ABBREVIATIONS

FC	ABOVE FINISHED COUNTER TOP
FF	ABOVE FINISHED FLOOR
FG	ABOVE FINISH GRADE
P	ACCESS POINT
RCH	ARCHITECTURAL
WG	AMERICAN WIRE GAUGE
V	AUDIO VISUAL
В	BACK BONE
AT FOI FCI L KT LG T U	CONDUIT CATEGORY CONTRACTOR FURNISHED OWNER INSTALLED CONTRACTOR FURNISHED CONTRACTOR INSTALLED CENTERLINE CIRCUIT CEILING CABLE TRAY COPPER
	DATA
E) C G LEC LEV MT V	EXISTING TO REMAIN EMPTY CONDUIT ENTRANCE FACILITY EQUIPMENT GROUND ELECTRICAL ELEVATOR ELECTRICAL METALLIC TUBING ELECTRIC VEHICLE
A	FIRE ALARM
AAP	FIRE ALARM ANNUNCIATOR PANEL
ACP	FIRE ALARM CONTROL PANEL
ATC	FIRE ALARM TERMINAL CABINET
ARA	FIRE ALARM REMOTE ANNUNCIATOR
B	FLOOR BOX
CIP	FIRE ALARM CONTROL AND INDICATING PANEL
O	FIBER OPTIC
OC	FACE OF COLUMN
FCI	GROUND FAULT CIRCUIT INTERRUPTING
, GND	GROUND
т	HEIGHT
	INFORMATION TECHNOLOGY
)F	INTERMEDIATE DISTRIBUTION FACILITY
J-BOX	JUNCTION BOX
DF	MAIN DISTRIBUTION FRAME
ECH	MECHANICAL
FG	MANUFACTURER
M	MULTI-MODE
POE	MAIN POINT OF ENTRANCE
TG	MOUNTING
EC	NATIONAL ELECTRICAL CODE
EMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
TS	NOT TO SCALE
FCI	OWNER FURNISHED CONTRACTOR INSTALLED
FOI	OWNER FURNISHED OWNER INSTALLED
SP	OUTSIDE PLANT
B	PULL BOX
, PH	PHASE
NL	PANEL
P	PATCH PANEL
R	PAIR
RT	PORT
VC	POLYVINYL CHLORIDE CONDUIT
WR	POWER
IO	ROUGH IN ONLY
LV	SLEEVE
M	SINGLE MODE
MC	RIGID METAL CONDUIT
MH	SPECIAL MOUNTING HEIGHT
PEC	SPECIFICATION
YS	SYSTEM
EL	TELEPHONE
ELE	TELECOMMUNICATIONS
GB	TELECOMMUNICATIONS GROUNDING BUS BAR
MGB	TELECOMMUNICATIONS MAIN GROUNDING BUS BAR
P	TAMPER PROOF
R	TELECOMMUNICATIONS ROOM
YP	TYPICAL

TYP	TYPICAL
TV	TELEVISION

VOICE VOLUME CONTROL

VC

UON

UPB

WP

UNLESS OTHERWISE NOTED UNDERGROUND PULL BOX

W WALL WAP WIRELESS ACCESS POINT

WEATHERPROOF

TECHNOLOGY SYMBOL SCHEDULE

SYMBOLS	INTERCOM, PAGING SYMBOLS	BACK BOX	MTG. HT. TO C/L	POWER	
HPAS	WALL MOUNTED PAGING SPEAKER	PER MFG. SPEC.	SEE PLANS	N/A	
PAS	CEILING MOUNTED PAGING SPEAKER	PER MFG. SPEC.	CEILING	N/A	
ЦФ	DIGITAL CLOCK/SPEAKER COMBINATION DEVICE: (1) CATEGORY 6 CABLE.	PER MFG. SPEC.	SEE PLANS	N/A	
V	VOLUME CONTROL	PER MFG. SPEC.	45" AFF	N/A	
INT ()	INTERCOM STATION, (D)=DOOR STATION (M)=MASTER STATION (S)=SUBMASTER STATION	PER MFG. SPEC.	PER VENDOR DETAIL	N/A	
PROVIDE 3/4" CONDUIT STUB-UP WITH BUSHING 6" ABOVE ACCESSIBLE CEILING UON					

SYMBOLS	SECURITY SYMBOLS	BACK BOX	MTG. HT. TO C/L	POWER
MD	WALL MOUNTED MOTION DETECTOR	PER MFG. SPEC.	SEE PLANS	N/A
MD	CEILING MOUNTED MOTION DETECTOR	PER MFG. SPEC.	SEE PLANS	N/A
K	KEYPAD	PER MFG. SPEC.	45" AFF	N/A
CR	FUTURE ACCESS CONTROL DOOR SET. INSTALL CONDUIT FOR CARD READER, DOOR STRIKE AND DOOR CONTACT TO ACCESSIBLE CEILING OR TO JUNCTION BOX (IN ROOMS WITH NO ACCESSIBLE CEILING).	PER MFG. SPEC.	PER VENDOR DETAIL	N/A
CRL	CARD READER LOCK	PER MFG. SPEC.	PER VENDOR DETAIL	N/A
EH	EMERGENCY HELP PUSHBUTTON	PER MFG. SPEC.	45" AFF	N/A
EA	EMERGENCY HELP BUTTON ANNUNCIATOR	PER MFG. SPEC.	66" AFF	N/A
DP	DOORBELL PUSHBUTTON	PER MFG. SPEC.	45" AFF	N/A
PB	PANIC BUTTON	PER MFG. SPEC.	SEE PLANS	N/A
DS	DOOR POSITION SWITCH	PER MFG. SPEC.	PER VENDOR DETAIL	N/A
СК	CARD READER WITH KEYPAD	PER MFG. SPEC.	PER VENDOR DETAIL	N/A
IR	INTERCONNECTION TO MOTION DETECTOR	PER MFG. SPEC.	PER VENDOR DETAIL	N/A
ССТУ	CEILING MOUNTED CCTV CAMERA	PER MFG. SPEC.	CEILING	PER MFG. SPEC.
<u>⊂ст</u> √⊲ ()	CEILING MOUNTED CCTV CAMERA. (PTZ=PAN/TILT/ZOOM, VP=VANDALPROOF, WP=WEATHERPROOF HOUSING, D=DOME, PO=PATIENT OBSERVATION)	PER MFG. SPEC.	CEILING	PER MFG. SPEC.
€CCTV	WALL MOUNTED CCTV CAMERA FOR SECURITY	PER MFG. SPEC.	SEE PLANS	PER MFG. SPEC.
• <u>cctv</u> ⊲ ()	WALL MOUNTED CCTV CAMERA FOR SECURITY: (PTZ=PAN/TILT/ZOOM, VP=VANDALPROOF, WP=WEATHERPROOF HOUSING, D=DOME, PO=PATIENT OBSERVATION)	PER MFG. SPEC.	SEE PLANS	PER MFG. SPEC.
PROVIDE :	3/4" CONDUIT STUB-UP WITH BUSHING 6" ABOVE ACCESS	SIBLE CEIL	ING UON	

S	YMBOLS	CLOCK SYMBOLS	BACK BOX	MTG. HT. TO C/L	POWER
	Ф	DIGITAL IP CLOCK: (1) CATEGORY 6 CABLE.	PER MFG. SPEC.	SEE PLANS	N/A
	Ю _(A)	STANDARD ANALOG CLOCK	PER MFG. SPEC.	SEE PLANS	N/A

SYMBOLS	PATHWAY SYMBOLS	NOTES
	TECHNOLOGY CABLE TRAY	
	TECHNOLOGY SLEEVE	

REFERENCE	TECHNOLOGY SYSTEMS BACKBOX LEGEND
А	RACO #695 OR EQUAL: 1-GANG BACKBOX,3-3/4" HIGH, 1-31/32" WIDE & 3-1/2" DEEP.
В	RACO #696 OR EQUAL: 2-GANG BACKBOX, 3-3/4" HIGH, 3-3/8" WIDE & 3-1/2" DEEP.
С	RACO #697 OR EQUAL: 3-GANG BACKBOX, 3-3/4" HIGH, 5-19/32" WIDE & 3-1/2" DEEP.
D	RACO #698 OR EQUAL: 4-GANG BACKBOX, 3-3/4" HIGH, 7-13/32" WIDE & 3-1/2" DEEP.
E	RACO #699 OR EQUAL: 5-GANG BACKBOX, 3-3/4" HIGH, 9-7/32" WIDE & 3-1/2" DEEP.
F	STEEL CITY #72171 OR EQUAL: 4-11/16" HIGH, 4-11/16" WIDE & 2-1/8" DEEP. BACKBOX WITH STEEL CITY #72-C-14 SINGLE DEVICE COVER.
G	RANDAL #TB-55057: 5 IN. SQUARE X 2.875 IN. DEEP METAL TELECOM BRACKET BOX RANDAL #D-51G034 3/4" SINGLE GANG EXTENSION RING
Н	RACO #952 OR EQUAL: 3-GANG BOX, 1-5/8" DEEP WITH RACO #822 OR EQUAL 3/4" DEEP 3-GANG DEVICE COVER.
I	RACO #265 OR EQUAL: 4-11/16" SQUARE BOX, 1-1/2" DEEP WITH RACO #840 OR EQUAL 3/4" DEEP TWO DEVICE COVER.
J	SPIDER BOX AFB-501-8 GANG FLOOR BOX. PROVIDE (2) 1-1/2" CONDUITS FOR LOW VOLTAGE SYSTEMS CABLING.

			MTG. HT.	
MBOLS	VOICE AND DATA SYMBOLS	BACK BOX	TO C/L	POWER
	UNIVERSAL CABLING OUTLET. STANDARD CONFIGURATION IS (3) CATEGORY 6 CABLES. NO DISTINCTION BETWEEN VOICE AND DATA.	G	18" AFF	N/A
(#)	UNIVERSAL CABLING OUTLET. (#) = NUMBER OF CATEGORY 6 CABLES, OTHER THAN STANDARD CONFIGURATION.	G	18" AFF	N/A
	UNIVERSAL CABLING OUTLET ABOVE COUNTER. STANDARD CONFIGURATION IS (3) CATEGORY 6 CABLES.	G	6" AFC	N/A
- (#)	UNIVERSAL CABLING OUTLET ABOVE COUNTER. (#) = NUMBER OF CATEGORY 6 CABLES, OTHER THAN STANDARD CONFIGURATION.	G	6" AFC	N/A
	UNIVERSAL CABLING FLOOR OUTLET. STANDARD CONFIGURATION IS (3) CATEGORY 6 CABLES.	PER MFG. SPEC.	FLOOR	N/A
(#)	UNIVERSAL CABLING FLOOR OUTLET. (#) = NUMBER OF CATEGORY 6 CABLES, OTHER THAN STANDARD CONFIGURATION.	PER MFG. SPEC.	FLOOR	N/A
	UNIVERSAL CABLING CEILING OUTLET. STANDARD CONFIGURATION IS (2) CATEGORY 6 CABLES.	PER MFG. SPEC.	CEILING	N/A
(#)	UNIVERSAL CABLING CEILING OUTLET. (#) = NUMBER OF CATEGORY 6 CABLES, OTHER THAN STANDARD CONFIGURATION.	PER MFG. SPEC.	CEILING	N/A
–	CEILING MOUNTED WIRELESS ACCESS POINT. (2) CATEGORY 6A CABLES IN SURFACE MOUNT HOUSING.	N/A	CEILING	N/A
WAP + V	WALL MOUNTED WIRELESS ACCESS POINT. (2) CATEGORY 6A CABLES IN SURFACE MOUNT HOUSING	PER MFG. SPEC.	SEE PLANS	N/A
\triangleleft	VOICE OUTLET. (1) CATEGORY 6 CABLE.	G	18" AFF	N/A
K∣W	WALL TELEPHONE OUTLET. (1) CATEGORY 6 CABLE.	G	48" AFF	N/A
ATM	DEDICATED ATM MODEM OUTLET. (1) CATEGORY 6 CABLE.	G	18" AFF	N/A
	VOICE/DATA OUTLET. STANDARD CONFIGURATION IS (2) CATEGORY 6 CABLES. (1) CABLE FOR DATA / (1) CABLE FOR VOICE.	G	18" AFF	N/A

YMBOLS	AUDIOVISUAL SYMBOLS	BACK BOX	MTG. HT. TO C/L	POWER
AVC	AV CONTROLS PLATE PER SPECIFICATIONS. (1) CATEGORY 6 CABLE.	G	48" AFF	N/A
AV1	AV INPUT PLATE PER SPECIFICATIONS. (1) VGA; (1) AUDIO; (1) HDMI; (1) USB;	G	18" AFF	N/A
AV2	AV WALL VAULT LOCATION. (1) CATEGORY 6 CABLE.	G	SEE PLANS	N/A
AV2	AV CEILING VAULT AND FUTURE PROJECTOR LOCATION. (1) CATEGORY 6 CABLE.	G	CEILING	N/A
TV1	WALL-MOUNTED TV (COORDINATE MODEL # WITH DISTRICT REPRESENTATIVE) (2) CATEGORY 6 CABLES.	G	SEE PLANS	N/A
OHP	OVERHEAD PROJECTOR WITH BRACKET	PER MFG. SPEC.	SEE PLANS	N/A
STP 4	SHORT THROW PROJECTOR	PER MFG. SPEC.	SEE PLANS	N/A
S	CEILING MOUNTED AUDIOVISUAL SYSTEM SPEAKER CABLING PER SPECIFICATIONS	PER MFG. SPEC.	CEILING	N/A
\bigcirc	CEILING MOUNTED MICROPHONE	PER MFG. SPEC.	CEILING	N/A
ŀS	WALL MOUNTED AUDIOVISUAL SYSTEM SPEAKER	PER MFG. SPEC.	PER VENDOR DETAIL	N/A
М	DESKTOP MICROPHONE	PER MFG. SPEC.	TABLE	N/A

PROVIDE 1-1/4" CONDUIT STUB-UP WITH BUSHING 6" ABOVE ACCESSIBLE CEILING UON

TECHNOLOGY GENERAL NOTES

- 1. ALL SYMBOLS ARE NOT NECESSARILY SHOWN ON DRAWINGS. COMMUNICATION AND ELECTRICAL CONTRACTORS TO CONFORM TO STATE AND LOCAL CODES FOR THE ROUGH-IN AND INSTALLATION OF COMMUNICATION SYSTEMS. THIS INCLUDES, BUT NOT LIMITED TO, MEETING CODES CONCERNING CONDUIT, CABLE (PLENUM OR NON-PLENUM), CABLE INSTALLATION, DEVICE LOCATIONS, WALL PENETRATIONS, AND FIREPROOFING SLEEVES AND CONDUITS.
- ELECTRICAL CONTRACTOR TO CONFIRM ALL ROUGH-IN, AND EQUIPMENT LOCATION REQUIREMENTS WITH THE COMMUNICATION CONTRACTOR.
- GENERAL CONTRACTOR TO COORDINATE STRUCTURAL MOUNTING REQUIREMENTS WITH COMMUNICATION CONTRACTOR. THIS INCLUDES, BUT IS NOT LIMITED TO, CEILING, WALL, AND FLOOR MOUNTED EQUIPMENT.
- GENERAL CONTRACTOR TO COORDINATE INSTALLATION SCHEDULE WITH COMMUNICATION CONTRACTOR.
- COMMUNICATION CONTRACTOR TO RECEIVE AND STORE ALL QUIPMENT AND MATERIALS AND DELIVER THEM TO THE CONSTRUCTION SITE ON A JUST-IN-TIME BASIS. PROVIDE STORAGE FOR COMMUNICATIONS EQUIPMENT THAT NEEDS TO REMAIN ON-SITE.
- 7. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL GROUNDING AND BONDING SYSTEM IN COMMUNICATION EQUIPMENT ROOMS AND IT EQUIPMENT SERVER ROOMS. USE A MINIMUM #6 AWG STRANDED COPPER BONDING CONDUCTOR TO BE INSTALLED AROUND THE PERIMETER OF THESE ROOMS.
- BACKBOX REQUIREMENTS ARE FOR PLANNING PURPOSES ONLY. 8. GENERAL CONTRACTOR TO COORDINATE ACTUAL BACKBOX REQUIREMENTS WITH VENDOR SHOP DRAWINGS. 9. COORDINATE WITH ARCHITECTURAL ELEVATIONS.
- 10. CONDUITS TO, (a) CONTAIN NO CONTINUOUS SECTIONS LONGER THAN 30M (98 FT.), AND, (b) CONTAIN NO MORE THAN (2) 90° BENDS OR (1) REVERSE BEND WITHOUT INSTALLING A PULLBOX. CONDUITS IN PLACE OF
- PULLBOXES ARE UNACCEPTABLE. CONDUITS TO CONTAIN PLASTIC OR NYLON PULL TAPE RATED AT 200 LBS. 11
- WITH A MINIMUM OF 5 FEET OF EXTRA PULL TAPE COILED AT EACH END. CONDUIT BEND RADIUS TO BE (a) A MINIMUM OF 6 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS 2" IN DIAMETER OR LESS, AND, (b) 10 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS MORE THAN 2" IN
- DIAMETER. 13. TERMINATE CONDUITS AND SLEEVES THAT PROTRUDE THROUGH
- STRUCTURAL FLOORS 2"-3" ABOVE FLOOR SURFACE.
- 14. INSTALL BUSHINGS AND BELL ENDS ON CONDUITS, AS REQUIRED . 15. FLEX CONDUIT IS GENERALLY UNACCEPTABLE FOR USE AS
- COMMUNICATIONS CONDUIT EXCEPT AT SEISMIC JOINTS AND AS APPROVED IN WRITING BY ENGINEER.
- SLAB OR IN-SLAB CONDUITS TO BE INSTALLED IN A MANNER THAT PREVENTS WATER INFILTRATION OF CONDUIT. IT IS CONTRACTOR'S RESPONSIBILITY TO ENSURE GROUND WATER, RAIN WATER OR CONSTRUCTION WATER IS PREVENTED FROM ENTERING AND/OR REMOVED FROM THE CONDUITS PRIOR TO PLACEMENT OF COMMUNICATIONS CABLES. SEE SITE UTILITY PLAN NOTES FOR ADDITIONAL UNDERGROUND COMMUNICATIONS CONDUIT SEALING REQUIREMENTS.
- 17. PULLBOXES TO BE SIZED AND INSTALLED PER ANSI/TIA 569C. PULLBOXES FOR UNDER FLOOR CONDUIT RUNS ARE NOT PERMITTED UNLESS OTHERWISE NOTED. PULLBOXES FOR OVERHEAD CONDUIT RUNS TO BE LOCATED ABOVE ACCESSIBLE CEILINGS WITHIN THE ACCESSIBLE CEILING SPACE AND SUPPORTED INDEPENDENTLY FROM STRUCTURE AND CONDUIT SUPPORTS. PULLBOXES FOR ROOF MOUNTED OR EXTERIOR ABOVE GRADE APPLICATIONS TO BE NEMA 3 RATED. PULLBOXES TO BE SIZED ACCORDING TO THE FOLLOWING:

CONDUIT SIZE	WIDTH	LENGTH	DEPTH	WIDTH INCREASE PER ADDITIONAL CONDUIT
1"	4"	16"	3"	2"
2"	8"	36"	4"	5"
3"	12"	48"	5"	6"
4"	15"	60"	8"	8"

FOR OTHER CONDUIT SIZES REFER TO ANSI/TIA 569C (LATEST PUBLISHED EDITION).

- 18. CONDUITS TO EXIT PULLBOX ON THE WALL OPPOSITE THE WALL ENTERED.
- PROVIDE LABELING OF EACH CONDUIT PER GENERAL ELECTRICAL 20.
- SPECIFICATIONS.
- 21. COORDINATE MOUNTING DIMENSIONS FOR ELECTRICAL DEVICES AND SWITCHES WITH ARCHITECTURAL INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
- 22. COORDINATE PENETRATIONS WITH STRUCTURAL PLANS AND DETAILS.

