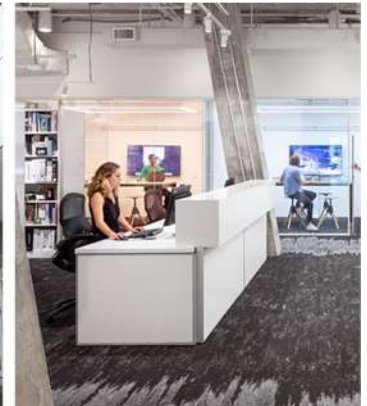
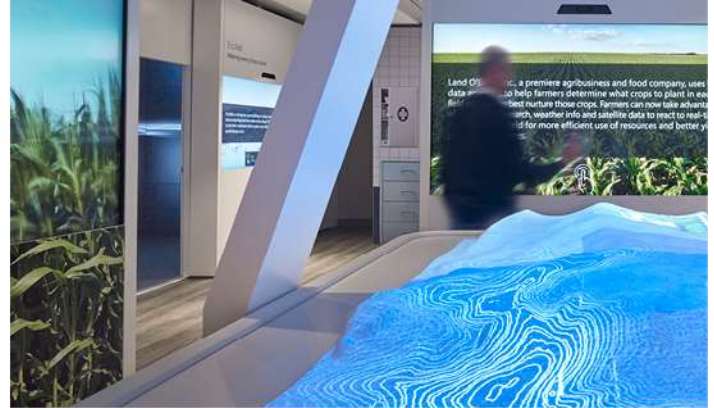


Proposal Prepared For

City of Redmond

City of Redmond - Conference Room Refresh



21312 30th Drive SE
Suite 102
Bothell, WA 98021
(425) 861-5564
Fax: (425) 861-5784
www.avispl.com

Prepared by: ShaRay Gainer
ShaRay.Gainer@avispl.com
Proposal no: 410236-7, CR-003

Investment Summary

Prepared For:	Keith Laycock	Prepared By:	ShaRay Gainer
	City of Redmond	Date Prepared:	08/09/2023
	15670 NE 85th St	Proposal #:	410236-7, CR-003
	PO Box 97010	Valid Until:	09/09/2023
	Redmond, WA 98052-3584		

Total Equipment Cost \$17,582.40

Includes cable, connectors, hardware, switches, relays, terminal blocks, panels, etc., to ensure complete and operational system

Professional Integration Services \$25,350.88

Includes engineering, project management, CAD, on-site installation and wiring, coordination and supervision, testing, checkout, owner training, etc. performed on the Owner's premises. Also includes all fabrication, modification, assembly, rack wiring, programming, warranties, etc., some performed at AVI-SPL

Direct Costs \$0.00

Includes non equipment or labor costs, such as travel expenses, per diem, lift and vehicle rentals

General & Administrative \$688.06

Includes all G & A expenses: vehicle mileage, shipping and insurance, as applicable

Services - Room Support and Maintenance \$2,496.63

Includes post-installation support and maintenance options selected for installed rooms

Subtotal **\$46,117.97**

Tax **\$4,657.91**

Total **\$50,775.88**

*** ANY and all applicable taxes will be included upon invoicing**

Due to global semiconductor ("chip") shortages and supply chain disruptions pricing quoted in this proposal may change. Installation schedules are subject to current (daily) product availability and may be delayed or postponed.

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Terms and Conditions

This Proposal together with AVI-SPL's General Terms and Conditions and the applicable Addendum(a) located here and incorporated herein by this reference (collectively the "Agreement") constitutes the entire agreement between AVI-SPL LLC ("Seller", "AVI-SPL", "we", "us", "our") and the buyer/customer identified in the Proposal ("Buyer", "Customer", "Client", "you", "your") with respect to its subject matter and supersedes all prior and contemporaneous agreements, representations and understandings of the Parties, written or oral. By signing below, issuing a valid purchase order for the Services and/or Products specified herein or receiving the Products and/or Services specified herein, whichever occurs first, Buyer acknowledges it has read and agrees to the terms of this Agreement. This Agreement shall not be binding upon Seller until accepted by Buyer as set forth in this Agreement and the earlier of Seller's confirmation in writing of Buyer's order and Seller's performance under the applicable Proposal. Any terms and conditions contained in Buyer's purchase order or any other Buyer-provided documents related to this transaction shall have no effect and are hereby rejected. Notwithstanding anything herein to the contrary, if a master services agreement signed by both Parties is in effect covering the sale of the Services and/or Products that are the subject of this Proposal, the terms and conditions of said agreement shall prevail to the extent they conflict or are inconsistent with this Agreement.

Billing and Payment Terms

Unless otherwise agreed in writing by Buyer and Seller in the Proposal, the total Proposal price, excluding the price for Stand-alone Services (as defined in this section), shall be billed as follows, subject to continuing credit approval: 50% down payment at time of order, 40% upon delivery at Seller; 10% upon project completion and Buyer sign-off or first beneficial use, whichever occurs first, payable net 30 from Buyer's receipt of invoice. For purposes of this Agreement, "Stand-alone Services" means any Services not attached to an installation project. Billing and payment terms for Stand-alone Services are set forth in the applicable Service Addendum(a). Unless otherwise specified in the Proposal, Products are sold F.O.B. origin-Buyer to pay all shipping charges. If this Proposal covers Products or Services for more than one system, room, suite, or location, for purposes of payment in accordance with payment terms stated on the face hereof each room, suite, or location shall be treated as if the subject of a separate sale and payment made accordingly. Unless otherwise specified in the Proposal, all pricing and amounts are in US Dollars and all billing and payment shall be made in US Dollars.

Link to AVI-SPL Terms and Conditions: <https://avispl.com/terms-of-use/>

Buyer Acceptance

Buyer Legal Entity

Buyer Authorized Signature

Buyer Authorized Signatory Title

Buyer Authorized Signatory Name

Date

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Room Summary - CH127 ALPHA AND BRAVO - COMBINABLE ROM

Equipment List

Mfg	Model	Description	Qty	Unit Price	Extended Price
		<u>EQUIPMENT TO BE RETURNED</u>			
LOGITECH	LOG960001308	WEBCAM, RALLY BAR ALL-IN-ONE VIDEO BAR MEDIUM ROOM(GRAPHITE)	-2	\$2,069.49	(\$4,138.98)
LOGITECH	LOG952000041	MOUNT, MOUNTING BAR FOR TV MOUNT	-2	\$146.98	(\$293.96)
LOGITECH	LOG939001647	RALLY MIC POD HUB	-2	\$205.27	(\$410.54)
LOGITECH	LOG952000047	CABLE, RALLY MIC POD EXTENSION CABLE	-2	\$163.40	(\$326.80)
LOGITECH	LOG989000430	MICROPHONE POD, ADD ON MIC, OMNI DIRECTIONAL	-4	\$287.38	(\$1,149.52)
LOGITECH	LOG952000123	MOUNT, MIC POD PENDANT (Owner Furnished Equipment)	-4	OFE	OFE
SONY PRO B2B	SONFW85BZ40H	LCD, 85" 4K/UHD 620NIT 101LB 600000:1 CONTRAST SMART LED	-1	\$3,647.24	(\$3,647.24)
CHIEF	CHIXTM1U	MOUNT, FUSION MICRO-ADJ TILT WALL MOUNT, EXTRA LARGE	-1	\$232.22	(\$232.22)
CHIEF	CHIFCAXV1U	PULL OUT ACCESSORY, FISOPM. EXTRA LARGE	-1	\$401.11	(\$401.11)
CHIEF	CHIFHB5147	HARDWARE KIT	-1	\$10.46	(\$10.46)
MIDDLE ATLANTIC	MIDPWR8V	POWER STRIP, ESSEX 8-OUTLET 15AMP VERTICAL	-1	\$65.00	(\$65.00)
		<u>CH127 ALPHA AND BRAVO COMBINABLE SYSTEM</u>			
		<u>CONFERENCE ROOM SYSTEM</u>			
SONY PRO B2B	SONVPLFHZ80W	PROJECTOR, WUXGA 6500 LUMEN 28LB LASER WHITE	1	\$5,066.67	\$5,066.67
CHIEF	CHIRPAUW	MOUNT, UNIVERSAL "RPA" SERIES CEILING - WHITE	1	\$128.89	\$128.89
CHIEF	CHICMA110	8" CEILING PLATE - BLACK	1	\$25.00	\$25.00
CHIEF	CHICMSZ006	FIXED PIPE FULLY THREADED 6" BLA	1	\$25.66	\$25.66
DRAPER SHADE & SCREEN	DRA140030U	SCREEN, 133" ACCESS V HDTV MATT WHITE XT1000V 110V LVC-IV	1	\$3,458.89	\$3,458.89
COMPREHENSIVE VIDEO	COMCHEHDBT250	EXTENDER, PRO AV/IT INTEGRATOR SERIES HDBASET 4K60 18G HDMI	3	\$257.82	\$773.46
QSC	QSCNV32H	ENDPOINT, 4k60 4:4:4 CORE CAPABLE NETWORK VIDEO	1	\$2,780.00	\$2,780.00
QSC	QSCQIOS4	NETWORK I/O EXPANDER, 4 SERIAL COMMUNICATION I/O	1	\$303.33	\$303.33
QSC	QSCQIOGP8X8	Q-SYS PERIPHERAL PROVIDING CONTROL EXPANSION W/8 LOGIC IN-PU	1	\$303.33	\$303.33
NETGEAR	NETGSM4212UX100NAS	SWITCH, M4250 10G2XF PoE 8X1G ULTRA90 POEPLUS	1	\$1,048.91	\$1,048.91
QSC	QSCQIOML2X2	NETWORK AUDIO EXPANDER, 2 MIC/LINE INPUTS	1	\$456.67	\$456.67

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Mfg	Model	Description	Qty	Unit Price	Extended Price
		2 LINE OUTPUTS			
SHURE	SHUMXA920WS	MICROPHONE, 24" CEILING ARRAY, SQUARE, WHITE	2	\$3,326.06	\$6,652.12
WATTSTOPPER	WATPARTITIONSENSOR	SENSOR, PHOTOELECTRIC PAIR W/BZ-50 PWR PACK **QUOTE REQ**	1	\$529.01	\$529.01
QSC	QSCACC6T	SPEAKER, 6" 2-WAY CEILING 70/100V (ORDER IN PAIRS)	12	\$104.67	\$1,256.04
QSC	QSCSPA260	AMPLIFIER, 2 CHANNEL 1/2 RU, ENERGY STAR	2	\$470.00	\$940.00
LOGITECH	LOG960001226	CAMERA, 13MP, 60 FPS, USB 3.0, 3840X2160 RALLY PTZ CAMERA	2	\$1,147.57	\$2,295.14
VADDIO INC	VAD5352000290	DROP DOWN CEILING MOUNT FOR PTZ CAMERA	2	\$247.07	\$494.14
				Subtotal	\$15,861.43

Room Support and Maintenance

Elite Maintenance Services - Room; 36-months

\$2,496.63

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AVI-SPL Solution Scope of Work

After careful and deliberate consideration of your requirements, we are pleased to provide the following audiovisual solutions Scope of Work. The scope of work noted is based on sound engineering principles, reliable technology, and has been formulated specifically to meet your requirements.

Project Overview

This proposal includes the estimated cost for the design and installation of the conference room upgrades at the City of Redmond City Hall, and nearby buildings, in Redmond, WA. Included is equipment for 26 conference rooms fitting standards set by AVI-SPL and City of Redmond; this includes 3 small conference rooms, 5 medium conference rooms, 5 large style A conference rooms, 7 large style B conference rooms, 3 extra-large conference, and 2 custom designs for the Fire Station 17 A and B rooms, as well as the CH127 A and B rooms as defined in Table 1A V2 at the end of this document. Existing/ owner furnished projectors and screens will be removed by AVI-SPL. Owner furnished equipment will be used throughout the proposal, with a full detailed list can be seen in the individual room summary below. The conference rooms will utilize a Windows PC with Logitech control and conferencing peripherals. Labor is quoted based on the assumption that labor will be completed on consecutive working days during normal business hours. This proposal assumes that the conference rooms have standard drop-tile or open ceiling, with drywall on the display wall where applicable. Time has been included in this proposal for AVI-SPL to perform two infrastructure verification site walks. During the first site walk, AVI-SPL will walk the spaces with the City of Redmond Facilities team to verify infrastructure requirements needed in each space. An additional site walk will be performed by AVI-SPL prior to the start of installation to ensure that all necessary infrastructure is in place prior to our installation team's arrival onsite.

This proposal assumes that a permit is not required to be pulled for the duration of the project. If, at any point in the project, it is determined that a permit will be required, a change order could be issued to the client.

Small Conference Rooms

Design Narrative

A Microsoft Teams Room system will be installed. A single display will be mounted on the front wall of the room, along with a video conferencing camera solution. An input for content sharing will be installed at the conference table along with a touch panel for system control. No equipment rack is required.

Owner furnished equipment to be re-used:

- Over the Floor Raceway
 - CH128
 - CH129
- Existing 70"
 - CH128
 - CH129

**** Please see the “Environmental Considerations” and “Customer Responsibilities” sections of this document for required room properties and deployment best practices. ****

Scope of Work – Hardware Integration

This section describes hardware installation and general functionality or specifications. All equipment proposed will be installed by AVI-SPL unless otherwise specified.

Display(s)

- A single wall-mounted flat panel display located on the front wall of the room will function as the main display.
 - AVI-SPL will provide and install a 65" flat panel display for each conference room.

Source Equipment and Interfaces

- The following input connection will be available at the table location.
 - HDMI
 - A video input to the system for content sharing
- Cables of adequate length to support the inputs at the specified laptop location will be provided.

Table Cubby

- The cables for content sharing, the table-top conference device, and or the touch panel will pass through a cable cubby or table grommet(s) which will be provided and installed by others.

UC Solution / Video Conferencing

- A touch panel will be the main user interface for the system.
 - The touch panel will be placed on the table.
 - The touch panel will be connected to the UC Computer via the manufacturer's CAT5 extender kit.
 - Limited to 130' of extension
- The Logitech Meetup conference bar features a built-in camera, microphone array, and speakers.
- The video conferencing device (UC Computer) will be installed behind the display on the manufacturer's mount.

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- A network connection is required behind the display.

Equipment Rack and Accessories

- No equipment rack will be required. All equipment will be mounted on the wall behind the display(s) or under the table.
- Over the floor raceway will be provided and installed by AVI-SPL for connection between the display wall location and the table.

Control System and Accessories

- A control system will not be provided as part of this system.

Scope of Work – Software Integration

This section describes the intended user experience and configured functionality.

User Interface

- The tabletop Logitech TAP touch panel will utilize the Microsoft Teams Room experience for all control. Please reference Microsoft's interface guide for an example layout and standard room system functionality.

Full Windows Room System Help Guide available at:

<https://support.microsoft.com/en-us/office/microsoft-teams-rooms-help-e667f40e-5aab-40c1-bd68-611fe0002ba2>

Medium Conference Rooms

Design Narrative

A Microsoft Teams Room system will be installed. A single display will be mounted on the front wall of the room, along with a video conferencing camera solution. An input for content sharing will be installed at the conference table along with a touch panel for system control. No equipment rack is required.

**** Please see the “Environmental Considerations” and “Customer Responsibilities” sections of this document for required room properties and deployment best practices. ****

Scope of Work – Hardware Integration

This section describes hardware installation and general functionality or specifications. All equipment proposed will be installed by AVI-SPL unless otherwise specified.

Display

- A single wall-mounted flat panel display located on the front wall of the room will function as the main display.
 - AVI-SPL will provide and install a 75” flat panel display for each conference room.

Source Equipment and Interfaces

- The following input connection will be available at the table location.
 - HDMI
 - A video input to the system for content sharing.
- Cables of adequate length to support the inputs at the specified laptop location will be provided.

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Table Cubby

- The cables for content sharing, the table-top conference device, and or the touch panel will pass through a cable cubby or table grommet(s) which are either existing or will be provided by AVI-SPL and installed by others. Rooms requiring a new cable passthrough are listed below:
 - CH404, CH448, CH453

UC Solution / Video Conferencing

- A touch panel will be the main user interface for the system.
 - The touch panel will be placed on the table.
 - The touch panel will be connected to the UC Computer via the manufacturer's CAT5 extender kit.
 - Limited to 130' of extension
- The Logitech Rally Bar Mini conferencing device features a built-in camera, microphone array, and speakers.
 - One mic-pod extension has been included and can be installed at either the table or ceiling location.
- The video conferencing device (UC Computer) will be installed behind the display on the manufacturer's mount.
 - A network connection is required behind the display.

Equipment Rack and Accessories

- No equipment rack will be required. All equipment will be mounted on the wall behind the display or under the table.
- Over the floor raceway will be provided and installed by AVI-SPL for connection between the display wall location and the table location.

Control System and Accessories

- A control system will not be provided as part of this system.

Scope of Work – Software Integration

This section describes the intended user experience and configured functionality.

User Interface

- The table-top Logitech TAP touch panel will utilize the Microsoft Teams Room experience for all control. Please reference Microsoft's interface guide for an example layout and standard room system functionality.

Full Windows Room System Help Guide available at:

<https://support.microsoft.com/en-us/office/microsoft-teams-rooms-help-e667f40e-5aab-40c1-bd68-611fe0002ba2>

Large A Conference Rooms

Design Narrative

A Microsoft Teams Room system will be installed. A single display will be mounted on the front wall of the room, along with a video conferencing camera solution. An input for content sharing will be installed at the conference table along with a touch panel for system control. No equipment rack is required.

Owner furnished Equipment to be re-used:

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- Existing 86" display to be re-used:
 - CH141
 - CH316

** Please see the "**Environmental Considerations**" and "**Customer Responsibilities**" sections of this document for required room properties and deployment best practices. **

Scope of Work – Hardware Integration

This section describes hardware installation and general functionality or specifications. All equipment proposed will be installed by AVI-SPL unless otherwise specified.

Display

- A single wall-mounted flat panel display located on the front wall of the room will function as the main display.
 - AVI-SPL will provide and install an 85" flat panel display for each conference room.

Source Equipment and Interfaces

- The following input connection will be available at the table location.
 - HDMI
 - A video input to the system for content sharing.
- Cables of adequate length to support the inputs at the specified laptop location will be provided.

Table Cubby

- The cables for content sharing, the table-top conference device, and or the touch panel will pass through a cable cubby or table grommet(s) which will be either existing or will be provided by AVI-SPL and installed by others. Rooms requiring a new cable passthrough are listed below:
 - CH149

UC Solution / Video Conferencing

- A touch panel will be the main user interface for the system.
 - The touch panel will be placed on the table.
 - The touch panel will be wall mounted in CH 132 and CH305
 - The touch panel will be connected to the UC Compute via the manufacturer's CAT5 extender kit.
 - Limited to 130' extension
- The Logitech Rally Bar conferencing device features a built-in camera, microphone array, and speakers.
 - Two mic-pod extensions have been included and can be installed at either the table or ceiling location.
 - Four mic pods will be installed in the CH303 and CH305 Room locations for better overall audio coverage.
- The video conferencing device (UC Computer) will be installed behind the display on the manufacturer's mount.
 - A network connection is required behind the display.

Equipment Rack and Accessories

- No equipment rack will be required. All equipment will be mounted on the wall behind the display or under the table.

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- Over the floor raceway will be provided and installed by AVI-SPL for connection between the display wall location and the table.

Control System and Accessories

- A control system will not be provided as part of this system.

Scope of Work – Software Integration

This section describes the intended user experience and configured functionality.

User Interface

- The table-top Logitech TAP touch panel will utilize the Microsoft Teams Room experience for all control. Please reference Microsoft's interface guide for an example layout and standard room system functionality.

Full Windows Room System Help Guide available at:

<https://support.microsoft.com/en-us/office/microsoft-teams-rooms-help-e667f40e-5aab-40c1-bd68-611fe0002ba2>

Large B Conference Rooms

Design Narrative

A Microsoft Teams Room system will be installed. A single display will be mounted on the front wall of the room, along with a video conferencing camera solution. An input for content sharing will be installed at the conference table along with a touch panel for system control. No equipment rack is required.

Large Style B conference rooms will include equipment removal of an existing projector and screen. To allow for adequate time for the facilities team to perform their work on site, the Large Room Style B conference rooms will contain two visits. The first visit will be to remove the existing equipment. The second visit to complete the installation will be done after all the existing infrastructure requirements are met.

Room 130 will receive and additional 85" Touch enabled display as a Microsoft Teams Coordinated Join Display.

**** Please see the "Environmental Considerations" and "Customer Responsibilities" sections of this document for required room properties and deployment best practices. ****

Scope of Work – Hardware Integration

This section describes hardware installation and general functionality or specifications. All equipment proposed will be installed by AVI-SPL unless otherwise specified.

Display

- A single wall-mounted flat panel display located on the front wall of the room will function as the main display.
 - AVI-SPL will provide and install an 85" flat panel display for each conference room.
 - i. A 100" display has been included for rooms CH130 and CH149
 - ii. And additional 85" Touch enabled display has been included for room CH130

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Source Equipment and Interfaces

- The following input connection will be available at the table location.
 - HDMI
 - A video input to the system for content sharing.
- Cables of adequate length to support the inputs at the specified laptop location will be provided.

Table Cubby

- The cables for content sharing, the table-top conference device, and or the touch panel will pass through a cable cubby or table grommet(s) which will be provided and installed by others.

UC Solution / Video Conferencing

- A touch panel will be the main user interface for the system.
 - The touch panel will be placed on the table.
 - The touch panel will be connected to the UC Compute via manufacturer's CAT5 extender kit.
 - Limited to 130' extension
- The Logitech Rally Bar conferencing device features a built-in camera, microphone array, and speakers.
 - Two mic-pod extensions have been included and can be installed at ceiling location.
 - Large Style B rooms allow for two more microphones to be added to the space as needed. AVI-SPL will mount the two microphones included in this proposal above the table location. Upon the client's request, if it is determined after installation that additional microphones will be required in the space for additional pickup, a change order for additional equipment and labor could be issued to the client.
- The video conferencing device (UC Computer) will be installed behind the display on the manufacturer's mount.
 - A network connection is required behind the display.

Equipment Rack and Accessories

- No equipment rack will be required. All equipment will be mounted on the wall behind the display or under the table.
- Over the floor raceway will be provided and installed by AVI-SPL for connection between the display wall location and the table.

Control System and Accessories

- A control system will not be provided as part of this system.

Scope of Work – Software Integration

This section describes the intended user experience and configured functionality.

User Interface

- The table-top Logitech TAP touch panel will utilize the Microsoft Teams Room experience for all control. Please reference Microsoft's interface guide for an example layout and standard room system functionality.

Full Windows Room System Help Guide available at:

<https://support.microsoft.com/en-us/office/microsoft-teams-rooms-help-e667f40e-5aab-40c1-bd68-611fe0002ba2>

Extra Large Conference Rooms

Design Narrative

A Microsoft Teams Room system will be installed. Single or dual displays will be included at the front of the room, along with a video conferencing camera solution to be ceiling mounted. An input for content sharing will be installed at the conference table along with a touch panel for system control. No equipment rack is required.

**** Please see the “Environmental Considerations” and “Customer Responsibilities” sections of this document for required room properties and deployment best practices. ****

Scope of Work – Hardware Integration

This section describes hardware installation and general functionality or specifications. All equipment provided and installed by AVI-SPL unless otherwise specified.

Display

The following display devices will be integrated into the system:

- One video projector for displaying video content within the space. The projector shall have a native resolution of 1920 X 1200 pixels, and a manufacturer rated brightness of 6000 ANSI lumens.
- One recess mounted, motorized operation, projection screen. The screen shall be tab-tensioned in a 16:9 widescreen format with a diagonal viewing surface of 119”. The viewing area shall be matte white fabric with black backing.
 - A low voltage interface shall be provided with each motorized projection screen for remote operation.
 - Screen heights are assumed to be 10’ or higher. In a situation with a lower ceiling height, a change order for a different screen type may be issued to the client.

Source Equipment and Interfaces

- The following input connection will be available at the table location.
 - HDMI
 - A video input to the system for content sharing
- Cables of adequate length to support the inputs at the specified laptop location will be provided.

Table Cubby

- The cables for content sharing, the table-top conference device, and or the touch panel will pass through a cable cubby or table grommet(s) which will be provided and installed by others.

UC Solution / Video Conferencing

- A touch panel will be the main user interface for the system.
 - The touch panel will be placed on the table.
- A PTZ camera will be ceiling mounted to the right of the projection screen.
- A video conferencing device (UC Computer) will be installed in a plenum rated ceiling box.
 - Power and data will be required at this location.
- One ceiling microphone array will be installed into a 2x2 ceiling grid.

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- Eight in-ceiling speakers will be installed.
- An audio digital signal processor (DSP) will be installed at the ceiling location.
- A small network switch will be installed at the ceiling location.

Equipment Rack and Accessories

- No equipment rack will be required. All equipment will be mounted either under the table or in the plenum rated ceiling box.
- Over the floor raceway will be provided and installed by AVI-SPL for connection between the display wall location and the table.

Control System and Accessories

- A control system will not be provided as part of this system.
- The projection screen's raise and lower functionality will be provided through an external low voltage controller for new screen locations. Existing projector screen locations are raised and lowered manually.

Scope of Work – Software Integration

This section describes the intended user experience and configured functionality.

User Interface

- The touch screen graphical user interface design will utilize the Logitech TAP touch panel featuring the Microsoft Teams Room experience. Please reference Microsoft's interface guide for an example layout and standard room system functionality.

Full Windows Room System Help Guide available at:

<https://support.microsoft.com/en-us/office/microsoft-teams-rooms-help-e667f40e-5aab-40c1-bd68-611fe0002ba2>

Fire Station 17 Alpha and Bravo

Design Narrative

AVI-SPL will amend the existing system in the Fire Station 17 conference room to allow for Microsoft Teams Room conferencing. This room will act as one divisible space to be used as either two independent conference rooms, or one combined conference room. Each room has one wireless presentation device, along with one HDMI input at the wall location. Existing handheld and body pack microphones will be kept for both far end conferencing and local reinforcement. Two new ceiling mounted microphones will be included for conferencing audio only. Control of the room will be through the existing Crestron touch panels. Conference call control will be through the Logitech Tap controller.

Time has been included in this proposal for AVI-SPL to field verify the functionality of the existing system. During this time, AVI-SPL will attempt to update firmware on all the existing equipment to prepare for the project upgrade. The room should be considered offline from the start of this work, until project completion. AVI-SPL will also field verify the exiting design to confirm that the as-built documentation is correct.

The existing equipment to be removed from this space is detailed below. The equipment being removed will be placed in the room for removal by City of Redmond staff. Any cabling removed will be disposed of by AVI-SPL staff.

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- QTY 2 motorized projection screens
 - Hard wire power will be required to be disconnected by others prior to the start of equipment removal.
- QTY 2 Sharp PN-465U displays.
- QTY 2 Sony projectors and associated mounting hardware.
- QTY 1 Icron Ranger USB extender

The existing equipment to be re-used in this proposal is detailed below.

- QTY 2 Shure handheld microphones
- QTY 2 Shure body back microphones
- QTY 4 Crestron HDMI receivers
- QTY 2 Crestron touch panels
- QTY 1 Shure MXW APT 4
- QTY 2 Crestron Air Media 200's
- QTY 1 Crestron AV3 processor
- QTY 1 Crestron HD MD 8X8 dm switcher with the following installed IO cards
 - QTY 8 DM RMC4KZC
 - QTY 2 DM RMC 4KZ CO HD
 - QTY 1 DM CHDO
- QTY 1 QSC Core 110F DSP
- QTY 1 Equipment Rack
- QTY 1 QSC 4 Channel amplifier
- QTY 12 ceiling speakers

All other equipment in this proposal is assumed to be provided and installed by AVI-SPL

**** Please see the “Environmental Considerations” and “Customer Responsibilities” sections of this document for required room properties and deployment best practices. ****

Scope of Work – Hardware Integration

This section describes hardware installation and general functionality or specifications. All equipment provided and installed by AVI-SPL unless otherwise specified.

Display

The following display devices will be integrated into the system:

- A single wall-mounted flat panel display located on the front wall of the room will function as the main display.
 - AVI-SPL will provide and install a 100” flat panel display for each conference room.

Source Equipment and Interfaces

- The following input connection will be available at the table location.
 - HDMI
 - A video input to the system for content sharing
- Cables of adequate length to support the inputs at the specified laptop location will be provided.

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Table Cubby

- The cables for content sharing, the table-top conference device, and or the touch panel will pass through a cable cubby or table grommet(s) which will be provided and installed by others.

UC Solution / Video Conferencing (per room)

- A touch panel will be the main user interface for the system.
 - The touch panel will be placed on the table.
- One PTZ camera will be mounted below the display.
- One PTZ camera will be ceiling mounted in the rear of the room.
- A video conferencing device (UC Computer) will be installed in the equipment rack location.
 - Power and data will be required at this location.
- One ceiling microphone array will be installed into a 2x2 ceiling grid.
- Six existing in-ceiling speakers
- An existing audio digital signal processor (DSP) will be reused.
- A small network switch will be installed at the equipment rack location.

Equipment Rack and Accessories

- An existing, owner furnished equipment rack will house all AV equipment.
- Existing owner furnished lectern locations will house the Logitech Tap and the HDMI extension device.

Control System and Accessories

An existing control processor will be reused to enable various functions throughout the system. Please refer to the [Software Integration](#) section for more detailed information about system control.

- The existing control processor is located in the equipment rack.
- Two existing wired touch screen interfaces with a 7" screen size is located at the wall for Room Control
- Two new wired touch screen interfaces with a 10" screen size will be located at the lectern location for Microsoft Teams Room control.

CH127 Alpha and Bravo

Design Narrative

AVI-SPL will provide and install a divisible Microsoft Teams Room system. This room will act as one divisible space to be used as either two independent conference rooms, or one combined conference room. Each room has the option for wireless presentation via Microsoft teams, along with one HDMI input at the touch panel location. Two new ceiling mounted microphones will be included for conferencing audio. Control of the room and conference call will be through the Logitech tap touch panels, with divisible state being determined via an air wall sensor.

Scope of Work – Hardware Integration

This section describes hardware installation and general functionality or specifications. All equipment provided and installed by AVI-SPL unless otherwise specified.

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Display

The following display devices will be integrated into the system:

- A single wall-mounted flat panel display located on the front wall of the Bravo room will function as the main display.
 - AVI-SPL will provide and install a 85" flat panel display for each conference room.
- A projector and a 133" diagonal ceiling recessed projection screen will be provided and installed for the Alpha conference room.

Source Equipment and Interfaces

- The following input connection will be available at the touch panel locations.
 - HDMI
 - A video input to the system for content sharing
- Cables of adequate length to support the inputs at the specified laptop location will be provided.

Table Cubby

- The cables for content sharing, the table-top conference device, and or the touch panel will pass through a cable cubby or table grommet(s) which will be provided and installed by others.

UC Solution / Video Conferencing (per room)

- A touch panel will be the main user interface for the system.
 - The touch panel will be placed on the table.
- One PTZ camera will be ceiling mounted in the rear of the room.
- A video conferencing device (UC Computer) will be installed in the equipment rack location.
 - Power and data will be required at this location.
- One ceiling microphone array will be installed into a 2x2 ceiling grid.
- Six in-ceiling speakers
- An audio digital signal processor (DSP) will be reused.
- A small network switch will be installed at the equipment rack location.

Equipment Rack and Accessories

- An equipment rack will house all AV equipment.

Control System and Accessories

An existing control processor will be reused to enable various functions throughout the system. Please refer to the Software Integration section for more detailed information about system control.

- The control processor is located in the equipment rack.
- The Logitech Tap touch screens will be used for room and conferencing control.

Scope of Work – Software Integration

This section describes the intended user experience and configured functionality.

Logitech Tap Touch Panels

User Interface

- The touch screen graphical user interface design will utilize the Logitech TAP touch panel featuring the Microsoft Teams Room experience. Please reference Microsoft's interface guide for an example layout and standard room system functionality.

Full Windows Room System Help Guide available at:

<https://support.microsoft.com/en-us/office/microsoft-teams-rooms-help-e667f40e-5aab-40c1-bd68-611fe0002ba2>

Custom control required for the divisible and combinable room state will be automated and not require additional buttons on the Logitech tap user interface.

Project Considerations

Customer Responsibilities

These are items that AVI-SPL is dependent upon to complete the project scope of work on time, however, these requirements and responsibilities are not provided by AVI-SPL. For a complete list of exclusions, please refer to the Integration Inclusions and Exclusions section of this proposal.

These requirements must be provided by the owner or other 3rd parties and may fall under the responsibility of an Architect, General Contractor, Electrical Contractor, Data Contractor, Security Contractor, Furniture/Millwork Contractor, IT departments, Facilities or Real Estate groups.

Following receiving the PO, AVI-SPL will provide a drawing and associated document detailing the full infrastructure requirements for all locations within this proposal. As stated above, AVI-SPL has included time in the proposal to perform site walks to ensure that infrastructure is complete prior to the start of installation. Below is a general list of all customer responsibilities applicable to this proposal.

- All required backing and any other wall reinforcement required to safely accommodate displays. Any display wall shall be properly backed to withstand the weight of the display with a safety factor of at least 5:1.
- All AC power at the equipment locations, including hardwired power connections.
- All required conduit for low voltage cable paths to AV equipment.
- All ceiling work required to accommodate the projectors, projection screens, and other equipment.
- All required millwork modifications to tables or other millwork.
- Proper heat dissipation venting for the equipment in this system. Where convection cooling is not possible, a powered venting system with thermostatically controlled quiet fans.
- All required network configuration for any network connection to the client network.
- All software or hardware licenses not specifically provided in this scope of work or associated bill of materials.
- Equipment removal is included as part of this proposal. AVI-SPL will remove the gear and place it within the room for removal and disposal by the City of Redmond staff.

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Site Readiness

The minimum acceptable site conditions of the project site for the installation of electronic equipment are as follows.

- The rooms and directly adjacent areas into which the equipment will be installed must be dust-free with floor, ceiling, and wall finishes to be completely installed in the rooms affected by the equipment.
- The rooms into which the equipment will be installed must be secure.
- All Electrical power, conduit systems, HVAC systems, IT requirements (wired or wireless services), communication circuits, and or other services required by the systems and equipment should be fully installed, energized, and configured for use.
- All furniture into which components of the equipment will be installed shall be present at the time of staging and/or installation.
- All telephone, POTS, VOIP, modem, PRI, data, LAN, and telecommunications connections are installed, fully tested, and active.
- Configuration of OFE networks, applications, servers, and services to provide interoperability with installed systems.
- Coordination and timely IT support and documentation (such as providing IP addresses or account credentials).
- Additional infrastructure requirements beyond what is in the rooms currently could be required as part of this proposal and will be communicated to the City of Redmond following project kick off. These requirements include, but are not limited to, data drops, low voltage conduit, and high voltage power. These requirements must be completed prior to the start of installation and will be the responsibility of others.

Network and Network Security

The integration of Audio-Visual hardware can consist of many different devices and systems, each with varying network requirements, impacts to traffic and routing, and unique management and security processes. AVI-SPL will work with the identified client stakeholders to properly assess network requirements and deployment considerations.

AVI-SPL will design the system to meet identified network requirements and will provide construction drawings and a list of devices before installation on site. At the time of installation, AVI-SPL will connect devices according to the documented system design and identified network requirements. The following network design is being followed for this project:

Hybrid AV/Client Network

Hardware that does not require integration to the client network can be completely isolated from the client network.

- The control system, touch panel, and audio video transport devices that carry Ethernet control reside in their own wired network where applicable.
- Hardware that requires integration with the owner network will be connected directly to the owner network. Examples: control system for monitoring, video conference codec, 3rd party SIP device.
- Systems for monitoring, control, scheduling, and other, are provided by services residing in the "Cloud", external to the owner's network. In this type of deployment data will need to traverse the owner network.

** See the "**Customer Responsibilities**" and "**Unified Communication Solution Licensing and Deployment Plan**" sections of this document for deployment best practices and installation requirements. Additional information regarding specific applicable processes and procedures can be referenced in the "**AVI-SPL Network and Security**" addendum to this document. **

Unified Communication Solution Licensing and Deployment Plan

Cloud-registered unified communication systems require licensing for meetings, calling and other device management functionality. AVI-SPL can assist with your licensing and management needs and can provide options to meet system specific requirements.

Licenses and Service Accounts

Supervised or direct access to platform environments / systems must be provided as needed for a properly provisioned and licensed system where appropriate. Examples include Zoom Rooms activation codes, Microsoft Teams accounts, calendar service account, and more.

- The customer may decide not to provide credentials to AVI-SPL, and to provision the installed hardware themselves. In this case, AVI-SPL will be unable to fully test the system before receiving sign-off for the installation. All system components will be tested individually to ensure proper stand-alone function, and project sign-off will be requested before technicians leave site.
- If AVI-SPL is unable to properly commission and test the system at the time of installation due to issues with access, an additional site visit may be required. Any additional visits will be billed at the standard contracted labor rate, provided the customer is at fault and approves additional cost in advanced and in writing, scheduling will be done on a best effort basis.

Microsoft Teams Room Licensing

Microsoft has two dedicated SKUs for licensing meetings and calling on a per-device basis for meeting room devices (such as Microsoft Teams Rooms, Microsoft Surface Hub, and collaboration bars for Microsoft Teams).

Full licensing information available at: <https://docs.microsoft.com/en-us/microsoftteams/rooms/rooms-licensing>

Example System Licensing Required for Microsoft Teams Rooms:

- Microsoft Teams Rooms Licensing Premium with Teams Phone.
- Microsoft calling plan to enable the Microsoft Teams Room System with a phone number to make or receive a call. Direct routing or Microsoft calling plans.
- Licensing for any 3rd Party conferencing platforms to support **Cloud Video Interop (CVI)**, **Direct Guest**, **BYOD** to join or support Zoom, Webex or any other meeting type if supported in the specific design.

Microsoft Teams Rooms Example Deployment Plan

Proper network configuration and strict adherence to Microsoft's recommended best practices is key for project success and reliable user experience. Often MTR project rollout issues are due to misconfiguration of networks or Teams Room Device Account Settings. Microsoft strongly recommends against using the same group policies that are applied to typical user PCs be applied to Microsoft Teams Rooms appliances. Instead, they should be isolated in their own group, and ideally a separate VLAN optimized for egress to the Internet and the Microsoft Network without proxy servers of any kind. The following steps outlined are a general deployment plan that may require further development with AVI-SPL and client stakeholders.

1. Client to complete AVI-SPL pre-deployment checklist:
 - a. Creation of resource account (or required device accounts)
 - b. Configuration of required policies and security settings
 - c. Additional AVI-SPL networking and environmental consultation services available upon request
2. AVI-SPL to provide client's IT department a spreadsheet listing all network-connected equipment, its associated room, MAC Addresses, and Serial Numbers to pre-configure DHCP reservations or other specific IP address requirements.

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3. AVI-SPL intends to activate and test all Teams Rooms systems in our Quality Control Center. This results in the smoothest, most efficient on-site installation with the best outcome for our customers. Shop testing includes updating firmware on components, labeling and documenting, required prior to the onsite deployment. The system will be registered with any vendor specific cloud management platforms if included.
4. Client must provide AVI-SPL Microsoft credentials for each licensed system requiring activation by AVI-SPL a minimum of two (2) weeks prior to scheduled on-site installation. Any delay in providing credentials may result in project completion delays and potentially additional charges if additional trips are required to complete commissioning of the systems in the field.
 - a. The customer may decide not to provide account credentials to AVI-SPL, and to provide the installed MTR themselves. In this case, AVI-SPL will utilize an AVI-SPL Licensed Teams Room test account to validate system functionality.
 - b. Similarly, if the provided client account credentials fail to work properly AVI-SPL will utilize its internal AVI-SPL Licensed Teams Room test accounts to complete hardware testing and notify the client of issue.
5. If AVI-SPL is unable to properly commission and test the system at the time of on-site installation due to issues with the supplied accounts and/or credentials, additional site visits may be required. Any additional visits required due to site-readiness issues will be billed at the standard contracted labor rate, and scheduling will be done on a best-effort basis.

Room Environmental Considerations

To maximize the user experience in a conferencing room, the following parameters should be observed:

- The room should have a measured ambient noise level of no more than NC35. For new spaces, the design parameters for the mechanical engineering within the room should have a target NC of 35 or less. Ambient noise includes noise from the air handling systems, mechanical systems, and noises outside the building. Noise levels above this specification adversely affect the meeting environment and may degrade the overall audio quality and intelligibility of a conference call. This is especially important when ceiling microphones are utilized. If a problem is identified with ambient noise levels, AVI-SPL can work with your mechanical engineer to identify possible solutions to lower the NC rating and improve the meeting experience.
- Reverberation time (T60) for typical conference rooms should be less than 0.6 seconds in the 125 - 4000 Hz octave bands to provide an optimum meeting experience and acceptable audio quality in a conference call. A significant number of hard surfaces in a room (glass, drywall, or other surfaces) can adversely affect audio intelligibility and the meeting experience overall. Acoustic treatment is advised for rooms with higher T60 levels. If the room requires acoustic treatment, AVI-SPL can provide direction and solutions to overcome this issue and enhance the meeting experience for the participants.
- Evenly distributed lighting is important for videoconferencing applications. Lighting on the faces of the participants should be at least 40-foot candles and should be evenly distributed throughout the camera's field of view. Where the camera's field of view includes windows, recommended window treatment should be employed to provide an acceptable background for the camera to view the participants.
- When microphones are used for local voice reinforcement, the amount of available gain before feedback is dependent on the microphone's location within the room. Placement of the microphone immediately below a ceiling speaker may adversely affect the overall required audio level and cause feedback. Care should be taken to reduce the volume level of the microphone or locate the microphone(s) correctly to minimize the possibility of feedback.

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Table 1A V2

Conference Room Name	(Demo) Projector	(Demo) 80" screen	9Demo 50" screen	Capacity Seating	Room Size	Re-use existing Display	Existing Over Floor Raceway	New 1 1/2" Grommet to be installed by others	Wall Mounted Tap	Touch Display in Coordinated Join Mode	Wall (W), Ceiling (C), Table (T), Pendant (P) Mics	Dual Display	Teams Room Size
CONF-CH130 Room	X			18	32x16			X		X	C		Large B - 100"
CONF-CH306 Morse Computer Training Room	X	2	1	18+	29x28						C	X	Extra Large - Dual Display
CONF-CH149 Council Conference Room	X			35	26x22			X			C		Extra Large - 100"
CONF-CH127 Alpha Room	X			20-36	25x20						C		Custom Room
CONF-CH127 Bravo Room	X			16-36	25x20						C		Custom Room
CONF-CH303 McRedmond Room	X			20	25x20						P		Large B
CONF-CH305 Clise Room	X			14	22x16				X		P		Large B
CONF-CH459 Mayor's Conference Room		X	X	10	23x15			X			P		Large B
CONF-Fire Station 11 Admin Conference Room					21x21	X					P	X	Large B
CONF-Fire Station 14 Training Room					19x22						P		Large B
CONF-PS156 Patrol Briefing Room					31x19						C	X	Extra Large - Dual Display
CONF-PS205 Media Conference Room					24x19	X			X		P	X	Large B
CONF-CH132 Room				10	18x12				X		T		Large A
CONF-CH141 Slough Room		X		6	19x12	X					T		Large A
CONF-CH242 Heron Room		X		10	19x10						T		Large A
CONF-CH316 Walther Room		X		8	16x11	X					T		Large A
CONF-PS242 Public Safety Executive Conference Room					18x15						T		Large A
CONF-CH349 Perry Room		X		6	15x15						T		Medium
CONF-CH404 Gateway Grove Room				6	16x10			X			T		Medium
CONF-CH448 Old Mills Room		X		8	14x11			X			T		Medium
CONF-CH453 Sammamish Room		X		6	15x15			X			T		Medium
CONF-CH128 Room		X		5	10x10	X	X				W		Small
CONF-CH129 Room		X		5	10x10	X	X				W		Small
CONF-CH327 Sikes Room		X		6	13x10						W		Small
FIRE STATION 17 ALPHA AND BRAVO											C		CUSTOM
MOC1 Conference Room					16X10	X					T	X	Medium

Scope of Work – Software Integration

This section describes the intended user experience and configured functionality.

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Existing Crestron TSW touch panels

User Interface

- The touch screen graphical user interface will be a custom solution specifically for this project. This custom solution will require coordination meetings with AVI-SPL to design, submit and approve prior to completing all control code creation. Please reference the *Custom User Interface* scope of work document for specific details on this option.
 - AVI-SPL will provide the layout and the functionality of each button for each user page of the touch screen to the Customer prior to implementation for client input and final client approval.
- All specified equipment in the proposal will be incorporated into the control system.
- The following lists the custom controls that will be added to the Crestron TSW touch panels. Please note, these two panels will mirror each other. Existing Alarm shunt controls will be kept in the space and will not be represented on the user interface.
 - Shade controls
 - Input routing
 - Advanced mic muting controls
 - A button to change the rooms from being in a 'combined' or 'divided' state.

Logitech Tap Touch Panels

User Interface

- The touch screen graphical user interface design will utilize the Logitech TAP touch panel featuring the Microsoft Teams Room experience. Please reference Microsoft's interface guide for an example layout and standard room system functionality.

Full Windows Room System Help Guide available at:

<https://support.microsoft.com/en-us/office/microsoft-teams-rooms-help-e667f40e-5aab-40c1-bd68-611fe0002ba2>

Project Considerations

Customer Responsibilities

These are items that AVI-SPL is dependent upon to complete the project scope of work on time, however, these requirements and responsibilities are not provided by AVI-SPL. For a complete list of exclusions, please refer to the Integration Inclusions and Exclusions section of this proposal.

These requirements must be provided by the owner or other 3rd parties and may fall under the responsibility of an Architect, General Contractor, Electrical Contractor, Data Contractor, Security Contractor, Furniture/Millwork Contractor, IT departments, Facilities or Real Estate groups.

Following receiving the PO, AVI-SPL will provide a drawing and associated document detailing the full infrastructure requirements for all locations within this proposal. As stated above, AVI-SPL has included time in the proposal to perform site walks to ensure that infrastructure is complete prior to the start of installation. Below is a general list of all customer responsibilities applicable to this proposal.

- All required backing and any other wall reinforcement required to safely accommodate displays. Any display wall shall be properly backed to withstand the weight of the display with a safety factor of at least 5:1.

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- All AC power at the equipment locations, including hardwired power connections.
- All required conduit for low voltage cable paths to AV equipment.
- All ceiling work required to accommodate the projectors, projection screens, and other equipment.
- All required millwork modifications to tables or other millwork.
- Proper heat dissipation venting for the equipment in this system. Where convection cooling is not possible, a powered venting system with thermostatically controlled quiet fans.
- All required network configuration for any network connection to the client network.
- All software or hardware licenses not specifically provided in this scope of work or associated bill of materials.
- Equipment removal is included as part of this proposal. AVI-SPL will remove the gear and place it within the room for removal and disposal by the City of Redmond staff.

Site Readiness

The minimum acceptable site conditions of the project site for the installation of electronic equipment are as follows.

- The rooms and directly adjacent areas into which the equipment will be installed must be dust-free with floor, ceiling, and wall finishes to be completely installed in the rooms affected by the equipment.
- The rooms into which the equipment will be installed must be secure.
- All Electrical power, conduit systems, HVAC systems, IT requirements (wired or wireless services), communication circuits, and/or other services required by the systems and equipment should be fully installed, energized, and configured for use.
- All furniture into which components of the equipment will be installed shall be present at the time of staging and/or installation.
- All telephone, POTS, VOIP, modem, PRI, data, LAN, and telecommunications connections are installed, fully tested, and active.
- Configuration of OFE networks, applications, servers, and services to provide interoperability with installed systems.
- Coordination and timely IT support and documentation (such as providing IP addresses or account credentials).
- Additional infrastructure requirements beyond what is in the rooms currently could be required as part of this proposal and will be communicated to the City of Redmond following project kick off. These requirements include, but are not limited to, data drops, low voltage conduit, and high voltage power. These requirements must be completed prior to the start of installation and will be the responsibility of others.

Network and Network Security

The integration of Audio-Visual hardware can consist of many different devices and systems, each with varying network requirements, impacts to traffic and routing, and unique management and security processes. AVI-SPL will work with the identified client stakeholders to properly assess network requirements and deployment considerations.

AVI-SPL will design the system to meet identified network requirements and will provide construction drawings and a list of devices before installation on site. At the time of installation, AVI-SPL will connect devices according to the documented system design and identified network requirements. The following network design is being followed for this project:

Hybrid AV/Client Network

Hardware that does not require integration to the client network can be completely isolated from the client network.

- The control system, touch panel, and audio video transport devices that carry Ethernet control reside in their own wired network where applicable.
- Hardware that requires integration with the owner network will be connected directly to the owner network. Examples: control system for monitoring, video conference codec, 3rd party SIP device.

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- Systems for monitoring, control, scheduling, and other, are provided by services residing in the "Cloud", external to the owner's network. In this type of deployment data will need to traverse the owner network.

** See the "**Customer Responsibilities**" and "**Unified Communication Solution Licensing and Deployment Plan**" sections of this document for deployment best practices and installation requirements. Additional information regarding specific applicable processes and procedures can be referenced in the "**AVI-SPL Network and Security**" addendum to this document. **

Unified Communication Solution Licensing and Deployment Plan

Cloud-registered unified communication systems require licensing for meetings, calling and other device management functionality. AVI-SPL can assist with your licensing and management needs and can provide options to meet system specific requirements.

Licenses and Service Accounts

Supervised or direct access to platform environments / systems must be provided as needed for a properly provisioned and licensed system where appropriate. Examples include Zoom Rooms activation codes, Microsoft Teams accounts, calendar service account, and more.

- The customer may decide not to provide credentials to AVI-SPL, and to provision the installed hardware themselves. In this case, AVI-SPL will be unable to fully test the system before receiving sign-off for the installation. All system components will be tested individually to ensure proper stand-alone function, and project sign-off will be requested before technicians leave site.
- If AVI-SPL is unable to properly commission and test the system at the time of installation due to issues with access, an additional site visit may be required. Any additional visits will be billed at the standard contracted labor rate, provided the customer is at fault and approves additional cost in advanced and in writing, scheduling will be done on a best effort basis.

Microsoft Teams Room Licensing

Microsoft has two dedicated SKUs for licensing meetings and calling on a per-device basis for meeting room devices (such as Microsoft Teams Rooms, Microsoft Surface Hub, and collaboration bars for Microsoft Teams).

Full licensing information available at: <https://docs.microsoft.com/en-us/microsoftteams/rooms/rooms-licensing>

Example System Licensing Required for Microsoft Teams Rooms:

- Microsoft Teams Rooms Licensing Premium with Teams Phone.
- Microsoft calling plan to enable the Microsoft Teams Room System with a phone number to make or receive a call. Direct routing or Microsoft calling plans.
- Licensing for any 3rd Party conferencing platforms to support **Cloud Video Interop (CVI)**, **Direct Guest**, **BYOD** to join or support Zoom, Webex or any other meeting type if supported in the specific design.

Microsoft Teams Rooms Example Deployment Plan

Proper network configuration and strict adherence to Microsoft's recommended best practices is key for project success and reliable user experience. Often MTR project rollout issues are due to misconfiguration of networks or Teams Room Device Account Settings. Microsoft strongly recommends against using the same group policies that are applied to typical user PCs be applied to Microsoft Teams Rooms appliances. Instead, they should be isolated in their own group, and ideally a separate VLAN optimized for egress to the Internet and the Microsoft Network without proxy servers of any kind. The following steps outlined are a general deployment plan that may require further development with AVI-SPL and client stakeholders.

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6. Client to complete AVI-SPL pre-deployment checklist:
 - a. Creation of resource account (or required device accounts)
 - b. Configuration of required policies and security settings
 - c. Additional AVI-SPL networking and environmental consultation services available upon request
7. AVI-SPL to provide client's IT department a spreadsheet listing all network-connected equipment, its associated room, MAC Addresses, and Serial Numbers to pre-configure DHCP reservations or other specific IP address requirements.
8. AVI-SPL intends to activate and test all Teams Rooms systems in our Quality Control Center. This results in the smoothest, most efficient on-site installation with the best outcome for our customers. Shop testing includes updating firmware on components, labeling and documenting, required prior to the onsite deployment. The system will be registered with any vendor specific cloud management platforms if included.
9. Client must provide AVI-SPL Microsoft credentials for each licensed system requiring activation by AVI-SPL a minimum of two (2) weeks prior to scheduled on-site installation. Any delay in providing credentials may result in project completion delays and potentially additional charges if additional trips are required to complete commissioning of the systems in the field.
 - a. The customer may decide not to provide account credentials to AVI-SPL, and to provide the installed MTR themselves. In this case, AVI-SPL will utilize an AVI-SPL Licensed Teams Room test account to validate system functionality.
 - b. Similarly, if the provided client account credentials fail to work properly AVI-SPL will utilize its internal AVI-SPL Licensed Teams Room test accounts to complete hardware testing and notify the client of issue.
10. If AVI-SPL is unable to properly commission and test the system at the time of on-site installation due to issues with the supplied accounts and/or credentials, additional site visits may be required. Any additional visits required due to site-readiness issues will be billed at the standard contracted labor rate, and scheduling will be done on a best-effort basis.

Room Environmental Considerations

To maximize the user experience in a conferencing room, the following parameters should be observed:

- The room should have a measured ambient noise level of no more than NC35. For new spaces, the design parameters for the mechanical engineering within the room should have a target NC of 35 or less. Ambient noise includes noise from the air handling systems, mechanical systems, and noises outside the building. Noise levels above this specification adversely affect the meeting environment and may degrade the overall audio quality and intelligibility of a conference call. This is especially important when ceiling microphones are utilized. If a problem is identified with ambient noise levels, AVI-SPL can work with your mechanical engineer to identify possible solutions to lower the NC rating and improve the meeting experience.
- Reverberation time (T60) for typical conference rooms should be less than 0.6 seconds in the 125 - 4000 Hz octave bands to provide an optimum meeting experience and acceptable audio quality in a conference call. A significant number of hard surfaces in a room (glass, drywall, or other surfaces) can adversely affect audio intelligibility and the meeting experience overall. Acoustic treatment is advised for rooms with higher T60 levels. If the room requires acoustic treatment, AVI-SPL can provide direction and solutions to overcome this issue and enhance the meeting experience for the participants.
- Evenly distributed lighting is important for videoconferencing applications. Lighting on the faces of the participants should be at least 40-foot candles and should be evenly distributed throughout the camera's field of view. Where the camera's field of view includes windows, recommended window treatment should be employed to provide an acceptable background for the camera to view the participants.
- When microphones are used for local voice reinforcement, the amount of available gain before feedback is dependent on the microphone's location within the room. Placement of the microphone immediately below a ceiling speaker may adversely affect the overall required audio level and cause feedback. Care should be taken to reduce the volume level of the microphone or locate the microphone(s) correctly to minimize the possibility of feedback.

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Table 1A V2

Conference Room Name	(Demo) Projector	(Demo) 80" screen	90demo) 50" screen	Capacity Seating	Room Size	Re-use existing Display	Existing Over Floor Raceway	1 1/2" Grommet to be provided and installed by others	Wall Mounted Tap	Touch Display in Coordinated Join Mode	Wall (W), Ceiling (C), Table (T), Pendant (P) Mics	Dual Camera	Dual Display	Teams Room Size
CONF-CH130 Room	X			18	32x16			X		X	C			Large B - 100"
CONF-CH306 Morse Computer Training Room	X	2	1	18+	29x28						C		X	Extra Large - Dual Display
CONF-CH149 Council Conference Room	X			35	26x22			X	X		C			Extra Large - 100"
CONF-CH127 Alpha Room	X			20-36	25x20						C			Custom Room
CONF-CH127 Bravo Room	X			16-36	25x20						C			Custom Room
CONF-CH303 McRedmond Room	X			20	25x20						P			Large B
CONF-CH305 Clise Room	X			14	22x16				X		P			Large B
CONF-CH459 Mayor's Conference Room		X	X	10	23x15			X			P			Large B
CONF-Fire Station 11 Admin Conference Room					21x21						P		X	Large B
CONF-Fire Station 14 Training Room					19x22						P			Large B
CONF-PS156 Patrol Briefing Room					31x19						C	X		Extra Large -100"
CONF-PS205 Media Conference Room					24x19				X		P		X	Large B
CONF-CH132 Room				10	18x12				X		T			Large A
CONF-CH141 Slough Room		X		6	19x12	X					T			Large A
CONF-CH242 Heron Room		X		10	19x10						T			Large A
CONF-CH316 Walther Room		X		8	16x11	X					T			Large A
CONF-PS242 Public Safety Executive Conference Room					18x15						T			Large A
CONF-CH349 Perry Room		X		6	15x15						T			Medium
CONF-CH404 Gateway Grove Room				6	16x10			X			T			Medium
CONF-CH448 Old Mills Room		X		8	14x11			X			T			Medium
CONF-CH453 Sammamish Room		X		6	15x15			X			T			Medium
CONF-CH128 Room		X		5	10x10	X	X				W			Small
CONF-CH129 Room		X		5	10x10	X	X				W			Small
CONF-CH327 Sikes Room		X		6	13x10						W			Small
FIRE STATION 17 ALPHA AND BRAVO											C			CUSTOM
MOC1 Conference Room					16X10						T		X	Medium

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