MEMORANDUM

TO: University Facilities Planning Board: Nancy Cornwell - Chair, Walt Banziger - Vice Chair, Kurt Blunck, Allyson

Brekke, Jeff Butler, ASMSU President, Anne Camper, Michael Everts, Chris Fastnow, Greg Gilpin, Mandy Hansen, Jeff Jacobsen, Terry Leist, Robert Marley, Martha Potvin, Fatih Rifki, Tom Stump, Julie Tatarka, Jim Thull, Cara

Thuringer – ASMSU, Brenda York

FROM: Victoria Drummond, Assoc. University Planner, Planning, Design & Construction

RE: August 13, 2013, meeting of the University Facilities Planning Board to be held in the Facilities Meeting Quonset

at 3:30 pm

ITEM No. 1 – APPROVAL OF NOTES

Approval of the draft notes from June 18, 2013.

ITEM No. 2 – EXECUTIVE COMMITTEE REPORT

Report on any current Executive Committee actions.

ITEM No. 3 – CONSENT AGENDA

No items.

<u>ITEM No. 4 – INFORMATIONAL</u> – Testing Center in Renne Library – Project Update

Presenter - Sam Des Jardins

<u>ITEM No. 5 – INFORMATIONAL</u> – Initial Discussion of Potential Sites for Future Residence Hall Presenter – Bob Lashaway

<u>ITEM No. 6 – RECOMMENDATION</u> – Upgrade Verizon Wireless Antenna on Leon Johnson Hall Rooftop Presenter – Victoria Drummond

HORIZON ITEMS

- External Building Signage Policy
- Seminar Materials
- Master Planning Issues
- Revisit and Update Policies
- HBO5 Amendment for lab Facility

VCD/lk

PC:

President Cruzado Jayson O'Neill, President's Office Maggie Hammett, President's Office Allen Yarnell, President's Office Lisa Duffey, Provost Office Diane Heck, Provost Office Victoria Drummond, Facilities PDC ASMSU President Heidi Gagnon, VP Admin & Finance Jennifer Joyce, VP Student Success Linda LaCrone, VP Research Office Bonnie Ashley, Registrar Robert Putzke, MSU Police Becky McMillan, Auxiliaries Services Julie Kipfer, Communications Jody Barney, College of Agriculture Susan Fraser, College of Agriculture Robin Happel, College of Agriculture JoDee Palin, College of Arts & Arch



UNIVERSITY FACILITIES PLANNING BOARD August 13, 2013

ITEM # 4

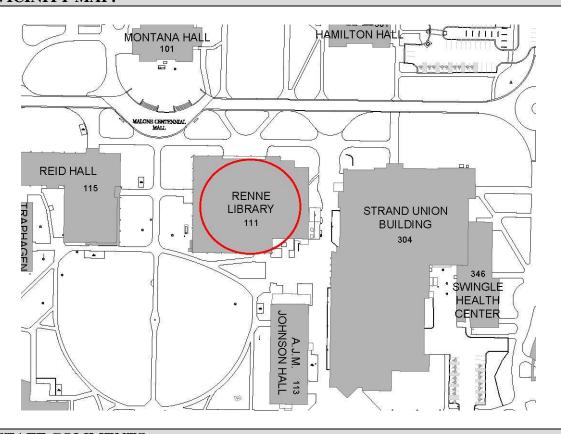
Testing Center in Renne Library – Project Update

PRESENTERS:

Sam Des Jardins, Project Manager

PROJECT	PLANNING	SCHEMATIC	DESIGN	X	CONSTRUCTION	
PHASE:			DOCUMENTS		DOCUMENTS	

VICINITY MAP:



STAFF COMMENTS:

The Spain-Sedivy Resource Center in Renne Library, Room 19, is being repurposed into a testing center. 10 testing stations have a computer based testing system run by a Pearson Vue setup. The Pearson Vue setup is for engineering students to take their Fundamentals of Engineering Exam. An additional 10 testing stations will be for a variety of the Testing Center needs, however, anticipated primary use is to accommodate ADA testing spaces. A small two person staff office and waiting room will be constructed in the space and have new furniture and new lockers.

1

COMPLIANCE:	YES	NO			
MSU POLICIES	X				
COMMITTEE OR APPROPRIATE REVIEW	X				
MASTER PLAN					
BOARD ACTION REQUIRED:					
No recommendation is needed as this is an informational item.					



UNIVERSITY FACILITIES PLANNING BOARD August 13, 2013

ITEM # 5 Initial Discussion of Potential Sites for Future Residence Hall								
PRESENTER	S:							
Bob Lashav	Bob Lashaway, Associate VP University Services							
PROJECT PHASE:								
VICINITY M	AP:							
STAFF COM	Maps will be provided at the meeting. STAFF COMMENTS: This is a preliminary discussion of potential sites for a future residence hall.							
COMPLIANCI						YES	NO	
MSU POLICIE						X		
COMMITTEE		ROPRIA	ATE	REVIEW		X		
	MASTER PLAN X							
BOARD ACTIO	ON REQU	JIRED:						
No recommen	No recommendation is needed as this is an informational item.							



UNIVERSITY FACILITIES PLANNING BOARD August 13, 2013

ITEM # 6

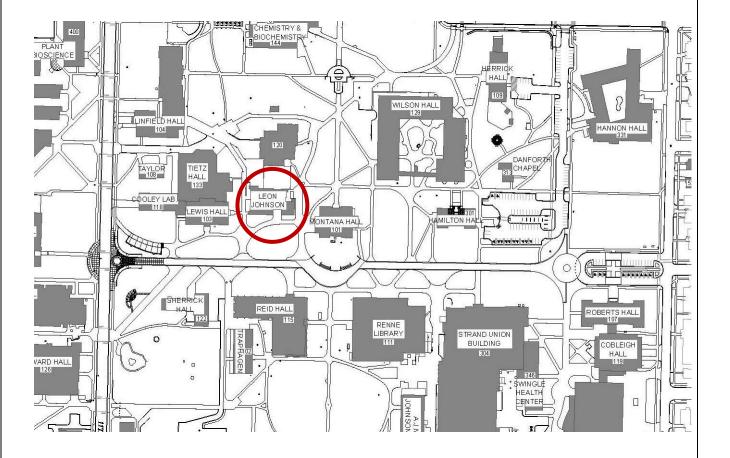
Upgrade Verizon Wireless Antenna on Leon Johnson Hall Rooftop

PRESENTERS:

Victoria Drummond, Associate University Planner

PROJECT	PLANNING	SCHEMATIC	DESIGN	CONSTRUCTION X
PHASE:			DOCUMENTS	DOCUMENTS

VICINITY MAP:



STAFF COMMENTS:

On July 15, 2013, MSU received a completed application from Verizon Wireless to upgrade three antennas that are currently located on the rooftop area of Leon Johnson Hall. Pursuant to the MSU Antenna Policy, Verizon Wireless submitted the non university commercial telecommunications antenna and apparatus siting application and included a Frequency Study prepared by Waterford Consultants.

The Technical Antenna Committee, a committee reporting to the UFPB, reviewed the application and recommends approval because the request is within Verizon Wireless' current contract with MSU to upgrade equipment and because the new antennas have no adverse affect on assigned frequencies.

Attached are preliminary construction drawings of the application titled MT8 Bobcat. Drawing C-2a is a plan view of the roof top and shows the location of the antennas to be replaced; Drawings C-3, a, and b are building elevation drawings that show the visual impact of the antennas; and Drawing C-4 shows how the three antennas (darkened) compare to existing antennas. The replacement antennas are larger than the current antennas and yet still fit the existing apparatus and continue the overall orderly appearance of the antennas. The antennas will be colored to match the building.

An FPDC Project Manager will be assigned to supervise the project.

COMPLIANCE:	YES	NO
MSU POLICIES	X	
COMMITTEE OR APPROPRIATE REVIEW	X	
MASTER PLAN	X	
DOADD ACTION DECLIDED.		

BOARD ACTION REQUIRED:

Recommend approval of the request to upgrade Verizon Wireless antenna located on the roof top of Leon Johnson Hall.



MT8 BOBCAT

LEON JOHNSON HALL, MONTANA STATE UNIVERSITY BOZEMAN, MT 59715 GALLATIN COUNTY

> SITE #354 SMR - AWS

PROJECT	DATA	SH	EET INDEX		PROJECT LOCATION	PROJECT DESCRIPTION
	#354 MT8 BOBCAT	SHT.	SHEET TITLE	REV. NO.	DRIVING DIRECTIONS: TAKE THE 7TH AVE. EXIT AT BOZEMAN. DRIVE SOUTH ON 7TH AVE. TO W. MAIN ST. TAKE A RIGHT. GO TO N. 11TH AVE., AND TAKE A LEFT. DRIVE ON N. 11TH AVE. TO WEST KAGY BLVD., AND TAKE A LEFT. CONTINUE TO SOUTH	TOWER TYPE: ROOF INSTALLATION
	SEC. 13, T2S, R5E, P.M.	T-1	TITLE SHEET	Α	7TH AVE, TURN LEFT. CONTINUE ON 7TH TO WEST GRANT, TURN RIGHT, AND CONTINUE ON TO SOUTH 6TH AVE.	EQUIPMENT TYPE: NORTEL
	LEON JOHNSON HALL, MONTANA STATE UNIVERSITY	N-1	NOTES	Α	OUT A KEY TO ACCESS THE SITE. TELL THEM WHO YOU ARE AND BRING YOUR ID. THE SITE IS ON TOP OF THE LEON JOHNSON HALL ON THE CAMPUS OF MONTANA STATE UNIVERSITY. YOU CAN GET A KEY AT THE WORK	SECTOR(S): (3)
	BOZEMAN, MT 59715 GALLATIN COUNTY	C-2	SITE PLAN	Α	CONTROL CENTER FROM 8-5. AFTER HOURS YOU MUST OBTAIN A KEY FROM THE CAMPUS POLICE STATION. THE DIRECTIONS ARE THE SAME; THE POLICE STATION IS ON THE SOUTH 7TH AVE. ON CAMPUS. TELL THEM WHO YOU	ADDITIONAL INFO:
PARCEL NUMBER:		C-2a	SITE PLAN	Α	ARE AND BRING YOUR ID. THE POLICE STATION IS MANNED 24-7.	ADDITIONAL INFO:
	06-0798-13-1-01-01-0000	C-3	ELEVATION VIEWS — EXISTING AND PROPOSED	A	· · ·	
CURRENT ZONING:		C-3	ELEVATION VIEWS - EXISTING AND PROPOSED	Α		
	CITY OF BOZEMAN	C-3	ELEVATION VIEWS — EXISTING AND PROPOSED	Α		
		C-4	antenna plan and details	Α	N (90)	APPROVALS
	MONTANA STATE UNIVERSITY NAME / PHONE	C-5	EQUIPMENT ROOM LAYOUT	Α		71111007120
	VERIZON WIRELESS 3131 S VAUGHN WAY STE 550 AURORA, CO 80014-3583				BRIDGER CYN RD	LANDLORD
	DIGITAL SKYLINES NANCY TABAR / (480) 425-9353		A		and a second to the second to	
	VERIZON WIRELESS KENT McDERMOTT / (406) 239-0006				BOZEMAN Z	LEASING R.F.
POWER:	TBD				BUZEMAN ET 130 H	
TELEPHONE	TBD				HUFFINE LN	ZONING
LONGITUDE:	N 45' 40' 05.0" (NAD-1983) W 111' 03' 00.2" (NAD-1983)				SITE STATE OF KAGY BLVD	CONSTRUCTION
	-' (NAVD-1988) TBD					A&E
PAGE:	N/A					
GRID:	N/A				NOT TO SCALE	





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A&C PROJECT # 2013-01-014



ı	APPROVALS
ı	FNE
ı	ENGINEER
ı	RF
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SIT #3

MT8 BOBCAT

BOZEMAN, MT

TITLE SHEET

T-1

GENERAL NOTES

- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY AND SECURITY ISSUES FROM DATE OF CONSTRUCTION COMMENCEMENT UNTIL FINAL ACCEPTANCE BY CLIENT.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SANITATION REQUIREMENTS FROM DATE OF CONSTRUCTION COMMENCEMENT UNTIL FINAL ACCEPTANCE BY CLIENT.
- 3. GENERAL CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS FOR GROUNDING AND UTILITY SPECIFICATIONS AS SET FORTH IN THE INTERNATIONAL BUILDING CODE 2009 AND VERIZON WIRELESS SPECIFICATIONS.
- 4. COMBUSTIBLE CONSTRUCTION WASTE SHALL BE HAULED OFF PREMISES. NO OPEN BURNING

ANTENNA MOUNTING NOTES

- 1. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO ANSI/TIA/EIA/222-G "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES".
- 2. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS".
- 3. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- 4. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN
- 5. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH DOUBLE NUTS AND SHALL BE INSTALLED SNUG TIGHT PER AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", SECTION 4.1, JUNE 23, 2000.

GENERAL UTILITY NOTES

- CONTRACTOR SHALL PERFORM ALL VERIFICATION OBSERVATION TESTS, AND EXAMINATION WORK
 PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION.
 CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ENGINEER LISTING ALL
 MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
- CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN
- 3. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITERS LABORATORIES (U.L.) AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION. AND SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU.
- 4. CONTRACTOR TO COORDINATE WITH BUILDING OWNER FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE
- 5. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
- 6. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AS INDICATED BY UTILITY COMPANY.
- 7. METER SOCKET AMPERES, VOLTAGE, AND NUMBER OF PHASES SHALL BE AS NOTED AND SHALL BE MANUFACTURED BY SQUARE "D" COMPANY, SANGAMO, OR APPROVED EQUAL. METER SOCKET SHALL BE APPROVED BY UTILITY COMPANY PRIOR TO INSTALLATION
- 8 WIRF AND CABLE CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM WITH TYPE THWN
- EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANELBOARD, PULLBOX, J-BOX, SWITCH BOX, ETC., IN COMPLIANCE WITH OSHA REQUIREMENTS.

- A RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING

- EXTERIOR.

 B. ELECTRICAL METALLIC TUBING (EMT) SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS. NO SET SCREW OR CRIMP TYPE FITTINGS SHALL BE USED.

 C. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE, SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL SIZE GROUND WIRE.

 D. PVC CONDUIT AND FITTINGS SHALL HAVE U.L. LABEL AND SHALL BE PVC SCHEDULE 40.

 E. CONDUIT SHALL BE SIZED PER THE NEC, AND AS SHOWN.

 F. CONDUIT RUNS MAY BE SURFACE MOUNTED IN CELINGS OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH OWNER PRIOR TO INSTALLING.
- G. ALL CONDUIT ONLY (C.O.) RUNS SHALL HAVE A PULL WIRE OR ROPE.
- 11. REFER TO MANUFACTURER'S MANUAL FOR RECOMMENDED FUSE AND WIRE SIZES.
- 12. ALL FINAL CONNECTIONS TO THE EQUIPMENT ARE TO BE OF FLEXIBLE WEATHERPROOF CONDUIT TO MEET APPLICABLE CODES.
- 13. PROVIDE OWNER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.
- 14. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH, GAINING APPROVALS AND PAYING ALL FEES ASSESSED BY UTILITY COMPANY FOR ELECTRICAL SERVICE.
- 15. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH U.L. LISTED AND CODE APPROVED
- 16. CONTRACTOR SHALL COORDINATE TELCO SERVICE WITH LOCAL TELEPHONE COMPANY. TERMINATE TELCO CONDUIT FOR INTERFACE WITH LOCAL SYSTEM. TELCO CONDUIT TO BE INSTALLED TO ACCOMMODATE THE FUTURE USE OF FIBER OPTIC CABLE. CONDUITS RUN UNDERGROUND FROM TELCO DEMARC TO TELCO BACKBOARDS OR DIRECT TO H-FRAME SHALL BE 4" DIA. SCHEDULE 40 PVC WITH MINIMUM 2' RADIUS SWEEPS AND ELBOWS AT BENDS. PULL ROPES SHALL BE INSTALLED IN ALL TELCO CONDUIT, PER LOCAL TELEPHONE COMPANY REQUIREMENT.

GROUNDING NOTES

- 1. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE
- 2. ALL BUS CONNECTORS SHALL BE TWO—HOLE, LONG—BARREL TYPE COMPRESSION LUGS, T&B OR EQUAL, UNLESS OTHERWISE NOTED ON DRAWINGS. ALL LUGS SHALL BE ATTACHED TO BUSSES USING STAINLESS STEEL BOLTS, NUTS, AND LOCK WASHERS. NO WASHERS ARE ALLOWED BETWEEN
- 3. ALL CONNECTORS SHALL BE CRIMPED USING HYDRAULIC CRIMPING TOOLS, T&B #TBM 8 OR EQUIVALENT.
- 4. ALL CONNECTIONS SHALL BE MADE TO BARE METAL ALL PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON-OXIDIZING AGENT APPLIED PRIOR TO INSTALLATION.
- 5. ALL BENDS SHALL BE AS SHALLOW AS POSSIBLE, WITH NO TURN SHORTER THAN AN 8-INCH
- 6. GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER AND ANNEALED #2. ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS, OR CEILINGS. IF CONDUCTORS MUST RUN THROUGH EMT. BOTH ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.
- 7. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 2 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
- 8. ALL ROOF TOP ANTENNA MOUNTS SHALL BE GROUNDED WITH A #2 GROUND WIRE CONNECTED TO THE NEAREST GROUND BUS. ALL CONNECTIONS ARE TO BE CAD-WELDED IF POSSIBLE.
- 9. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO THE PROJECT MANAGER.
- 10. GROUNDING CONNECTION TO TRAVEL IN A DOWNWARD DIRECTION
- 11. ALL ABOVE GRADE CAD-WELDS SHALL BE COLD GALVANIZED.





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١	APPROVALS
-	FNE
-	ENGINEER
-	RF
١	ENGINEER
-	REAL
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-	AREA
١	MANAGER
	PROPERTY
-	OWNER
	ZONING
	CONSTRUCTION
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REVISIONS

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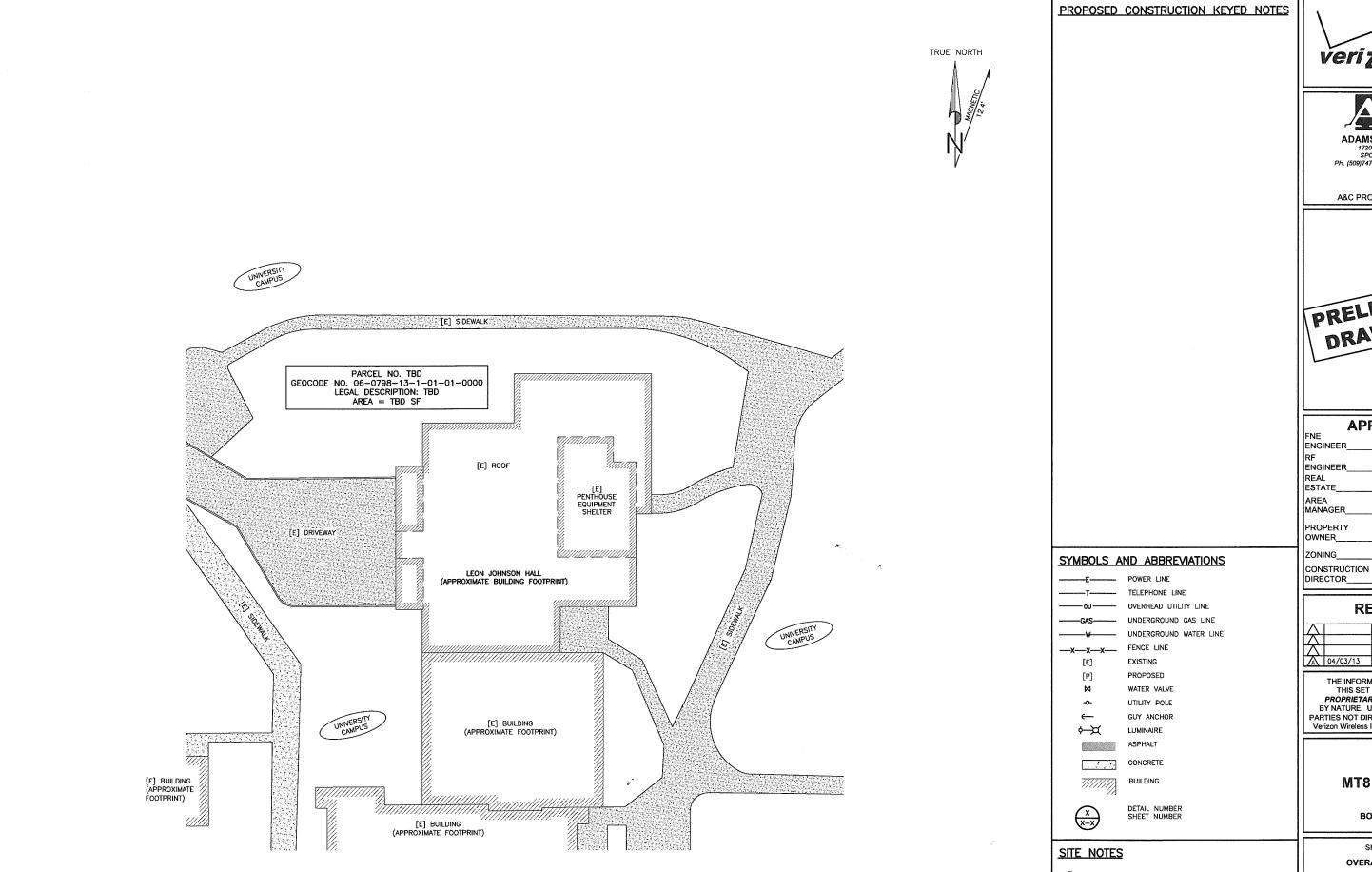
#354

MT8 BOBCAT

BOZEMAN, MT

SHEET TITLE NOTES

N-1



OVERALL SITE PLAN

C-2 SCALE: 1*=40'

veri zonwireless



ADAMS & CLARK INC. 1720 W. FOURTH AVE. SPOKANE, WA 99201 PH. (509)747-4600 FAX: (509) 747-8913

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APPROVALS FNE ENGINEER_ RF ENGINEER_ REAL ESTATE_ AREA MANAGER_ PROPERTY OWNER

REVISIONS

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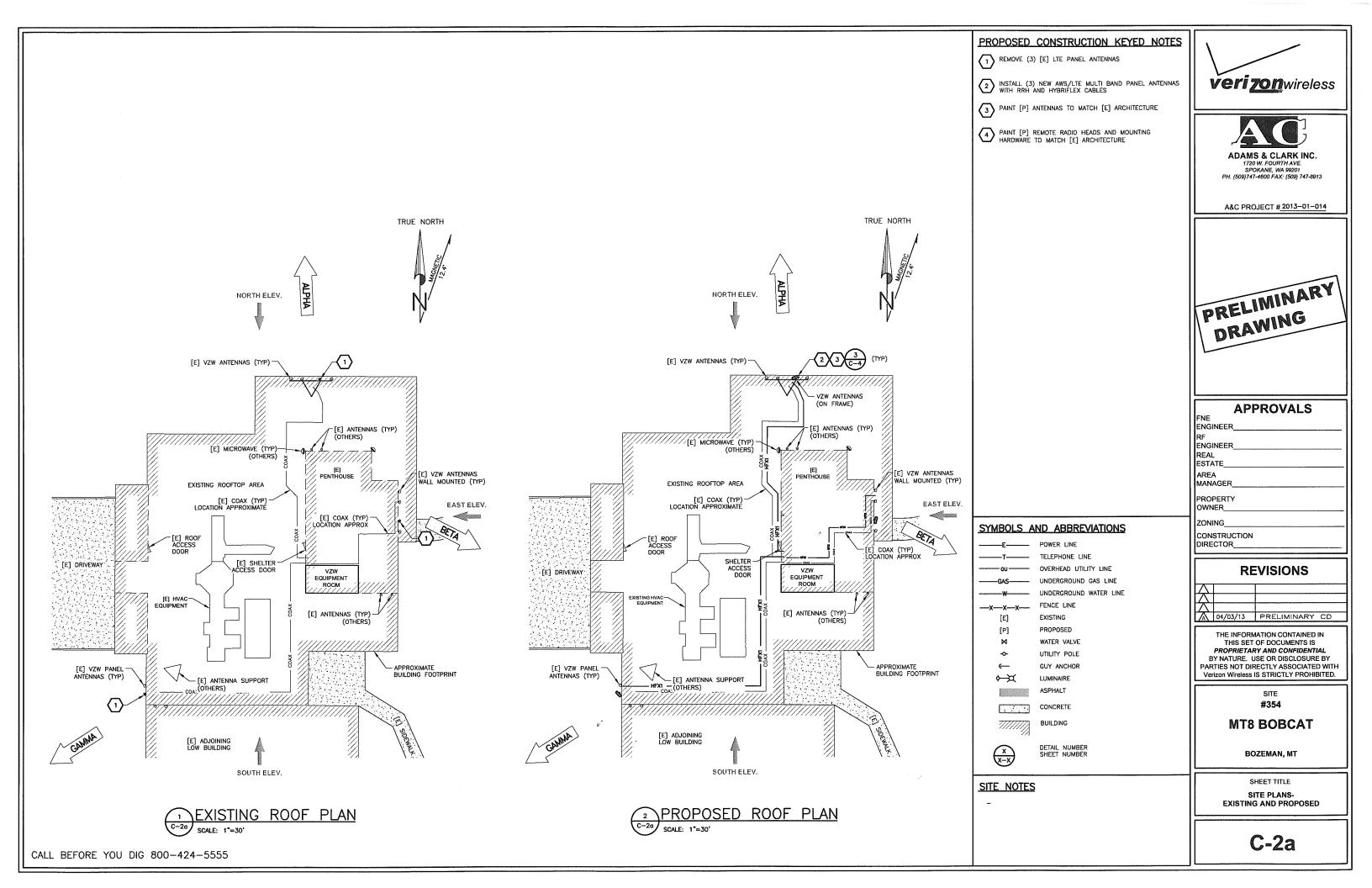
BOZEMAN, MT

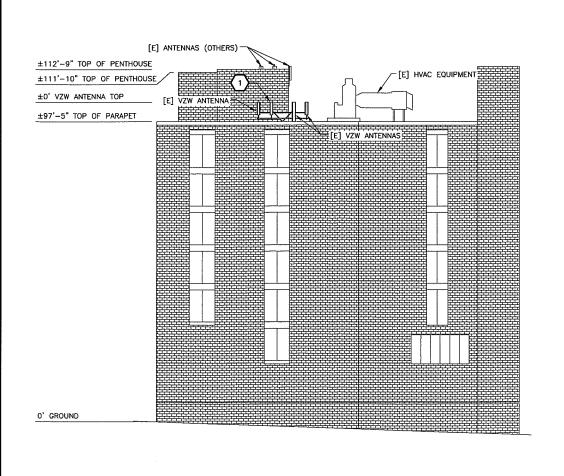
SHEET TITLE

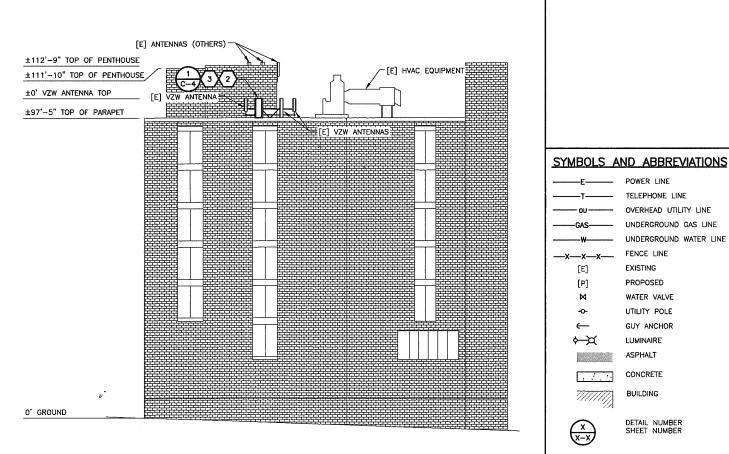
OVERALL SITE PLAN

C-2

CALL BEFORE YOU DIG 800-424-5555







NORTH ELEVATION — PROPOSED CONDITIONS

SCALE: 1"=30"

PROPOSED CONSTRUCTION KEYED NOTES

3 PAINT [P] ANTENNA, AND EXPOSED [P] EQUIPMENT AND CABLES TO MATCH EXISTING ARCHITECTURE

1 REMOVE [E] LTE ANTENNA

2 INSTALL NEW AWS/LTE ANTENNA WITH RRH AND HYBRIFLEX CABLES

POWER LINE TELEPHONE LINE OVERHEAD UTILITY LINE

FENCE LINE

EXISTING

PROPOSED

WATER VALVE

UTILITY POLE

LUMINAIRE ASPHALT

CONCRETE BUILDING

DETAIL NUMBER SHEET NUMBER

[E] [P]

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 $\begin{pmatrix} x \\ x-x \end{pmatrix}$

SITE NOTES

UNDERGROUND GAS LINE UNDERGROUND WATER LINE





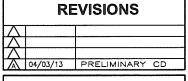
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A&C PROJECT # 2013-01-014



APPROVALS

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BOZEMAN, MT

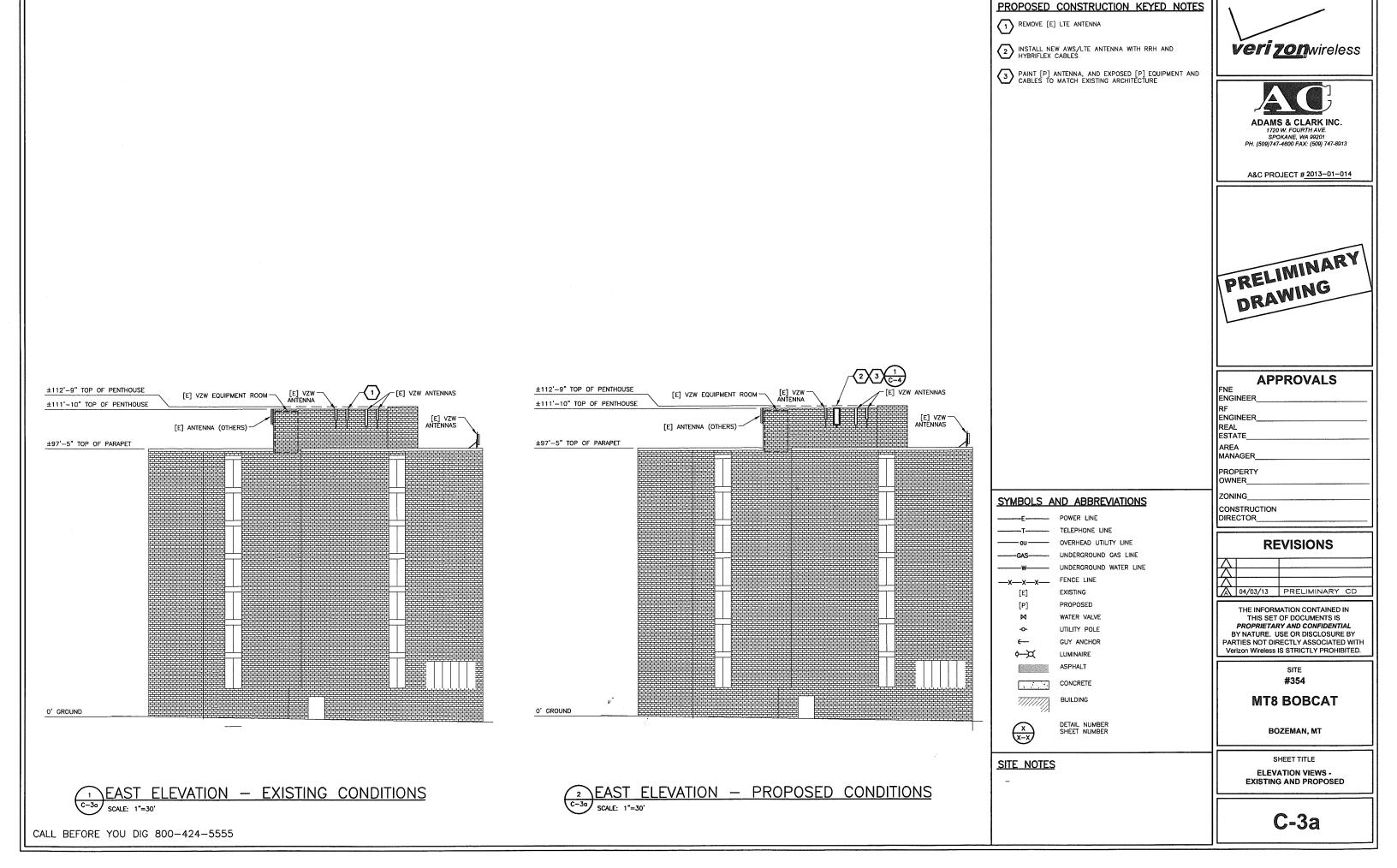
ELEVATION VIEWS -EXISTING AND PROPOSED

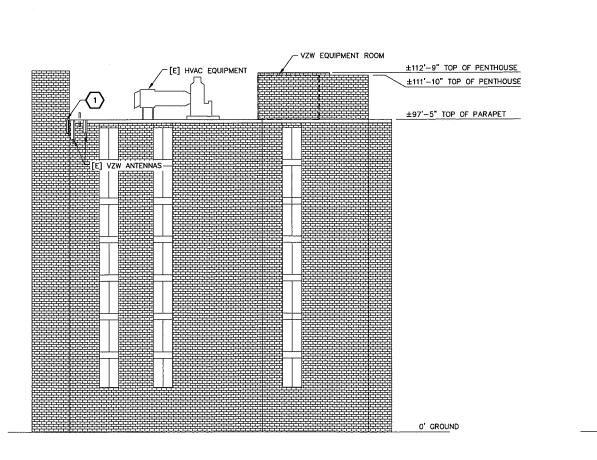
C-3

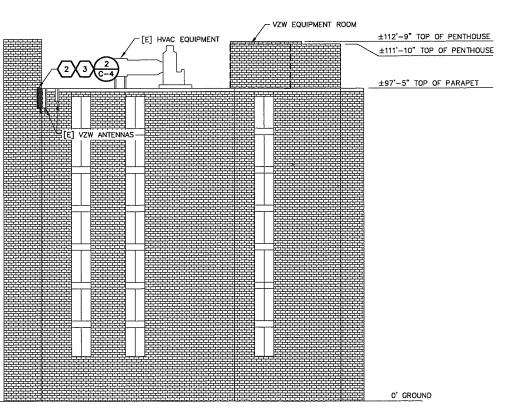
NORTH ELEVATION — EXISTING CONDITIONS

SCALE: 1*=30'

CALL BEFORE YOU DIG 800-424-5555







PROPOSED CONSTRUCTION KEYED NOTES

1 REMOVE [E] LTE ANTENNA



3 PAINT [P] ANTENNA, AND EXPOSED [P] EQUIPMENT AND CABLES TO MATCH EXISTING ARCHITECTURE





A&C PROJECT # 2013-01-014



APPROVALS ENGINEER ENGINEER REAL ESTATE AREA MANAGER PROPERTY OWNER ZONING

SYMBOLS AND ABBREVIATIONS

POWER LINE TELEPHONE LINE OVERHEAD UTILITY LINE — UNDERGROUND GAS LINE UNDERGROUND WATER LINE FENCE LINE EXISTING [E] PROPOSED [P] WATER VALVE UTILITY POLE

←≭α

GUY ANCHOR LUMINAIRE ASPHALT

CONCRETE BUILDING



SITE NOTES

DETAIL NUMBER SHEET NUMBER

REVISIONS

CONSTRUCTION

DIRECTOR_

A 04/03/13 PRELIMINARY CD

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MT8 BOBCAT

BOZEMAN, MT

ELEVATION VIEWS -EXISTING AND PROPOSED

C-3b

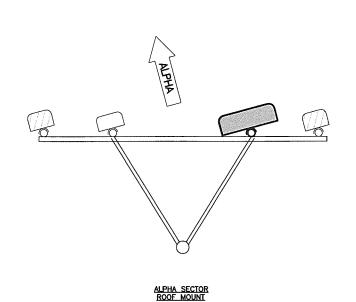
SOUTH ELEVATION — EXISTING CONDITIONS

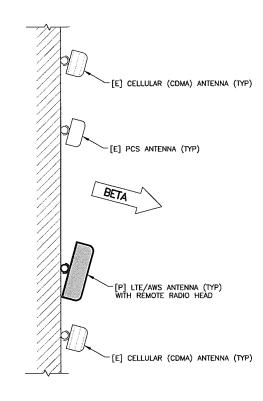
SCALE: 1*=30'

SOUTH ELEVATION — PROPOSED CONDITIONS

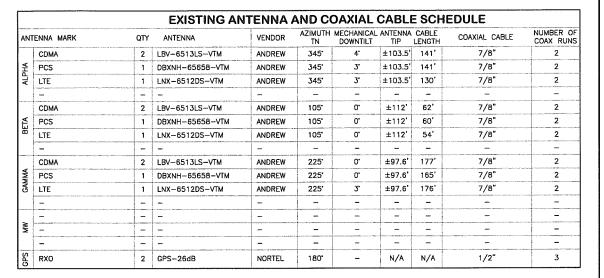
SCALE: 1"=30"

CALL BEFORE YOU DIG 800-424-5555









			PROPOSED AN	ITENNA	AND C	COAXIAL	CABL	E SCH	HEDULE	
ANT	ENNA MARK	QTY	ANTENNA	VENDOR	AZIMUTH TN	MECHANICAL DOWNTILT		CABLE LENGTH	COAXIAL CABLE	NUMBER OF COAX RUNS
	CDMA	2	LBV-6513LS-VTM	ANDREW	345*	4"	±103.5	141'	7/8"	2
₹	PCS	1	DBXNH-65658-VTM	ANDREW	345*	3*	±103.5	141'	7/8"	2
ALPHA	-	-	-	_	_	-	-	-	7/8"	2
	AWS / 700 LTE	1	BSA-M65-19V010-82	CCI	345	3°	±103.5	TBD	HYBRIFLEX	1
	CDMA	2	LBV-6513LS-VTM	ANDREW	105	0.	±112'	62'	7/8"	2
ELY.	PCS	1	DBXNH-65658-VTM	ANDREW	105*	0.	±112'	60'	7/8"	2
88	_	-	_	-	_	-	_	_	7/8"	2
	AWS / 700 LTE	1	BSA-M65-19V010-82	CCI	105*	O°	±112'	TBD	HYBRIFLEX	1
	CDMA	2	LBV-6513LS-VTM	ANDREW	225	0.	±97.6'	177'	7/8"	2
GAMMA	PCS	1	DBXNH-65658-VTM	ANDREW	225*	o.	±97.6'	165'	7/8"	2
₽ B	_	-	-	-	_	-	-	-	7/8"	2
	AWS / 700 LTE	1	BSA-M65-19V010-82	CCI	225	O'	±97.6'	TBD	HYBRIFLEX	1
	_	-	-	-	-	-	-	-	_	-
≩	_	-	-	-	_	_	_	-	_	-
		-	_	-	-	-	- 1	-		_
GPS	RXO	2	GPS-26dB	NORTEL	180°	-	N/A	N/A	1/2"	3

NOTES:

1. ALL ANTENNAS TO BE FURNISHED WITH DOWNTILT BRACKETS.
2. REFER TO VERIZON WIRELESS DESIGN BOOK FOR <u>FINAL</u> ANTENNA SPECIFICATIONS, AZIMUTHS, AND MECHANICAL DOWNTILT ANGLES.

ADDITIONAL EQUIPMENT:

(3) REMOTE RADIO HEADS (1) RAYCAP DISTRIBUTION BOX

	-DOWNTILT ASSEMBLY WITH STAND-OFF BRACKET (TO PREVENT CONNECTOR FROM HITTING PIPE DIRECTLY BEHIND ANTENNA PORT
ANTENNA PIPE	
1/2" COAX JUMPER	ANTENNA
JUMPERS TO BE SECURED WITH	96" x 28.5" x 9.4" 125.4 LBS
APPROPRIATE METAL FASTENERS AND STANDOFFS	
TRANSMISSION LINES TO BTS	

COAXIAL CABLE BEND TABLE								
CABLE SIZE	ANDREW CABLE TYPE #	MFR MIN BEND RADIUS	ANDREW STANDARD HANGER PN	ANDREW CLICK-ON HANGER PN	CABLE TO CABLE SPACING	MAX VRT HANGER SPACING	MAX HOF HANGER SPACING	
1/2"	LDF4-50A	5"	42311A	L4CLICK	1/2"	3'-0"	3'-0"	
7/8"	LDF5-50A	10"	42396A-5	L5CLICK	1/2"	3'-0"	3'-0"	
1-1/4"	LDF6-50	15"	42396A-1	LECLICK	1/2"	3'-0"	3'-0"	
1-5/8"	LDF7-50A	20"	42396A-2	L7CLICK	1/2"	3'-0"	3'-0"	
2-1/4"	LDF12-50	22"	42396A-4	N/A	1/2"	3'-0"	3'-0"	

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A&C PROJECT # 2013-01-014



AP	PROVALS
FNE	
ENGINEER	
RF	
ENGINEER	
REAL	
ESTATE	
AREA	
MANAGER	
PROPERTY	
OWNER	
ZONING	
CONSTRUCTION	
DIRECTOR	!

	REVISIONS					
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#354

MT8 BOBCAT

BOZEMAN, MT

SHEET TITLE

ANTENNA PLAN AND DETAILS

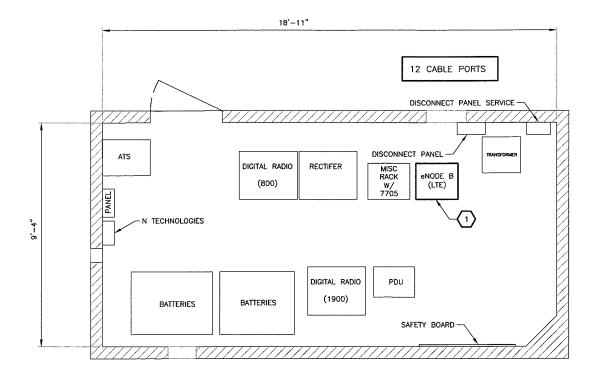
3-4

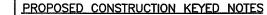
ANTENNA PLAN — PROPOSED CONDITIONS

SCALE: NTS



PANEL ANTENNA MOUNT





NEW eNodeB AWS RADIO BELOW [E] eNodeB LTE WITH SURGE SUPPRESSOR

SYMBOLS AND ABBREVIATIONS

OVERHEAD UTILITY LINE

UNDERGROUND WATER LINE

X—— FENCE LINE

-GAS----- UNDERGROUND GAS LINE

EXISTING

PROPOSED

WATER VALVE

UTILITY POLE

LUMINAIRE ASPHALT

CONCRETE

DETAIL NUMBER SHEET NUMBER

POWER LINE

—x—x—x—

[E]

φ--¤

 $\begin{pmatrix} x \\ x-x \end{pmatrix}$

SITE NOTES

TELEPHONE LINE





ADAMS & CLARK INC. 1720 W. FOURTH AVE. SPOKANE, WA 99201 PH. (509)747-4600 FAX: (509) 747-8913

A&C PROJECT #_2013-01-014



APPROVALS

ENGINEER____ RF ENGINEER

REAL ESTATE___ AREA

MANAGER__ PROPERTY

OWNER_

ZONING_

CONSTRUCTION DIRECTOR____

REVISIONS

A 04/03/13 PRELIMINARY CD

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#354

MT8 BOBCAT

BOZEMAN, MT

SHEET TITLE

EQUIPMENT ROOM PLAN

C-5

EQUIPMENT ROOM

SCALE: 1/4" = 1'

MEETING NOTES OF THE UNIVERSITY FACILITIES PLANNING BOARD June 18, 2013

Members Present: Ritchie Boyd, Jeff Butler, Chris Fastnow, Greg Gilpin, Mandy Hansen, Bob Lashaway for Terry

Leist, Martha Potvin, Jim Rimpau, Tom Stump, Julie Tatarka, Jim Thull, Brenda York

Proxy: Kurt Blunck carried by Jeff Butler, Tom McCoy carried by Victoria Drummond

Members Absent: Nancy Cornwell, Walt Banziger, Allyson Brekke, Michael Everts, Jeff Jacobsen, Fatih Rifki, Cara

Thuringer

Guests: Jason Sears, Hollister Keville, Moises Palacios, Pat Simmons, Sam J. Des Jardins, Jessi Smith,

Billy Dubois, David Zeter, Steve Erickson, Peter Fields, Phenocia Bauerle

The University Facilities Planning Board met beginning at 3:30 pm to discuss the following:

ITEM No. 1 – Approval of Meeting Notes

Thull moved to approve the meeting notes from May 21, 2013. York seconded the Motion. The meeting notes were approved unanimously.

ITEM No. 2 - Executive Committee Report

There was no action from the Executive Committee to report.

ITEM No. 3 – Consent Agenda

No items.

ITEM No. 4 - INFORMATIONAL - Bobcat Stadium Distributed Antenna System Installation

Victoria Drummond introduced the Bobcat Stadium Distributed Antenna System installation. MSU entered into a contract with Crown Castle to install a distributed antenna system (DAS) at the Bobcat Stadium as there is a need for additional band width capacity. It has physical elements that will be seen by the public. Jason Sears with Crown Castle gave a presentation on what it might look like at our stadium. They are partnered with Zinwave, for technical design, and Verizon. They are the largest tower company in the United States. Having too many people in the same place at the same time causes issues with the network. Zinwave offers a solution that allows the capacity to pass through and the users to hit the high data rates that 4G offers. To provide capacity inside the stadium it will be split up into sectors. Antenna placement is based on a lot of experience and knowledge of how to control the signal. Thirty new flag poles will be used for the antennas, which can be themed to match school colors including pendants out of reach from the stands. Antennas will also be placed in concession areas, in the suites, and around the outside of the suites. They may have access to the back where they can be put flush and painted to match. The power coming out of the antennas is about half that of a cell phone. There are two projects: the network and the hub. There are three location options for the hub: underneath the bleachers, a prefab unit on the east side of the stadium, or a prefab unit on southwest side of the stadium (the site under the bleachers is the one site previously discussed with the project manager, Facility Services, and Athletics). The antennas are multi-frequency and give a lot of options to the carriers. The system is carrier neutral. Boyd questioned if there are other efficiencies from having a lot of antennas and Sears replied that part of it is a data-through rate with a single input and single output. The data rates are higher with multiple input and multiple output. So each sector has 2 antennas. Stump questioned how large the standalone building would be and Sears replied roughly 750 square feet depending on the carrier's equipment and how many carriers will be there. They are proposing 700 square feet, but are flexible. Crown Castle takes care of all installation, maintenance and fees. There is no cost to MSU, and MSU will get a percentage of their revenue. Boyd questioned if they had complaints from other installations and Sears replied that they didn't after installation. If the stadium is ever remodeled Crown Castle should be included in the planning so they can adjust the equipment. As far as schedule, it should be completed by December 24, 2013. CW testing will be next week. Stump expressed concern about where the building would go. Up against the fence on the southwest side may be the best location. Butler questioned how far from the stadium it can be. It can be up to 10 miles away, but would need a fiber connection. Sam Des Jardins questioned why they wouldn't want it under the bleachers and Sears replied it's because of the low headroom. It doesn't preclude them from using it, but could create some challenges. There will be further investigation regarding the most appropriate location for the hub facility.

Note - FPDC has a copy of the Power Point presentation Crown Castle presented at the meeting.

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ITEM No. 5 - DISCUSSION - Gender Neutral Restrooms

Victoria Drummond opened up the discussion of gender neutral restrooms as opposed to gender specific restrooms. In 2012, Facilities Planning was asked to identify restrooms that would accommodate a choice other than restrooms shared with others. Facilities were looked at on campus that met the minimum criteria, which was a locking door, a single toilet, a sink, and without a urinal. There are approximately 79 existing spaces on campus that meet that criteria and are possible candidates to be gender neutral. Twelve are ADA gender neutral, 26 are non-ADA gender neutral, 14 are ADA gender specific, 26 are non-ADA gender specific, and there is one family single ADA compliant restroom with a diaper changing facility in the Fieldhouse. Lashaway provided some background about adding gender identity to the non-discrimination policy. If that's added we need to deal with how to address these restroom situations in campus buildings. ASMSU endorsed a resolution supporting the addition of gender identity to the non-discrimination policy. A group from the office of the Commissioner of Higher Education is reviewing this and wants to know potential issues campuses might face when changing the policy. This group has asked Facilities what issues might come up as we talk about trying to accommodate transition. Drummond added that prior to the policy discussion; Facilities responded to requests and provided information to departments as to the location of private restrooms, both non-gender and gender specific. These restrooms are possible candidates that could accommodate male, female, and are ADA compliant so it reaches out to the greatest population. Phenocia Bauerle commented from a gender identity perspective that this has many layers and can positively impact the campus environment. She explained the discomfort and safety issues transgender students can experience. This is a community on campus and is impacted. The gender neutral restrooms will also serve other constituencies, such as caregivers and parents. Drummond commented that these choices need to be investigated further to avoid consequences and accommodate privacy needs. Lashaway commented it's a solution for both a policy change relative to a specific group and the number of gender neutral restrooms on campus for a lot of reasons. He believes the focus should be on the latter. It's most important to address family needs, ADA, as well as gender neutral. He suggested that Planning come back with the first locations to transform. Fastnow questioned what the best practices are for the number of users per ADA restrooms vs. non-ADA. Lashaway commented that there are code requirements for the number of fixtures in a building and how much of that capacity needs to be accessible. We don't want to create a capacity issue relative to the code. Butler suggested changing some signs during the investigation for immediate relief. Thull commented that the focus should be on the most heavily used buildings, such as Renne Library and the SUB. Drummond commented that they will look at what we have and how they can be modified to accommodate private use. Lashaway added that the direction for Facilities Planning is to evaluate existing opportunities, create a transition plan and propose some initial conversions. Steve Erickson with Recreation Sports & Fitness commented that there are lavatories with shower facilities in the fitness center that also need to be looked at so in the long term they can provide places for transgender as well as families. Stump commented that they have the same issues in housing. Boyd wanted a reminder of how many ADA gender neutral restrooms are available now and Drummond replied there are 12 and they are currently signed. They are on the accessibility map, which is available online.

* Note – July 15, Board of Regents approved adding homosexuality and gender identity as protected by the MUS Non-Discrimination policy.

<u>ITEM No. 6 – DISCUSSION</u> – Family Care Facilities

Victoria Drummond opened up the discussion of family care facilities. A Breast Feeding Policy was adopted May 8, 2008. The policy addresses the need and identifies a location for private breastfeeding. That facility is in Hamilton Hall Room 121. On June 7, 2013, the Space Management Committee heard a request for a space to be converted in Leon Johnson Hall to a lactation room. The need came from a faculty member in Leon Johnson Hall who is there in the evening and on weekends and can't access Hamilton Hall because it is locked. The requested space appeared to be underutilized and would accommodate this need. The Space Management Committee didn't want to pick just this one space, but wanted to revisit this on a campus wide comprehensive approach. Jessi Smith, Director of Advancement, further discussed the issue. The room in Hamilton Hall is in high demand. They had to go to a sign out system because of so much use. A lactation room in Leon Johnson Hall was suggested for a part of the woman's restroom on the third floor. Smith's reasons to convert the room in Leon Johnson Hall are: it's close to the Advance office, it's a well used space as it is a mixed use building, and is across campus from the current family care room. The requested room may have been a smoking room and there is no other use for it. It only requires a latch for a screen to provide privacy. It has a partition, room for a couch and has access to water. No plumbing is required and nothing has to be taken out except for the old couch. According to Smith, the benefit of having this space in Leon Johnson Hall is that it's low cost and has a high impact. Advance has \$5,000 to put toward the project. Thull commented that there is still a problem with access on weekends and evenings and suggested a room in the SUB and Library because of their longer hours and being open on weekends. Smith agreed and commented that access during those times is only one of the issues. The room in Leon Johnson will meet other issues related to the overuse of the room in Hamilton Hall. Drummond suggested that Facilities Planning look for a more appropriate space in Leon Johnson Hall – not the conversion of p:\ufpb\agenda & memos\2013 agenda\meeting 08 13 2013\draft meeting notes 06-18-2013.docx

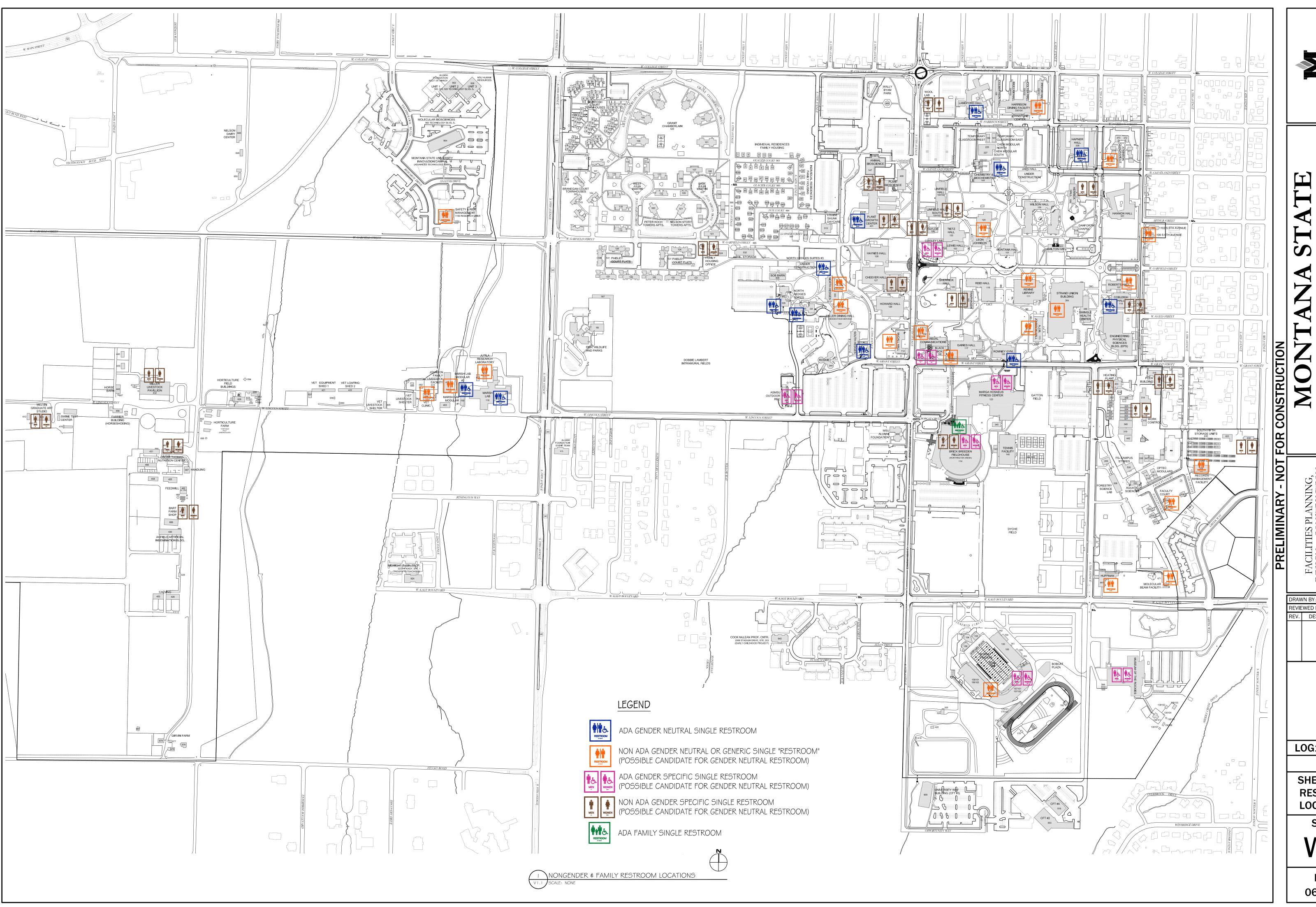
a restroom area so that the space is to the same standard as Hamilton Hall's Family Care room. York wanted to know more about the high demand in Hamilton Hall and Smith replied that it's highly used before 10:00 am and from 12:00-2:00 pm. They had to go to a sign-out system so people can reserve the room. Currently, they are trying to figure out how to do that electronically on the internet for convenience. Last semester it was primarily used by twelve people and they used it repeatedly. Lashaway commented that in the breastfeeding policy the supervisor is responsible for identifying a suitable space for use. The supervisor is required to meet this need when requested. He believes it is appropriate for a university this size to have more options. Drummond commented that the Patient Protection and Affordable Care Act requires that there is a private space. Lashaway would like to avoid missing an opportunity to have a room in Leon Johnson and would still like to work on another location in the long term. UFPB came to the consensus to pursue Leon Johnson and look at more rooms. Butler moved to approve the recommendation to modify the room in Leon Johnson to be a lactation room and report back to Space Management Committee. Thull seconded the Motion. Fastnow made a friendly amendment to explore other options. The Motion was approved unanimously.

This meeting was adjourned at 4:55 p.m.

VCD:lk

PC:

President Cruzado Jayson O'Neill, President's Office Maggie Hammett, President's Office Allen Yarnell, President's Office Lisa Duffey, Provost Office Diane Heck, Provost Office Victoria Drummond, Facilities PDC ASMSU President Heidi Gagnon, VP Admin & Finance Jennifer Joyce, VP Student Success Linda LaCrone, VP Research Office Bonnie Ashley, Registrar Robert Putzke, MSU Police Becky McMillan, Auxiliaries Services Julie Kipfer, Communications Jody Barney, College of Agriculture Susan Fraser, College of Agriculture Robin Happel, College of Agriculture JoDee Palin, College of Arts & Arch



REVIEWED BY: REV. DESCRIPTION DATE

LOG13-05-03

SHEET TITLE RESTROOM LOCATIONS

SHEET

DATE 06-18-13