ABBREVIATIONS

A.C.S.	-	ACCESS CONTROL SYSTEM
A.F.F.	-	ABOVE FINISHED FLOOR
AHJ	-	AUTHORITY HAVING JURISDICTION
A/V	-	AUDIO / VISUAL
BAS	-	BUILDING AUTOMATION SYSTEM
B.C.	-	BELOW CEILING
C	-	CONDUIT
CAM	-	CAMERA
CB	-	CIRCUIT BREAKER
DN	-	DOWN
DWG	-	DRAWING
EAB	-	EAST ACADEMIC BUILDING
EF	-	ENTRANCE FACILITY
ELEC	-	ELECTRIC OR ELECTRICAL
EMT	-	ELECTRICAL METALLIC TUBING
ER	-	EXISTING RELOCATED
ETR	-	EXISTING TO REMAIN
FA	-	FIRE ALARM
FO	-	FIBER OPTIC
FS	-	FUSIBLE SWITCH
G.C.	-	GENERAL CONTRACTOR
GF	-	GROUND FAULT
GFCI	-	GROUND FAULT CIRCUIT INTERRUPTER
GND	-	GROUND
HH	-	HANDHOLE
IDF	-	INTERMEDIATE DISTRIBUTION FRAME
IMC	-	INTERMEDIATE METAL CONDUIT
IP	-	INTERNET PROTOCOL
IPS	-	IMAGES PER SECOND
I/O	-	INPUT/OUTPUT
IS	-	INFORMATION SYSTEMS
LAN	-	LOCAL AREA NETWORK
LCD	-	LIQUID CRYSTAL DISPLAY
LED	-	LIGHT EMITTING DIODE
MATV	-	MASTER ANTENNA TELEVISION
MC	-	METAL CLAD
MCC	-	MOTOR CONTROL CENTER
MCP	-	MOTOR CONTROL PANEL
MDF	-	MAIN DISTRIBUTION FRAME
MH	-	MANHOLE
MMFO	-	MULTIMODE FIBER OPTIC
MTR	-	MAIN TELECOM ROOM
MT	-	EMPTY CONDUIT
NIC	-	NOT IN CONTRACT
OSP	-	OUTSIDE PLANT
OFVI	-	OWNER FURNISHED VENDOR INSTALLED
PA	-	PUBLIC ADDRESS
POE	-	POWER OVER ETHERNET
PP	-	PATCH PANEL
PR.	-	PAIR
PDS	-	PREMISE DISTRIBUTION SYSTEM
PVC	-	POLYVINYL CHLORIDE CONDUIT
R	-	RECESSED
RMU	-	RACK MOUNTING UNIT
SHLD	-	SHIELDED (AS IN CABLE)
SMFO	-	SINGLEMODE FIBER OPTIC
STR	-	STRAND
T	-	TELEPHONE
TTB	-	TELEPHONE TERMINAL BOARD
TVSS	-	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP.	-	TYPICAL
U.G.	-	UNDERGROUND
UNG	-	UNGROUNDED
UPS	-	UNINTERRUPTIBLE POWER SUPPLY
UTP	-	UNSHIELDED TWISTED PAIR
U.O.N.	-	UNLESS OTHERWISE NOTED
VOIP	-	VOICE OVER INTERNET PROTOCOL
VSS	-	VIDEO SURVEILLANCE SYSTEM
VT	-	VOLTAGE TRANSFORMER
WT	-	WATERTIGHT
XP	-	EXPLOSION PROOF
WAP	-	WIRELESS ACCESS POINT
WP	-	WEATHER-PROOF

WIRING PLANS

CONDUIT RUN CONCEALED IN CEILING OR WALL CONSTRUCTION

CONDUIT RUN IN FLOOR CONSTRUCTION OR UNDERGROUND

CONDUIT RUN EXPOSED

CONDUIT TURNING UP

CONDUIT TURNING DOWN

CONDUIT STUB

BOBT: X'-X" — BASKET TRAY

BOBT: X'-X" = BOTTOM OF BASKET TRAY ELEVATION ABOVE FINISH FLOOR

JUNCTION AND PULL BOXES

J — JUNCTION BOX

J AV — WALL MOUNTED AUDIO VISUAL RACK BOX. PROVIDE A 4-11/16" X 2-1/8" DEEP BOX WITH A 2 GANG RING (VERTICAL) AND 1" CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE, UNLESS OTHERWISE NOTED ON PLANS.

J AV2 — WALL MOUNTED AUDIO VISUAL BACK BOX. PROVIDE A HUBBELL 3-GANG LARGE CAPACITY BOX (#HBL263) WITH A 3-GANG RING AND (2) 1 1/2" CONDUITS STUBBED INTO ACCESSIBLE CEILING SPACE, UNLESS OTHERWISE NOTED ON THE PLANS.

J IP — WALL MOUNTED iPAD DOCK BOX. PROVIDE A 4-11/16" SQUARE X 2-1/8" DEEP BOX WITH A 2-GANG RING (VERTICAL) AND 1" CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE.

J M — WALL MOUNTED MONITOR BOX. PROVIDE A 4-11/16" SQUARE X 2-1/8" DEEP BOX WITH A SINGLE RING (VERTICAL) AND 1" CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE, UNLESS OTHERWISE NOTED ON PLANS.

J TS — WALL MOUNTED MONITOR BOX. PROVIDE A 4-11/16" SQUARE X 2-1/8" DEEP BOX WITH A SINGLE RING (VERTICAL) AND 1" CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE, UNLESS OTHERWISE NOTED ON PLANS.

P — PULL BOX

J P — WALL MOUNTED PROJECTOR BOX. PROVIDE A 4-11/16" SQUARE X 2-1/8" DEEP BOX WITH A SINGLE RING (VERTICAL) AND 1" CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE, UNLESS OTHERWISE NOTED ON PLANS. COORDINATE HEIGHT AND LOCATION WITH PROJECTOR INSTALLER

ACCESS CONTROL SYSTEM

CR — MAGNETIC STRIPE TYPE CARD READER. MOUNT AT 48" A.F.F.

CR M — MAGNETIC STRIPE TYPE CARD READER. MULLION MOUNT AT 48" A.F.F.

ACP — ACCESS CONTROL PANEL

DIB — DOOR INTERFACE BOX

DC — DOOR CONTACT SWITCH

PS — POWER SUPPLY

ES — ELECTRIC STRIKE

EP — ELECTRIFIED PANIC BAR

TELECOM GROUNDING

TMGB — TELECOM MAIN GROUND BUS BAR

TGB — TELECOM GROUND BUS BAR

DRAWING REFERENCES

DETAIL NUMBER
PLAN DETAIL REFERENCE TITLE
DRAWING NUMBER

KEYED NOTE DESIGNATION

SECTION NUMBER
SECTION REFERENCE TITLE
DRAWING NUMBER

SECURED DOOR DETAIL REFERENCE
X - DOOR DETAIL
Y - DOOR DETAIL SHEET NUMBER
Z - DOOR NUMBER

SECURITY CAMERAS

SECURITY CAMERA DETAIL REFERENCE

A- RECESSED, ACCESSIBLE CEILING
B- RECESSED, INACCESSIBLE CEILING
C- OUTDOOR, WALL MOUNTED SEE DETAIL ON SHEET T0802

CAM 1-1 — FIXED CAMERA
CAM 1-1 = CAMERA TAG

CAM 1-1 — PAN-TILT-ZOOM CAMERA
CAM 1-1 = CAMERA TAG

AUDIO/VISUAL CAMERAS

FIXED CAMERA

PAN-TILT-ZOOM CAMERA

TELECOMMUNICATIONS SYSTEM

— WALL MOUNTED COMMUNICATIONS OUTLET - MOUNT 18" A.F.F. PROVIDE 4 11/16" SQUARE X 3" DEEP BOX WITH 1 GANG RING (VERTICAL) AND 1" CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE, UNLESS NOTED OTHERWISE ON PLANS. PROVIDE INDICATED QUANTITY OF CATEGORY 6A CABLES TO DATA ROOM IDENTIFIED ON PLANS.

— CEILING MOUNTED COMMUNICATIONS OUTLET. FLUSH MOUNT FACING DOWN, UNLESS NOTED OTHERWISE ON PLANS. PROVIDE 4 11/16" SQUARE X 3" DEEP BOX WITH 1 GANG RING AND 1" CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE, UNLESS NOTED OTHERWISE ON PLANS. PROVIDE INDICATED QUANTITY OF CATEGORY 6A CABLES TO DATA ROOM IDENTIFIED ON PLANS.

— FLOOR MOUNTED COMMUNICATIONS OUTLET. PROVIDE INDICATED QUANTITY OF CATEGORY 6A CABLES TO DATA ROOM IDENTIFIED ON PLANS. PROVIDE DATA OUTLET FACEPLATES THAT ARE COMPATIBLE WITH THE SPECIFIED FLOOR BOXES OR POKE THROUGH FITTINGS.

TELECOMMUNICATIONS OUTLET IDENTIFIERS

- CABLE QUANTITY (NO NUMBER DENOTES QUANTITY OF 1)
C - MOUNT BOTTOM OF OUTLET BOX 1" ABOVE HIGHEST ELEMENT OF COUNTER (IE: BACKSPLASH, OR COUNTERTOP IF NO BACKSPLASH)
W - WALL MOUNT AT 48" A.F.F.
F - MOUNT IN BASE OF SYSTEMS FURNITURE PANEL
KP - KEYPAD DOOR LOCK
SIGN - DYNAMIC SIGN
FO - FIBER OPTIC CABLE (REFER TO PLANS FOR CABLE TYPE)
PA - VOICE OVER INTERNET PROTOCOL SPEAKER
WAP - WIRELESS ACCESS POINT CONNECTION. PROVIDE 2-PORT OUTLET ABOVE ACCESSIBLE CEILING. PROVIDE (2) CAT6A CABLES TO DATA ROOM IDENTIFIED ON PLANS.
AV - AUDIO/VISUAL CAMERA CONNECTION. PROVIDE 1-PORT OUTLET ON CEILING. PROVIDE (1) CAT6A CABLE TO DATA ROOM IDENTIFIED ON PLANS.

TV — TV OUTLET - CEILING MOUNT COMBINATION F-TYPE MODULE AND DUPLEXRECEPTACLE OUTLET UNDER A COMMON COVERPLATE.

QW-# — PROVIDE ONE (1)RG-6/U COAXIAL TO LOCATION IDENTIFIED ON DRAWINGS.

PUBLIC ADDRESS SYSTEM

S — PUBLIC ADDRESS SYSTEM SPEAKER

V — FLUSH VOLUME CONTROL - 48" A.F.F.

INTERCOM SYSTEM

IC BL — WALL MOUNT EMERGENCY INTERCOM STATION WITH BLUE LIGHT /STROBE

GENERAL NOTES

1. THE DRAWINGS HAVE BEEN PREPARED UTILIZING EXISTING DRAWINGS AND BUILDING OBSERVATIONS AND MAY NOT SHOW ALL CONDITIONS. CONTRACTOR SHALL VISIT THE BUILDING AND SITE PRIOR TO BID SUBMISSION AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS. CONTRACTOR WILL NOT BE ALLOWED ADDITIONAL FUNDS OR TIME DUE TO THE CONTRACTOR'S FAILURE TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS.
2. ACCEPTANCE OF CONTRACT MEANS INSTALLER ACCEPTS EXISTING CONDITIONS.
3. COORDINATE INSTALLATION WITH EXISTING CONDITIONS. FIELD VERIFY EXISTING CONDITIONS.
4. ALL PENETRATIONS THROUGH CONCRETE OR MASONRY WALLS AND FLOOR SLABS SHALL BE CORE DRILLED. AFTER CONDUITS HAVE BEEN INSTALLED, SEAL WALL AROUND CONDUIT TO MAINTAIN FIRE RATING OF FLOOR OR WALL USING UL LISTED METHODS AND MATERIALS. EXTERIOR WALLS SHALL BE SEALED WATERTIGHT.
5. PROVIDE ELECTRICAL METALLIC TUBING (EMT) SLEEVES WITH INSULATED BUSHINGS ON EACH END FOR ALL CABLES PASSING THROUGH WALLS AND FLOORS. ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE FIRESTOPPED. SEAL AROUND OUTSIDE OF CONDUITS AND SEAL INSIDE OF CONDUIT SLEEVES. REFER TO PLANS FOR ADDITIONAL FIRESTOPPING DEVICES AND REQUIREMENT, AND SPECIFICATION SECTION 078413.
6. CABLING TO BE LOCATED INSIDE BUILDINGS SHALL BE CONCEALED AND SHALL BE INSTALLED AS FOLLOWS: CABLES CONCEALED INSIDE HOLLOW WALL CONSTRUCTION SHALL BE INSTALLED IN CONDUITS STUBBED INTO ACCESSIBLE CEILING CAVITIES. CABLES INSTALLED IN ACCESSIBLE CEILING CAVITIES SHALL BE SUPPORTED WITH CATEGORY 6 RATED "J" HOOK SUPPORTS LOCATED AT A MAXIMUM OF 4'-0" ON CENTER. CABLES LOCATED IN ROOMS WITH AN EXPOSED CEILING STRUCTURE SHALL BE INSTALLED IN CONDUIT. CABLES INSTALLED ABOVE DRYWALL CEILINGS SHALL BE INSTALLED IN CONDUIT. ROUTE CONDUIT AND CABLES TO SUIT FIELD CONDITIONS. PROVIDE INSULATED BUSHING ON CONDUITS STUBBED INTO CEILING CAVITY.
7. CONTRACTOR SHALL COORDINATE ALL CONDUIT AND CABLE ROUTING WITH EXISTING CONDITIONS PRIOR TO INSTALLATION.
8. CONTRACTOR SHALL TERMINATE AND TEST ALL TELECOMMUNICATIONS SYSTEM CABLES, INCLUDING FIBER OPTIC CABLES. PER THE LATEST VERSION OF THE TIA/EIA-568 STANDARD. PROVIDE TEST RESULTS TO ENGINEER FOR FINAL ACCEPTANCE. CABLES NOTED AS SPARE OR FUTURE SHALL BE TERMINATED, TESTED, LABELED AND LEFT PROTECTED FOR FUTURE USE. SEE SPECIFICATION FOR ADDITIONAL INFORMATION.
9. CATEGORY 6A CABLE TOTAL CABLE LENGTH SHALL NOT EXCEED 90 METERS (290 FEET) PER EIA/TIA STANDARDS. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY LOCATION THAT EXCEEDS THIS LENGTH PRIOR TO THE INSTALLATION OF CONDUIT OR CABLE. INSTALLATION OF CONDUIT OR CABLE THAT EXCEEDS 90 METERS SHALL BE REMOVED AND REPLACED WITH FIBER OPTIC CABLE OR RE-ROUTED TO A DISTANCE LESS THAN 90 METERS (290 FEET) BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
10. CONTRACTOR SHALL LABEL ALL CABLES AND CONNECTORS (OUTLETS, PATCH PANELS AND PUNCHDOWNS) PER SPECIFICATIONS AND OWNER STANDARDS. ALL CABLES SHALL BE LABELED WITH A PRE-PRINTED STICK-ON SELF-ADHERING LABELING SYSTEM. LABEL MUST BE APPLIED TO BOTH ENDS OF THE CABLE AND SHALL BE VISIBLE AFTER FINAL INSTALLATION. ALL LABELING SHALL ADHERE TO OWNER'S LABELING STANDARDS.
11. CONDUIT AND BOX LABELS SHALL BE HEAVY-DUTY PRE-PRINTED LABELS SUITABLE FOR THE ENVIRONMENT THE LABEL WILL RESIDE WITHIN. HAND-WRITTEN LABELS WILL NOT BE ALLOWED.
12. CONTRACTOR SHALL INSTALL AND MOUNT ALL EQUIPMENT CABINETS PER MANUFACTURERS REQUIREMENTS.
13. ALL EXPOSED CONDUIT, BOXES, SUPPORTING HARDWARE, ETC. LOCATED IN FINISHED AREAS WITH AN EXPOSED CEILING STRUCTURE SHALL BE PAINTED TO MATCH CEILING STRUCTURE. COORDINATE WITH ARCHITECT.
14. PROVIDE WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, AND WORK SHOWN ON DRAWINGS BUT NOT SPECIFIED, AS THOUGH EXPRESSLY REQUIRED BY BOTH.
15. DO NOT ROUTE CONDUITS CONCEALED IN ABOVE GRADE CONCRETE SLABS. CONDUITS SHALL BE ROUTED EXPOSED TO UNDERSIDE OF THE SLAB AND STUBBED UP THROUGH THE SLAB TO THE EQUIPMENT BEING SERVED.
16. CONTRACTOR SHALL REFER TO "ARCHITECTURAL REFLECTED CEILING PLANS" FOR PLACEMENT OF ALL CEILING MOUNTED EQUIPMENT. COORDINATE INSTALLATION WITH THE WORK OF OTHER TRADES THAT AFFECT THE PLACEMENT OF CEILING MOUNTED EQUIPMENT.
17. CONTRACTOR SHALL PROVIDE PULL STRINGS IN ALL EMPTY OR SPARE CONDUITS.
18. CABLING INSTALLED IN MECHANICAL AND ELECTRICAL ROOMS, ELEVATOR ROOMS AND VAULTS SHE BE INSTALLED IN CONDUIT FOR THE ENTIRE RUN INSIDE THE ROOM.
19. A/V SYSTEM, INFRASTRUCTURE CABLING, AND BOXES ARE SHOWN ON THE DRAWINGS. CONTRACTOR SHALL COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ROUGH-IN WITH THE AV EQUIPMENT INSTALLER PRIOR TO INSTALLATION.
20. FLOOR BOXES ARE SPECIFIED ON THE ELECTRICAL DRAWINGS UNLESS OTHERWISE NOTED.
21. THE ELECTRICAL DRAWING SPECIFY 2 CHANNEL (POWER AND COMMUNICATIONS) SURFACE RACEWAY IN SEVERAL LOCATIONS. PROVIDE A 1" CONDUIT FROM THE COMMUNICATIONS CHANNEL STUBBED INTO ACCESSIBLE CEILING SPACE IN ALL RACEWAY LOCATIONS.
22. WIRELESS ACCESS POINTS SHALL BE FURNISHED BY OWNER, INSTALLED BY CONTRACTOR.
23. PUBLIC ADDRESS SPEAKERS SHALL BE FURNISHED BY OWNER, INSTALLED BY CONTRACTOR.

1

Webster UNIVERSITY

Webster University
Interdisciplinary Science Building

CANNONDESIGN

1100 Clark Avenue
St. Louis, Missouri 63102
T: 314.241.6250
F: 314.241.2570

William Tao & Associates, Inc
MEP/FP Engineer
7955 Manchester Road, Suite 125
St. Louis, MO 63143
314-884-7600

David Mason & Associates, Inc
Structural & Civil Engineer
800 South Vandeventer Avenue
St. Louis, MO 63110
314.534.1053

Faith Group
Technology
3101 S. Hanley Rd, Suite 100
St. Louis, MO 63143
314.991.2228

Kuhlmann Leavitt, Inc.
Environmental Graphics & Signage
7400 Pershing Ave
St. Louis, MO 63130
314.725.6616

KWA Architects
Architecture
9721 Lizinger Road
St. Louis, MO 63124
314.962.2560

Spellman Brady & Company
Interior Designer
8251 Maryland Avenue, Suite 300
St. Louis, MO 63105
314.862.0070

SWT Design
Landscape Architect
7722 Big Bend Blvd
St. Louis, MO 63119
314.644.5700

Webb Engineering Services, Inc.
Plumbing & Fire Protection
1400 S. 3rd Street, Suite 201
St. Louis, MO 63104
314.588.0600

CONFORMED SET **01 JUL 2016**

No.	Description	Date
1	ADDENDUM 2-2	19 APR 2016
-	ISSUED FOR CONSTRUCTION (BP2)	01 MAR 2016

Drawing Title:

SYMBOLS AND ABBREVIATIONS

Project No.: 04561.01 Checked by:

T0001