2020): Parking Lots

The parking on-site is limited to a small area for one or two cars at the north end of the building and six cars at the south end. Similar to the paving in the alley, the Hot Mixed Asphalt is showing signs of aging, but it appears to be structurally sound. The striping and curb painting is fading and new paint will be required in the near future. The main office if the sheriff office is not Americans with Disabilities Act (ADA) accessible.

IV. Site Improvements (G2030): Pedestrian Paving

The pedestrian site walkways are in good condition. There are a few areas with cracks and joint separation that may require repairs in the future. Several of the steps on the east side of the building are cracked and spalling which requires attention before it becomes a safety hazard. Along the building wall at the west entry, a gap has formed between the walk and the building. There is only a small risk (since it is covered) for water intrusion, but the application of joint filler is suggested at that location and other paved areas adjacent the building.

The ramps along the north side of the building and on the east side of the building do not appear to conform to current Americans with Disabilities Act (ADA) standards for accessibility. There is signage indicating Americans with



Disabilities Act (ADA) accessibility to the office via the alley at the northeast corner, but it is not known if this route conforms to current standards. It does not appear to be associated with any Americans with Disabilities Act (ADA) signed parking which suggests it is out of compliance.

The sidewalks in the right of way on the north, west and south sides of the site are in very good condition. Curb bulbs including Americans with Disabilities Act (ADA) ramps have been recently installed in the right of way at the northwest (Lottie Street) and southwest (Central Ave.) corners of the site.

V. Site Improvements (G2040): Site Development

A few site accessories such as picnic tables, smoking shelter and trash receptacles were observed around the site. These are well maintained and good operating condition. Other site improvement reviewed under this category included the site retaining walls on the east and west sides of the building. These elements appeared sound, plumb and there were no signs of settlement or cracking. The paint on the hand rail on the wall along the west side of the building was peeling which exposed the underlying galvanizing. The rail appeared sound and no areas of corrosion were observed, but the paint is failing and should be removed and replaced.

VI. Site Improvements (G2050): Landscaping

The site landscaping is sparse with the exception of a few shrubs and trees around the building perimeter. The trees, particularly along the south side of the building appear to have been planted too close to the structure, but seem to be healthy. The close proximity to the building could impact the building finish and there is some risk of root damage to the exterior foundation wall. The trees in the planting strip along Central Avenue are well maintained and appear healthy. These trees look to be younger than 25 years so they may have been planted later than the original construction.

Planting beds that were void of plants were heavily mulched to control weed growth. Several irrigation control valve boxes were observed, but no sprinkler heads were apparent.

VII. Site Civil/Mechanical Utilities (G3010): Water Supply

Water is supplied to the building on the west side of the site off of the public main in Prospect Street. The meter and Double Check Valve Assembly are located in a vault and associated post indicator valve (PIV) and fire department connection (FDC) elements are just outside the building. The PIV and FDC need fresh paint. The valves and piping in the vault appeared to have some surface corrosion. Refer to Mechanical/Plumbing Design Assessment section for more information.

The Public Safety Building is fed from a single water service pipe which is routed through a standard backflow preventer and pressure reducing station. There is only a single water service to the building which may cause problems when failure of the water supply occurs.

Fire Hydrants were observed in the right of way around the site and there are



no indications to suggest that the City's water system is not able to provide the required fire protection.

- VIII. Site Civil/Mechanical Utilities (G3020): Sanitary Sewer
Record drawings show the building served by a ductile iron sanitary sewer line exiting the building near the northwest corner and discharging to a combined sewer in the street. There are no reports of any problems with the system outside the building and at this age, it is expected to have many years of useful life remaining.

The building staff did note a nuisance problem with the location of the kitchen waste line cleanout at the north end of the building. The line is frequently plugged by inmates and when it is cleaned, the waste drains out directly over the building air intake. This causes an odor problem throughout the building.

- IX. Site Civil/Mechanical Utilities (G3030): Storm Sewer
The main building storm sewer system (roof drains) is connected to the combined sewer at the northwest corner of the building. Area drains on the east side of the building drain wrap around the building (north and south) Area drains and catch basins around the site appeared to be well maintained and functioning. There were no signs of flooding or standing water on the site.

The small plaza on the east side of the building drains to a window well with a small inlet equipped with a perforated cast iron riser. Leaves were accumulating but it appeared that the perforations in the riser would accommodate some accumulation of debris and leaves before plugging. There appeared to be some risk of flooding or minor water damage if enough leaves collected to plug the drain. Replacing the drain in the window well with a drain in the plaza would reduce this risk.

- X. Site Civil/Mechanical Utilities (G3060): Fuel Distribution
The standby generator (genset) fuel tank is located on the east side of the building on the original construction drawings and is noted as "Existing 5,000 gallon tank" on these plans. However, the original tank was replaced in 1999 with a 2,500 gallon doubled-walled fiberglass tank which is equipped with a monitoring system. The fill and other access ports are covered by decorative cast iron gratings. The condition of the tank is not known, however, at this age, a fiberglass tank is expected to provide many more years of useful service.

- XI. Site Electrical Utilities (G4010): Electrical Distribution
The transformer for the building is located in the alley east of the building and is served by Primary power fed off of Lottie Street according to the construction drawings. Secondary power from the transformer feeds the main panel inside the building west of the genset.

A genset is located on the east side of the building, just south of the midpoint, and appears to be in good condition. It was reported that it is tested weekly to maintain its availability if needed. However, this genset serves the computer room in the Courthouse so it is not included in this assessment. The genset for the jail is located in the basement of the Public Safety Building behind the Boiler



Room. (See (G3060) Fuel Distribution)

- XII. Site Electrical Utilities (G4020): Site Lighting
There are a number of wall mounted lights around the building. They appear in good condition although the coverage is limited.
- XIII. Site Electrical Utilities (G4030): Site Communications and Security
A number of building mounted CCTV cameras were noted around the site. These facilities are associated with the site security system throughout the building reviewed under the Low Voltage section.
- XIV. Other Site Construction (G9090): Other Site Systems
The natural gas supply was reviewed under this section. The gas meter, located on the east side of the building was in good condition and appeared free from defects, damage or other deterioration. There is a reported concern that the main building gas meter and regulating equipment is unprotected on the alley side of the building.

d) STRUCTURAL DESIGN ASSESSMENT

- I. Structural System:
Jail (1984): Is a 3 story reinforced concrete bearing wall and concrete column building, with basement. Floor and Roof framing consist of primarily of Hollow Core slabs with 3 inch topping spanning to reinforced concrete walls or beams. Basement floor is slab on grade. Foundation is grade beams and pile caps supported by piles driven to bedrock.
- II. Lateral System:
3" concrete topping over 8" to 16" thick hollow core slabs provide horizontal diaphragm action to distribute tributary forces to the vertical lateral resisting system in accordance with its stiffness, which will consist of exterior and interior reinforced concrete bearing/shear walls. Shear walls in turn distribute their loads to the grade beam/pile cap and pile system. In the Basement, openings were cut in the shear walls to provide continuous access from corridor to corridor. These were noted in the December 2000 report by DLR Group entitled "Whatcom County Jail Exiting Analysis Structural Repairs Report. The report provided details for reinforcing the cut openings and noted "As such, cutting the above described openings has not reduced the required capacity of the wall for the design lateral loading."



- III. Design Criteria:
The Uniform Building Code 1979 (UBC 1979) criteria are indicated on the record drawings as applying unless noted otherwise (UNO).
- IV. Foundations:
Foundation systems consist of Steel H-Piles driven to practical refusal in bedrock strata with pile capacity of 70 Tons. Piles support a system of pile caps and grade beams.
- V. Loads:
- Floor Loads:*
- | | |
|---|---------|
| Dead Loads: | Actual |
| Floor Live Loads: (Record Dwg General Structural Notes) | |
| Mech/Elec Rooms or Mezzanine: | 75 psf |
| Typical Floor: | 50 psf |
| Corridors/Exits/Stairs: | 100 psf |
| Boiler: | 300 psf |
- Roof Loads:*
- | | |
|--------------|--------|
| Roof (Live): | 20 psf |
| Roof Snow: | 25 psf |
- VI. Seismic Design:
Seismic design of the subject facility was indicated in the existing documentation as being designed in accordance with the requirements of Uniform Building Code (UBC) 1979 using the following design criteria:
- | | |
|----------------------------------|----------------|
| V | = ZICKSW |
| Z | = Zone 2b or 3 |
| Performance Objective | = Life Safety |
| Importance Factor I _e | = 1.25 |
- VII. Wind Loads:
Design of the subject facility for wind loads was indicated in the existing documentation as being designed in accordance with the requirements of Uniform Building Code (UBC) 1979, using the following design criteria:
- | | |
|-------------------------|----------|
| Wind Speed (3 sec gust) | = 85 mph |
| Exposure | = C |
- VIII. Snow Loads:
Design of the subject facility for snow loads was indicated in the existing documentation as being designed in accordance with the requirements of Uniform Building Code (UBC) 1979, using the following design criteria:
- | | |
|----------------|--------|
| Roof Snow Load | 25 psf |
|----------------|--------|
- IX. Material Requirements noted in record drawings:



Jail Summary Narrative

Cast-in-place Concrete	
Pile caps/grade beams/structural slabs & beams/ Cast-in-place Concrete walls	$f'c = 3000$ psi
Cast-in-place Concrete Columns	$f'c = 4000$ psi
Floor topping	$f'c = 3500$ psi
Precast Hollow Core Slab	$f'c = 5000$ psi
Slabs on Grade	$f'c = 2500$ psi

Reinforcing Steel	
Deformed Bars	$F_y = 60$ ksi, ASTM A615 grade 60 Except stirrups and ties – grade 40
Welded Wire Fabric	ASTM A185

Structural Steel	
Wide flange shapes	$F_y = 36$ ksi, ASTM A36
Angles/Channels/Plates	$F_y = 36$ ksi, ASTM A36
Steel Pipe Column/Braces	$F_y = 35$ ksi, ASTM A53 grade B

Concrete Masonry Units (CMU)	
CMU Block	Bearing Grade, w/ type "S" mortar

Precast Hollow-Core	
Slab Units	"Span-Deck" as manufactured by Central Pre-Mix"
Bearing Wall Units	Thermowall" as manufactured by Central Pre-mix

X. Observations from Facility Condition Assessment (FCA):

- Slab on grade appears in good condition.
- Floor slabs appear to be in good condition with shrinkage cracking which appears to be in the topping slab, not unexpected in a 3 inch topping over hollow core slab. Invasive testing or verification is not necessary or recommended.
- Roof slab was covered by membrane but did not appear to be showing signs of deflection or distress.
- Basement walls where observed appeared to be in good condition.
- Exterior concrete walls showed some shrinkage cracking, which is normal for concrete, particularly since control joints were not used; these cracks were injected with epoxy about 10 years ago and wall is in good condition.
- The in-fill concrete masonry unit walls that we observed were all in good condition. Concrete masonry units are usually sensitive to building movement, and will show signs of cracking with even minor settlement or



distortion. The concrete masonry unit walls we observed did not show signs of distress.

- Vinyl Composition Tile (VCT) floor covering is usually sensitive to cracking in the substrate below it. Most of the VCT on the basement floor slab on grade was in good condition. Only in a couple locations did we observe minor localized reflected cracks in the VCT.

XI. Observations from record drawings:

- The reinforced concrete (RC) bearing walls for a building of that period appeared to be fairly robust, with thicknesses of 12", 14" and 16" for a 3 story building.
- Roof framing plan indicates that a future 4th floor was contemplated in design
- The reinforcing called out for the walls exceeds present day minimums for both vertical and horizontal reinforcing
- Spacing of reinforcing bars at 15"oc to 18" oc, is excessive for a correctional facility, where 8"oc in at least one of the directions (horizontal or vertical) is more appropriate, especially in the housing areas.
- This building was designed to Uniform Building Code (UBC) 1979 , which is prior to the benchmark year of 1994 when substantially improved seismic codes were introduced for reinforced concrete shear wall buildings.
- Hollow core slab bearing at 2 inches from the inside face of the wall is undersized for modern designs, which require bearing to start at ½" from the wall face. Out-of-plane forces during a seismic event could see some of the slabs slipping off their bearing.
- Starting at floor 2, some of the exterior walls are designed as precast concrete, insulated hollow core sandwich panels. The ability of these panels to act as shear walls, and the ductility of their connections back to the diaphragm would need further investigation, and likely require improvement with a seismic upgrade.

e) MECHANICAL/PLUMBING DESIGN ASSESSMENT

I. Plumbing Fixtures:

Fixtures are stainless steel and are in good condition.

II. Domestic Water Distribution:

The existing domestic hot water system consists of three gas fired water heaters, storage tank, and mixing valves. This equipment is in fair condition.

The associated pipe, valves, recirculation pumps, and insulation are in fair condition. There are some leaks, rusting, and insulation damage. A reported deficiency by the facilities staff is the plumbing pipe is in poor condition and the sewer pipe is leaking above the sheriff's office when the inmates flood their cells or plug the toilets.

An observed deficiency is that the equipment does not appear to be seismically braced per current standards. The existing domestic water system was braced per seismic standards at the time of original installation. Over time the seismic bracing standards have become more stringent and the system bracing has fallen below current standards. A seismic study should be performed to



determine the necessary changes to bring the support of the domestic water system up to current standards.

- III. Sanitary Waste and vent:
The waste and vent pipe and floor drains appear to be in fair condition. Refer to Civil section for more information regarding waste system connection to site utilities.
- IV. Rain Water Drainage:
The rain water distribution system appears to be in fair condition. The roof drains have accumulated sediment and moss. Refer to Civil section for more information regarding waste system connection to site utilities.
- V. Special Plumbing Systems:
The gas distribution system appears to be in fair working condition.
- VI. Energy Supply:
The gas piping and components appear to be in fair condition. Chilled water and heating hot water are generated in the facility.
- VII. Heat Generating Systems:
The existing heating hot water system consists of two gas fired boilers, expansion tank, air separator, and pumps. This equipment and the associated pipe, valves, and insulation are in fair condition. There are some leaks, rusting, and insulation damage.

Equipment did not appear to be seismically braced per current standards.

- VIII. Cooling Generating Systems:
Chilled water is generated via a water cooled chiller and a roof mounted cooling tower. The chiller was originally provided with a heat recovery feature to reject heat to the heating hot water system. This feature has been abandoned in place.

The chilled water is distributed to the facility through a single chilled water pump. This is a single point of failure for cooling to the facility.

The chiller room exhaust is located high in the space. Depending on the minimum refrigerant circuit size for the equipment and the boundary of the chiller room low wall, exhaust is required by current codes.

The chiller currently uses R22 refrigerant. This refrigerant is currently being phased out. Depending on the life expectancy of the building, consider comparing the life cycle cost to continue to recharge equipment with R22 refrigerant with cost to replace equipment with new equipment that uses a newer refrigerant blend and has a higher efficiency.

The condenser water is pumped to the cooling tower with a single pump. This is a single point of failure for cooling to the facility. The cooling tower is located on the second story roof over the bridge to the courthouse. The chiller appears to be in fair working order, although the cooling tower and



accessories in this location need to be thoroughly cleaned.

Equipment did not appear to be seismically braced per current standards. The existing mechanical systems were braced per seismic standards at the time of original installation. Over time the seismic bracing standards have become more stringent and the system bracing has fallen below current standards. A seismic study should be performed to determine the necessary changes to bring the support of the mechanical systems up to current standards.

The associated condenser water and chilled water pipe, valves, and insulation are in fair condition. There are some leaks, rusting, and insulation damage.

IX. Distribution Systems:

The HVAC distribution system consists of six air handling units providing conditioned air and ventilation air to the building, with the 6th unit being located in the basement for the Sheriff's Office. The other five units are located on the interstitial level of the building. The air handling units, ductwork, and insulation appears to be in fair working condition with no noticeable leaks, vibrations, and noise. Insulation is torn and or duct taped in areas. Equipment did not appear to be seismically braced per current standards.

There is not a clear access aisle into or through the mezzanine level. This will make replacement of major system components challenging.

It was observed that rooms 355 (food storage) and 302 do not currently have ventilation.

Some duct penetrations through the mezzanine floor are not fire caulked like others.

The return grilles have accumulated noticeable lint and dirt. The inmates plug them with tooth paste and toilet paper.

Maintenance records do not show consistency in maintenance being performed.

AHU-5 and the Sheriff's Office AHU were not visually inspected. Since replacement of the units was not discussed with facilities it can be stated that these units are in similar condition to the other AHUs in the building.

X. Terminal and Packaged Units:

Air is supplied to rooms in the building through a terminal unit. The terminal unit modulates airflow to meet space temperature set point. When the security system was upgraded, a split system heat pump was added to condition the security electronics room. The terminal units and split system units appear to be in good working condition with no noticeable problems.

XI. Controls and Instrumentation:

Siemens Building Automation System (BAS) controls were installed in 2001.

XII. Other HVAC Systems & Equipment:



The kitchen makeup air and relief units located outdoors on the roof are in fair condition and are showing rust. The kitchen exhaust fan looks to be in good working condition.

The clothes dryer exhaust into the Sally Port has lint build up. In addition there is lint buildup on the walls of the Sally Port. Recommend increased maintenance of lint filter, ductwork, and exhaust outlet. Current maintenance is by Aramark and inmate labor. Better supervision of cleaning/replacement process is also recommended.

Facilities where occupants cannot egress to safety during a fire event typically have a means of smoke evacuation. A smoke evacuation system is not installed except for the control room. A study should be performed to determine how/if a smoke evacuation system can be added to the building.

f) ELECTRICAL DESIGN ASSESSMENT

- I. Electrical Service and Distribution:
Utility Service: The Public Safety Building is fed underground from an exterior pad-mounted utility transformer. Distribution is 480Y/277V, 3-Phase with multiple step down transformers to provide 208Y/120V distribution.
- II. The main distribution switchboard is manufactured by "Federal Pacific" and the main section and main fusible switch are rated for 1200A. The main distribution switchboard appears to have ample space for additional new circuits to feed new equipment or to modify existing loads. The main distribution switchboard appears to be original equipment installed in 1984. The equipment appears to be in good condition, however, Federal Pacific is no longer manufacturing electrical distribution equipment and new replacement material is no longer available. Refurbished replacement material may still be available, but the stock continuously changes based on existing facilities being demolished.
- III. The existing emergency system consists of a 250KW Onan diesel generator in the basement with a single Onan automatic transfer switch. This system appears to be installed approximately 2006 based on testing records on the equipment. This equipment is in good condition and replacement parts should be readily available. Current code requires all loads on the emergency power system to be life safety. Should any new load be defined as non-life safety, a second transfer switch and distribution would be required.
- IV. Existing panelboards are typically "Federal Pacific" brand boards. The panelboards appears to be original equipment installed in 1984. The equipment appears to be in good condition, however, Federal Pacific is no longer manufacturing electrical panelboards and new replacement material is no longer available. Refurbished replacement material may still be available, but the stock continuously changes based on existing facilities being demolished. The main emergency distribution panel "ED" is a Siemens panelboard installed in 2013 and appears to be in excellent condition. Replacement material is readily available.



- V. Panel EHB in the main electrical room has exposed bussing upon opening the interior panel cover.
- VI. Lighting System:
The majority of interior lighting fixtures appear to be original equipment installed in 1984, but all fluorescent fixtures appear to have been re-lamped with new T8 fluorescent lamps. From records received, this appears to have been completed in 2015. Fixtures in recreation area and 3rd floor food storage appear to be original HPS fixtures. All fixtures are in fair condition.

Exterior lighting fixtures appear to be original equipment installed in 1984 with HPS lamps. An observed deficiency appears to be inadequate lighting levels in the sally port and around the exterior of the building. A light study would be necessary to determine the exact light levels and compare to current code.

A reported deficiency in the existing emergency egress lighting is that the egress lighting is currently connected to the emergency power system and the gen-set is maxed out. This system has a delay of 10-15 seconds for the generator to start and provide power to the facility. During this time period the building has no security or emergency egress lighting, creating safety concerns. It was also reported that the existing emergency egress lighting does not adequately cover all areas of the building.

A reported deficiency noted that the existing code minimum emergency egress lighting may not be adequate for safe operation of the facility and increased emergency lighting may be required. Additional lighting can be provided while meeting energy codes. Egress lighting code minimum is 1 foot-candle. This may not be adequate for safe operation of the facility. Further discussion with Owner and Code officials is required to define areas where energy codes comply with the following exceptions for safe operation. *C405.2 Lighting controls - Exception #1, Areas designated as security or emergency egress are exempt. C405.4 Interior lighting power requirements – Exception #11 Lighting approved because of safety or emergency considerations is exempt.*

g) LOW VOLTAGE SYSTEMS ASSESSMENT

- I. Low Voltage Communication:
For the purposes of this report, the low voltage communication section is assumed to incorporate the original telecommunications (telephone) distribution system as described here. The telecommunications distribution system in place to serve the Public Safety building appears to be original to the date of construction. The existing telecommunications distribution system is composed of multi-pair copper backbone cables to distribute individual circuits to “telecommunications cross-connects” and 4-pair category 3 (or lower) cables from the telecommunications cross-connects to individual station outlets. At the time this facility was constructed, telecommunications and data distribution were distinctly separate systems. It does not appear that the original telecommunications distribution has been significantly upgraded, however it should be noted that the current industry



standard is to utilize a “structured cabling system” that is capable of distributing both telecommunications services as well as data services over a common infrastructure. Please see “Data Distribution” for additional information. The existing telecommunications distribution system appears to be only modestly used to support analog telephones for use by staff and inmates. As these legacy analog systems have been largely displaced in the market by electronic systems, the value of a dedicated telecommunications distribution system is minimal.

II. Low Voltage Data:

For the purposes of this report, “Low Voltage Data” is assumed to incorporate data connectivity and distribution (computers) as well as other services delivered through digital connections (telephone Voice over Internet Protocol (VoIP)). The existing “Low Voltage Data” infrastructure appears to have been installed in approximately 2013 and utilizes optical fiber backbone connections to distribute services to telecommunications and security electronics rooms. Category 5e cabling has been installed to support delivering service connections from the telecommunications and security electronics rooms to individual stations. The backbone cabling and station cabling are of current vintage and no significant deficiencies were noted during the walkthrough. While the spaces allocated for data connectivity do not meet current industry standards, no specific recommendations have been developed as the installed infrastructure appears to be capable of supporting the facility until a replacement facility has been constructed. Administrative telephone service is a modern Voice over Internet Protocol (VoIP) system manufactured by Shoretel. Inmate telephony service is provided by a third party vendor and is supported through the Washington State Dept. of Corrections.

III. Low Voltage Security:

For the purposes of this report, the low voltage security systems include Programmable Logic Controller (PLC) based door control, electronic access control (card access) and security video systems. The facilities low voltage security systems were summarily replaced and upgraded in June of 2011. The installed systems appear to have been incrementally maintained and supported in good working order since installation. The systems were noted to be in good condition and no deficiencies were noted at the time of the walkthrough.

It was reported to the survey team that the mechanical locks on housing unit doors are failing and that offenders are able to circumvent the locking mechanism and open doors. This issue was not observed or reported by operations staff during the walkthrough but was noted in later interviews with leadership and senior maintenance staff.

h) FIRE PROTECTION DESIGN ASSESSMENT

I. Fire sprinkler system:

The fire protection system is fed from a single water service into the building. The pipe and valves in the utility vault are rusty. The pipe, valves, and heads in the building appear to be in fair condition. There are some water leaks in the mechanical room. Kitchen heads are missing escutcheons.



Sprinkler coverage in the stairwells and Sky Bridge does not appear to meet current standards. Seismic bracing of the system is not apparent.

II. Fire Alarm System:

Fire alarm system is manufactured by Simplex. The system was replaced in 2012 and is of current design. Replacement material is readily available. The system is in excellent condition.

i) KITCHEN AND LAUNDRY ASSESSMENT

I. Jail Kitchen:

The kitchen at the jail currently serves approximately 212 inmates. Daily meals are also prepared and delivered from the jail to the work center for an additional 120 inmates. Additional daily meals are also prepared for approximately ten juveniles within the jail facility. Inmates at all facilities are fed three meals per day which includes a cold breakfast and hot dinner and lunch. Work crews are given a sack lunch. Beverages include a juice packet and sometimes a carton of milk for breakfast. A total of approximately 1,050 meals are served from this kitchen per day.

The kitchen was originally constructed in 1984 with much of the original equipment still in place. The kitchen is undersized for the populations being served and is especially short on space for dry and cold food storage. In fact, the main dry food storage room is remotely located on the 3rd. floor of the building making efficient use of this space difficult.



While some kitchen equipment items have been replaced over the years most of the main components remain from the original opening. Along with being short on space, and even though it was refurbished in 2014, the walk-in cooler and freezer assembly has more than exceeded a typical life span. The exhaust hood contains a fire suppression system that is no longer allowed based on current codes. The dishwasher has been replaced twice but is having repeated mechanical issues. There is also no system in place for drying of trays. Currently they are just banged against a table to get most of the water off and then stacked while still partially wet. The steamer and steam generator have been replaced but are due to be replaced again. Other individual cooking equipment items are in need of replacement as well.

II. Jail Laundry:

The laundry at the jail currently serves approximately 212 inmates. Every day washed items include two blankets, one sheet, one towel, one shirt and trousers per inmate. Inmate's personal items include a t-shirt and underwear which are done two times per week. The laundry currently operates seven days per week, seventeen hours per day.

The laundry space and equipment is adequately sized for an operation that runs two shifts per day, seven days per week. More space could be used for storage of clean items awaiting distribution. It appears washer/extractors and dryers have been replaced since the original opening in 1984 and appear to be in good working order with no complaints stated by the staff at the time of tour. It would be advantageous to add a lint collection system for the dryers if ducting to the outside of the building can support it.

2. Considerations for Correction or Further Study

a) ARCHITECTURAL

- I. Recommend a comprehensive evaluation of all the doors in the housing units, public areas, and administrative areas to determine how many doors require new hardware, finishing, or complete replacement.
- II. Recommend a building code analysis based on current occupancy conditions.
- III. Recommend an accessibility evaluation including the site and the building to ensure adequate facilities for inmates, and administration staff.

b) CIVIL/SITE

- I. Verify ADA routes and conformance including checking cross slopes, longitudinal slopes, landings, hand rails, etc. In parking areas check number of stalls, access to the stalls and signage.
- II. Security fencing around gas meters (to the extent allowed by local gas purveyor)
- III. Verify storm sewer operation and maintenance by inspection of manholes and piping. Video inspection of pipes would provide more accurate assessment of pipe condition.
- IV. Verify Sanitary Sewer operation and maintenance by inspection of manholes and piping. Video inspection of pipes would provide more accurate assessment of pipe condition.
- V. Flow test Fire Hydrants to confirm municipal system can deliver the required



fire flow to the site.

c) STRUCTURAL

- I. Recommend a FEMA 154 seismic screening, which is more generalized and thus economical than a full detailed seismic study according to ASCE 41.
- II. In lieu of the above screening, our team could design an upgrade to the building to meet the latest ASCE 41 with respect to the lateral system, its connectivity and ductility.
- III. Positively connecting the hollow core slab to their bearing walls, and increasing their bearing length during a seismic upgrade is also recommended.
- IV. The ability of precast concrete, insulated hollow core sandwich panels at floor 2 to act as shear walls, and the ductility of their connections back to the diaphragm, requires further investigation, and likely improvement with a seismic upgrade.

d) MECHANICAL/PLUMBING

- I. Recommend planning and study to determine if smoke evacuation system can be installed.
- II. Verify the location of the fire and smoke walls and if all penetrations are sealed to maintain the wall ratings.
- III. Recommend an air balance report be performed to determine if adequate ventilation air is being provided to the facility.
- IV. Investigate the degree to which seismic bracing is required to meet current standards for both life safety and non-life safety equipment and its associated distribution systems.
- V. Further investigate the areas of the building that currently do not have ventilation and determine what it would take to provide ventilation to these spaces..
- VI. Inspect the condition of the domestic water entry piping in the service vault outside of the building. Verify how failure of the water supply is addressed and if a second service is needed.
- VII. Replace all domestic water piping in the building.
- VIII. Add a second chilled water condenser water pump for system redundancy.
- IX. Evaluate cooling system for redundancy requirements.
- X. Evaluate chiller room for exhaust requirements.
- XI. Repair all pipe leaks in the mechanical room and repair damaged insulation.
- XII. Review the current Building Automation System (BAS) control sequences to determine if sequence enhancements can be performed to improve energy usage at the facility.
- XIII. Compare the life cycle cost to continue to recharge equipment with R22 refrigerant with cost to replace equipment with new equipment that uses a newer refrigerant blend and has a higher efficiency.

e) ELECTRICAL

- I. Provide complete dead front on Panel EHB in the main electrical room to prevent accidental exposure to exposed bussing upon opening the interior panel cover.
- II. Provide 30 day demand load study to confirm loading of existing emergency power system.
- III. Measure lighting level in sally port and building exterior to confirm code compliance and to confirm safe operational light levels are met. Provide



- additional lighting where light levels are determined to be inadequate.
 - IV. Measure emergency egress light levels throughout the facility to determine code compliance.
 - V. Discuss need for increased light levels beyond code required minimum levels to provide safe operation of the facility.
 - VI. Install battery powered lighting to provide instant on feature to illuminate the facility during the time delay associated with generator start-up. Battery fixtures should be connected to un-switched lighting circuit from the emergency generator. This will allow the battery fixture to be on during the outage but will switch off once the generator lighting circuit is active to reduce wear on batteries.
 - VII. In lieu of individual battery light fixtures, a central inverter battery system could be installed and all building emergency lights could be routed thru this central system. This would have higher initial cost and require more space to house the inverter, but would allow for central battery maintenance.
- f) LOW VOLTAGE SYSTEMS
- I. Evaluate the potential of significant systems upgrades and their potential effect on the low voltage communications systems. Where significant additional future IT based resources are identified, additional study of available dedicated telecommunications spaces should be considered.
 - II. Evaluate the IT lifecycle of IT equipment and resources to determine if further improvements may be required to the supporting electrical and mechanical systems.
 - III. Review and evaluate the associated support contracts and agreements for the low voltage security systems in order to maintain current vintage software, hardware and security patches. Review the value of ongoing commissioning to maintain the complementary relationship between the security systems and changing operational protocols. Review existing change control procedures and system documentation.
- g) FIRE PROTECTION
- I. Recommend a more in depth survey of the building fire protection system by a fire protection engineer to determine deficiencies in all rooms and stairwells.
 - II. More closely inspect the condition of the fire protection entry piping in the service vault outside of the building.
 - III. Evaluate all equipment for seismic bracing requirements.
- h) KITCHEN AND LAUNDRY
- I. Recommend a foodservice equipment repair specialist be brought into the jail kitchen to fully inspect each piece of equipment and determine what equipment should be replaced and/or repaired. Any items deemed suitable for repair should also take remaining life into account before deciding if repair is acceptable as opposed to replacement with new. After this exercise has been completed, an accurate budgetary cost for repair/replacement of equipment items can be provided.
 - II. The possibility of moving the jail kitchen to the work center was mentioned. The work center kitchen does not have the space available for this. Thought was also given to the possibility of just having work center inmates daily meals be stored and fully prepared at the work center kitchen; however it does not have the available space to accommodate needed cold and dry storage or cooking equipment.



- III. There is a possibility of moving daily laundry needs from the jail to the work center. There is plenty of space available in the work center laundry area. This would free up needed area for additional kitchen support at the main jail for cold or dry storage. Smaller stacked type washer/dryers can be provided at the jail for inmates washing of personal items.





B. WORK CENTER SUMMARY NARRATIVE

1. Existing Conditions

a) GENERAL

The Work Center, constructed in 2006 as a temporary facility, is still in good condition. While the structure is sound, the facility does have some issues. The lighting levels are too low and pose a security risk when the power goes out. There are several areas that do not meet current exiting or ADA codes. The dormitory style cells result in problematic management of unruly inmates. The facility also regularly houses inmates over its designed security level.

b) ARCHITECTURAL AND INTERIOR FINISH ASSESSMENT

- I. Exterior Tilt-up concrete panels are in good condition.
- II. Paint on the south side of the building is especially faded.



- III. Paint on the exterior metal doors on the south side of the building is faded from the sun and is to the point where it could be detrimental to the material
- IV. Interior walls are in good condition except for a few small areas of damage from rolling a cart or something similar down the hall
- V. Interior layout in the office area does not meet current accessibility or exiting codes
- VI. Toilet and locker rooms are inadequate in size for the number of employees



c) CIVIL/SITE ASSESSMENT

I. Summary:

The site is in generally very good condition which would be expected since the facility is only 10 year old. It was constructed in 2006, so most of the site improvements are relatively new. The site civil infrastructure is in very good condition and shows few signs of wear and aging.

The site utilities (water, sanitary and storm, gas, electrical, etc.) appear to be functioning well and are well maintained. They are expected to have many useful years of service remaining. The landscape plantings are limited, but are well established, particularly the trees and shrubs associated with the stormwater detention facility. The large lawn area in front of the building appears dormant which is indicative of the season as well as efficient use of water resources.

II. Site Improvements (G2010): Roadways

The roadways serving the site are paved with hot mixed asphalt and are in very good condition. An entrance/exit driveway borders the north and south sides of the site and access the parking on the north side of the building and a large parking/maintenance yard behind the building. There are no signs of wear, raveling or base failure of the hot mixed asphalt which is consistent with the age of the paving.

III. Site Improvements (G2020): Parking Lots

On-site parking is provided by a large lot on the north side (50+ vehicles) and staff and service parking on the south side of the building (40 vehicles). The lot on the south side also serves as a service yard and provides access to large roll-up doors along that face of the building. Similar to the paving in the access roads, the hot mixed asphalt appears to be structurally sound and in very good condition. The striping is fading and new paint will be required in the near future.

IV. Site Improvements (G2030): Pedestrian Paving

The pedestrian on-site walkways are in good condition. There limited walks serving entrances along the north side of the building. The walk along the east side of the building is obstructed by the tall security fence. A temporary wooden ramp suggests an Americans with Disabilities Act (ADA) pathway out into the driveway and through the rolling gate. There is no curb-ramp from this driveway onto the sidewalk along the south (back) side of the building.

The ramps at the Americans with Disabilities Act (ADA) parking stalls along the north side of the building do not appear to conform to current standards for accessibility to the parking stalls. At the northeast building entrance, a car parked in the marked stall will block the ramp, and the striped path leads to a curb with no ramp. At the northwest corner of the building this same configuration exists for one accessible stall, and the other marked stall has no secure pathway or ramp to the sidewalk. A non-accessible parking stall blocks access to the other curb ramp. There is signage indicating Americans with Disabilities Act (ADA) accessible parking, but it appears the access to these stalls is out of



compliance.

There are no sidewalks in the right of way on the north side of the site along Division Streets.

V. Site Improvements (G2040): Site Development

A few site accessories such as picnic tables and trash receptacles were observed around the site. These are well maintained and good operating condition.

Other site improvements reviewed under this category includes the galvanized chain link site fencing around the parking area south of the building. The tall security fence is in very good condition with locking gates in a number of locations. The rolling gates at the southeast and southwest corners of the building that provide vehicle access to the south lot appear to be in good working order. The 6 foot tall chain link fence around the stormwater detention facility was also secure and in very good condition.

VI. Site Improvements (G2050): Landscaping

The site landscaping around the building is limited with the exception of well-established trees and shrubs around the stormwater detention facility. Lawn areas are well maintained and appear dormant. A mounded landscaped area in the field north of the building is becoming established and appears to be associated with a temporary green house, ecology block bins with compost and other gardening activities.

Several irrigation control valve boxes were observed in planting area around the building, but no sprinkler heads were apparent; some sections of soaker type drip irrigation hose were exposed in a few places. The condition of the system is not known and it does not appear to be in service.

VII. Site Civil/Mechanical Utilities (G3010): Water Supply

Water is supplied to the building along the west side of the site, off of the public main in Division Street. The meter and Double Check Valve Assembly are located in a vault at the southwest corner of the building. An associated post indicator valve (PIV) was not observed and a single port (6" diameter) fire department connection (FDC) is located at the northwest corner of the building. Valve boxes were observed throughout the site that appear to conform to the water system layout on the original construction drawings.

Fire Hydrants were observed on-site and in the right of way on Division Street and there are no indications to suggest that the City's water system is not able to provide the required fire flow for protection for the facility.

VIII. Site Civil/Mechanical Utilities (G3020): Sanitary Sewer

Record drawings show the building served by a sanitary sewer side sewer along the east entry drive that connects to a manhole in Division Street. The side sewer has a number of cleanouts that were observed and are consistent with the locations shown on the record drawings.



There is a Portable Toilet pump out station for the work crews on the northeast entry drive that appears to be in working condition.

- IX. Site Civil/Mechanical Utilities (G3030): Storm Sewer
The main building and site is served by a storm sewer system that follows the driveway entries and wraps around the back of the building. Catch basins around the site appeared to be well maintained and functioning. There were no signs of flooding or standing water on the site.

Building downspouts are also connected to this series of catchbasins and pipe sections that ultimately drain to a stormwater detention pond at the southeast corner of the site. The pond is fenced and bounded by well-established plantings which helps water quality and minimizes heat gain. The pond has standing water which suggests a well operating water quality pond.

The control structure manhole was locked and its condition was not observed. Regular maintenance of this particular structure is needed to ensure the control feature (typically riser with orifices) is not fouled and operating as designed.

The outfall from the pond extends south down a steep slope to a drainage course at the base of the hill. Access from above was restricted by growth of blackberries and other weeds. Regular observation of the pipe and outlet is required to ensure it is functioning properly. Access to the outfall was accomplished by driving west from the site entrance and then south to the Irongate Road dead-end and walking to the outfall via the existing trails. The outlet was observed and appeared to be in good working condition with no signs of erosion. The alignment of the pipe on the steep slope was obscured by a heavy growth of weed and blackberries so areas of sloughing or erosion would not be visible without clearing the brush.

- X. Site Civil/Mechanical Utilities (G3050): Cooling Distribution
Chillers and a heat pump are located at several locations around the building. These were reviewed by the mechanical engineer.
- XI. Site Civil/Mechanical Utilities (G3060): Fuel Distribution
The diesel standby generator (genset) is located on the south side of the building. It has a double-walled built-in tank, and since the system was installed recently, it is expected to have years of remaining useful life. The risk of corrosion and subsequent leakage or failure is low.
- XII. Site Electrical Utilities (G4010): Electrical Distribution
The transformer for power to the facility is located at the southeast corner of the building and is served by primary power fed off of Division Street that extends along the east entry driveway.

The genset is located on the south side of the building and appears to be in good condition. It was reported that it is tested weekly to maintain its availability if needed. (See (G3060) Fuel Distribution)



- XIII. Site Electrical Utilities (G4020): Site Lighting
There are a number of wall mounted lights around the building as well as pole mounted lights opposite the building along the edge of both parking areas. They appear in good condition with good coverage of the site.
- XIV. Site Electrical Utilities (G4030): Site Communications and Security
A number of building mounted CCTV cameras were noted around the site. These facilities are associated with the site security system throughout the building reviewed under the Low Voltage section.
- XV. Other Site Construction (G9090): Other Site Systems
The natural gas supply was reviewed under this section. The gas meter, located at the southwest corner of the building was in good condition and appeared free from defects, damage or other deterioration. There is a reported concern that this meter and pipe entering the building are unprotected and unsecure.

d) STRUCTURAL DESIGN ASSESSMENT

- I. Structural System:
Work Center built in 2006: Is a 1 story tilt-up concrete wall building, with bar joist and joist girder roof framing covered by 3" steel deck. Joist girders located at the center of the building, spans between HSS (tube) columns. Columns and tilt-up walls in turn carry their loads to spread footings and wall footings respectively.
- II. Lateral System:
3" corrugated steel deck provides horizontal diaphragm action to distribute tributary forces to the vertical lateral resisting system, which will consist of exterior reinforced concrete tilt-up bearing/shear walls. Shear walls in turn distribute their loads to the conventional strip footings below.
- III. Structural Criteria:
Design Criteria
The following criteria are indicated on the record drawings as applying unless noted otherwise (UNO): International Building Code 2003 (IBC 2003)
- IV. Foundations:
Foundation systems consist of column footings designed for a maximum bearing capacity of 4000 psf and wall footings for a maximum bearing capacity of 2500 psf. Geotechnical Report is prepared by GeoEngineers and dated 11 March 2005 (this report was not available for review).
- V. Loads:
Design Loads
Dead Loads Actual
Floor Live Loads: (Record Drawing General Structural Notes)
Typical Floor 100 psf



Roof Loads

Roof (Live	20 psf
Roof Snow:	25 psf

VI. Seismic Design:

Seismic design of the subject facility was indicated in the existing documentation as being designed in accordance with the requirements of the International Building Code (IBC) 2003 using the following design criteria:

S_s	= 1.13
S_1	= 0.33
Importance Factor I_e	= 1.25
R	= 5.5
Performance Objective	= Life Safety

VII. Wind Loads:

Design of the subject facility for wind was indicated in the existing documentation as being designed in accordance with the requirements of

International Building Code (IBC) 2003, using the following design criteria:

Wind Speed (3 sec gust)	= 85 mph
Exposure	= C
Importance Factor I_e	= 1.15

VIII. Snow Loads:

Design of the subject facility for snow loads was indicated in the existing documentation as being designed in accordance with the requirements of International Building Code (IBC) 2003, using the following design criteria:

Roof Snow Load	25 psf
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IX. Material Requirements noted in record drawings:

Cast-in-place Concrete	
Spread/Strip Footings	$f'_c = 3000$ psi
Tilt-up Wall	$f'_c = 4000$ psi
Ceilings	$f'_c = 4000$ psi
Slabs on Grade	$f'_c = 4500$ psi

Reinforcing Steel	
Deformed Bars	$F_y = 60$ ksi, ASTM A615 grade 60
Bars to be welded	ASTM A706



Work Center Summary Narrative

Structural Steel	
Wide flange shapes	Fy = 50 ksi, ASTM A992
Angles/Channels/Plates	Fy = 36 ksi, ASTM A36
Steel Tube Columns	Fy = 46 ksi, ASTM A500 grade B
Concrete Masonry Unit (CMU) Walls	
CMU Block	Type N-1, w/ type "S" or "N" mortar
Open Web Joists / Joist Girders	
Manufactured Steel Joists	Latest Specifications of Steel Joist Institute (SJI)
Joist Girders	Latest Specifications of SJI

- X. Observations from facility condition assessment (FCA):
 - Slab on grade appears to be in good condition, with some minor shrinkage cracking.
 - Roof structure appears to be in good condition.
 - Exterior Tilt-up panels appear to be in good condition, although the header portions of a number of panels appear to have some shrinkage cracks and cracks emanating from the corners of the openings. This cracking may have occurred when the panels were tilted into place, they appear tight and not growing
- XI. Observations from record drawings:
 - Typical 1 story, high bay, bar joist/ tilt-up warehouse/Industrial bldg

e) MECHANICAL/PLUMBING DESIGN ASSESSMENT

- I. Plumbing Fixtures:
Fixtures outside of the cells were investigated and determined to be in good condition overall. Although the fixtures in the cells were not inspected due to inmate occupancy, they were noted by facilities personnel to be of residential grade. This was determined appropriate at the time of the original design because the facility was designed as a temporary building, and based on the type of inmates occupying the facility. As the facility occupancy has changed the plumbing fixtures in the cells should be upgraded to detention grade similar to those in the Jail.
- II. Domestic Water Distribution:
The Work Center is fed from a single water service pipe which is routed through a standard backflow preventer and pressure reducing station. This equipment is in good condition. There is only a single water service to the building which may impact how failure of the water supply is addressed.

The existing domestic hot water system consists of two gas fired water



Work Center Summary Narrative

heaters, storage tank, and mixing valves. This equipment is in good condition. The associated pipe, valves, recirculation pumps, and insulation are in good condition.

III. Sanitary Waste and vent:

The waste and vent pipe and floor drains appear to be in good condition. Refer to Civil section for more information regarding waste system connection to site utilities.

IV. Rain Water Drainage:

The rain water distribution is via an exterior gutter and downspout system. The gutter and downspouts appear to be in good condition. Refer to Civil section for more information regarding storm system connection to site utilities.

V. Special Plumbing Systems:

The gas distribution system appears to be in good working condition.

VI. Energy Supply:

The interior gas piping appears to be in good condition. Chilled water and heating hot water are generated at the facility.

VII. Heat Generating Systems:

The existing heating hot water system consists of two gas fired water condensing boiler, expansion tank, air separator, primary pumps, distribution pumps, and neutralization tanks. This equipment and the associated pipe, valves, and insulation are in good condition.

VIII. Cooling Generating Systems:

Dedicated air cooled condensing units provide cooling to each of the two main air handling unit. An air source heat pump provides cooling to the laundry room fan coil unit. The heat pump is showing signs of rust. Otherwise the equipment and the associated pipe, valves, and insulation are in good condition.

The cooling equipment current uses R22 refrigerant. This refrigerant will be more difficult to find and more costly as R22 is being phased out.

IX. Distribution Systems:

Ventilation and conditioned air is provided via two main air handling units located in the east and west mechanical rooms. The air handling units, ductwork, and insulation appears to be in good working condition with no noticeable leaks.

The outside air intake for the west mechanical room Air Handling Unit (AHU) is in relatively close proximity to the AHU's relief louver. Spacing between the two appears to meet code but may be a cause for backflow.

X. Terminal and Packaged Units:

Air is supplied to rooms in the building through a terminal unit. The terminal unit modulates airflow to meet space temperature set point. A fan coil unit conditions and provides ventilation air to the laundry room. The facility has



clothes dryers, which are attached to an exhaust fan and a lint trap. The majority of the restrooms are served by individual exhaust fans. Some restrooms are combined onto a single exhaust fan. The terminal units, fan coil, clothes dryer exhaust fan, and toilet exhaust fans appear to be in good working condition with no noticeable problems.

- XI. Controls and Instrumentation:
The Building Automation System (BAS) controls are Siemens and are relatively current.
- XII. Other HVAC Systems & Equipment:
A lint filter is installed in the dryer exhaust system. This system appears to be in good working order.

f) ELECTRICAL DESIGN ASSESSMENT

- I. Utility Service:
The Work Center Building is fed underground from an exterior pad-mounted utility transformer. Distribution is 480Y/277V, 3-Phase with multiple step down transformers to provide 208Y/120V distribution.
- II. Distribution
The main distribution panelboard is manufactured by "General Electric" and the main breaker is rated for 800A. The main distribution panel has no available space for new circuits to feed new equipment or to modify existing loads. The main distribution panelboard appears to be original equipment installed in 2006. The equipment appears to be in excellent condition and replacement material is readily available.
- III. Emergency Power:
The existing emergency system consists of a 125KW Kohler diesel generator with a two Kohler automatic transfer switches. One switch is for Emergency Egress Lighting and one is for standby emergency power. This system appears to be original equipment installed in 2006. This equipment is in excellent condition and replacement parts should be readily available.
- IV. Panelboards:
Existing panelboards are "General Electric" brand boards. The panelboards appears to be original equipment installed in 2006. The equipment appears to be in excellent condition and replacement material is readily available.
- V. Lighting System:
The interior lighting fixtures are fluorescent and appear to be original equipment installed in 2006. Fixtures appear to be in excellent condition.

Exterior lighting fixtures are Metal Halide and appear to be original equipment installed in 2006. Fixtures appear to be in excellent condition.



Lighting system in general appears to comply with current energy codes for controls except for areas with natural daylighting. Current codes require automating dimming in all spaces with natural daylighting. This can be accomplished with photo sensors and dimming ballasts.

An observed deficiency appears to be inadequate lighting levels in Unassigned Storage rooms 133 and 209 (room name/numbers from the original design drawings dated 12/2006).

A reported deficiency in the existing emergency egress lighting is that the egress lighting is currently connected to the emergency power system. This system has a delay of 10-15 seconds for the generator to start and provide power to the facility. During this time period the building has no security or emergency egress lighting, creating safety concerns.

A reported deficiency noted that the existing code minimum emergency egress lighting may not be adequate for safe operation of the facility and increased emergency lighting may be required. Further discussion with Owner and Code officials is required to define areas where energy codes comply with the following exceptions for safe operation. *C405.2 Lighting controls - Exception #1, Areas designated as security or emergency egress are exempt. C405.4 Interior lighting power requirements – Exception #11 Lighting approved because of safety or emergency considerations is exempt.*

g) LOW VOLTAGE SYSTEMS ASSESSMENT

I. Low Voltage Data and Communications:

The low voltage data and communications systems at this facility appear to have been installed at the time the facility was built in approximately 2006. The low voltage and data infrastructure appears to be a structured cabling solution utilizing category 5e cabling for station connections and multimode optical fiber for backbone connectivity. All horizontal and backbone cabling is terminated in dedicated telecommunications/security electronic rooms. Telecommunications rooms are equipped with HVAC and power provisions appropriate for the systems that the infrastructure is supporting. The communications infrastructure appears to be substantially compliant with current industry best practices and no modifications or corrections were noted at the time of the walk through.

II. Low Voltage Security:

For the purposes of this report, the low voltage security systems include Programmable Logic Controller (PLC) based door control, electronic access control (card access) facility intercom and security video systems. The facilities low voltage security systems were installed at the time of initial construction in 2006. The systems all appear to have been well maintained. Facility stakeholders noted that the security video system was upgraded in 2013, the intercom system was upgraded in approximately 2014 and the Programmable Logic Controller (PLC) door control system was upgraded in approximately 2014. The installed systems appear to have been incrementally maintained and supported in



good working order since installation. The systems were noted to be in good condition and no deficiencies were noted at the time of the walkthrough.

h) FIRE PROTECTION DESIGN ASSESSMENT

- I. Fire Protection Sprinkler Systems:
The fire protection system is fed from a single water service. The pipe, valves, and head appear to be in good condition.
- II. Fire Alarm System:
Fire alarm system is manufactured by Siemens. The system appears to be original equipment installed in 2006. The equipment appears to be in excellent condition and replacement material is readily available.

i) KITCHEN AND LAUNDRY ASSESSMENT

- I. Work Center Kitchen:
The reheating serving kitchen at the work center currently serves approximately 120 inmates. Daily meals are delivered from the jail twice a day, one delivery for lunch and then one for dinner and breakfast the next morning. Work crews sack lunches are assembled in this location.

The kitchen was originally constructed in 2006 and it appears all equipment included at the time of opening still in place and all in good working order. The kitchen is more than adequate in size for the already prepared meal delivery/assembly concept. An additional reach-in refrigerator could be used for cold food items that remain in this location for more than a day.

- II. Work Center Laundry:
The laundry at the work center currently serves approximately 120 inmates. Every day washed items include two blankets, one sheet, one towel, one shirt and trousers per inmate. Inmate's personal items include a t-shirt and underwear which are done two times per week. The laundry currently operates seven days per week, in the evenings.

The laundry space and equipment is more than adequately sized for the number of items being done, allowing the operation to only be needed to be in operation during the evenings. The washer/extractors, dryers and lint collection system are the original items installed at the time of opening and are in good working order.



2. Considerations for Corrections or Further Study

a) ARCHITECTURAL

- I. Recommend a building code analysis based on current occupancy conditions.
- II. Recommend an accessibility evaluation for the site and the building to ensure adequate facilities for inmates, and administration staff.
- III. A concept level space planning study should be done to evaluate administration areas for adequacy with current programs and staffing levels. This is needed to address concerns about the amount of space in the office areas and how to make this space function more efficiently.
- IV. Evaluate the opportunity to add a “time out” room to each of the dormitory style housing units to create a manageable space.

b) MECHANICAL/HVAC

- I. Recommend an air balance report be performed to determine if adequate ventilation air is being provided to the facility as it applies to the number of inmates housed here.
- II. Verify if there have been complaints regarding ventilation air from the outside air intake for the west mechanical room air handling unit (AHU) and the AHU’s relief louver due to their close proximity.
- III. Recommend a review of the current BAS control sequences to determine if sequence enhancements can be performed to improve energy usage at the facility.
- IV. Compare the life cycle cost to continue to recharge equipment with R22 refrigerant vs cost to replace equipment with newer, higher efficiency equipment that uses a newer refrigerant blend.

c) ELECTRICAL

- I. Provide 30 day demand load study to confirm loading of existing emergency power system.
- II. Measure lighting level in Unassigned Storage rooms 133 and 209 to confirm safe operational light levels are met. Provide additional lighting where light levels are determined to be inadequate.
- III. Measure emergency egress light levels throughout the facility to determine code compliance.
- IV. Discuss need for increased light levels beyond code required minimum levels to provide safe operation of the facility.
- V. Install battery powered lighting to provide instant on feature to illuminate the facility during the time delay associated with generator start-up. Battery fixtures should be connected to un-switched lighting circuit from the emergency generator. This will allow the battery fixture to be on during the outage but will switch off once the generator lighting circuit is active to reduce wear on the batteries.
- VI. In lieu of individual battery light fixtures, a central inverter battery system could be installed and all building emergency lights could be routed thru this central system. This would have higher initial cost and require more space to house the inverter, but would allow for central battery maintenance.



d) LOW VOLTAGE SYSTEMS

- I. Low Voltage Data and Communications
- II. Evaluate the lifecycle of IT equipment and resources to determine if further improvements may be required to the supporting electrical and mechanical systems.
- III. Low Voltage Security
- IV. Review and evaluate the associated support contracts and agreements for the low voltage security systems in order to maintain current vintage software, hardware and security patches. Review the value of ongoing commissioning to maintain the complementary relationship between the security systems and changing operational protocols. Review existing change control procedures and system documentation.





OPERATIONAL ASSESSMENT ...TAB 3





TAB 3

OPERATIONAL ASSESSMENT - JAIL AND WORK CENTER

On August 25, 2016 a meeting was held with corrections staff, sheriff and facilities staff to discuss issues related to the operation of the jail and the work center. The discussion topics and notes related to the topics are in the appendix. A list of people in attendance is also included in the appendix. This discussion and a brief tour of the jail and the work center coupled with previous studies and reports form the basis for this assessment.

In the late 1970's the Washington State legislature, recognizing that there was a shortage of jail beds in Washington State, established the State Jail Commission. The Jail Commission was tasked with generating jail physical plant and custodial care standards to be used for the design and construction of roughly 33 facilities in the state. The design and construction was funded by the state and the local jurisdictions agreed to pay for the operation. Ongoing cost of the operation of a jail is over 80% of the lifecycle costs over a 30year period. Since the State was only responsible for design and construction, it is our belief **the cost of staffing did not get the attention it deserved**. The local jurisdictions bought into staffing patterns, dictated by the design, that were not sustainable. As a result, as is the case in Whatcom County, many facilities were not fully staffed.

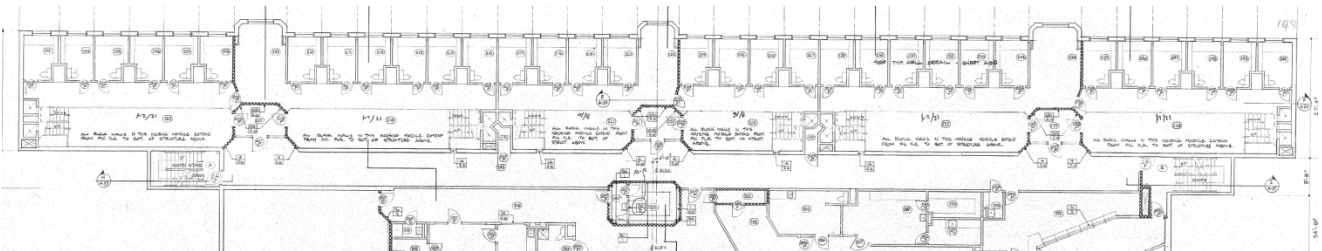
There are several jails throughout the state designed by the same architect that designed the Whatcom County jail. They are very similar with linear housing units that are difficult to operate with minimal staffing. They are typically located on long rectangular sites that dictated the jail footprint. These are concepts of jail design that was outdated decades before 1980.

Whatcom County has received several opinions over the years that strongly recommend that a new jail be designed and constructed and that a remodel of the existing jail is not a viable option. Those opinions were provided by the architectural firms of DLR and HDR as well as the National Institute of Correction and the Whatcom County Law and Justice Council and others.

We concur with those recommendations and strongly recommend that a new jail be designed and constructed. The jail does not provide a safe and secure environment for staff, inmates and visitors.

Identified Operational Issues

The following issues, discussed at the interview or found in our research, are indications of many of the problems encountered at the existing facilities.



13. Because of the **housing unit's linear cell layout**, observation by staff into the housing units is very limited and in some cases non-existent. Blind spots exist. This is a potential violation of "The Prison Rape Elimination Act" (PREA). Cameras must be relied upon to observe inmates in the



dayrooms. The configuration limits staff response time. Some blind spots have been solved by using cameras, but the number of cameras that can be monitored at one time is limited.

14. The linear and split level layout also **inhibits movement of the inmates**. Inmates must be moved to the programs such as visiting, medical and courts, rather than the programs coming to the inmates. This is staff intensive.
15. There are no **ambient noise level alarms** in either facility. These can be valuable tools to help direct observation of the camera monitors to outbursts or escalating disputes before they get out of hand.
16. The **design of the medical area gives little thought to privacy** with limited space for normal functions and does not comply with HIPA privacy requirements. There are eight personnel located in one open office area. The file storage is located behind one of the exam rooms. There is no staff toilet in this space. Supervisor's office is located out of this space down the hall, which forces staff to require an escort to move between these spaces.
17. There is **no inmate holding at the courts**. In addition, the inmate elevator at the courthouse does not go up to the fifth floor. Inmates must be moved horizontally and vertically in the courthouse through public circulation spaces.
18. As previously stated in numerous reports, the Jail is filled **over its designed occupancy capacity**; and the Work Center, with dormitory style cells, holds **inmates above its designed security level**. When a facility is crowded, inmate classification is essential. Limited space is available in the jail for performing classification functions and reportedly often there is a line of inmates in the booking area to be classified and booked.
19. The County's adopted **Jail Standards have been suspended** for a number of years presumably because crowding prevented meeting the standards.
20. As previously stated in the FCA section, the jail does not contain a smoke evacuation system, a mandatory code requirement. More people are killed by smoke than by the fire itself. This system was not installed in the original construction. We consider this a very serious issue.
21. As previously stated in the FCA section, doors and door locks are failing due to inmate abuse which is a major safety and security problem.
22. As previously stated in the FCA section, upon a power outage, there is a 10 to 15 second delay before emergency lighting comes on because this lighting is on "house" power and does not have battery backup power. This could represent a serious safety problem.
23. As previously stated in the FCA section, the facility was constructed prior to the Americans with Disabilities Act (ADA) and likely has numerous non-compliance issues. There has not been a study to identify violations of the ADA in the jail. The Work Center, completed in 2006, was likely designed to comply with the 1994 ADA, however, some areas of non-compliance were



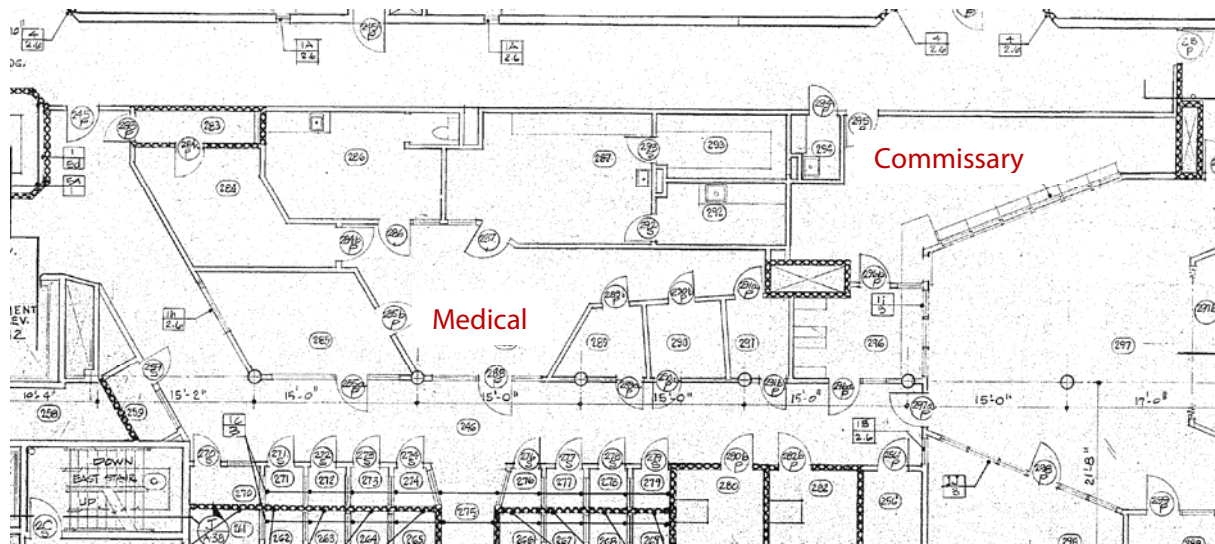
observed in this building as well.

24. As previously stated in the FCA section, the natural gas line where it enters the building on the exterior of the jail is unprotected and poses a safety issue.

Although we believe **the best and only permanent solution is to build a new Jail**, we have some ideas that could be evaluated further, designed to a feasibility or concept level, and estimated for probable cost, if the County finds them deserving of further investigation. Items 8-12 listed above were identified in the FCA section. Those deficiencies are more straightforward and can be solved through limited study and design. The more complex lack-of-space issues could be looked at as follows (Numbers correspond to the issues identified above.)

1. Items 1 and 2 are similar problems based on the **linear layout of the jail** and could be studied together, but both involve major renovations and extremely difficult logistics to accomplish. The structural engineer has indicated that many of the interior concrete masonry unit walls are non-structural. This would allow them to be removed and much of the building interior to be reconfigured including the housing blocks. This would **require a complex design**, essentially gutting the building and starting over within the same footprint. This would also entail relocating inmates and staff, while construction is underway. Our team does not recommend this option and feels it would still not achieve a better, or code compliant facility. The costs to undertake a major remodel such as this are potentially more than a new jail building in another location. Should the County wish to explore this option further, our team could complete a feasibility study and a cost / benefit analysis.
2. **Reducing the movement of the inmates** throughout the facility would likely require reconfiguring programs such as the visitation booths, medical unit, and court room. Should the County wish to explore this option further, these could be studied one area at a time, or all together (See #1 above also).
3. **Adding ambient noise alarms synced to the security** cameras could be a simple solution to ease some of the blind spot security concerns. Our team recommends a more detailed review of the existing security camera system to identify areas where more security would be helpful, and make recommendations where ambient noise level alarms, automated to activate appropriate cameras, would prove most beneficial. The alarms should also be monitored by staff to cover areas where cameras cannot be used.
4. **Reconfiguring the medical area** has already been discussed by the Jail staff. Our team was told of a project to move the commissary storage, a room directly behind the medical records room, and incorporate that space as classification interview and 2nd floor Deputy Office space. We would recommend exploring this option further to see if there are other efficiencies to be gained by using this space.





5. Complete a feasibility study to design a **circulation system for inmates accessing the court that avoids conflicts with the public**, juries and the judges and that includes court holding for inmates. This could also include consideration for replacing the elevator with a unit that will travel to the 5th floor.
6. To temporarily ease overcrowding, there are **less desirable options** that deserve a mention in this report, but are likely non-starters due to their **high cost** (for design, construction, administration, logistics, and time) and **marginal, short-term benefit**. Should the County wish to explore any of these options further, our team could perform feasibility studies to:
 - a. Close Lottie Street. Use this space to construct a new sally port. Use the existing sally port to create additional interior space. Reconfigure the booking area and create a classification programs in this new area. Include additional space for the kitchen and laundry storage.
 - b. Build a prefabricated steel 2-story building on the site at the work center to house the sheriff's office. Remove the walls in the basement of the existing Jail and use that space for booking, classification, female housing, medical, or court functions to clear up space on other floors.
 - c. Build a one story, prefabricated steel building on the site at the work center to house the facilities group (at 361 Lottie Street).
 - d. Build a two-story building at 361 Lottie Street to house the sheriff's office. Remove the walls in the basement of the existing Jail and use that space for booking, classification, female housing, medical, or court functions to clear up space on other floors. Explore an option to connect the new building to the existing jail under Lottie Street at the basement level.
 - e. Build a fourth level on top of the third floor housing wing to provide additional program area or more housing.
 - f. Add a mezzanine level to the Work Center to house additional program space.
7. Contract with an outside company for food preparation and delivery.
8. Contract with an outside company for laundry service.
9. Alternatives to incarceration should be utilized to the fullest extent possible to assist in minimizing crowding.



It is important to note, we do not believe that the minor shifting of functions between the jail and the work center discussed in the August 25th meeting will result in significant relief from crowding in the jail. Further, the existing jail configuration and foot print preclude any meaningful and permanent answers to space related issues such as medical, booking, classification and programs. Some relief might be gained by an addition, but cost of that would outweigh the benefits and so should be carefully considered as topic for further analysis. The solutions outlined in #6 above would include having to move some or all inmates to other jurisdictions in rented beds for an extended period of time. This displacement would also affect the staff and volunteers who work at the Jail every day. **We believe the administrative and logistical complications, and the cost for such, would be a detriment that, again, outweighs any relief to be gained by anything other than building a new jail facility.**

Considering that the best, long-term, permanent solution is a new Jail, if the County has not already done so, we have two additional suggestions. We know Whatcom County has already begun the process of planning and programming a new Public Safety building, including purchasing land near Ferndale to site the new facility. **Answering the voter's questions and concerns about this new facility is of upmost importance** to obtaining the county's complete support.

1. We suggest **hosting a community meeting** to discuss the conditions of the existing Jail and Work Center and talk about why a new Jail is the best option. We would hold this as an open forum to present our findings on the existing facilities and how the costs to keep them compare to a new facility. We could have engineers from each discipline there to discuss and answer questions about specific systems. Our facility condition assessment manager could make a presentation about the cost/benefit analysis found in TAB B. Our justice consultant could outline how the existing jail building is not conducive to a remodel that would create a safe facility, and how the work center, as a temporary facility, is not conducive to a remodel that would make it permanent.
2. We suggest a **detailed value analysis** on the new Jail design to determine if there are cost-savings in that program that could be realized to move the new facility forward.





CONCLUSION AND PRIORITIES ...TAB 4





TAB 4

CONCLUSION AND PRIORITIES

The facility condition assessment and the summary narratives have identified many problems that should be addressed to allow the ongoing operation of the Jail and work Center for the next 5-10 years. The following is a list of the priority issues we recommend addressing immediately.

- 1. Survey the doors and security locks in the Jail building, replace and/or repair doors and hardware that have failed, replace ill-functioning doors, clean and paint functioning doors to remain.**
- 2. Design and build a smoke evacuation system in the Jail. Include verification of the location of the fire and smoke walls and if all penetrations are sealed to maintain the wall ratings.**
- 3. Add ambient noise alarms and sync to the security camera system in the Jail and add cameras as appropriate.**
- 4. Fix the delay issue with the lighting at both facilities. Verify where the problem originates, perform a demand load study of the emergency system, and provide either an Uninterrupted Power Supply (UPS) to run the emergency lights when power goes out, or provide battery pack emergency lights.**
- 5. Design and build time-out cells for the dormitory style housing units in the Work Center with toilets and potentially, showers.**
- 6. Design and build a secure enclosure where the gas line enters the jail building.**
- 7. Design a new layout for the medical area, adding the Commissary storage room space.**
- 8. Host a community meeting to present the information in this report.**





APPENDICES ...TAB 5





APPENDICES

Bibliography of Reviewed Documents

FCA Score Sheets
Jail
Work Center

Operational Interview Notes

| List of Observations





Bibliography of Reviewed Documents





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HVAC Electronics, Whatcom County Facilities; June 13. 2014
19. Whatcom County Jail Kitchen Floor replacement
Various documents including timeline (01/26/15), scope of work and floor plans.



FCA Score Sheets

Jail

Work Center





LWR

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	Survey Date
Whatcom County Jail	B2010	Shell	Exterior Closure	Exterior Walls	1981	2000 ⁺	3	JLS	8/18/2016
Whatcom County Jail	B2020	Shell	Exterior Closure	Exterior Windows	1981	1984	2		8/18/2016
Whatcom County Jail	B2030	Shell	Exterior Closure	Exterior Doors	1981	1984	2		8/18/2016
Whatcom County Jail	B3010	Shell	Roofing	Roof Coverings	1981	2001	3		8/18/2016
Whatcom County Jail	B3020	Shell	Roofing	Roof Openings	1981	1984	3		8/18/2016
Whatcom County Jail	B3030	Shell	Roofing	Projections	1981	1988	2		8/18/2016
Whatcom County Jail	C1010	Interiors	Interior Construction	Partitions	1981	2002	3		8/18/2016
Whatcom County Jail	C1020	Interiors	Interior Construction	Interior Doors	1981	1984	4		8/18/2016
Whatcom County Jail	C1030	Interiors	Interior Construction	Fittings	1981	1984	3		8/18/2016
Whatcom County Jail	C2010	Interiors	Staircases	Stair Construction	1981	1984	2		8/18/2016
Whatcom County Jail	C2020	Interiors	Staircases	Stair Finishes	1981	1984	3		8/18/2016
Whatcom County Jail	C3010	Interiors	Interior Finishes	Wall Finishes	1981	1984	4		8/18/2016
Whatcom County Jail	C3020	Interiors	Interior Finishes	Floor Finishes	1981	1984	4		8/18/2016
Whatcom County Jail	C3030	Interiors	Interior Finishes	Ceiling Finishes	1981	1984	4		8/18/2016

LAVER

Do not change	Do not change	Do not change	Do not change	Do not change	Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary	
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	Survey Date
Whatcom County Jail	D1010	Services	Vertical Transportation	Elevators and Lifts	1981	1984	4	JLB	8/18/2016
Whatcom County Jail	D1000	Services	Vertical Transportation	Other Conveying Systems	1981				8/18/2016

D1030

"

"

CAS INTERVIEWS

1981

1984

3

JLB

LOU-1

Do not change	Do not change	Do not change	Do not change	Do not change	Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit if necessary	
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Jail	E1010	Equipment and Furnishings	Equipment	Commercial Equipment NOT INCL. LAUNDRY	1981	1984	3	JWB	8/18/2016
Whatcom County Jail	E1020	Equipment and Furnishings	Equipment	Institutional Equipment	1981	1984	3	JWB	8/18/2016
Whatcom County Jail	E1030	Equipment and Furnishings	Equipment	Vehicular Equipment	1981	1984	3	JWB	8/18/2016
Whatcom County Jail	E1090	Equipment and Furnishings	Equipment	Other Equipment NOT INCL. KITCHEN.	1981	1984	3	JWB	8/18/2016
Whatcom County Jail	E2010	Equipment and Furnishings	Furnishings	Fixed Furnishings	1981	1984	3	JWB	8/18/2016
Whatcom County Jail	E2020	Equipment and Furnishings	Furnishings	Moveable Furnishings (Capital Funded Only)	1981	1984	3	JWB	8/18/2016

Do not change	Do not change	Do not change	Do not change	Do not change	Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary	
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Jail	F1010 <i>NA</i>	Special Construction	Special Construction	Special Structures	1981				8/18/2016
Whatcom County Jail	F1020	Special Construction	Special Construction	Integrated Construction	1981	1984	2	<i>MS</i>	8/18/2016
Whatcom County Jail	F1030	Special Construction	Special Construction	Special Construction Systems <i>SEC GATES</i>	1981	1984	3	<i>LK</i>	8/18/2016
Whatcom County Jail	F1040 <i>NA</i>	Special Construction	Special Construction	Special Facilities	1981				8/18/2016
Whatcom County Jail	F1050	Special Construction	Special Construction	Special Controls and Instrumentation <i>CCTV?</i>	1981		2	<i>JWS</i>	8/18/2016

Site Name: JAIL
 Facility Name: JAIL

OBSERVED DEFICIENCY FORM

Whatcom County
 Facility Condition Assessment
 Surveyor: MSJ Survey Date: 8/18 /16

Uniformat System No. <u>C1020</u>		Priority of Deficiency: _____	
Deficiency: <u>1</u> of _____			
Component: <u>INTERIORS</u> <small>(E.g.: Substructure)</small>	System: <u>INT.CONST.</u> <small>(E.g.: Foundations)</small>	Subsystem: <u>INT. DOORS</u> <small>(E.g.: Slab on Grade)</small>	
Material <u>ALL H.M. SECURITY DOORS</u>	Score (1-5) 1 - New 2 - Excellent 3 - Fair 4 - Poor 5 - Unsatisfactory		Remaining Useful Life (Yrs)
	<u>4</u>		<u>4</u>
Describe the Deficiency <u>DOORS ARE CORRODED, PAINT HAS PEELLED OFF, DENTED</u>			
Action to correct the Deficiency <u>REMOVE DOORS, STRIP PAINT - SAND DOORS, APPLY NEW PRIMER, APPLY NEW PAINT, REHANG DOORS, ADJUST HARDWARE</u>	Qty	Unit	Unit Cost
	<u>350</u>	<u>EA</u>	
Total Cost			

Uniformat System No. <u>C3010</u>		Priority of Deficiency: _____	
Deficiency: <u>2</u> of _____			
Component: <u>INTERIORS</u> <small>(E.g.: Substructure)</small>	System: <u>INT FINISHES</u> <small>(E.g.: Foundations)</small>	Subsystem: <u>WALL FINISHES</u> <small>(E.g.: Slab on Grade)</small>	
Material <u>WALL PAINT</u>	Score (1-5) 1 - New 2 - Excellent 3 - Fair 4 - Poor 5 - Unsatisfactory		Remaining Useful Life (Yrs)
	<u>4</u>		<u>0</u>
Describe the Deficiency <u>PAINT IS PEELING, DIRTY, SCUFFED</u>			
Action to correct the Deficiency <u>REPAINT ENTIRE INTERIOR OF THE FACILITY: 1ST - 2ND - 3RD FLOORS</u>	Qty	Unit	Unit Cost
		<u>SF</u>	
Total Cost			

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWR	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Courthouse Campus Infrastructure	G2010	Sitework	Site Improvements	Roadways ALLEY ONE CORNER	1981	1981	3	JWR	8/22/16
Whatcom County Courthouse Campus Infrastructure	G2020	Sitework	Site Improvements	Parking Lots (SOUTH & NORTH)	1981	1981	3	JWR	"
Whatcom County Courthouse Campus Infrastructure	G2030	Sitework	Site Improvements	Pedestrian Paving ON-SITE / R/W	1981	1981	3/1	JWR	"
Whatcom County Courthouse Campus Infrastructure	G2040	Sitework	Site Improvements	Site Development ACCESSIBLE RET. WALLS & ADA RAMP	1981	1981	3	JWR	"
Whatcom County Courthouse Campus Infrastructure	G2050	Sitework	Site Improvements	Landscaping	1981	1981	4	JWR	"
Whatcom County Courthouse Campus Infrastructure	G3010	Sitework	Site Civil / Mechanical Utilities	Water Supply	1981	1981	2	JWR	"
Whatcom County Courthouse Campus Infrastructure	G3020	Sitework	Site Civil / Mechanical Utilities	Sanitary Sewer	1981	1981	2	JWR	"
Whatcom County Courthouse Campus Infrastructure	G3030	Sitework	Site Civil / Mechanical Utilities	Storm Sewer	1981	1981	2	JWR	"
Whatcom County Courthouse Campus Infrastructure	G3040	Sitework	Site Civil / Mechanical Utilities	Heating Distribution	1981	1981	—	JWR	"
Whatcom County Courthouse Campus Infrastructure	G3050	Sitework	Site Civil / Mechanical Utilities	Cooling Distribution	1981	1981	—	JWR	"
Whatcom County Courthouse Campus Infrastructure	G3060	Sitework	Site Civil / Mechanical Utilities	Fuel Distribution U.G. TANK	1981	1981	23	JWR	"
Whatcom County Courthouse Campus Infrastructure	G4010	Sitework	Site Electrical utilities	Electrical Distribution GENSET	1981	1981	2	JWR	"
Whatcom County Courthouse Campus Infrastructure	G4020	Sitework	Site Electrical utilities	Site Lighting BLDG MOUNTED	1981	1981	3	JWR	"
Whatcom County Courthouse Campus Infrastructure	G4030	Sitework	Site Electrical utilities	Site Communications and Security (?)	1981	1981	—	JWR	"
Whatcom County Courthouse Campus Infrastructure	G9010	Sitework	Other Site Construction	Service and Pedestrian Tunnels NONE	1981	1981	—	JWR	"
Whatcom County Courthouse Campus Infrastructure	G9090	Sitework	Other Site Construction	Other Site Systems GAS	1981	1981	2	JWR	"

1- NEW
2- EXCEL.
3- FAIR
4- POOR
5- FAIL

Brian

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	Survey Date
Whatcom County Jail	A1010	Substructure	Foundations	Standard Foundations	1981	1981	2	BEM	8/18/2016
Whatcom County Jail	A1020	Substructure	Foundations	Special Foundations	1981	1981	UNABLE REVIEW	BEM	8/18/2016
Whatcom County Jail	A1030	Substructure	Foundations	Slab On Grade	1981	1981	2	BEM	8/18/2016
Whatcom County Jail	A2020	Substructure	Basements	Basement Walls	1981	1981	2	BEM	8/18/2016
Whatcom County Jail	B1010	Shell	Superstructure	Floor Construction	1981	1981	2	BEM	8/18/2016
Whatcom County Jail	B1020	Shell	Superstructure	Roof Construction	1981	1981	2	BEM	8/18/2016

NOTE

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. IWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Jail	D2010	Services	Plumbing	Plumbing Fixtures	1981	NA	2	MBZ	8/18/2016
Whatcom County Jail	D2020	Services	Plumbing	Domestic Water Distribution	1981	As needed	3 *	MBZ	8/18/2016
Whatcom County Jail	D2030	Services	Plumbing	Sanitary Waste	1981	NA	3	MBZ	8/18/2016
Whatcom County Jail	D2040	Services	Plumbing	Rain Water Drainage	1981	NA	3	MBZ	8/18/2016
Whatcom County Jail	D2090	Services	Plumbing	Other Plumbing Systems	1981	NA	3	MBZ	8/18/2016

* Water supply valves should be inspected in the street. Rust is present on pipes and valves in vault.

MTT

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Jail	D3010	Services	HVAC	Energy Supply	1981	NA	3	MBZ	8/18/2016
Whatcom County Jail	D3020	Services	HVAC	Heat Generating Systems	1981	As needed	3	MBZ	8/18/2016
Whatcom County Jail	D3030	Services	HVAC	Cooling Generating Systems	1981	As needed	3	MBZ	8/18/2016
Whatcom County Jail	D3040	Services	HVAC	HVAC Distribution Systems	1981	As needed	3	MBZ	8/18/2016
Whatcom County Jail	D3050	Services	HVAC	Terminal and Package Units	1981	NA	3	MBZ	8/18/2016
Whatcom County Jail	D3060	Services	HVAC	Controls and Instrumentation	1981	2001	2	MBZ	8/18/2016
Whatcom County Jail	D3090	Services	HVAC	Other HVAC Systems and Equipment	1981	NA	3	MBZ	8/18/2016

MATT

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Jail	D4010	Services	Fire Protection	Fire Protection Sprinkler Systems	1981	NA	3	MBZ	8/18/2016
Whatcom County Jail	D4020	Services	Fire Protection	Stand-Pipe and Hose Systems	1981	NA	3	MBZ	8/18/2016
Whatcom County Jail	D4030	Services	Fire Protection	Fire Protection Specialties	1981				8/18/2016
Whatcom County Jail	D4090	Services	Fire Protection	Other Fire Protection Systems	1981	NA	NA	MBZ	8/18/2016

KEN

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Jail	D5010	Services	Electrical	Electrical Service and Distribution	1981	1981	3	KL	8/18/2016
Whatcom County Jail	D5020	Services	Electrical	Lighting and Branch Wiring	1981	2015	3	KL	8/18/2016
Whatcom County Jail	D5032	Services	Electrical	Low Voltage Communication	1981				8/18/2016
Whatcom County Jail	D5037	Services	Electrical	Low Voltage Fire Alarm	1981				8/18/2016
Whatcom County Jail	D5038	Services	Electrical	Low Voltage Security	1981				8/18/2016
Whatcom County Jail	D5039	Services	Electrical	Low Voltage Data	1981				8/18/2016
Whatcom County Jail	D5090	Services	Electrical	Other Electrical Systems	1981				8/18/2016

PAFEL

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Jail	D5010	Services	Electrical	Electrical Service and Distribution	1981				8/18/2016
Whatcom County Jail	D5020	Services	Electrical	Lighting and Branch Wiring	1981				8/18/2016
Whatcom County Jail	D5032	Services	Electrical	Low Voltage Communication	1981	N/A	3	PDS	8/18/2016
Whatcom County Jail	D5037	Services	Electrical	Low Voltage Fire Alarm	1981	2012	1	KL	8/18/2016
Whatcom County Jail	D5038	Services	Electrical	Low Voltage Security	1981	6/2011	1	PDS	8/18/2016
Whatcom County Jail	D5039	Services	Electrical	Low Voltage Data	1981	2011 1/2	2	PDS	8/18/2016
Whatcom County Jail	D5090	Services	Electrical	Other Electrical Systems	1981	6/2011	1	PDS	8/18/2016

PATRICK

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. IWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Jail	F1010	Special Construction	Special Construction	Special Structures	1981				8/18/2016
Whatcom County Jail	F1020	Special Construction	Special Construction	Integrated Construction	1981				8/18/2016
Whatcom County Jail	F1030	Special Construction	Special Construction	Special Construction Systems	1981				8/18/2016
Whatcom County Jail	F1040	Special Construction	Special Construction	Special Facilities	1981				8/18/2016
Whatcom County Jail	F1050	Special Construction	Special Construction	Special Controls and Instrumentation	1981	2011	1	PDS	8/18/2016

BRENT

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. IWR	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Jail	E1010	Equipment and Furnishings	Equipment	Commercial Equipment	1981				8/18/2016
Whatcom County Jail	E1020	Equipment and Furnishings	Equipment	Institutional Equipment	1981	1981	4	BH.	8/18/2016
Whatcom County Jail	E1030	Equipment and Furnishings	Equipment	Vehicular Equipment	1981				8/18/2016
Whatcom County Jail	E1090	Equipment and Furnishings	Equipment	Other Equipment	1981				8/18/2016
Whatcom County Jail	E2010	Equipment and Furnishings	Furnishings	Fixed Furnishings	1981				8/18/2016
Whatcom County Jail	E2020	Equipment and Furnishings	Furnishings	Moveable Furnishings (Capital Funded Only)	1981				8/18/2016

Site Name:

OBSERVED DEFICIENCY FORM

Whatcom County

Facility Condition Assessment

Facility Name:

JAIL

Surveyor: B.H. Survey Date 08 / 18 / 16

Uniformat System No.

Priority of Deficiency: _____

Deficiency: 1 of 2

Component:

System:

Subsystem:

(E.g.: Substructure)

(E.g.: Foundations)

(E.g.: Slab on Grade)

Material

Score (1-5)

1 - New 2 - Excellent 3 - Fair 4 - Poor 5 - Unsatisfactory

Remaining Useful Life (Yrs)

KITCHEN & LAUNDRY EQUIP.

4

2

Describe the Deficiency

NORMAL WEAR FROM 35 YEARS OF USE

Action to correct the Deficiency

Qty

Unit

Unit Cost

Total Cost

LOT - - \$300,000.

REPLACEMENT OF MOST EQUIPMENT ITEMS AS THEY HAVE EXCEEDED EXPECTED USEFUL LIFE.

Uniformat System No.

Priority of Deficiency: _____

Deficiency: _____ of _____

Component:

System:

Subsystem:

(E.g.: Substructure)

(E.g.: Foundations)

(E.g.: Slab on Grade)

Material

Score (1-5)

1 - New 2 - Excellent 3 - Fair 4 - Poor 5 - Unsatisfactory

Remaining Useful Life (Yrs)

Describe the Deficiency

Action to correct the Deficiency

Qty

Unit

Unit Cost

Total Cost

LAST

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWR	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	Survey Date
Whatcom County Work Center	B2010	Shell	Exterior Closure	Exterior Walls	2006	2006	2	JWR	8/18/2016
Whatcom County Work Center	B2020	Shell	Exterior Closure	Exterior Windows	2006		2		8/18/2016
Whatcom County Work Center	B2030	Shell	Exterior Closure	Exterior Doors	2006		2		8/18/2016
Whatcom County Work Center	B3010	Shell	Roofing	Roof Coverings	2006		2		8/18/2016
Whatcom County Work Center	B3020	Shell	Roofing	Roof Openings	2006	2014	2		8/18/2016
Whatcom County Work Center	B3030	Shell	Roofing	Projections	2006				8/18/2016
Whatcom County Work Center	C1010	Interiors	Interior Construction	Partitions	2006	2006	2		8/18/2016
Whatcom County Work Center	C1020	Interiors	Interior Construction	Interior Doors	2006	2006	2		8/18/2016
Whatcom County Work Center	C1030	Interiors	Interior Construction	Fittings	2006	2006	2		8/18/2016
Whatcom County Work Center	C2010	Interiors	Staircases	Stair Construction	2006				8/18/2016
Whatcom County Work Center	C2020	Interiors	Staircases	Stair Finishes	2006				8/18/2016
Whatcom County Work Center	C3010	Interiors	Interior Finishes	Wall Finishes	2006	2006	2		8/18/2016
Whatcom County Work Center	C3020	Interiors	Interior Finishes	Floor Finishes	2006	2006	2		8/18/2016
Whatcom County Work Center	C3030	Interiors	Interior Finishes	Ceiling Finishes	2006	2006	2		8/18/2016

LAST

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWR	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	Survey Date
Whatcom County Work Center	D1010	Services	Vertical Transportation	Elevators and Lifts	2006				8/18/2016
Whatcom County Work Center	D1090	Services	Vertical Transportation	Other Conveying Systems	2006				8/18/2016

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWR	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	Survey Date
Whatcom County Work Center Infrastructure	G2010	Sitework	Site Improvements	Readways (DRIVEWAYS)	2006	—	2	JWR	8/22/16
Whatcom County Work Center Infrastructure	G2020	Sitework	Site Improvements	Parking Lots (PARK & RIDE)	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G2030	Sitework	Site Improvements	Pedestrian Paving (WALKS)	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G2040	Sitework	Site Improvements	Site Development (ACCESSORIES)	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G2050	Sitework	Site Improvements	Landscaping	2006	—	3	JWR	"
Whatcom County Work Center Infrastructure	G3010	Sitework	Site Civil / Mechanical Utilities	Water Supply	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G3020	Sitework	Site Civil / Mechanical Utilities	Sanitary Sewer	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G3030	Sitework	Site Civil / Mechanical Utilities	Storm Sewer	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G3040	Sitework	Site Civil / Mechanical Utilities	Heating Distribution	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G3050	Sitework	Site Civil / Mechanical Utilities	Cooling Distribution CHILLERS	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G3060	Sitework	Site Civil / Mechanical Utilities	Fuel Distribution (DIESEL)	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G4010	Sitework	Site Electrical utilities	Electrical Distribution (GENSET)	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G4020	Sitework	Site Electrical utilities	Site Lighting POLE & BLOOMER	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G4030	Sitework	Site Electrical utilities	Site Communications and Security (?)	2006	—	2	JWR	"
Whatcom County Work Center Infrastructure	G9010	Sitework	Other Site Construction	Service and Pedestrian Tunnels NEW	2006	—	—	JWR	"
Whatcom County Work Center Infrastructure	G9090	Sitework	Other Site Construction	Other Site Systems (GAS)	2006	—	2	JWR	"

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	Survey Date
Whatcom County Work Center	A1010	Substructure	Foundations	Standard Foundations	2006	2006	2	BEM	8/18/2016
Whatcom County Work Center	A1020	Substructure	Foundations	Special Foundations	2006	NA	NA	NA	8/18/2016
Whatcom County Work Center	A1030	Substructure	Foundations	Slab On Grade	2006	2006	2	BEM	8/18/2016
Whatcom County Work Center	A2020	Substructure	Basements	Basement Walls	2006	NA	NA	NA	8/18/2016
Whatcom County Work Center	B1010	Shell	Superstructure	Floor Construction	2006	NA	NA	NA	8/18/2016
Whatcom County Work Center	B1020	Shell	Superstructure	Roof Construction	2006	2006	2	BEM	8/18/2016

MATT

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Work Center	D2010	Services	Plumbing	Plumbing Fixtures	2006	NA	2 *	MBZ	8/18/2016
Whatcom County Work Center	D2020	Services	Plumbing	Domestic Water Distribution	2006	NA	1	MBZ	8/18/2016
Whatcom County Work Center	D2030	Services	Plumbing	Sanitary Waste	2006	NA	1	MBZ	8/18/2016
Whatcom County Work Center	D2040	Services	Plumbing	Rain Water Drainage	2006	NA	1	MBZ	8/18/2016
Whatcom County Work Center	D2090	Services	Plumbing	Other Plumbing Systems	2006	NA	2	MBZ	8/18/2016

* Could not inspect. Based on building age and overall building condition.

MATT

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Work Center	D3010	Services	HVAC	Energy Supply	2006	NA	2	MBZ	8/18/2016
Whatcom County Work Center	D3020	Services	HVAC	Heat Generating Systems	2006	NA	1	MBZ	8/18/2016
Whatcom County Work Center	D3030	Services	HVAC	Cooling Generating Systems	2006	NA	2	MBZ	8/18/2016
Whatcom County Work Center	D3040	Services	HVAC	HVAC Distribution Systems	2006	NA	1	MBZ	8/18/2016
Whatcom County Work Center	D3050	Services	HVAC	Terminal and Package Units	2006	NA	1	MBZ	8/18/2016
Whatcom County Work Center	D3060	Services	HVAC	Controls and Instrumentation	2006	NA	1	MBZ	8/18/2016
Whatcom County Work Center	D3090	Services	HVAC	Other HVAC Systems and Equipment	2006	NA	1	MBZ	8/18/2016

MMTT

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Work Center	D4010	Services	Fire Protection	Fire Protection Sprinkler Systems	2006	NA	1	MBZ	8/18/2016
Whatcom County Work Center	D4020	Services	Fire Protection	Stand-Pipe and Hose Systems	2006	NA	NA	MBZ	8/18/2016
Whatcom County Work Center	D4030	Services	Fire Protection	Fire Protection Specialties	2006				8/18/2016
Whatcom County Work Center	D4090	Services	Fire Protection	Other Fire Protection Systems	2006	NA	NA	MBZ	8/18/2016

KEW

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Work Center	D5010	Services	Electrical	Electrical Service and Distribution	2006	2006	1	KL	8/18/2016
Whatcom County Work Center	D5020	Services	Electrical	Lighting and Branch Wiring	2006	2006	1	KL	8/18/2016
Whatcom County Work Center	D5032	Services	Electrical	Low Voltage Communication	2006				8/18/2016
Whatcom County Work Center	D5037	Services	Electrical	Low Voltage Fire Alarm	2006				8/18/2016
Whatcom County Work Center	D5038	Services	Electrical	Low Voltage Security	2006				8/18/2016
Whatcom County Work Center	D5039	Services	Electrical	Low Voltage Data	2006				8/18/2016
Whatcom County Work Center	D5090	Services	Electrical	Other Electrical Systems	2006				8/18/2016

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWR	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Work Center	D5010	Services	Electrical	Electrical Service and Distribution	2006				8/18/2016
Whatcom County Work Center	D5020	Services	Electrical	Lighting and Branch Wiring	2006				8/18/2016
Whatcom County Work Center	D5032	Services	Electrical	Low Voltage Communication	2006	NA	1	PDS	8/18/2016
Whatcom County Work Center	D5037	Services	Electrical	Low Voltage Fire Alarm	2006	NA	1	PDS	8/18/2016
Whatcom County Work Center	D5038	Services	Electrical	Low Voltage Security	2006	2011 2011	1	PDS	8/18/2016
Whatcom County Work Center	D5039	Services	Electrical	Low Voltage Data	2006	NA	1	PDS	8/18/2016
Whatcom County Work Center	D5090	Services	Electrical	Other Electrical Systems	2006	NA	1	PDS	8/18/2016

PATRICK

Do not change	Do not change	Do not change	Do not change	Do not change	Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. JWB	Edit IF necessary	
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Work Center	F1010	Special Construction	Special Construction	Special Structures	2006				8/18/2016
Whatcom County Work Center	F1020	Special Construction	Special Construction	Integrated Construction	2006				8/18/2016
Whatcom County Work Center	F1030	Special Construction	Special Construction	Special Construction Systems	2006				8/18/2016
Whatcom County Work Center	F1040	Special Construction	Special Construction	Special Facilities	2006				8/18/2016
Whatcom County Work Center	F1050	Special Construction	Special Construction	Special Controls and Instrumentation	2006		NA	2	PDS

Do not change	Do not change	Do not change	Do not change	Do not change		Enter date of last renewal	Enter score 1 - 5	Enter your initials i.e. IWR	Edit IF necessary
Facility	Subsystem Code	Category	System	Subsystem	Original System Date	Last Major System Renewal	Subsystem Assessed Condition Score	Surveyor	SurveyDate
Whatcom County Work Center	E1010	Equipment and Furnishings	Equipment	Commercial Equipment	2006				8/18/2016
Whatcom County Work Center	E1020	Equipment and Furnishings	Equipment	Institutional Equipment	2006	2006	2	B.H.	8/18/2016
Whatcom County Work Center	E1030	Equipment and Furnishings	Equipment	Vehicular Equipment	2006				8/18/2016
Whatcom County Work Center	E1090	Equipment and Furnishings	Equipment	Other Equipment	2006				8/18/2016
Whatcom County Work Center	E2010	Equipment and Furnishings	Furnishings	Fixed Furnishings	2006				8/18/2016
Whatcom County Work Center	E2020	Equipment and Furnishings	Furnishings	Moveable Furnishings (Capital Funded Only)	2006				8/18/2016

Site Name:

OBSERVED DEFICIENCY FORM

Whatcom County

Facility Condition Assessment

Facility Name: **WORK CENTER**Surveyor: **B.H.** Survey Date: **08 / 18** /16

Uniformat System No.

Deficiency: **2** of **2**

Priority of Deficiency: _____

Component:

(E.g.: Substructure)

System:

(E.g.: Foundations)

Subsystem:

(E.g.: Slab on Grade)

Material

KITCHEN & LAUNDRY EQUIP.

Score (1-5)

1 - New 2 - Excellent 3 - Fair 4 - Poor 5 - Unsatisfactory

Remaining Useful Life (Yrs)

2**15**

Describe the Deficiency

NORMAL WEAR FROM 10 YEARS OF USE.

Action to correct the Deficiency

Qty

Unit

Unit Cost

Total Cost

NO CORRECTION NEEDED AT THIS TIME

Uniformat System No.

Deficiency: _____ of _____

Priority of Deficiency: _____

Component:

(E.g.: Substructure)

System:

(E.g.: Foundations)

Subsystem:

(E.g.: Slab on Grade)

Material

Score (1-5)

1 - New 2 - Excellent 3 - Fair 4 - Poor 5 - Unsatisfactory

Remaining Useful Life (Yrs)

Describe the Deficiency

Action to correct the Deficiency

Qty

Unit

Unit Cost

Total Cost

Operational Interview Notes





August 25, 2016

(BLUE text indicates-9/30/16 updates per Whatcom County Comments)

Discussion Items for Whatcom County Jail and Work Center:

Attendees:

Sheriff Bill Elfo, Whatcom County Sheriff
Peter Rasmussen, Architect, Criminal Justice consultant
Kenn Triebelhorn, Architect, Criminal Justice consultant
Wendy Jones, Chief
Terry (Ernie) Stach, Lieutenant, Whatcom County Sheriff's Office, Corrections Bureau
Jeff Parks, Whatcom County Undersheriff
Garrett Maupin Whatcom County Construction Coordinator
Lauri Strauss – (note taker), Principal Architect, Project Manager
Caleb Erickson, Lieutenant, Whatcom County Sheriff's Office, Corrections Bureau
Mike Russell, Whatcom County Facilities Manager

#1 job is to look at safety and security!

1. *Please discuss general security concerns regarding: 1) the Jail and 2) Work Center.*

- a. Faulty Door security hardware – inmates can open the doors at will – has Patrick evaluated? – CPU not responding quickly enough? Cameras have been fixed so they don't go black when power goes out – locks still have problems – replacement locks = \$1500 hard to fit in old doors - manufactured by Southern Steel – have to buy 100 at a time – many doors are sprung – 14ga doors must be replaced with locks to fix problem – 1st floor doors are hard to open – 1st floor doors are key locks
- b. *Work Center (WC) specific Dormitory style housing results in challenging inmate population management issue – 32 people who don't get along – work center was intended as temp facility – now is used as medium security – no place to separate themselves when there are disagreements or someone just want privacy –there are fights all the time - 3 deputies at WC – two isolation cells – no showers*
- c. Both facilities – all inmates have to be moved from housing to any program – visitation, work, medical, court – this leave everyone vulnerable to assaults – lack of staffing is an issue – have dedicated staff for court movement = 1 staff per 4 inmates – have to take them to courthouse – it's a zoo – inmates mix with public
- d. Jail –the exterior is vulnerable – someone threw a concrete garbage can into window to get in
- e. Gas lines from exterior that run into Jail that are not secured – these are high pressure Nat Gas pipes

2. *Are there line of sight issues in areas of: 1) the Jail and 2) Work Center?*

- a. Yes **Deputies** cannot see around all the corners – Blind spots everywhere – there is an Ordinance that details conditions of confinement – (i.e. a set amount of s.f. per inmate) – Ordinance adopts standards but can be suspended due to overcrowding – ordinance has been suspended since 1993 – was originally design for direct supervision – 5-7 people in booking

3. *Do cameras cover “blind” spots? Is video recorded and saved?*

- a. How to meet PREA – 2003 – local jail not included initially – but if state inmates are housed here they have to comply – some blind spots solved with cameras – limit to number of cameras one can monitor – can only display a certain number of screens in control room –
- b. yes recorded and saved Jail 60 days, WC camera equipment needs to be replaced –

4. *Do housing areas and support areas contain ambient noise level alarms? Other electronic security/safety measures?*

- a. None –
- b. *This is something that interacts with camera to alert guards when a certain noise level is detected, the camera comes on in that area – could be put in to help mitigate monitoring issues* – there are new intercom systems in jail – could these be added to those?
- c. WC has several areas where there are no cameras –

5. *Is video visiting used in the jail as it is in the work center? –*

- a. Jail = no-contact visiting – considered video visiting for jail but not financially feasible – unit to inmate ratio has to be at least 1:64 – Whatcom County would have to provide all the cabling – no real cost for staffing visiting – visitation is only on weekends – part time clerical to process visitors at front counter – there is access to telephone on a rolling cart in each housing unit
- b. WC is getting a new video visiting system

6. *What are your concerns with the video arraignment area?*

- a. TIME – court now takes longer – has added 30-60 minutes to each session– judge spends more time on individual cases – paperwork takes longer because it is sent electronically for signature

7. *What works/doesn't work in the booking area?*

- a. Some good some bad - limits # of people that can be processed – only one person at a time – however, sometimes there is a need to book 4-5 people at a time – also transfer and release is in the same space – mental and medical close watch is in the same space – everyone is booked at the jail – there is no waiting area so people must stand, handcuffed, in the area – many instance where there are more than one person to be booked from court – cuff bars are no longer allowed – can only cuff people to people not to things per (some case law) – booking bench is no longer used and would not fit the space –
- b. Possible booking at WC would be against promise to neighbors and would not eliminate booking at jail – in-process only at WC as there is not the staff there

8. *What works/doesn't work in the medical area?*

- a. NOT ENOUGH SPACE – more staff than there is space for – supervisors office is now down the hall and she must be escorted to get from med office to her office - 12 nurses on staff – 6-8 at a time - 2 treatment rooms – doc=2 times/wk – dentist =1/wk – RA nurse = 1/wk – 3 mental health staff = 5 times/wk - 2 medical record staff = 7 times/wk - all inmates there for more than 14 days must have complete physical – movement issue for entire facility – all inmates have to go thru the office to get from holding to exam room –no room to hold records longer than 18 months – no staff toilet room staff use treatment room – fast turnover of staff is common – no space for private counseling – no space for group counseling –donated hospital bed fits on 1st floor cells only

9. *Does space allow for adequate inmate classification? Interview space, housing, programs?*

- a. Inmate classification - no staging areas for mental or medical interview – no areas for PREA class screening – all done in public booking area – no room to house them according the classification areas – management capacity is much lower than actual capacity
- b. Difficult people – females – sex offenders –housing units are continuously shifted back and forth to accommodate – sex offenders are typically separated – sometimes too many females – trans-gender get housed based on their comfort level

10. *Are inmate movement patterns secure and discreet from public and other dedicated movement?*

- a. No - Conflicts with public mostly in courthouse – put inmates on chains – use inmate elevator in courthouse – elevator only goes from 2-4 floor only – there are courtrooms on 5th floor – \$500,000 to install new elevator

11. *What options have been explored to improve facility issues? What has been implemented and what has not been implemented and if not, why not?*
- Booking area renovation
 - added door to rec area –
 - added door between units A-F
 - added food storage in old outdoor rec room on N –
 - property storage is not on carousel – now on shelves –
 - working on moving commissary to WC and using that space for offices and classification
12. *Have you considered making use of the space in the Work Center to house functions from the Jail that are short of space such as booking and medical?*
- Considering moving commissary to WC and using that space for 2nd floor Deputy Office space and classification interviews
13. *Can food service be moved to the Work Center to free up space in the jail? Does food service serve other users such as “meals on wheels”?*
- Yes if there is room – willing to move – meals are serviced downtown – *what about a complete separate contract for food services?* not opposed
 - Potential meals-on-wheels type program to help defer costs would be considered
 - If food service is moved to WC, would like to add that space in the jail to the laundry for sorting and storing “greens”
14. *Should laundry be in one building only? Have you considered personal items laundry in the housing units?*
- Laundry has to be done in both facilities
 - Not likely possible to put personal laundry in housing units – inmate tear up appliances – WC laundry is expandable
 - Appliances new 50# washers don’t fit in thru the doors – when washer was replaced had to be smaller 35# unit
15. *Has there been discussion about hardening parts of the Work Center for housing inmates of a medium security classification to increase the overall system capacity?*
- Inmate population is needing more and more security – promise to public not to hold felons – would have to have new public outreach – nonstarter – maybe new building could be hardened maybe half the area for sheriff and half for housing
16. *Has there been discussion about adding additional dorm type housing for lower classification inmates at the Work Center to increase overall capacity?*
- non-starter – one suggestion was to split the 32 dorms at WC in half – does not solve the dormitory style problems

17. *Are you using all possible alternatives to incarceration?*

- a. NO - no day reporting system
- b. out of custody work crews, there are additional opportunities available for expansion to the programs but cannot find people who qualify – does not take a lot of money and effort –
- c. liberalizing some programs – not crazy about that possibility
- d. Send people to other facilities such as Yakima –
- e. Improved elect home detention – courts would supervise pre-trial people – pretrial work crews might reduce space in jail

18. *Do you employ a drug court system?*

- a. Superior Court has one - often difficult to get defendants to agree to program - some would rather do their 2 days in jail –
- b. District Court operates a mental health court

19. *Are you booking and releasing over the weekend and holidays.*

- a. yes – 7 days a week - sex offenders have to be placed in custody immediately

20. *Do the facilities have smoke evacuation systems?*

- a. WC = yes
- b. Jail = no – it was a requirement when Jail was built but was not put in. Whatcom was doing their own inspections –
- c. City said to put in better exiting path for cells but did not require Smoke Evacuation System – 2nd floor hallway complete fills up with smoke – no secure refuge areas away from the building – sally port is refuge for fire evacuation but is not secure; - firefighters have difficulty getting in building as they have limited access; there are site limitations for pulling fire hoses

21. *Has accreditation been awarded to the facilities?*

- a. Only NCCHC – National Commission on Correctional Health Care
- b. No ACA

22. *Has there been any litigation related to the facilities: 1) the Jail and 2) Work Center?*

- a. Yes - but have been dismissed – one settled for \$25k 2 years ago – had a death by hanging but couldn't see from the control center – being sued for a suicide in isolation area – was originally design as direct supervision jail –

23. *Has a review been performed for compliance with the Americans with Disabilities Act (ADA)?*

- a. No – needs to be done to identify the issues – prison rape act evaluation too

24. *What is the history of the security electronic system? Upgrades, maintenance etc.*

25. *Other building related issues?*

- a. Window glass can be easily broken – put steel sheets over exterior windows – interior windows – some interior windows are breaking without touching them
- b. Put the wrong grout in the hollow cells – installed epoxy grout -2012? Wilson Engineer – over sally port
- c. Sewage continuously back up and drips in sheriff's office. – no muffin monsters – highly recommended but Jail plumbing is not set up for it – south end still a problem – kitchen floor has been epoxied and now has less leaks.
- d. Lighting is deficient in both buildings – security lighting 10-15 sec delay to come on – no ambient light – no exit lights to stay on
- e. No Sound proofing in WC - sound carries all over
- f. No Smoking in entire facility
- g. City is AHJ – for building permit – Electrical is City of Bellingham not L&I
- h. Jail standards – Whatcom adopted State standards WAC – did copy and paste – never been updated – standards are suspended – Standards are created for protection of the agency
- i. There is supposed to be a Law And Justice Council – *recommend reforming this committee to discuss these issues* – was originally formed and in 1st two years – some city council members are against building a new Jail
- j. They have volunteers for literacy and other programs but no space to hold them and still would have to move the inmates.
- k. WC vs Jail – diff work ethic – us and them culture – have considered moving the Sherriff's office to WC and use basement for more corrections – jail has no designated mental health and medical areas – WC = 40,000 –
- l. There is a permit in place to construct a 2nd 40,000 s.f. building similar to WC on WC site – schematic for new triage center – could potentially be a new sheriff's office, freeing up Jail basement space for medical or storage
 - i. What about the property where facilities is located?

| List of Observations





LIST OF OBSERVATIONS				
Tas k No.	Item	Description/Observation	Summary of Work Required (FCA team recommends action on the items shown in bold red)	Probable Cost (hard & soft costs)
DEFICIENCIES to 2021 (Jail only) [Scope and costs based on existing conditions]				
1	Elevators and Lifts	Original elevators have reached the end of their useful life and problems are being reported	Replace Elevators i. Remove two custodial elevators and one visitor elevator ii. Provide two new custodial elevators and one visitor elevator iii. Extend visitor elevator to basement level <i>(would eliminate renewal #8)</i>	\$ 985,739.00
2	Ceiling Finishes	Ceiling finishes are damaged and in disrepair	Replace all ceiling finishes entire bldg. i. Remove existing ceiling finishes including lay-in tiles and gypsum board iii. Provide new ceiling finishes ACT, GWB, paint <i>(would eliminate renewal #3)</i>	\$ 1,256,266.00
3	Domestic Water Distribution	Lack of seismic bracing on equipment	Determine which equipment needs to be braced and provide bracing	\$ 48,571.00
4	Domestic Water Distribution	Multiple failures have been reported and continue	Replace entire domestic water distribution piping system <i>(would eliminate renewal #9)</i>	\$ 1,103,860.00
5	Fire Protection Sprinkler Systems	Sprinkler coverage in the stairwells and Sky Bridge does not appear to meet current standards. Some signs of leaks. Seismic bracing not observed.	Extend system to stair wells and sky bridge; repair leaks; add seismic bracing as needed	\$ 190,585.00
6	Heat Generating Systems	Lack of seismic bracing on equipment	Determine which equipment needs to be braced and provide bracing	\$ 72,857.00

LIST OF OBSERVATIONS				
Tas k No.	Item	Description/Observation	Summary of Work Required (FCA team recommends action on the items shown in bold red)	Probable Cost (hard & soft costs)
7	HVAC Distribution Systems	The jail does not contain a smoke evacuation system, a mandatory code requirement. This system was required but not installed in the original construction.	Complete a feasibility analysis to design and install a smoke evacuation system in the Jail i. Identify system type best suited for renovation and building construction type ii. Identify, using the existing drawings, where the roof hatches need to be placed iii. Do a structural analysis of roof opening locations to determine the best location for the hatches iv. Evaluate the fire protection system to determine if the hatch alarms can be added or if a new system will be required v. Provide conceptual sketches and narrative to describe the installation vi. Provide cost estimate for construction including hard and soft costs of upgrades	\$ 817,280.00
8	Institutional Equipment	At 35 years old, the kitchen and laundry equipment has reached the end of useful life.	Replace equipment items that have exceeded expected useful life (<i>would eliminate renewal #5</i>)	\$ 714,692.00
9	Interior Doors	Doors and door locks are damaged and in disrepair	Repair all doors and hardware i. Remove existing doors from frames - strip paint, patch and repair damage, refinish, rehang door ii. Remove hardware - clean, repair, and/or adjust (<i>would eliminate renewal #6</i>)	\$ 490,755.00
10	Interior Doors	Doors and door locks are failing due to inmate abuse which is a major safety and security problem	Complete investigation of door security infrastructure of the jail i. Provide an inventory of the doors and hardware and identify which need to be replaced and which need to be repaired. ii. Provide a narrative opinion of which doors are currently in working order but may need repair in the 2-4 year time frame. iii. Provide cost estimate including hard and soft costs for the door and hardware construction upgrades (<i>would eliminate renewal #6</i>)	\$ 1,529,995.00

LIST OF OBSERVATIONS				
Tas k No.	Item	Description/Observation	Summary of Work Required (FCA team recommends action on the items shown in bold red)	Probable Cost (hard & soft costs)
11	Landscaping	Trees are too close to the building and could impact building finishes or foundation.	Remove and replace trees along south side of building	\$ 121,428.00
12	Lighting and Branch Wiring	There is a 10 to 15 second delay before emergency lighting comes on because this lighting is on "house" power and does not have battery backup power. This could represent a serious safety problem.	Identify and fix the delay issue with the emergency lights at the Jail and the Work i. Inventory the existing light fixtures and generator at each facility ii. Perform light meter testing to determine if existing lighting meets code, and/or if more light is needed for safe operation of the facility. iii. Interview the maintenance and staff personnel and review operation of the facility to verify which existing emergency lights need to be addressed and which areas need emergency lights but currently do not have them. iv. Provide a narrative opinion of changes to be implemented to ensure lights remain on during a power outage v. Provide cost estimate of construction upgrades including hard and soft costs for the lighting, UPS, Generator, and/or controls.	\$ 572,652.00
13	Lighting and Branch Wiring	Appears to be inadequate lighting levels in the sally port and around the exterior of the building.	Remove and replace and add required lighting to exterior and sally port	\$ 134,925.00
14	Lighting and Branch Wiring	Lighting controls do not meet energy code	Provide lighting controls to conform with Code requirements	\$ 663,881.00
15	Low Voltage Fire Alarm	Recent work is not complete or certified	Complete fire alarm upgrade work and test for certification (would eliminate renewal #1)	\$ 121,428.00
16	Roof Coverings	The roofing has reached the end of useful life. There are no overflow drains as is required by code.	Replace roofing i. Remove existing roof membrane and insulation ii. Install overflow drains and connect rain leaders to existing roof drain pipe under roof iii. Install new roof insulation, coverboard, and roof membrane, and parapet flashing	\$ 678,223.00

LIST OF OBSERVATIONS				
Tas k No.	Item	Description/Observation	Summary of Work Required (FCA team recommends action on the items shown in bold red)	Probable Cost (hard & soft costs)
17	Sanitary Waste	Sanitary sewer near basement level reported problems with piping system	Replace sanitary sewer piping at basement level to building connections, install muffin monster.	\$ 279,285.00
18	Wall Finishes	Wall finishes are damaged and in disrepair	Patch and repair walls, replace damaged CMU, provide new finishes throughout entire Jail <i>(would eliminate renewal #2)</i>	\$ 688,401.00
			TOTAL DEFICIENCIES	\$ 10,470,823.00

LIST OF OBSERVATIONS				
Tas k No.	Item	Description/Observation	Summary of Work Required (FCA team recommends action on the items shown in bold red)	Probable Cost (hard & soft costs)
OPERATIONAL IMPROVEMENTS (Jail & Work Center)				
1	Housing Unit Linear Cell Layout	Observation by staff into the housing units is very limited and in some cases non-existent. Blind spots exist. This is a potential violation of "The Prison Rape Elimination Act" (PREA). Cameras must be relied upon to observe inmates in the dayrooms. The configuration limits staff response time.	Requires a complex design, essentially gutting the building and starting over within the same footprint. A Cost/Benefit analysis for this option would begin with a complete a FEMA 154 seismic screening of the Jail (This is a rapid evaluation based on historical performance of buildings with similar structural systems during seismic events.) i. Determine and identify which HVAC and Electrical equipment requires seismic bracing ii. Provide conceptual narrative to describe the upgrades to the existing building structural system for seismic lateral resisting elements iii. Provide cost estimate for construction including hard and soft costs of upgrades iv. Provide cost/benefit analysis for moving forward with seismic upgrades on the building.	This item requires additional scope definition in order to provide an estimate of probable cost.
2	Inhibited Movement of Staff	Linear and split level layout also inhibits movement of the inmates. Inmates must be moved to the programs such as visiting, medical and courts, rather than the programs coming to the inmates. This is staff intensive.	Requires a complex design, essentially gutting the building and starting over within the same footprint.	This item requires additional scope definition in order to provide an estimate of probable cost.
3	Ambient noise alarms	There are no ambient noise level alarms in either facility. These can be valuable tools to help direct observation of the camera monitors to outbursts or escalating disputes before they get out of hand.	Determine if/how ambient noise alarms can be installed at the Jail i. Complete inventory of alarm and camera security infrastructure ii. Provide conceptual narrative to describe the upgrades iii. Provide cost estimate including hard and soft costs for the ambient noise alarm upgrades	This item requires additional scope definition in order to provide an estimate of probable cost.

LIST OF OBSERVATIONS				
Tas k No.	Item	Description/Observation	Summary of Work Required (FCA team recommends action on the items shown in bold red)	Probable Cost (hard & soft costs)
4	Medical Area	Design of the medical area gives little thought to privacy with limited space for normal functions and does not comply with HIPAA privacy requirements.	Re-design medical area at the Jail to include the space identified as the commissary i. Interview Medical operations management personnel regarding space use and requirements ii. Provide conceptual sketches and narrative to describe the renovations iii. Provide cost estimate for construction including hard and soft costs of changes	This item requires additional scope definition in order to provide an estimate of probable cost.
5	Inmate Holding Area at the Courts	Lack of inmate holding at the courts. In addition, the inmate elevator at the courthouse does not go up to the fifth floor. Inmates must be moved horizontally and vertically in the courthouse through public circulation spaces.	Requires a complex design and replacement of the elevator if the courthouse.	This item requires additional scope definition in order to provide an estimate of probable cost.
6	Work Center Dormitory Cells	Jail is filled over its designed occupancy capacity; and the Work Center, with dormitory style cells, holds inmates above its designed security level	Identify space to add time-out cells in Work Center Dormitories i. Interview staff to determine the best locations and requirements for the cells ii. Provide conceptual sketches and narrative to describe the location, size and proposed construction for the new areas iii. Provide cost estimate including hard and soft costs for construction of upgrades	This item requires additional scope definition in order to provide an estimate of probable cost.
7	Jail Standards	County's adopted Jail Standards have been suspended for a number of years	Review current standards and amend as necessary to allow for limited compliance with existing Jail and full compliance upon completion of new Jail.	This item requires additional scope definition in order to provide an estimate of probable cost.

LIST OF OBSERVATIONS				
Tas k No.	Item	Description/Observation	Summary of Work Required (FCA team recommends action on the items shown in bold red)	Probable Cost (hard & soft costs)
8	Smoke Evacuation System (REFERENCE ITEM 7 UNDER DEFICIENCIES)			
9	Interior Doors (REFERENC E ITEM 10 UNDER DEFICIENCIES)			
10	Delay in Emergency Lighting (REFERENCE ITEM 12 UNDER DEFICIENCIES)			
11	ADA Code compliance	The facility was constructed prior to the Americans with Disabilities Act (ADA) and likely has numerous non-compliance issues. There has not been a study to identify violations of the ADA in the jail.	Complete a limited accessibility code analysis of Jail and Work Center buildings and sites i. Identify an accessible route for Inmates ii. Identify an accessible route for the public and staff iii. Identify one or two housing units at each facility that could be made to comply with current ADA code iv. Identify spaces that could be made to comply with current ADA code v. Provide conceptual sketches and narrative to describe the renovations vi. Provide cost estimate for construction including hard and soft costs of upgrades at each facility	This item requires additional scope definition in order to provide an estimate of probable cost.
12	Gas Main Entrance	The natural gas line where it enters the building on the exterior of the jail is unprotected and poses a safety issue.	Provide a secure enclosure at the gas main entrance to the Jail building i. Contact the gas provider to determine allowable construction ii. Provide conceptual sketches and narrative to describe the location, size and proposed construction for the new enclosure iii. Provide cost estimate for construction including hard and soft costs of enclosure	This item requires additional scope definition in order to provide an estimate of probable cost.
TOTAL OPERATIONAL IMPROVEMENTS				N/A

LIST OF OBSERVATIONS				
Tas k No.	Item	Description/Observation	Summary of Work Required (FCA team recommends action on the items shown in bold red)	Probable Cost (hard & soft costs)
RENEWALS to 2021 (Jail only) [Scope and costs based on modeled data]				
1	Low Voltage Fire Alarm	Reaching or has exceeded useful life	Scope of work to be determined based on additional site investigation and deficiency work listed above.	\$ 532,605.00
2	Wall Finishes	Reaching or has exceeded useful life		\$ 818,244.75
3	Ceiling Finishes	Reaching or has exceeded useful life		\$ 820,284.99
4	Floor Finishes	Reaching or has exceeded useful life		\$ 729,895.35
5	Institutional Equipment	Reaching or has exceeded useful life		\$ 1,318,556.77
6	Interior Doors	Reaching or has exceeded useful life		\$ 1,192,388.09
7	Sanitary Waste	Reaching or has exceeded useful life		\$ 157,051.69
8	Elevators and Lifts	Reaching or has exceeded useful life		\$ 1,876,712.37
2018 - SUBTOTAL				
9	Domestic Water Distrib	Reaching or has exceeded useful life	Scope of work to be determined based on additional site investigation and deficiency work listed above.	\$ 435,580.50
10	Fire Protection Sprinkle	Reaching or has exceeded useful life		\$ 731,509.05
2019 - SUBTOTAL				
11	Stair Finishes	Reaching or has exceeded useful life	Scope of work to be determined based on additional site investigation and deficiency work listed above.	\$ 39,865.31
12	Terminal and Package	Reaching or has exceeded useful life		\$ 1,904,390.64
TOTAL RENEWALS				\$10,557,084.51