

### SYSTEM COMMISSIONING (LEED)

CONTRACTOR SHALL PROVIDE SUPPORT AND WORK AS SPECIFIED, NEEDED AND REQUIRED TO CONDUCT AND FACILITATE STARBUCKS STAFF BUILDING COMMISSIONING EFFORTS. THIS WORK WILL BE COMPRISED OF THREE DISTINCT EFFORTS: 1) SUPPORT STARBUCKS COMMISSIONING (CX) AGENT DURING INSTALLATION VERIFICATION AND CORRECT DISCLOSED DEFICIENCIES; 2) PERFORM TESTING ADJUSTING, BALANCING AND SYSTEM STARTUP AND SUPPORT FUNCTIONAL PERFORMANCE TESTING BY STARBUCKS CX; 3) CORRECT DEFICIENCIES DISCLOSED BY FUNCTIONAL PERFORMANCE TESTING AND SUBMIT REPORTS. CONTRACTOR SHALL PERFORM AND PROVIDE THE FOLLOWING:

- A. SYSTEMS SUBJECT TO COMMISSIONING INCLUDE BUT ARE NOT LIMITED TO DOMESTIC HOT WATER GENERATION, HVAC SYSTEMS, ROOFTOP UNITS, EXHAUST FANS, HVAC CONTROLS AND LIGHTING CONTROLS.
- B. CONTRACTOR SHALL INCLUDE COMMISSIONING ACTIVITIES IN PROJECT SCHEDULE AND SHOW INTERVALS FOR PERFORMANCE OF WORK FOR WHICH CONTRACTOR IS RESPONSIBLE AND INTERVALS FOR WORK PERFORMED BY STARBUCKS CX AGENT. CONTRACTOR SHALL SHOW RESOURCES FOR PERFORMING ALL WORK RELATED TO COMMISSIONING ACTIVITIES ON A LINE ITEM IN THE SCHEDULE OF VALUES.
- C. CONTRACTOR SHALL INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND ALL CONTRACT DOCUMENTS. ENSURE THAT ALL EQUIPMENT IS INSTALLED TOTALLY COMPLETE, AND ACCESSIBLE TO STARBUCKS CX FOR INSTALLATION VERIFICATION AND FUNCTIONAL PERFORMANCE TESTING.
- D. CONTRACTOR SHALL ENSURE EQUIPMENT INSTALLATION IS COMPLETE AND CONFORMS TO THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND REQUIREMENTS PRIOR TO THE SCHEDULED START OF INSTALLATION VERIFICATION.
- E. INSTALLATION VERIFICATION SHALL BE PERFORMED BY STARBUCKS CX. CONTRACTOR SHALL SUPPORT STARBUCKS CX INSTALLATION VERIFICATION EFFORTS AS NECESSARY. PROVIDE ALL ACCESS AND EQUIPMENT NECESSARY FOR STARBUCKS STAFF TO VERIFY THAT THE EQUIPMENT IS INSTALLED CORRECTLY.
- F. CONTRACTOR SHALL BE READILY AVAILABLE DURING INSTALLATION VERIFICATION TO IMMEDIATELY CORRECT ANY DEFICIENCIES OR DEFECTS DISCLOSED BY THE INSTALLATION VERIFICATION PROCESS. CORRECTIONS SHALL BE MADE IN A TIMELY MANNER WITHOUT DISRUPTION OF THE CONSTRUCTION SCHEDULE.
- G. ALL EQUIPMENT SHALL BE TESTED, ADJUSTED AND BALANCED BY THE CONTRACTOR'S TESTING, ADJUSTING AND BALANCE AGENT (SEE TESTING, ADJUSTING AND BALANCING) AFTER THE SYSTEM IS VERIFIED TO BE COMPLETE AND CORRECT BY STARBUCKS CX, IN ACCORDANCE WITH THE REQUIREMENTS OF THESE DOCUMENTS. ALL HVAC CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT AND SYSTEMS ARE CALIBRATED, ADJUSTED AND OPERATE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. SEQUENCES OF OPERATION SHALL BE TESTED TO ENSURE THAT THEY OPERATE IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS. DELIVERABLES: PRELIMINARY, WRITTEN TESTING AND AIR BALANCE REPORT CONFORMING TO THE REQUIREMENTS SPECIFIED HEREIN, DOCUMENTING THE INFORMATION SPECIFIED, ETC. TO THE STARBUCKS CX IMMEDIATELY UPON COMPLETION OF THE WORK.

- H. CONTRACTOR SHALL INFORM STARBUCKS CX WHEN EQUIPMENT IS READY FOR FUNCTIONAL PERFORMANCE TESTING. ALL EQUIPMENT SHALL BE READY FOR FUNCTIONAL PERFORMANCE TESTING PRIOR TO STARTING TESTING. CONTRACTOR SHALL OPERATE EQUIPMENT FOR STARBUCKS CX AND VERIFY BY DEMONSTRATION CORRECT OPERATION OF EQUIPMENT, RESPONSE OF SENSORS AND PROPER EXECUTION OF HVAC CONTROL AND LIGHTING SEQUENCES INCLUDING BUT NOT LIMITED TO, AIR MOVEMENT, TEMPERATURE, SOUND AND CONTROL RESPONSE. PROVIDE ANY SECURITY ACCESS, HARDWARE, SOFTWARE, OR OTHER SUPPORT AS NEEDED, FOR THE STARBUCKS COMMISSIONING AGENT TO EFFICIENTLY WITNESS AND DOCUMENT ALL EQUIPMENT TESTING. STARBUCKS CX WILL RECORD THE EQUIPMENT OPERATION AND RESPONSE TO TESTING SEQUENCES AND PREPARE A LIST OF ANY DEFICIENCIES DISCLOSED BY THE FUNCTIONAL PERFORMANCE TESTS FOR CORRECTION BY THE CONTRACTOR. EQUIPMENT INCLUDES BUT IS NOT LIMITED TO AIR HANDLING UNITS, ROOFTOP AND SPLIT TYPE, CONDENSING UNITS, EXHAUST FANS, LIGHTING CONTROLS AND ETC. DELIVERABLES: PROVIDE COMPLETED COPIES OF ALL START UP REPORTS, FILLED OUT ON THE MANUFACTURER'S FORMS TO THE STARBUCKS COMMISSIONING AGENT.
- I. CONTRACTOR IS RESPONSIBLE FOR CORRECTING ANY ISSUES OR DEFICIENCIES DISCLOSED DURING THE INSTALLATION VERIFICATION AND FUNCTIONAL PERFORMANCE TESTING PROCESS. CORRECTIONS SHOULD BE MADE IN A TIMELY MANNER WITHOUT DISRUPTION TO THE SYSTEM AND CONSTRUCTION SCHEDULE.
- J. CONTRACTOR SHALL BE READILY AVAILABLE FOR ANY RE-TESTING OF EQUIPMENT DEEMED NECESSARY BY STARBUCKS CX DURING FUNCTIONAL PERFORMANCE TESTING. CONTRACTOR IS RESPONSIBLE FOR CORRECTING ANY ISSUES OR DEFICIENCIES FOUND IN THE SYSTEM DURING ANY AND ALL RE-TESTING. CORRECTIONS SHOULD BE MADE IN A TIMELY MANNER WITHOUT DISRUPTION TO THE SYSTEM AND CONSTRUCTION SCHEDULE. DELIVERABLES: FINAL BALANCE REPORT, DEFICIENCIES LIST, ADJUSTING CORRECTIVE ACTIONS PERFORMED BY CONTRACTOR IN RESPONSE TO INSTALLATION VERIFICATION AND FUNCTIONAL PERFORMANCE TEST RESULTS. CONSTRUCTION AND POST CONSTRUCTION TESTING: ADDITIONAL TESTING WILL BE REQUIRED BY LEED AND OTHER PROCESSES THAT MAY OCCUR OUT OF SEQUENCE WITH COMMISSIONING SERVICE. CONTRACTOR SHALL CONDUCT, DOCUMENT, SUPPORT AND SCHEDULE THIS TESTING AS DIRECTED BY STARBUCKS CX.

### IAQ MANAGEMENT PLAN

DURING CONSTRUCTION:  
CONTRACTOR SHALL COMPLY WITH LEED EQ CREDIT 3.1 AND CHAPTER 3 OF SMACNA'S IAQ GUIDELINES FOR OCCUPIED BUILDINGS UNDER CONSTRUCTION. CONTRACTOR SHALL PERFORM AND SUBMIT ALL INFORMATION AS REQUIRED BY LEED UNDER THE SUBMITTALS SECTION OF EQ CREDIT 3.1 AND OTHER SECTIONS. H VAV SYSTEM IS TO BE USED DURING CONSTRUCTION, COMPLY WITH SMACNA'S GUIDELINES (REFERENCED ABOVE).

| AIR BALANCE SCHEDULE (CFM) |            |            |             |            |             |                                      |
|----------------------------|------------|------------|-------------|------------|-------------|--------------------------------------|
| EQUIP. NO.                 | SUPPLY AIR | RETURN AIR | OUTDOOR AIR | RELIEF AIR | EXHAUST AIR | SERVING                              |
| RTU-1                      | 4000       | 3445       | 555         | 205        | 150         | RESTAURANT/CAFE (DINING)             |
| RTU-2                      | 3000       | 2625       | 375         | 0          | 375         | BEV. PREP (RETAIL SALES) & WORK ROOM |
| EF-1                       |            |            |             |            | 525         | TOILET, MOP SINK, & KITCHEN EXHAUST  |
| TOTALS                     | 7000       | 6070       | 930         | 205        | 525         | POSITIVE BUILDING PRESSURE           |

### MECHANICAL PLAN NOTES

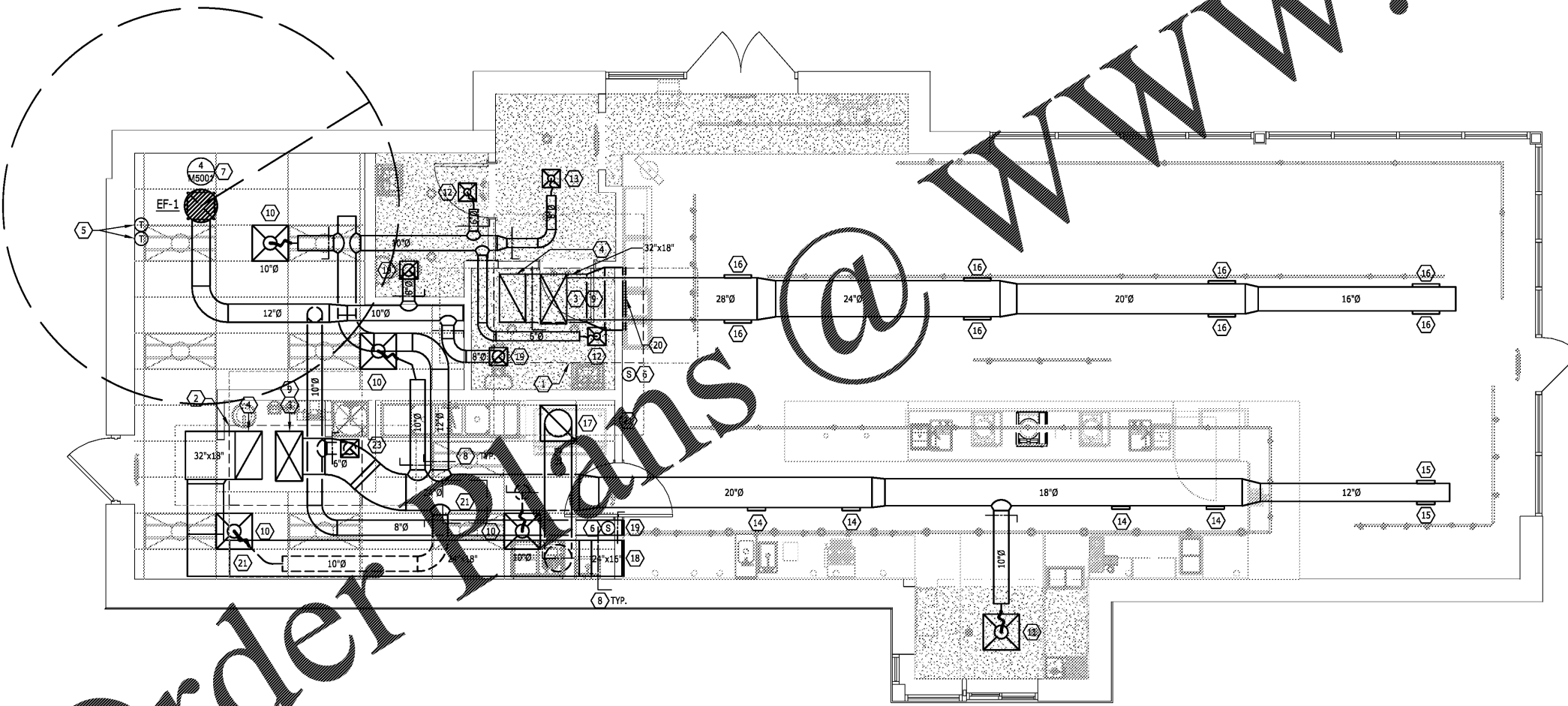
1. SEE SHEET M-001 FOR EQUIPMENT & AIR DEVICE SCHEDULES.
2. MECHANICAL CONTRACTOR RESPONSIBLE FOR SITE INVESTIGATION PRIOR TO START OF WORK TO REVEAL FULL SCOPE OF PROJECT.
3. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.
4. DUCTWORK ABOVE CEILINGS SHALL BE ROUTED AS HIGH AS POSSIBLE. REFER TO CEILING PLANS AND SECTIONS FOR HEIGHT OF EXPOSED DUCTWORK.
5. CONTRACTOR SHALL INSTALL REFRIGERANT PIPING TO REMOTE CONDENSERS FOR ICE MACHINE AND/OR WALK IN COOLERS. REFER TO SPECIFICATIONS, SHEET M-001.

### SHEET NOTES

1. ROOFTOP AC UNIT RTU-1 ON ROOF (EXISTING BY LANDLORD UNDER SEPARATE PERMIT).
2. ROOFTOP AC UNIT RTU-2 ON ROOF (EXISTING BY LANDLORD UNDER SEPARATE PERMIT).
3. FULL SIZE SUPPLY AIR DISCHARGE DUCTWORK WITH 1-1/2" DUCT LINER. SEE EXPOSED DUCTWORK SECTION FOR OPTIONAL COMBINATION THERMAL/ACOUSTICAL INSULATION WITHIN DOUBLE WALL DUCT AS AN ALTERNATIVE TO DUCT LINER.
4. FULL SIZE RETURN AIR DUCT WITH 1-1/2" DUCT LINER. SEE EXPOSED DUCTWORK SECTION FOR OPTIONAL COMBINATION THERMAL/ACOUSTICAL INSULATION WITHIN DOUBLE WALL DUCT AS AN ALTERNATIVE TO DUCT LINER.
5. WALL MOUNTED THERMOSTATS FOR ROOFTOP AC UNITS. MULTIPLE THERMOSTATS SHALL BE STACKED IN VERTICAL CONFIGURATION WITH A MINIMUM 6" CLEARANCE BELOW EACH THERMOSTAT. CONFIRM EXACT LOCATION WITH OWNER. THERMOSTAT FURNISHED BY LANDLORD WITH RTU.
6. REMOTE TEMPERATURE SENSOR FURNISHED BY LANDLORD WITH RTU. (INSTALLED BY CONTRACTOR).
7. 10" DIAMETER EXHAUST DUCT UP TO EXHAUST FAN EF-1. 10' CLEARANCE RADIUS BETWEEN EXHAUST DISCHARGE AND OUTDOOR INTAKE IS SHOWN WITH DASHED CIRCLE.
8. MANUAL BALANCE DAMPER (TYPICAL).
9. SMOKE DETECTOR IN SUPPLY AIR STREAM TO SHUT DOWN UNIT UPON DETECTION (EXISTING BY LANDLORD UNDER SEPARATE PERMIT).

|     |         |   |      |
|-----|---------|---|------|
| 10. | 10"Ø    | A | 300  |
| 11. | 10"Ø    | B | 180  |
| 12. | 6"Ø     | C | 75   |
| 13. | 6"Ø     | D | 100  |
| 14. | 10"Ø    | E | 250  |
| 15. | 12"x6"  | F | 185  |
| 16. | 18"x6"  | G | 500  |
| 17. | 18"Ø    | H | 1225 |
| 18. | 24"x16" | I | 1400 |
| 19. | 8"Ø     | J | 150  |
| 20. | 42"x24" | K | 3650 |

21. AIR COOLED CONDENSER UNIT ON ROOF FOR ICE MACHINE BELOW. SET UNIT ON APPROVED HURRICANE STAND PROVIDED BY THE LANDLORD. EXTEND REFRIGERANT PIPING TO ICE MACHINE. SEAL ROOF OPENING WEATHERTIGHT. REFER TO DETAIL #5, SHEET M-001. FIELD VERIFY ALL REQUIREMENTS AND INCLUDE ALL COSTS IN BIDS FOR A COMPLETE SYSTEM.
22. ROOFTOP UNIT REQUIRED CLEARANCES SHOWN WITH DASHED RECTANGLES AROUND PERIMETER OF UNIT (TYPICAL).



### HVAC PLAN

SCALE: 1/4" = 1'-0"



STARBUCKS COFFEE COMPANY  
2401 UTAH AVENUE SOUTH  
SEATTLE, WASHINGTON 98134  
(206) 318-1575

THESE DRAWINGS AND SPECIFICATIONS ARE CONFIDENTIAL AND SHALL REMAIN THE SOLE PROPERTY OF STARBUCKS CORPORATION, WHICH IS THE OWNER OF THE COPYRIGHT IN THIS WORK. THEY SHALL NOT BE REPRODUCED IN WHOLE OR IN PART, SHARED WITH THIRD PARTIES OR USED IN ANY MANNER ON OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT WITHOUT THE PRIOR WRITTEN CONSENT OF STARBUCKS CORPORATION. THESE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO EXPRESS DESIGN INTENT FOR A PROTOTYPICAL STARBUCKS STORE WHICH IS SUBJECT TO CHANGE AT ANY TIME AND DO NOT REFLECT ACTUAL SITE CONDITIONS. NEITHER PARTY SHALL HAVE ANY OBLIGATION OR LIABILITY TO THE OTHER (EXCEPT AS STATED ABOVE) UNTIL A WRITTEN AGREEMENT IS FULLY EXECUTED BY BOTH PARTIES.

**Design Forum Architects Inc.**  
1901 W. 1st Ave, Suite 410  
Chicago, IL 60608  
Tel: (312) 411-2251

**Design Forum Engineering**  
1901 W. 1st Ave, Suite 410  
Chicago, IL 60608  
Tel: (312) 411-2251

| Rev | Date | Description |
|-----|------|-------------|
|     |      |             |
|     |      |             |
|     |      |             |
|     |      |             |

| Rev | Date | Description |
|-----|------|-------------|
|     |      |             |
|     |      |             |
|     |      |             |
|     |      |             |

PROJECT NAME:  
**CYPRESS GARDENS  
BLVD & ROOSEVELT**

PROJECT ADDRESS:  
**5709 CYPRESS GARDENS BLVD.  
WINTER HAVEN, FL 33884**

STORE #: 50175  
PROJECT #: 73763-001  
ISSUE DATE: 05/02/2018  
PROGRAM MANAGER: ROMINA VIGNOLO  
LEED® AP: STARBUCKS  
PRODUCTION DESIGNER: MICHAEL B. SARKA  
CHECKED BY: ANA COSTANZO

SHEET TITLE:  
**MECHANICAL PLAN**

SCALE: As Indicated

SHEET:  
**M-1101**

Order Plans