

zumiez

Location:

GATEWAY SHOPPING CENTER WOODINVILLE, WA

Brw job 571-5250

GENERAL NOTES

- THE GENERAL CONTRACTOR SHALL REVIEW AND ADHERE TO THE FOLLOWING:
- THIS PROJECT INCLUDES A SEPARATE PROJECT MANUAL WHICH FURTHER DESCRIBES THIS PROJECT.
 - AIA A201cm GENERAL CONDITIONS OF THE CONTRACT DESCRIBES ADMINISTRATIVE PROCEDURES AND IS INCORPORATED INTO THIS WORK.
 - RULES AND REGULATIONS OF THE LANDLORD AS CONTAINED WITHIN THE PROJECT MANUAL OR TRANSMITTED DIRECTLY TO THE CONTRACTOR.
 - CONDITIONS OF THE PERMITTING AUTHORITIES AS DEFINE ON THE PERMIT OR TRANSMITTED DIRECTLY TO THE CONTRACTOR.
 - LOCAL RESTRICTIONS AND PROVISIONS OF THE 'COMMUNITY' RELATED TO CONSTRUCTION AT THE SITE.

GENERAL REQUIREMENTS:

- ANY ALTERATIONS TO THE WORK SHALL BE TRANSMITTED TO THE ARCHITECT THROUGH THE CONSTRUCTION MANAGER. ALTERATIONS SHALL NOT BE INCORPORATED INTO THE WORK UNTIL APPROVED BY THE ARCHITECT.
- SUBSTITUTIONS SHALL BE TRANSMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO PURCHASE OR INSTALLATION. REFER TO THE PROJECT MANUAL FOR SUBSTITUTION PROCEDURES.
- THE ARCHITECT THROUGH THE CONSTRUCTION MANAGER SHALL BE NOTIFIED OF ANY CONDITIONS ENCOUNTERED WHICH ARE UNEXPECTED OR PRODUCE A CONFLICT WITH THE WORK DEFINED IN THE DOCUMENTS. DO NOT PROCEED WITH THE WORK UNTIL APPROVED BY THE ARCHITECT.
- AT THE EARLIEST OPPORTUNITY, VERIFY IN THE FIELD ALL DIMENSIONS AND TRANSMIT A SUMMARY TO THE ARCHITECT THROUGH THE CONSTRUCTION MANAGER FOR REVIEW.
- REVIEW THE PROJECT MANUAL FOR PRODUCTS WHICH REQUIRE A SUBMITTAL RESPONSE. ALLOW ADEQUATE TIME TO ASSURE THE SUBMITTAL IS REVIEWED AND APPROVED PRIOR TO PURCHASE. REFER TO THE PROJECT MANUAL FOR PROCEDURAL INFORMATION.
- REVIEW AND COMPLY WITH TESTING AND BALANCING PROVISIONS DEFINED IN THE PROJECT MANUAL AND AS INDICATED ON THE DRAWINGS. ASSURE AT TIME OF SUBSTANTIAL COMPLETION, ALL SYSTEMS ARE SET AND WORKING PROPERLY. FORWARD ALL TEST REPORTS TO THE ARCHITECT THROUGH THE CONSTRUCTION MANAGER.
- THE OWNER WILL RETAIN SEPARATE CONTRACTORS TO PERFORM SOME ACTIVITIES AS DEFINED ON THE DRAWINGS AND IN THE PROJECT MANUAL. REFER TO THE PROJECT MANUAL FOR PROCEDURES RELATING TO THESE ACTIVITIES.
- REFER TO THE PROJECT MANUAL REGARDING PROCEDURES FOR PRODUCTS WHICH ARE INDICATED TO BE OWNER FURNISHED AND CONTRACTOR INSTALLED.
- INCORPORATE INTO THE WORK FOLLOWING SUBSTANTIAL COMPLETION SERVICES TO THE OWNER FOR ASSISTANCE IN STORE SETUP CONSISTING OF UNLOADING, TRASH REMOVAL, AND MINOR INSTALLATION ACTIVITIES.

PERMITTING:

- PERMIT SUBMISSION FOR THE MASTER PERMIT BEEN APPLIED FOR BY THE ARCHITECT.
- THE CONTRACTOR SHALL COORDINATE WITH THE JURISDICTION TO OBTAIN THE PERMIT PREVIOUSLY SUBMITTED.
- A SIGNAGE PERMIT WILL BE OBTAINED SEPARATELY BY THE OWNER RETAINED SIGN VENDOR.
- THE CONTRACTOR SHALL ASSURE ALL ADDITIONAL PERMITS AS MAY BE REQUIRED FOR THE WORK ARE APPLIED FOR AND OBTAINED IN ADEQUATE TIME TO NOT ALTER THE PROJECT SCHEDULE. ADDITIONAL PERMITS MAY INCLUDE BUT ARE NOT LIMITED TO:
 - FIRE SPRINKLER SYSTEM
 - FIRE ALARM SYSTEMS
 - CONTROL WIRING
 - ELECTRICAL
 - MECHANICAL
 - PLUMBING
 - WORK PERMITS FOR CONSTRUCTION RELATED ACTIVITIES.
- TRANSMIT TO THE ARCHITECT THROUGH THE CONSTRUCTION MANAGER ANY COMMENTS OR CONDITIONS OF THE PERMIT WHEN ISSUED INCLUDING LOCAL RESTRICTIONS.
- WHERE DEFERRED PERMIT ITEMS ARE INCORPORATED, THE CONTRACTOR SHALL COORDINATE PERMIT REVIEW ACTIVITIES WITH THE ARCHITECT, CONSTRUCTION MANAGER, JURISDICTION, AND SUPPLIER TO ASSURE THE PERMITTING PROCESS IS COMPLETE.

INSPECTIONS

- IMMEDIATELY INFORM THE ARCHITECT THROUGH THE CONSTRUCTION MANAGER OF ANY APPROVALS, CORRECTIONS OR REQUEST ISSUED BY A GOVERNING AUTHORITY.
- SPECIAL INSPECTIONS MAY BE REQUIRED FOR SOME ACTIVITIES; COORDINATE SPECIAL INSPECTION REQUIREMENTS AS INDICATED ON THE DRAWINGS, PERMIT DOCUMENTS, OR DEFINED IN THE PROJECT MANUAL.

CONDITIONS PERTAINING TO THE DRAWINGS:

- DO NOT SCALE DRAWINGS— USE DIMENSIONS ONLY. IF LAYOUT CAN NOT BE DETERMINED FROM THE DRAWINGS OR EXISTING CONDITION DIFFER FROM THOSE EXPECTED, REQUEST A CLARIFICATION FROM THE ARCHITECT THROUGH THE CONSTRUCTION MANAGER.
- DIMENSIONS WHERE SHOWN ARE NORMALLY GIVEN:
 - TO COLUMN CENTER LINE
 - TO FINISH FACE OF CMU OR GWB.
- DIMENSIONS SHOWN ON LARGER SCALE DRAWINGS GOVERN.
- ELEVATIONS AND LEVELS: ALL NUMERICAL ELEVATIONS ARE TO TOP OF CONCRETE SLAB, UNLESS NOTED OTHERWISE.
- "ALIGN" AS INDICATED ON THE DRAWING SHALL BE UNDERSTOOD TO MEAN TO ALIGN THE FINISH MATERIAL OF THE WALLS OR COLUMNS INDICATED.

WORK SHALL INCORPORATE THE FOLLOWING:

- IDENTIFICATION AND LABELING PROVISIONS ARE INDICATED ON THE DRAWINGS AND CONTAINED WITHIN THE PROJECT MANUAL. COORDINATE ALL IDENTIFICATION AND LABELING REQUIREMENTS WITH THE VARIOUS DISCIPLINES AND GOVERNING AUTHORITIES.
- ACCESS DOORS ARE DEFINED IN THE PROJECT MANUAL. PROVIDE ACCESS DOORS AS INDICATED ON THE DRAWINGS OR AS REQUIRED TO ACCESS EQUIPMENT AND CONTROLS INSTALLED BY OTHER DISCIPLINES. WHERE EXISTING CONTROLS OR EQUIPMENT IS ENCOUNTERED, ASSURE ACCESS IS MAINTAINED.
- PROVIDE ONE TYPE 5E-2A-108C FIRE EXTINGUISHERS PER 3,000 SF AND NOT MORE THAN 75 FT OF TRAVEL DISTANCE. MINIMUM OF TWO.
- EXIT ILLUMINATION IS INDICATED ON THE DRAWINGS. PRIOR TO FINAL INSPECTION, TEST AND REVIEW THE EMERGENCY ILLUMINATION SCHEME AND ASSURE ILLUMINATION IS NOT BLOCKED OR OTHERWISE ALTERED. ASSURE A MINIMUM ILLUMINATION LEVEL OF ONE FOOT CANDLE IS ACHIEVED IN ALL AREAS.
- THE BUILDING IS SERVED BY A AUTOMATIC SPRINKLER SYSTEM. MODIFY OR REPLACE THE FIRE PROTECTION SYSTEM TO ACCOMMODATE THE CONFIGURATION INDICATED ON THE PLANS. RETAIN REQUIRED SUB-CONTRACTORS WHEN REQUESTED BY THE LANDLORD TO PERFORM THE WORK. COORDINATE ALL PERMITS ACTIVITIES AS DEFINED UNDER 'PERMITTING'. SPRINKLER HEADS MOUNTED IN HARD (GWB) CEILING TO BE FULLY RECESSED WITH WHITE CAPS.
- WHERE THE BUILDING IS SERVED BY A CENTRAL FIRE ALARM SYSTEM, MODIFY OR REPLACE THE SYSTEM TO ACCOMMODATE THE CONFIGURATION INDICATED ON THE PLANS. RETAIN REQUIRED SUB-CONTRACTORS WHEN REQUESTED BY THE LANDLORD TO PERFORM THE WORK. COORDINATE ALL PERMIT ACTIVITIES AS DEFINED UNDER 'PERMITTING'.
- ASSURE ALL COMPONENTS ARE PROPERLY SECURED AS DEFINED BY THE PROJECT MANUAL, LOCAL CODE PROVISIONS, OR INDUSTRY STANDARDS RELATING TO THE APPROPRIATE DISCIPLINE. THE MORE STRINGENT STANDARD SHALL APPLY. WHERE COMPONENTS BRIDGE A EXPANSION JOINT, INSTALL FLEXIBLE COMPONENTS TO NOT INTERFERE WITH THE JOINT.

LANDLORD GENERAL NOTES

- THE GENERAL CONTRACTOR IS TO READ THROUGH AND FAMILIARIZE THEMSELVES WITH, AND COMPLY WITH REQUIREMENTS IN THE LANDLORD'S TENANT DESIGN HANDBOOK BEFORE PLACING HIS BID.
- THE GENERAL CONTRACTOR IS TO SUBMIT A COPY OF THE FOLLOWING ITEMS TO THE LANDLORD BEFORE DOING ANY WORK:
 - A QUALIFICATION STATEMENT
 - CERTIFICATES OF INSURANCE AS OUTLINED IN THE TENANT CONSTRUCTION MANUAL. (SEE SPECIFICATION MANUAL)
 - CONSTRUCTION SCHEDULE.
 - LIST OF SUBCONTRACTORS AND CONTACTS.
 - COPY OF THE BUILDING PERMIT.
 - CURRENT CONTRACTORS LICENSE FOR LOCAL JURISDICTION
- GENERAL CONTRACTOR MUST HAVE PRE-CONSTRUCTION MEETING WITH THE LANDLORD'S OPERATION MANAGER PRIOR TO START OF CONSTRUCTION.
- A COPY OF THE LANDLORD APPROVED DRAWINGS ARE TO BE ON THE JOB SITE AT ALL TIMES.
- FOR ADDITIONAL REQUIREMENTS, REFER TO THE LANDLORD'S TENANT DESIGN HANDBOOK AND APPLICABLE RULES AND REGULATIONS.

BUILDING DATA	
LANDLORD'S ADDRESS	CODE INFORMATION
NAME: TRF EQUITIES PA WOODINROSS, LLC STREET ADDRESS: 2620 SECOND AVENUE CITY, STATE, ZIP: SEATTLE, WA 98121 TEL COORDINATOR: JIM RUSSELL COMPANY: TRF EQUITIES PA WOODINROSS, LLC ADDRESS: 2620 SECOND AVENUE CITY, STATE, ZIP: SEATTLE, WA 98121 TELEPHONE: (206) 724-0902 EMAIL: jrussell@trpcc.com	CONSTRUCTION TYPE: V-B, FULLY SPRINKLERED OCCUPANCY: GROUPS M (MERCANTILE T1) HEIGHT: 30 FEET MAX. USE: RETAIL FOR THE SALE OF CLOTHING OCCUPANCY LOAD: RETAIL (204/50) 60 DRESSING ROOMS (128/10) 0 TOILET ROOMS (61/0) 0 STORAGE (846/100) 3 TOTAL: 71
TENANT'S ADDRESS	APPLICABLE CODES: EBC 2009
NAME: ZUMIEZ, INC. STREET ADDRESS: 6800 MERRILL CREEK PARKWAY, SUITE B CITY, STATE, ZIP: EVERETT, WA 98203 CONTACT: GREG KIMMEL TELEPHONE: (425) 551-8546 FAX: (425) 551-1555	
JOB SITE ADDRESS	SQUARE FOOTAGE
NAME: ZUMIEZ MALL NAME: GATEWAY SHOPPING CENTER STREET ADDRESS: 17705 140TH AVE. N.E. CITY, STATE, ZIP: WOODINVILLE, WA 98072 SPACE NUMBER: A-18	RETAIL SALES: 1309 SF DRESSING ROOMS: 120 SF TOILET ROOM: 46 SF STORAGE/HALL: 245 SF TOTAL: 2020 SF
LANDLORD REQUIRED VENDORS/CONTRACTORS	

DETAILED SCOPE OF WORK
1. RETAIL TENANT IMPROVEMENT OF 5635 SQUARE FEET. 2. NEW TINTED GLASS STOREFRONT AND ENTRY DOORS. 3. NEW INTERIOR WALLS, CEILING, FINISHES AND MILLWORK. 4. NEW HANDICAP ACCESSIBLE TOILET ROOM AND DRESSING ROOMS. 5. NEW AC UNITS AND DISTRIBUTION. 6. NEW LIGHTING AND EMERGENCY LIGHTING. 7. NEW ELECTRICAL PANELS AND TRANSFORMER.
VICINITY MAP
PLOT PLAN

DRAWING INDEX	
ARCHITECTURAL	
A-01	COVER SHEET, INDEX, BLDG, DATA & MAP
A-02	DEMOLITION PLAN
A-10	DIMENSIONED FLOOR PLAN
A-11	REFLECTED CEILING PLAN
A-12	FINISH LIGHTING & DOOR SCHEDULE, DISABLED ACCESS DETAILS
A-20	STOREFRONT ELEVATIONS AND SIGN DETAILS
A-30	INTERIOR ELEVATIONS
A-40	PARTITION TYPES AND DETAILS
A-41	INTERIOR DETAILS
A-42	INTERIOR DETAILS
A-50	ARCHITECTURAL SPECIFICATIONS
A-51	ARCHITECTURAL SPECIFICATIONS
A-52	ARCHITECTURAL SPECIFICATIONS
A-53	ARCHITECTURAL SPECIFICATIONS
MECHANICAL/PLUMBING	
M-1	HVAC PLAN
P-1	PLUMBING PLAN
MP-1	MECHANICAL SPECIFICATIONS
ELECTRICAL	
E-1	LIGHTING PLAN
E-2	POWER PLAN
E-3	ELECTRICAL DETAILS
E-4	ELECTRICAL SPECIFICATIONS

zumiez
STORE #408
GATEWAY SHOPPING CTR
17705 140TH AVE. N.E.
WOODINVILLE, WA 98072
SPACE #A-18

Revisions:

Rev	Date	By	Description

Architect:
JAN C. RUSSELL, AIA
ARCHITECTURE-PLANNING
2800 ROSCOMARE ROAD
LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

EMAIL: jcr@aroadrunner.com
www.russellarchitects.com

Engineer:

ARCHITECTURAL SYMBOLS:

	ELEVATION NO. SHEET NO.		DETAIL NO. SHEET NO.
	SECTION NO. SHEET NO.		

Zumiez Project Number: 408
Architects Project No: 1005.06

Date: 6/15/10
Drawn By: JCR
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Store Number: **408**
Sheet: **A-01**
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Revisions:

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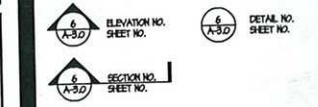
Architect
JAN C. RUSSELL, AIA
ARCHITECTURE-PLANNING
2860 ROSCOMARE ROAD
LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

EMAIL: jcr@aeroarunner.com
www.russellarchitects.com

Engineer

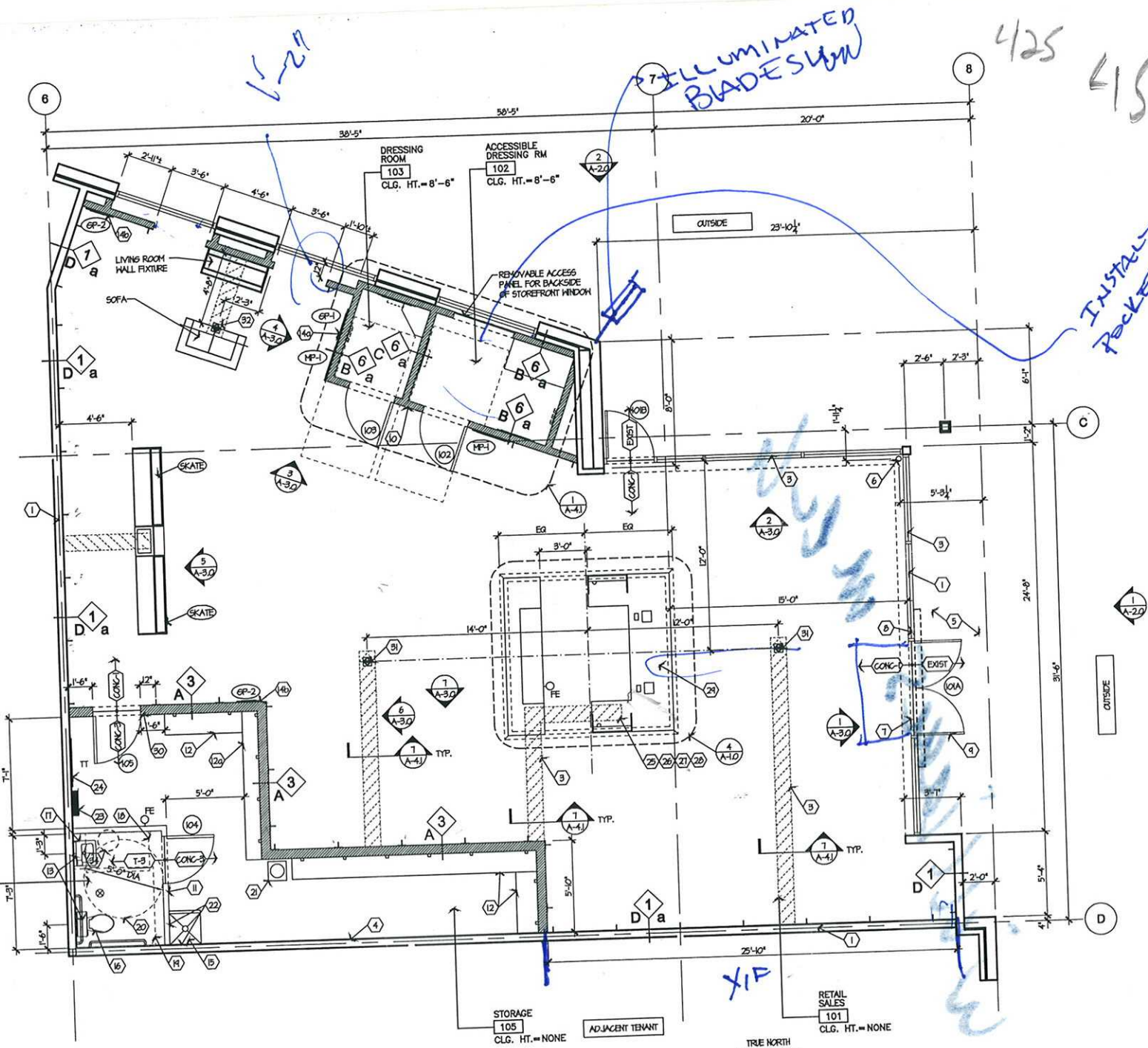
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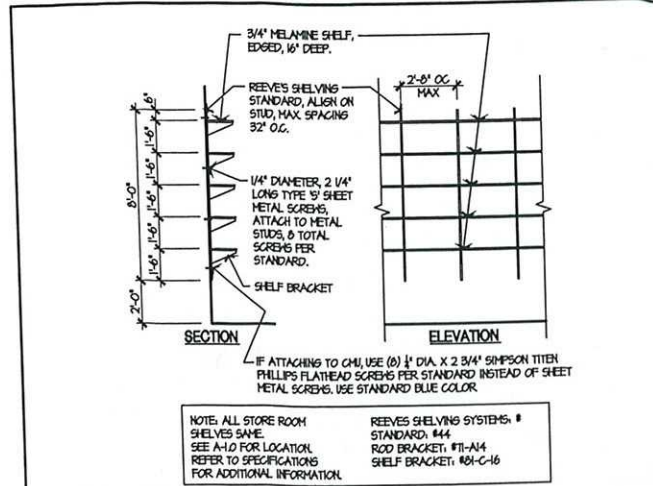


Zumiez Project Number 408
Architect's Project No. 1005.06

Date: 6/15/10 Sheet
Drawn By: JCR
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Store Number: 408
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of 21



1 DIMENSIONED FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 STORAGE SHELVING
1/4" = 1'-0"

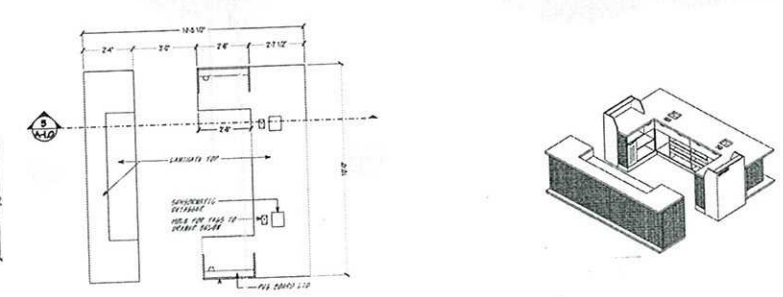
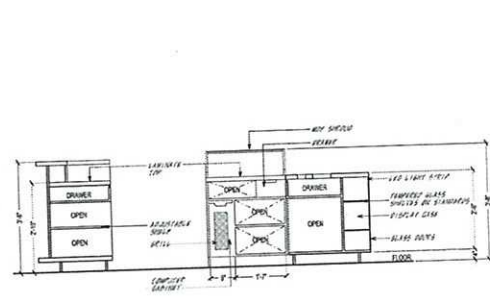
GENERAL NOTES & KEY SYMBOLS

- KEY SYMBOLS**
- 1 REFER TO SHEET A-41 FOR PARTITION DETAILS
 - 101 REFER TO SHEET A-1.2 FOR DOOR & HARDWARE SCHEDULE
 - CONC-2 REFER TO SHEET A-1.2 FOR FINISH SCHEDULE & LEGEND
 - FE FIRE EXTINGUISHER PROVIDED AND INSTALLED BY GC. VERIFY FINAL INSTALLATION LOCATION WITH FIRE MARSHALL.

- GENERAL NOTES**
- PRIOR TO BID, IF SPACE IS OCCUPIED, COORDINATE WITH OWNER FOR ACCESS RESTRICTIONS.
 - PROTECT EXISTING WALL SURFACES DURING CONSTRUCTION PATCH AND REPAIR AS REQUIRED TO MATCH ADJACENT SURFACES.
 - REMOVE EXISTING FLOOR COVERING TO BARE CONCRETE FROM ALL EXISTING SPACES, TYP. UNDO, PREPARE CONCRETE SURFACE TO RECEIVE NEW FINISH.
 - REMOVE EXISTING CEILING & SOFFITS AND ASSOCIATED MECHANICAL, & ELECTRICAL UNDO, SEE M & E
 - DO NOT ABANDON ANY UTILITIES OR MATERIALS WITHIN LEASE SPACE. REMOVE UTILITIES BACK TO THEIR SOURCE.
 - COVER MECHANICAL RETURN AIR OPENING BEFORE AND DURING CONSTRUCTION.

KEY NOTES

- LEASE LINE
- EXISTING STOREFRONT AND ENTRY DOORS TO REMAIN. PROTECT DURING CONSTRUCTION.
- PATCH AND REPAIR CONCRETE FLOOR AS REQUIRED TO INSTALL NEH UTILITIES AND WHERE EXISTING PLUMBING FIXTURES HAVE BEEN REMOVED. SEE DETAIL 1/A-41.
- EXISTING GWB FINISH TO REMAIN AT FIRE RATED WALLS, PATCH AS REQUIRED TO MAINTAIN IRR FIRE RATING AND PREPARE FOR SURFACE TREATMENT.
- PATCH AND REPAIR ANY AND ALL LANDLORD WORK DAMAGED DURING CONSTRUCTION TO MATCH EXISTING.
- PAINT FREE STANDING COLUMN (P-3)
- PROVIDE THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. SIGN ABOVE ENTRY DOORS. USE 1" HIGH LETTERS ON CONTRASTING BACKGROUND.
- ADA TACTILE EXIT SIGN, SEE DETAIL 6/A-1.2
- PROVIDE TENANT ADDRESS SIGN ON DOOR TO MATCH STANDARD MALL SIGNAGE.
- UNSEX "ACCESSIBLE" RAISED LETTER SIGN, CENTER AT 60" AFF. ON WALL, SEE DETAIL 6/A-1.2
- "ACCESSIBLE" RESTROOM SIGN, CENTER AT 60" AFF. ON WALL, SEE DETAIL 6/A-1.2
- REEVES SHELVING SYSTEM, SEE DETAIL 2/A-1.0 (NOTE: USE 12" SHELVES AT 120)
- EXISTING TOILET ROOM FIXTURES AND ACCESSORIES, SEE DETAIL 4/A-4.1
- F.O.I.G. MERCHANDISE SYSTEM/FIXTURES, SEE INTERIOR ELEVATIONS. IF THE FOLLOWING FIXTURES ARE SHOWN ON THE PLAN IT IS BECAUSE THEY ARE NOT SHOWN ON THE INTERIOR ELEVATIONS.
 - F.O.I.G. MERCHANDISE SYSTEM/FIXTURE, GP-1, SEE DETAIL 6/A-4.2
 - F.O.I.G. MERCHANDISE SYSTEM/FIXTURE, GP-2, SEE DETAIL 6/A-4.2
- HOP SINK, SEE MECHANICAL.
- EXISTING TOILET FIXTURE, VERIFY.
- EXISTING LAVATORY, VERIFY.
- 30" x 48" ADA LAVATORY CLEAR FLOOR SPACE
- 60" x 60" ADA TOILET CLEAR FLOOR SPACE.
- 60" DIAMETER ADA CLEAR TURNING SPACE.
- BOTTLED WATER DISPENSER.
- PROVIDE MARLITE (FRP-1) TO 8'-0" AFF. ON WALLS ADJACENT TO HOP SINK.
- ELECTRICAL PANELS AND TRANSFORMER, SEE ELECTRICAL.
- LOCATION FOR NEH PHONE BOARD, SEE ELECTRICAL.
- PROVIDE SURFACE MOUNTED FOURPLEX FLOOR OUTLET IN CASHWRAP- ONE SIDE DEDICATED & ISOLATED, SEE ELECTRICAL.
- PROVIDE (2) 1" CONDUITS IN CASHWRAP. SEE ELECTRICAL.
- SURFACE MOUNT JUNCTION BOX FOR CASHWRAP LIGHTING, SEE ELECTRICAL. HARDWARE CASHWRAP INTEGRAL LIGHT TO JUNCTION BOX.
- PROVIDE (2) SEPARATE TELEPHONE CABLES AND JACKS TO (2) LOCATIONS IN CASHWRAP, SEE ELECTRICAL.
- CASHWRAP COUNTER AT 2'-0" AFF, SEE DETAIL 3/A-1.0.
- SWITCH BANK, LOCATE ON PLAN WHERE INDICATED ON ELECTRICAL, HEIGHT TO BE 48" MAX. AFF. TO SWITCH OPERATION. IF SWITCH PLATES ARE LOCATED ABOVE EACH OTHER THEN SPACE 6" VERTICALLY BETWEEN CENTERLINE OF SWITCHES, LABEL PER DETAIL 1/A-1.2
- PROVIDE RECESSED FLOOR OUTLET, SEE ELECTRICAL.
- PROVIDE RECESSED FLOOR OUTLET FOR BOTH COMMUNICATIONS AND POWER, SEE ELECTRICAL. PROVIDE ADDITIONAL 2" EMPTY CONDUIT FROM FLOOR BOX TO 18" AFF. AT WALL.
- TENANT GENERAL CONTRACTOR TO FIELD ALL EXISTING DIMENSIONS (i.e. COLUMN SPACING, OVERALL DIMENSIONS, ETC) PRIOR TO STARTING CONSTRUCTION, TYPICAL.
- ELECTRIC WATER HEATER ABOVE TOILET ROOM CEILING, SEE PLUMBING.



Revisions:

Mark	Date	By	Description
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Architect:
JAN C. RUSSELL, AIA
ARCHITECTURE-PLANNING
2800 ROSCOMARE ROAD
LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

EMAIL: jcr@aia.com
www.russellarchitects.com

Engineer:

Seal:

ARCHITECTURAL SYMBOLS:

△	ELEVATION NO. SHEET NO.	△	DETAIL NO. SHEET NO.
△	SECTION NO. SHEET NO.		

Zuriez Project Number 408
Architects Project No. 1005.06

TITLE LIGHTING PLAN

Date: 6/15/10
Drawn By: JCR
Checked By: JCR
Store Number: **408**
Sheet: A-1.1 of 21

GENERAL NOTES & KEY SYMBOLS

KEY SYMBOLS

- (CONC) REFER TO SHEET A-1.2 FOR FINISH SCHEDULE & LEGEND
- (A) REFER TO SHEET A-1.1 FOR LIGHTING SCHEDULE

GENERAL NOTES

- A. PAINT ALL CEILING COMPONENTS INCLUDING DUCTWORK, SPRINKLER LINES, CONDUIT, HANGER RODS, ETC. DO NOT PAINT ITEMS TO REMAIN UNPAINTED. SEE SPECIFICATIONS.
- B. PRESERVE EXISTING LANDLORD PLENUM RETURN CEILING. SUBMIT FINAL BALANCE REPORT TO HALL OPERATIONS MANAGER PRIOR TO OPENING.

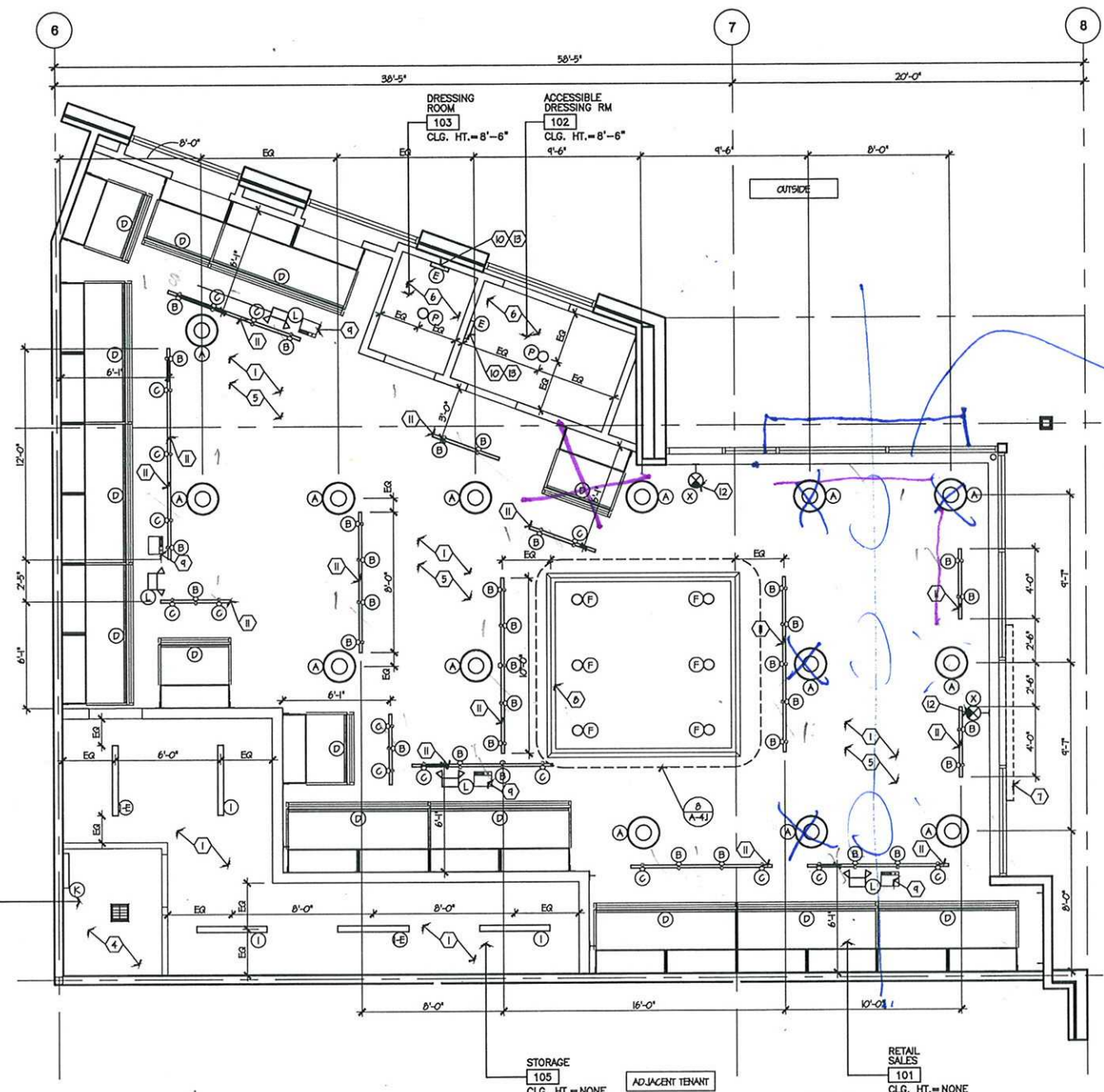
LANDLORD GENERAL NOTES

- A. SUPPORT WIRES FOR LAY-IN CEILING GRID MUST NOT BE CONNECTED TO LANDLORD'S MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION PIPING AND EQUIPMENT FROM DECK ABOVE.
- B. ALL SUPPORT WIRES MUST BE SUPPORTED FROM THE TOP CHORD OF THE BUILDING STRUCTURAL MEMBERS.
- C. ACCESS PANELS IN CEILING MUST BE LOCATED TO PROVIDE ACCESS TO LANDLORD'S MECHANICAL EQUIPMENT.
- D. ALL CEILING MATERIAL MUST HAVE A CLASS 'A' FIRE RATING. NO COMBUSTIBLES ARE PERMITTED ABOVE CEILING.

KEY NOTES

- OPEN TO STRUCTURE
-
-
- EXISTING GNB CEILING AT 8'-0" AFF. (VERIFY), 6 METAL STUDS 20 GA AT 16" O.C. BELOW WATER HEATER. USE 6" METAL STUDS 20 GA AT 12" O.C.
- EXISTING BEAMS, DECK, JOISTS, ETC., PAINTED P-4.
- GNB CEILING AT 8'-6" AFF., 6" METAL STUDS 20 GA AT 16" O.C.
- OWNER FURNISHED ILLUMINATED SIGN. SEE ELECTRICAL.
- CASHWRAP SOFFIT AT 8'-4" AFF., SEE DETAIL 8/A-4.1
- CONTRACTOR INSTALLED, OWNER FURNISHED SPEAKERS, MOUNT TO CEILING @ 15'-0" AFF., PROVIDE (1) PAIR CONCEALED 14 GA SHIELDED SPEAKER WIRE PER SPEAKER TO CASH WRAP, SEE ELECTRICAL AND DETAIL 5/A-4.1
- PROVIDE J-BOX FOR F.O.I.C. LIGHT FIXTURES
- SUSPENDED LIGHT TRACK AND LIGHT, SEE DETAIL 11/A-4.1
- EXIT LAMP WITH BATTERY BACK-UP, MOUNT TO VERTICAL WALL SURFACE.
- OWNER FURNISHED HALL SCENCE, CENTER ON DRESSING ROOM DOORS, PROVIDE J-BOX, SEE LIGHTING SCHEDULE FOR MOUNTING HEIGHTS

Full Length Track & Mullion Oppen

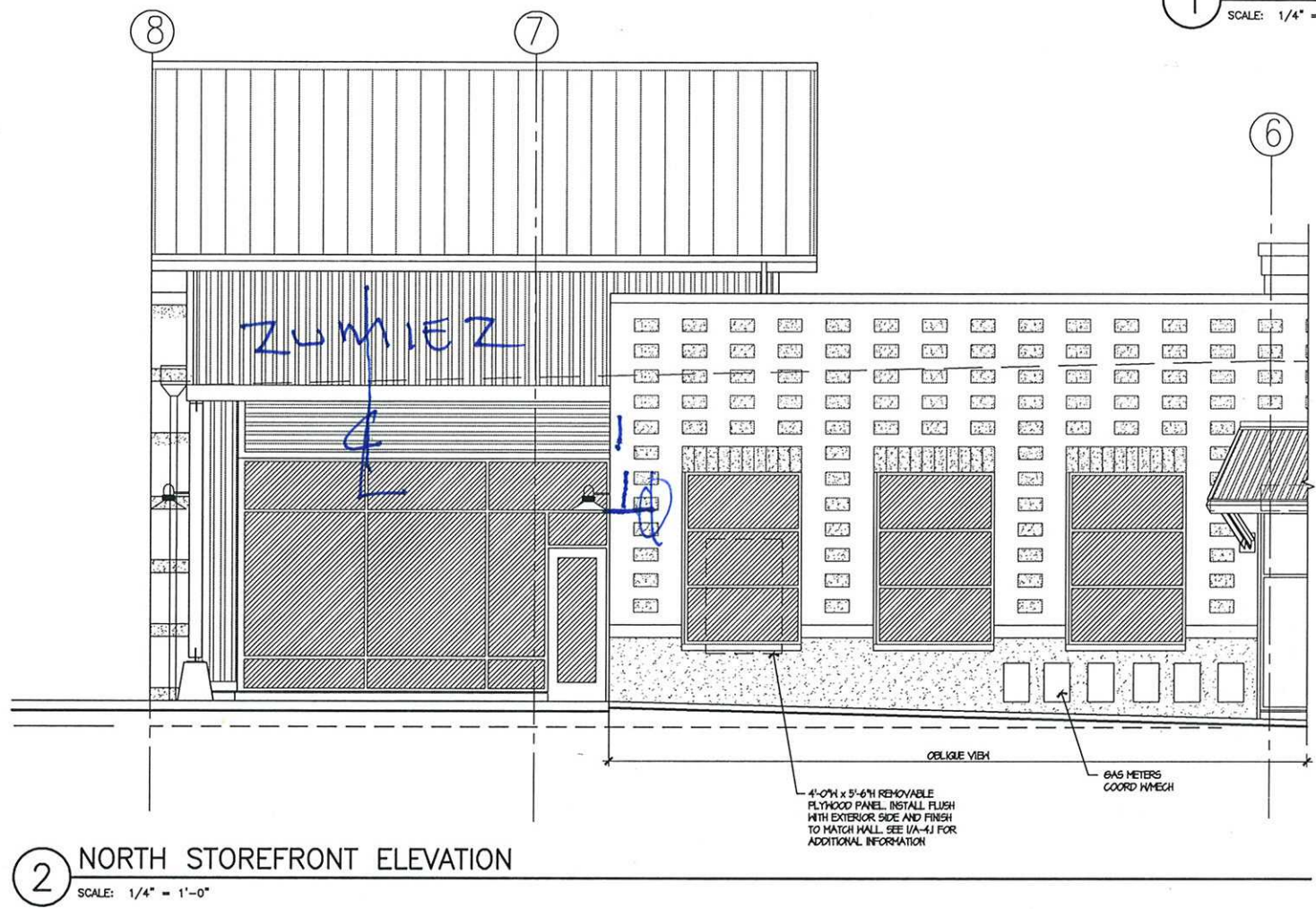
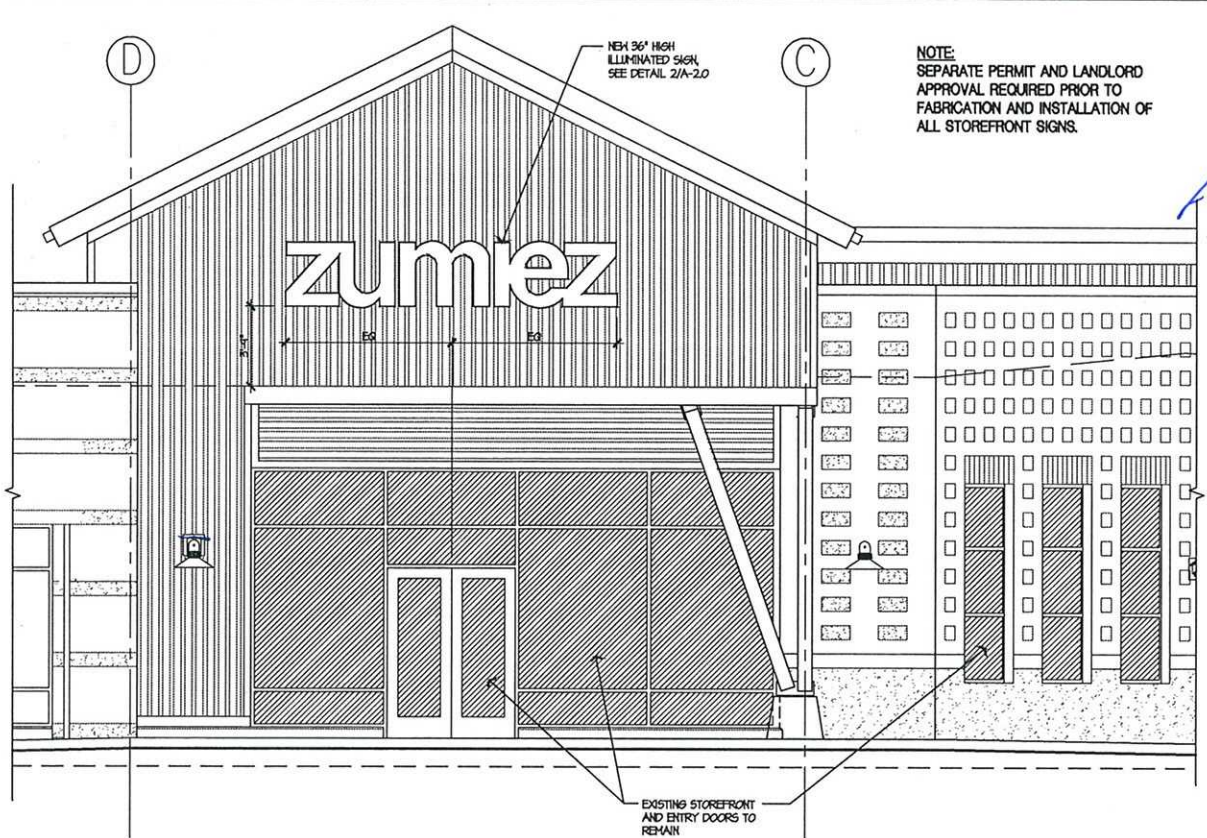
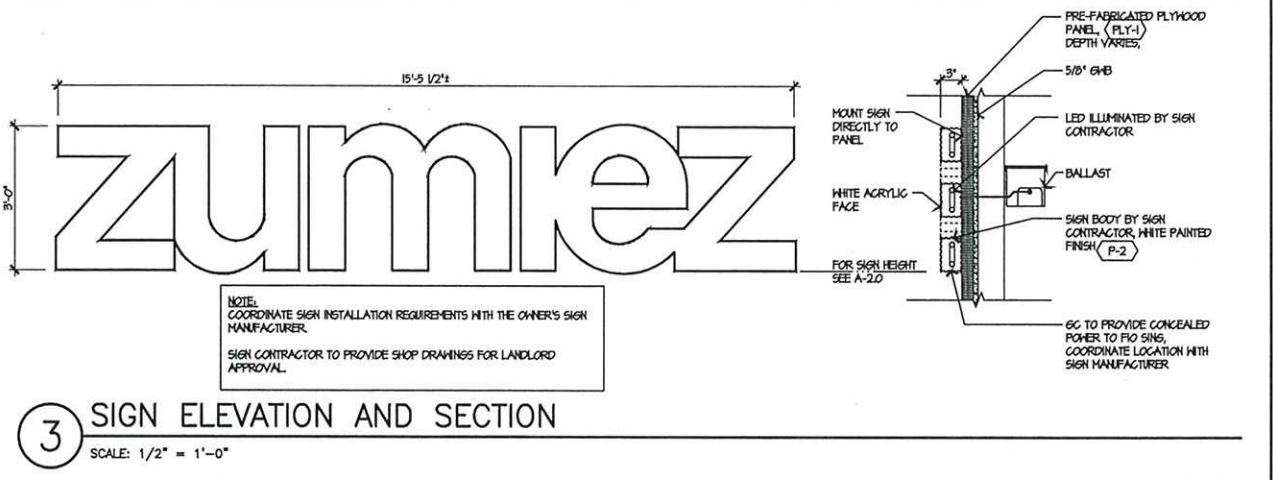


1 REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



NOTE: ALL LIGHTING F.O.I.C. UNO

MARK	FIXTURE MARK	QUANT	FIXTURE	FIXTURE	NOTES
(A)	○	14	FOCAL POINT GROOVE 6	TRIPLE TUBE 6X24G-4	F.O.I.C.
(B)	○	35	LIGHTOLIER 41TB3MIN FORM5 CYLINDER MR16	50 H MR16 FL (EXN)	F.O.I.C. - AIM TOWARDS CENTER, TYP.
(B)	○	0	T55 RECESS TRACK HOUSING LIGHTOLIER 41TB3, MIN FORM5 CYLINDER MR16	50 H MR16 FL (EXN)	PAINT HOUSING MATTE BLACK IN FIELD
(C)	○	16	LIGHTOLIER LIGHTSPAN 010	CH4PAR30FL30	F.O.I.C. - AIM TOWARDS PERIMETER WALL, TYP.
(D)	○	23	CUSTOM	T5	F.O.I.C.
(E)	○	2	RESOLUTE "BOX"	184 BX4 CFL	F.O.I.C. - MOUNT T-8" AFF. TO CENTERLINE OF FIXTURE
(F)	○	6	LIGHTOLIER DOWNLIGHT D4402/20KCL/4180V	F18BX1835/AECO	F.O.I.C.
(G)	○	0	LIGHTOLIER DOWNLIGHT C6F3044WCLP/66A3P30E	394PAR30CH1	F.O.I.C.
(H)	○	0	LIGHTOLIER DOWNLIGHT P82B034EL	(2) 394 PAR30 MH	F.O.I.C.
(I)	○	3	METALLUX EP1X-24 HRAP-EL	F28-T8-SF35-UNX	F.O.I.C.
(E)	○	2	METALLUX EP1X-24 HRAP	F28-T8-SF35-UNX	F.O.I.C.
(K)	○	1	FOIC - LITHONIA HC21H-120V-TUBI	(2) F01 T-8, 4100K	WALL MOUNT AT 74" AFF. TO BOTTOM OF FIXTURE
(L)	○	-	LITHONIA EL4621	(2) H206-B-N-50	EMERGENCY
(P)	○	2	LIGHTOLIER DOWNLIGHT 5142BU	F421BX / 035 / N / EGO	F.O.I.C.
(X)	○	2	LITHONIA LGH-5-R-120/271-EL	LED W/ FIXTURE	EXIT LIGHT



zumiez
STORE #408

GATEWAY SHOPPING CTR
17705 140TH AVE. N.E.
WOODINVILLE, WA 98072
SPACE #A-18

Revisions:

Mark	Date	By	Description
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△			

Architect
JAN C. RUSSELL, AIA
ARCHITECTURE-PLANNING
2860 ROSCOMARE ROAD
LOS ANGELES, CA 90077
TELEPHONE (916) 476-2170

EMAIL: jcr@a-roadrunner.com
www.russellarchitects.com

Engineer

Seal

ARCHITECTURAL SYMBOLS:

	ELEVATION NO. A-3.0 SHEET NO.		DETAIL NO. A-3.0 SHEET NO.
	SECTION NO. A-3.0 SHEET NO.		

Zumiez Project Number 408
Architect's Project No. 1005.06

STOREFRONT ELEVATIONS, SECTIONS, AND DETAILS

Date: 6/15/10
Drawn By: JCR
Checked By: JCR
Store Number: 408
Sheet: A-2.0
Of: 21

zumiez

STORE #408

GATEWAY SHOPPING CTR
17705 140TH AVE. N.E.
WOODINVILLE, WA 98072
SPACE #A-18

Revisions:

Rev	Date	By	Description
1			
2			
3			
4			
5			
6			
7			

Contractor:
JAN C. RUSSELL, AIA
ARCHITECTURE-PLANNING
2800 ROSCOMARE ROAD
LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

EMAIL: jcr@aia-roadrunner.com
www.russellarchitects.com

Engineer

Seal

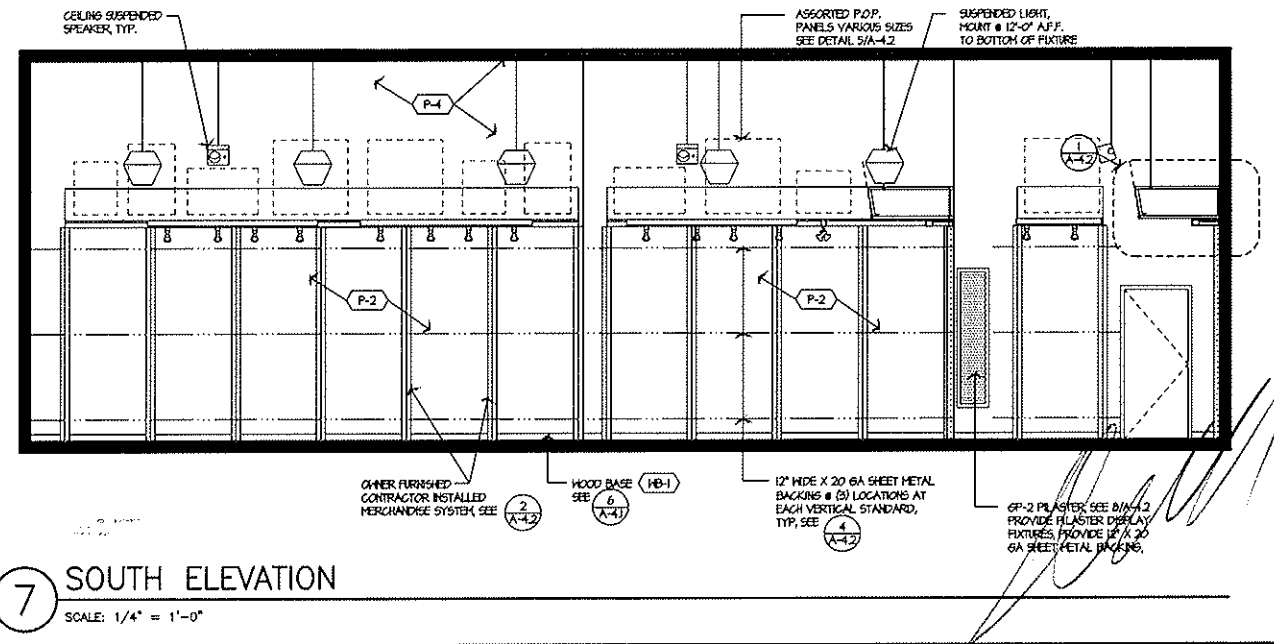
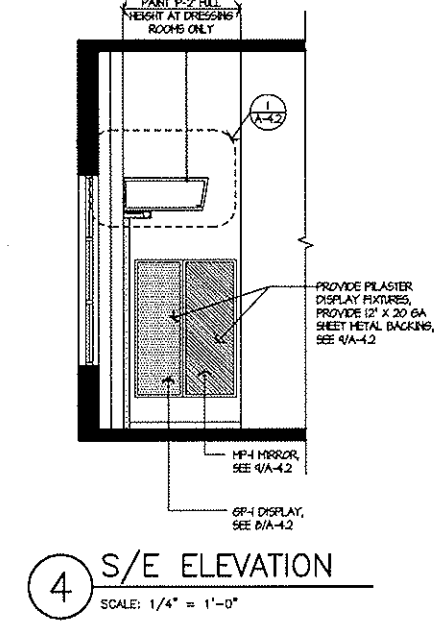
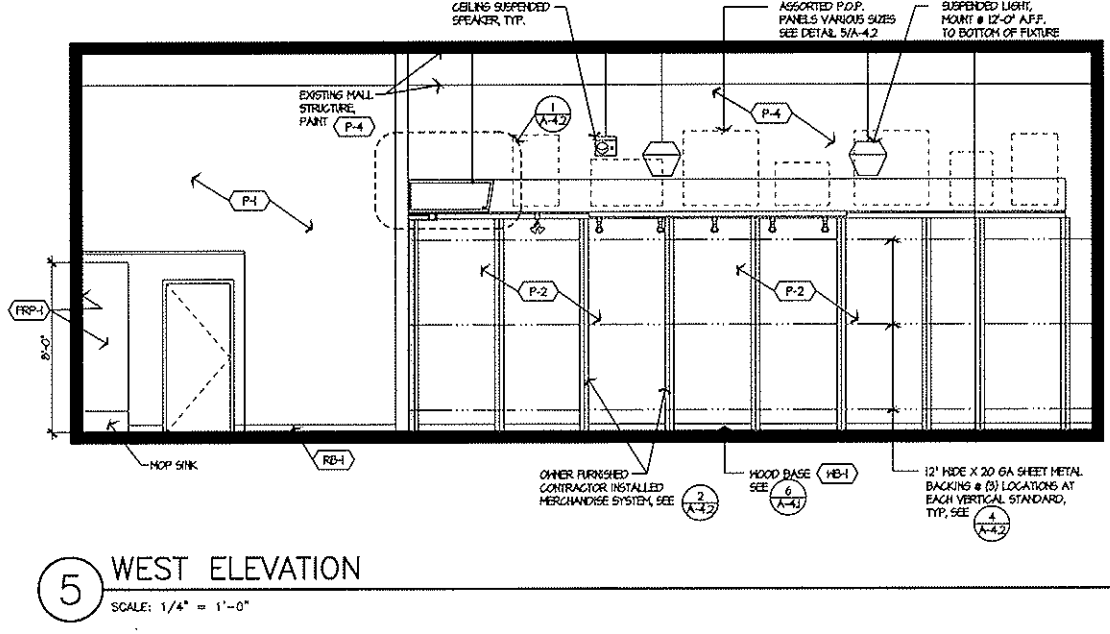
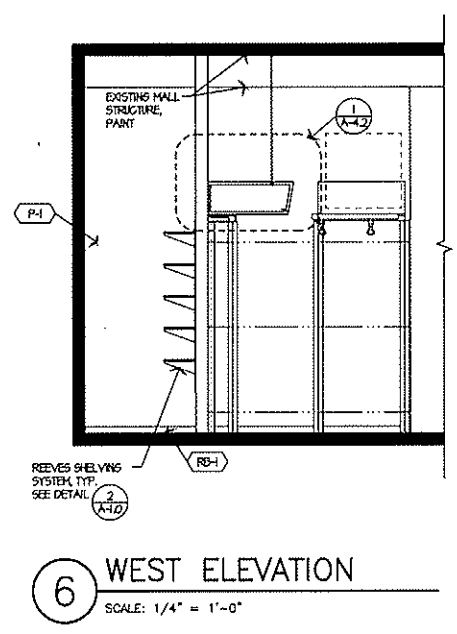
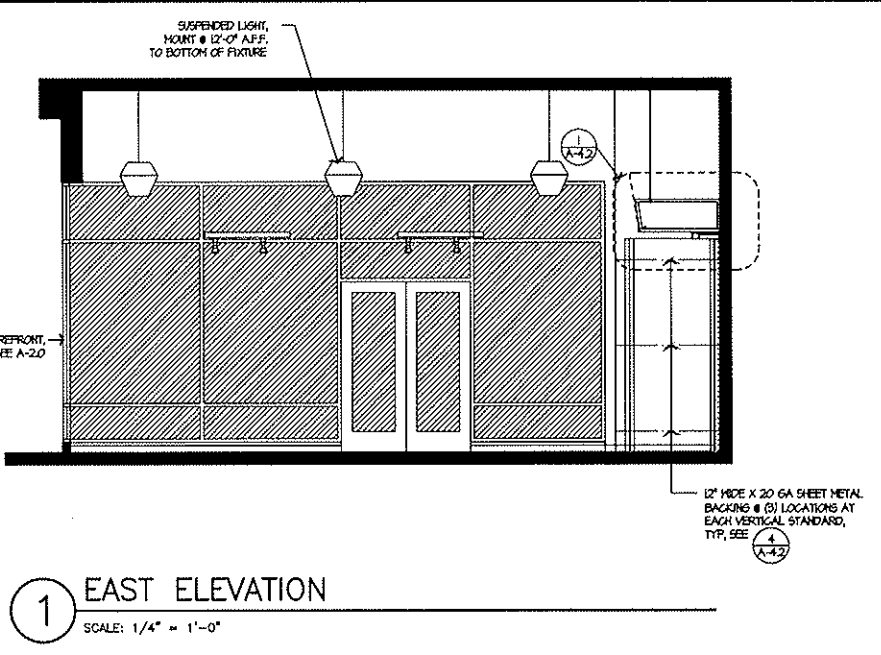
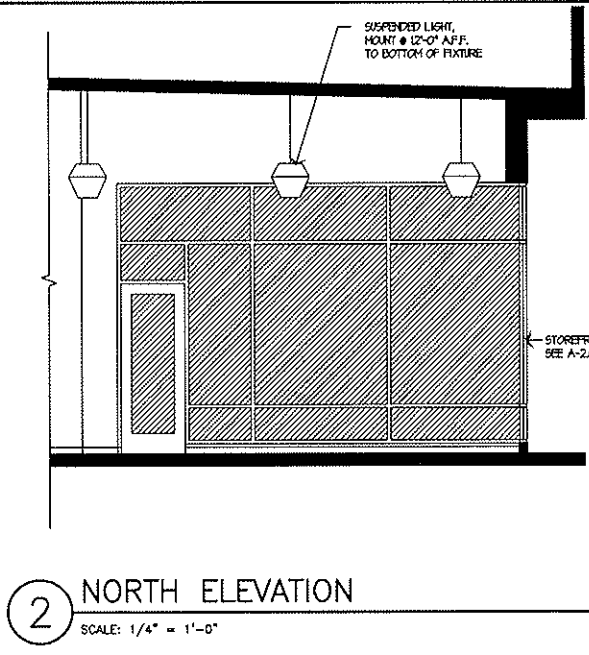
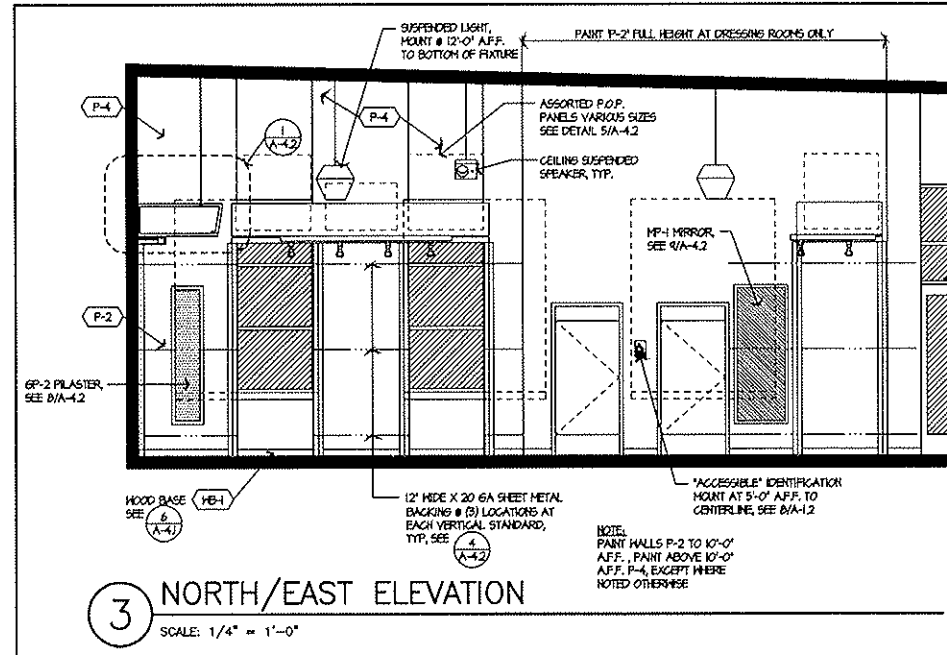
ARCHITECTURAL SYMBOLS:

	ELEVATION NO. SHEET NO.		DETAIL NO. SHEET NO.
	SECTION NO. SHEET NO.		

Zumiez Project Number: 408
Architect Project No.: 1005.06

INTERIOR ELEVATIONS

Date:	8/15/10	Sheet:	
Drawn By:	JCR	Checked By:	JCR
Store Number:	408	Sheet:	A-3.0
		Of:	21



Revisions:

Rev	Date	By	Description
1			
2			
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Architect:

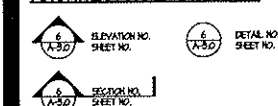
JAN C. RUSSELL, AIA
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LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

EMAIL: jcr@aia.com
www.russellarchitects.com

Engineer:

Scale:

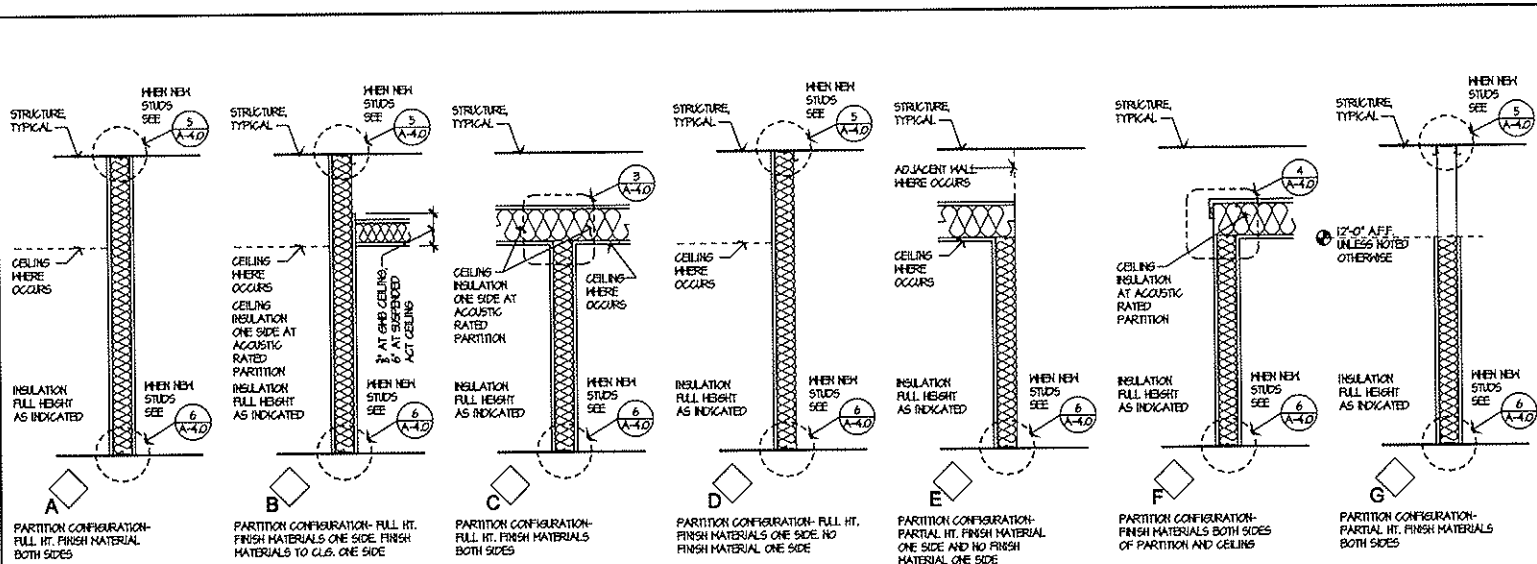
ARCHITECTURAL SYMBOLS:



Project Number: 408
Architect Project No: 1005.06

SECTION AND DETAILS

Date: 6/15/18
Drawn By: JCR
Checked By: JCR
Store Number: **408**
Sheet: **A-4.0**
of 21

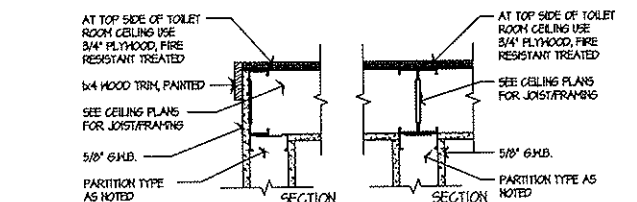


1 STANDARD PARTITION CONFIGURATION

NOT TO SCALE

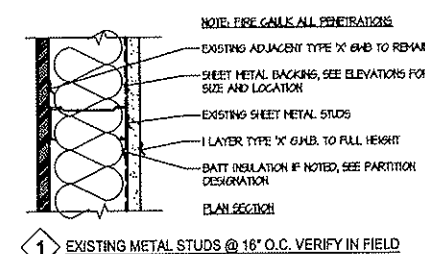
STANDARD PARTITION CONSTRUCTION

- U.L. DESIGN NO. U465 (SEE U.L. DESIGN STANDARDS FOR COMPLETE REQUIREMENTS)
NON-BEARING WALL RATING - 1 HR.
- FLOOR AND CEILING RUNNERS - CHANNEL SHAPED RUNNERS, 3" WIDE (MIN), 1 1/2" LEGS, FORMED FROM MIN. NO. 25 MSG. GALVANIZED STEEL ATTACHED TO FLOOR AND CEILING WITH FASTENERS SPACED AT 24" O.C., MAX.
 - STEEL STUDS - CHANNEL SHAPED, 3" WIDE (MIN), 1 1/2" LEGS, 3" FOLDED BACK RETURNS, FORMED FROM MIN. NO. 25 MSG. GALVANIZED STEEL SPACED 24" O.C., MAX. INSTALL PER SPACING AS NOTED.
 - BATTIS AND BLANKETS - AS NOTED.
 - GYPSUM WALLBOARD - 1/2" THICK, 4 FOOT WIDE, ATTACHED TO STEEL STUDS AND FLOOR AND CEILING TRACK WITH 1 INCH LONG TYPE 'S' STEEL SCREWS SPACED 8 INCHES O.C. ALONG EDGES OF BOARD AND 12 INCHES O.C. IN THE FIELD OF THE BOARD. JOINTS ORIENTED VERTICALLY AND STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY. SEE U.L. BOOK FOR ACCEPTABLE MANUFACTURERS AND PRODUCTS.
 - JOINT TAPE AND COMPOUND - VINYL, DRY, OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS, PAPER TAPE, 2 INCHES WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINT. JOINTS REINFORCED.
- U.L. DESIGN NO. U465 (SEE U.L. DESIGN STANDARDS FOR COMPLETE REQUIREMENTS)
NON-BEARING WALL RATING - 1 HR.
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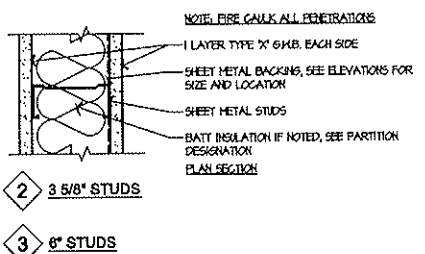
2 LIGHTGAUGE METAL FRAMING THICKNESS AND FLANGE WIDTH

NOT TO SCALE



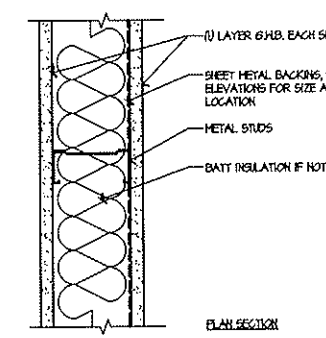
1 PARTITION (1 HR. FIRE-RATED) CONSTRUCTION PER U.L. DESIGN #U465

NOT TO SCALE



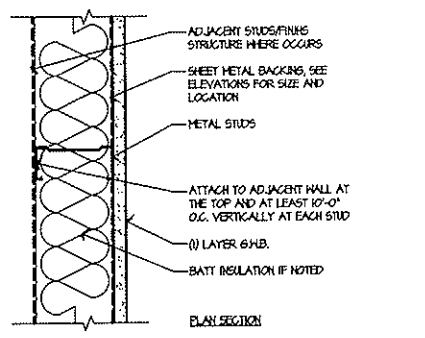
2 PARTITION (1 HR. FIRE-RATED) CONSTRUCTION PER U.L. DESIGN #U465

NOT TO SCALE



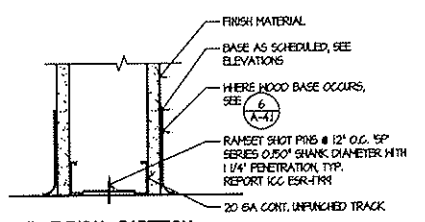
6 PARTITION

NOT TO SCALE

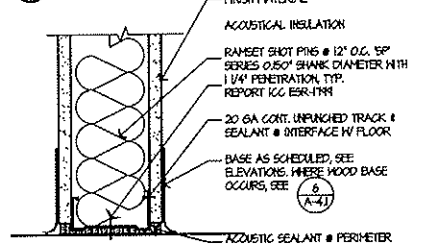


8 PARTITION

NOT TO SCALE



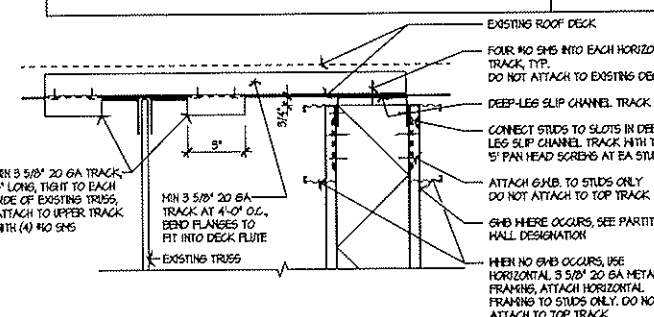
A TYPICAL PARTITION



B ACOUSTICAL PARTITION

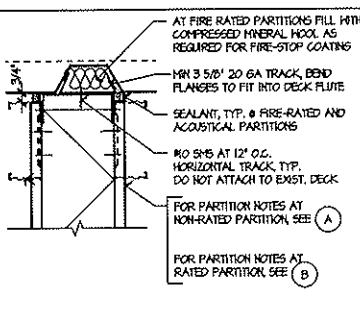
6 PARTITION BASE

NOT TO SCALE



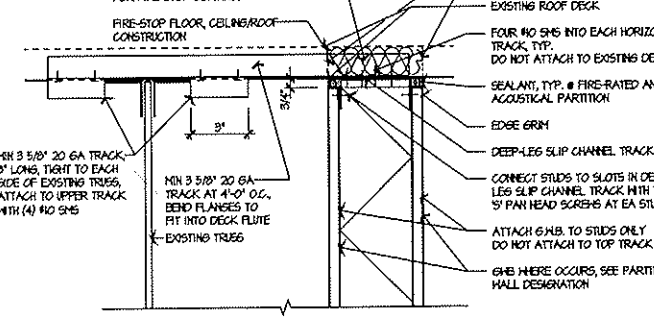
A NON-RATED PARTITION PERPENDICULAR TO DECK FLUTES

NOT TO SCALE



C RATED AND NON-RATED PARTITION PARALLEL TO DECK FLUTES

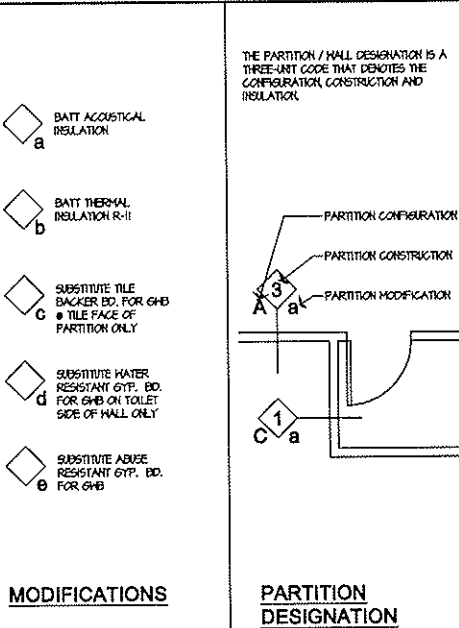
NOT TO SCALE



A NON-RATED PARTITION PERPENDICULAR TO DECK FLUTES

5 TOP OF WALL DETAIL

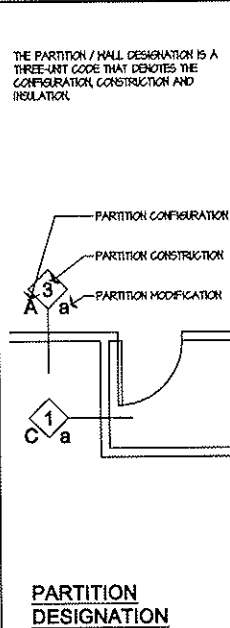
NOT TO SCALE



MODIFICATIONS

- ◇ BATT ACOUSTICAL INSULATION
- ◇ BATT THERMAL INSULATION R-II
- ◇ SUBSTITUTE TILE BACKER BD. FOR GMB
- ◇ SUBSTITUTE WATER RESISTANT GYP. BD. FOR GMB
- ◇ SUBSTITUTE ABUSE RESISTANT GYP. BD. FOR GMB

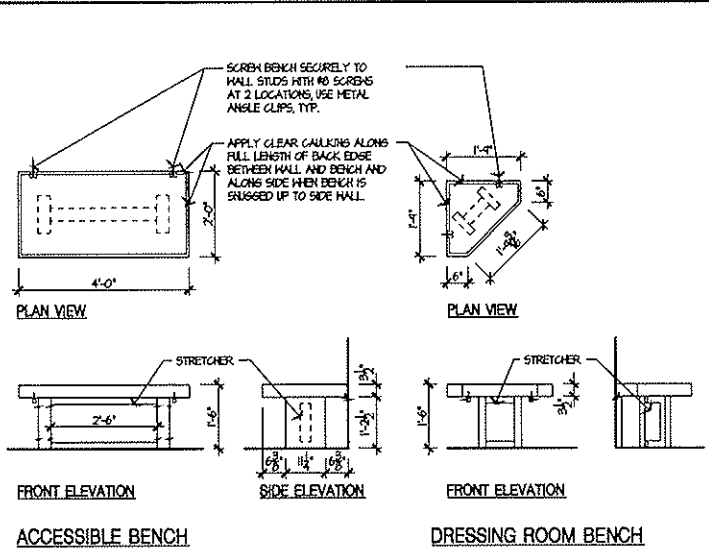
UNLESS NOTED OTHERWISE THE STEEL GAUSES FOR LIGHT GAUGE METAL FRAMING MEMBERS ARE TO BE EQUAL TO THE FOLLOWING THICKNESSES IN MILLIMETERS:
25 GA = 18 MIL
22 GA = 27 MIL
20 GA DRYWALL = 30 MIL
20 GA OR 20 GA STRUCTURAL = 33 MIL
18 GA = 43 MIL
16 GA = 51 MIL
14 GA = 68 MIL
12 GA = 97 MIL
UNLESS NOTED OTHERWISE THE WIDTH OF THE FLANGES FOR LIGHT GAUGE FRAMING SHALL BE 1.25 INCHES



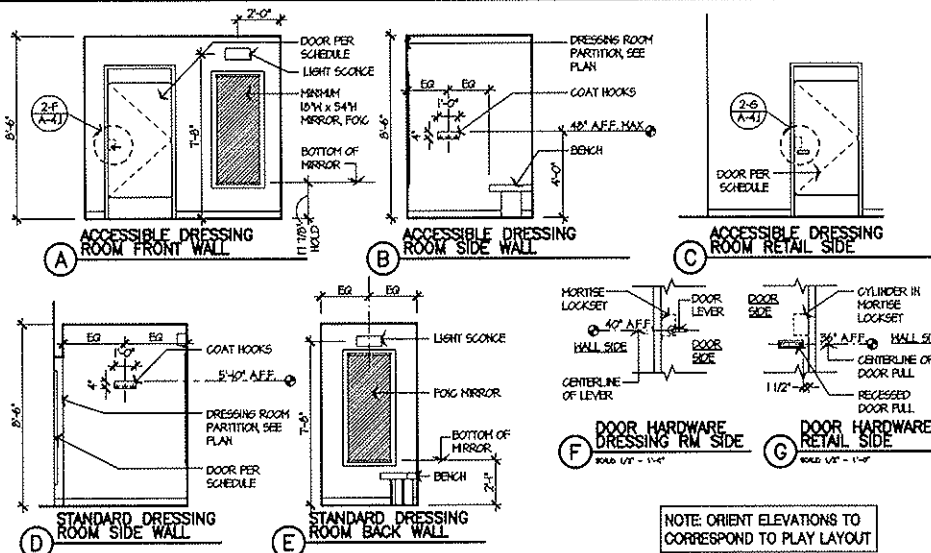
PARTITION DESIGNATION

THE PARTITION / WALL DESIGNATION IS A THREE-PART CODE THAT DENOTES THE CONFIGURATION, CONSTRUCTION AND INSULATION

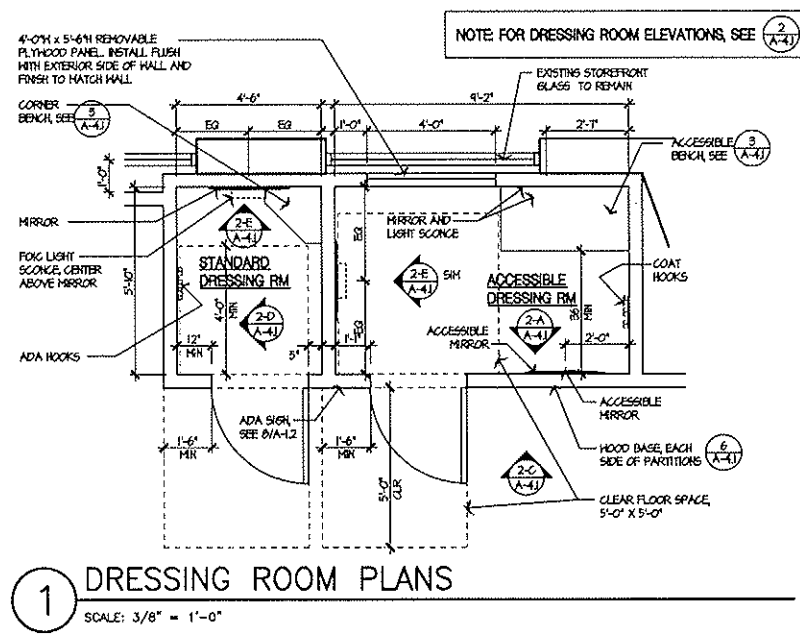
UNLESS NOTED OTHERWISE THE WIDTH OF THE FLANGES FOR LIGHT GAUGE FRAMING SHALL BE 1.25 INCHES



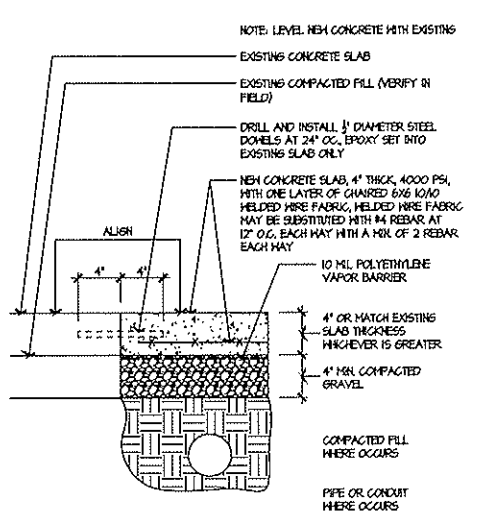
3 DRESSING ROOM BENCH
SCALE: 1/2" = 1'-0"



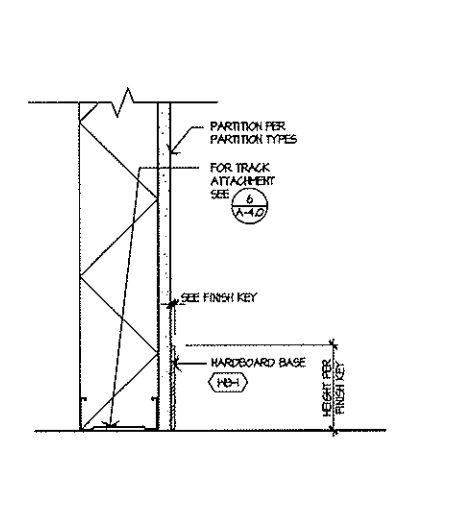
2 DRESSING ROOM ELEVATIONS
SCALE: 1/4" = 1'-0"



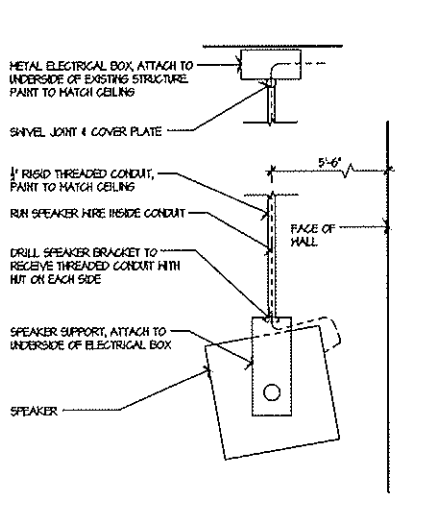
1 DRESSING ROOM PLANS
SCALE: 3/8" = 1'-0"



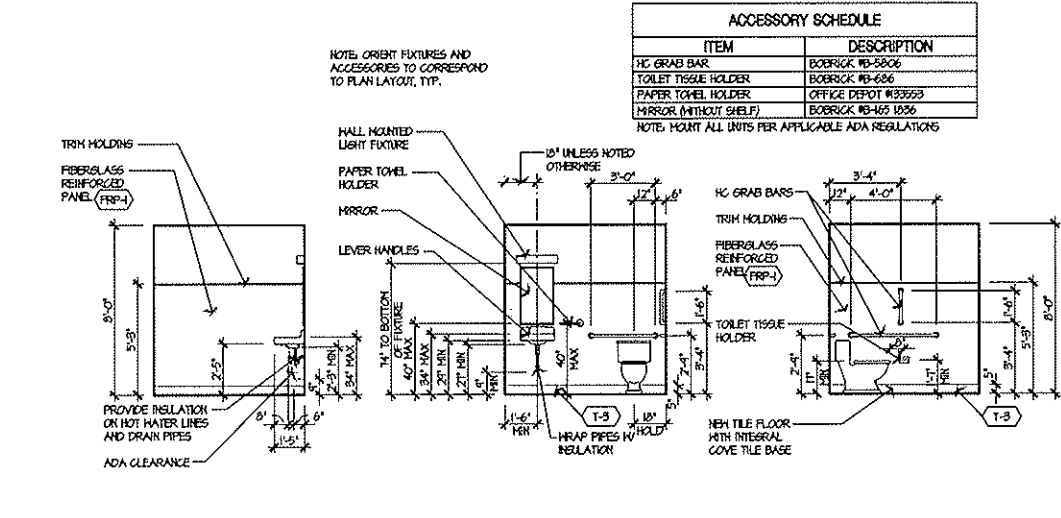
7 CONCRETE FLOOR PATCH
SCALE: 1 1/2" = 1'-0"



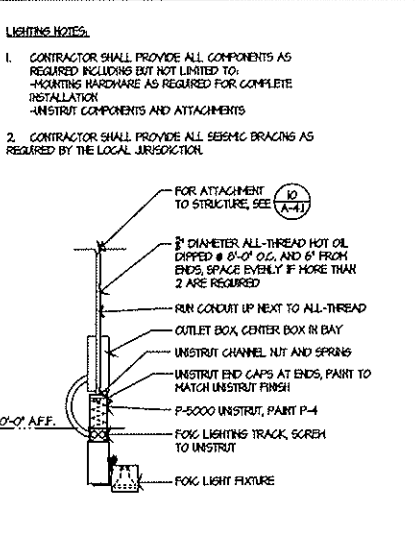
6 WOOD BASE DETAIL
SCALE: 3" = 1'-0"



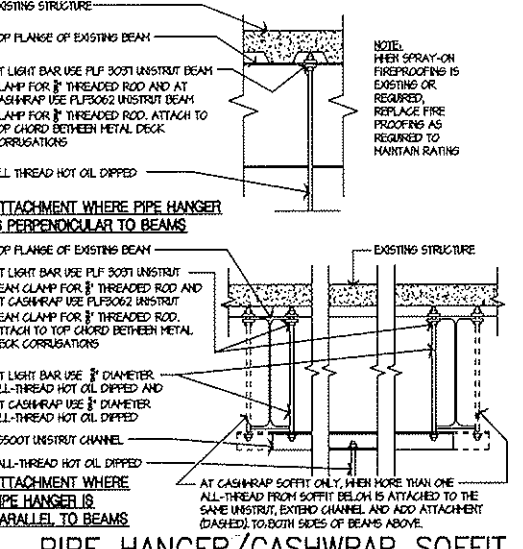
5 SUSPENDED SPEAKER
NOT TO SCALE



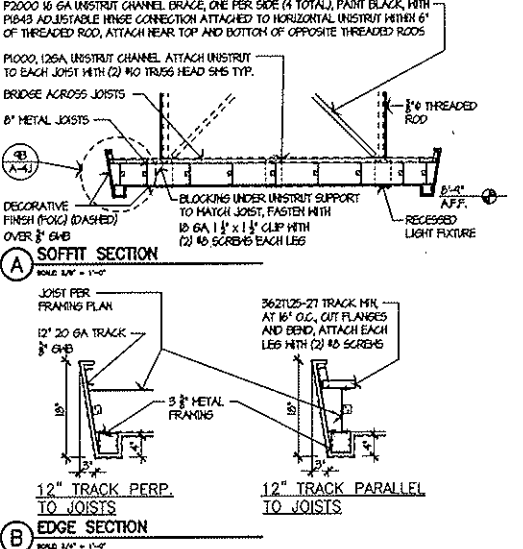
4 TOILET ROOM ELEVATIONS & ACCESSORY SCHEDULE
SCALE: 1/4" = 1'-0"



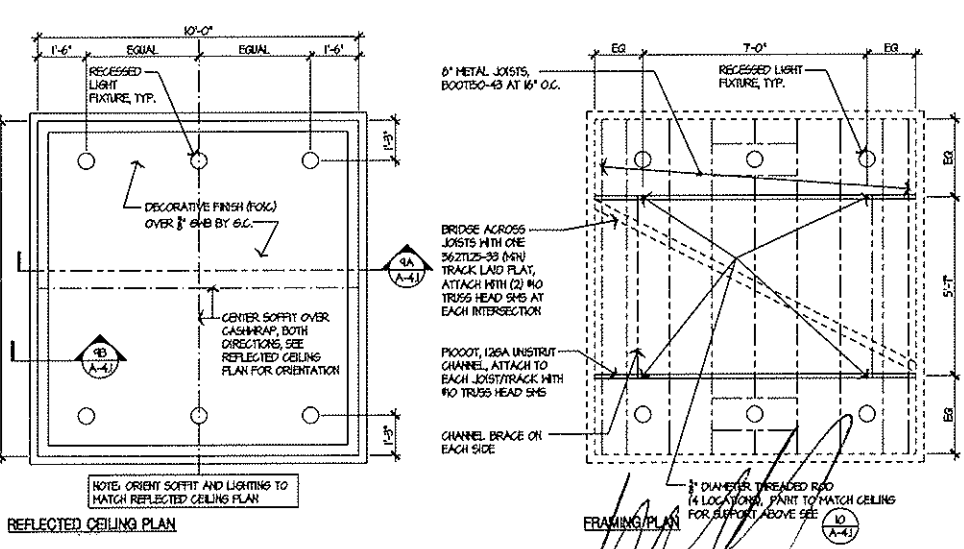
11 SUSPENDED LIGHT
SCALE: 1 1/2" = 1'-0"



10 PIPE HANGER/CASHWRAP SOFFIT CONNECTION TO STRUCTURE
NOT TO SCALE



9 CASHWRAP SOFFIT DETAIL
SCALE AS NOTED



8 CASHWRAP SOFFIT RCP
SCALE: 3/8" = 1'-0"

Revisions:

Mark	Date	By	Description

Architect:
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ARCHITECTURE-PLANNING
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LOS ANGELES, CA 90077
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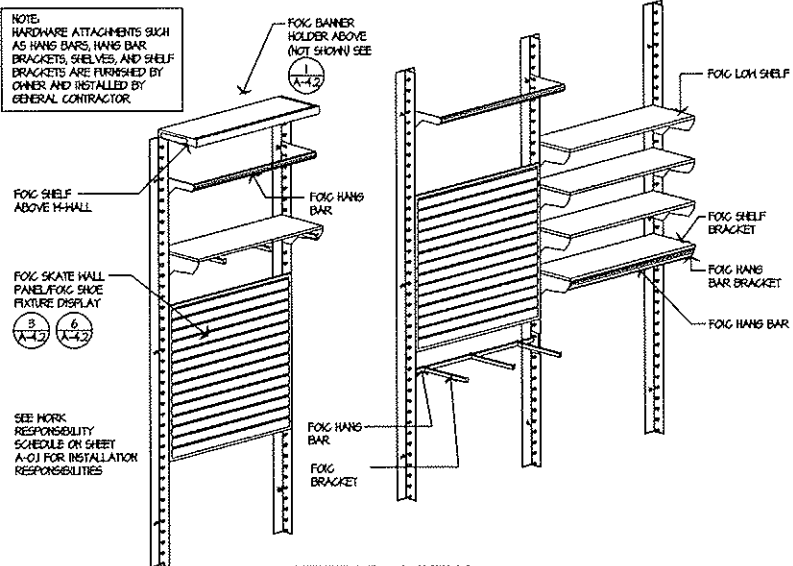
ARCHITECTURAL SYMBOLS:

	ELEVATION NO. SHEET NO.		DETAIL NO. SHEET NO.
	SECTION NO. SHEET NO.		

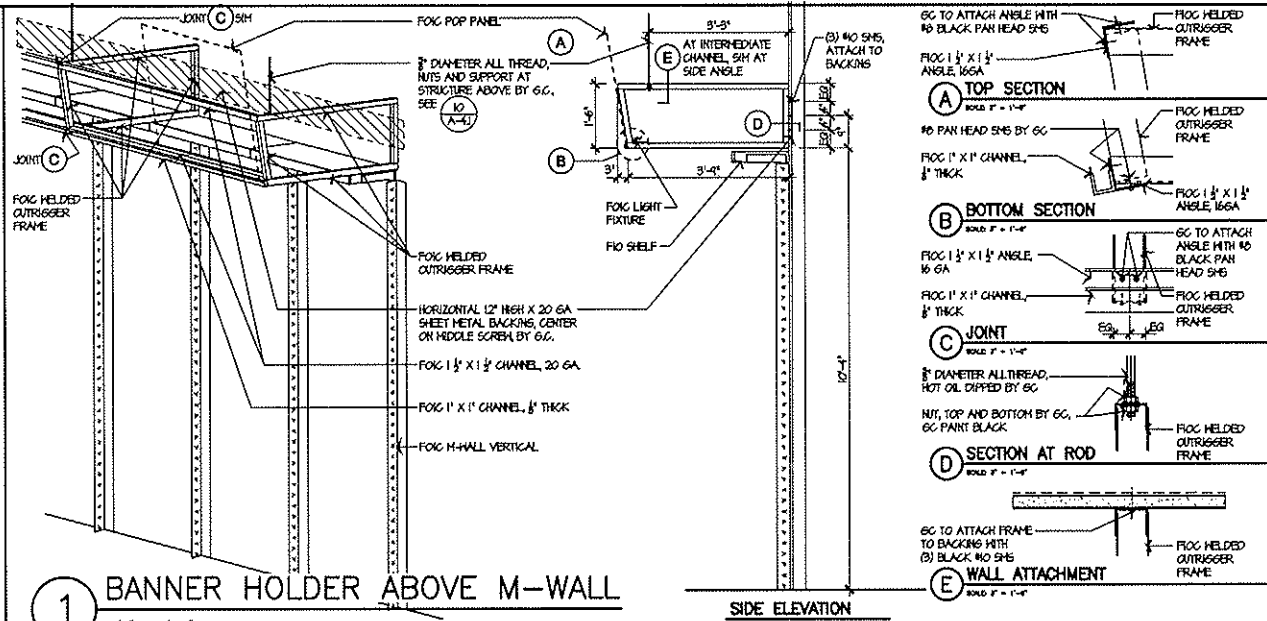
Zumiez Project Number: 408
Architects Project No.: 1003.05

DATE: 6/15/19
DRAWN BY: JCR
CHECKED BY: JCR
SCALE: AS SHOWN
SHEET NUMBER: 408
OF 21

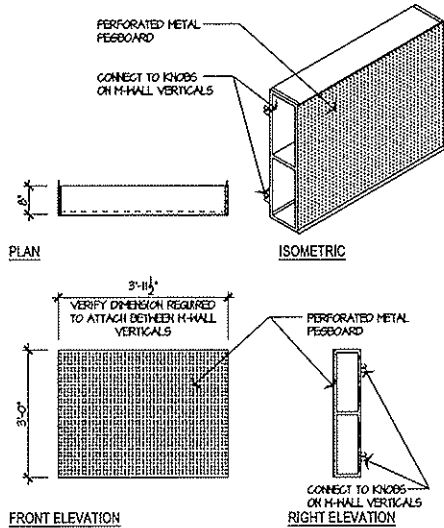
NOTE: HARDWARE ATTACHMENTS SUCH AS HANG BARS, HANG BAR BRACKETS, SHELVES, AND SHELF BRACKETS ARE FURNISHED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR.



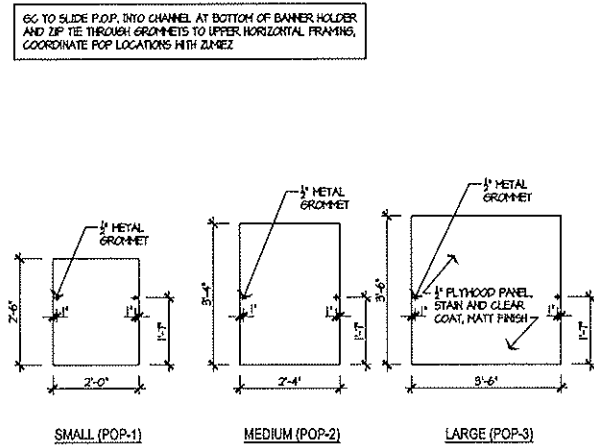
2 MERCHANDISE SYSTEM ISOMETRIC VIEW
1/2" = 1'-0"



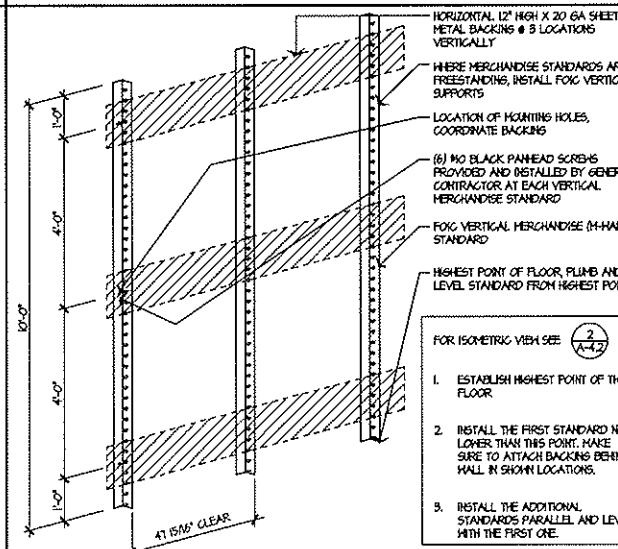
1 BANNER HOLDER ABOVE M-WALL
1/2" = 1'-0"



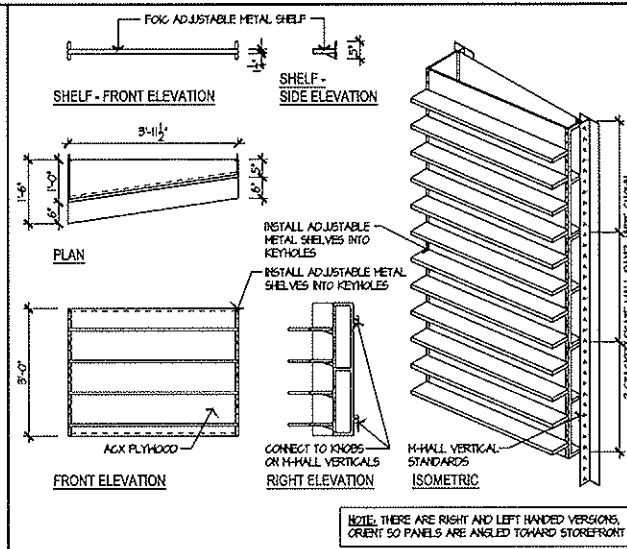
6 SKATE WALL PANEL (FOIC)
1/2" = 1'-0"



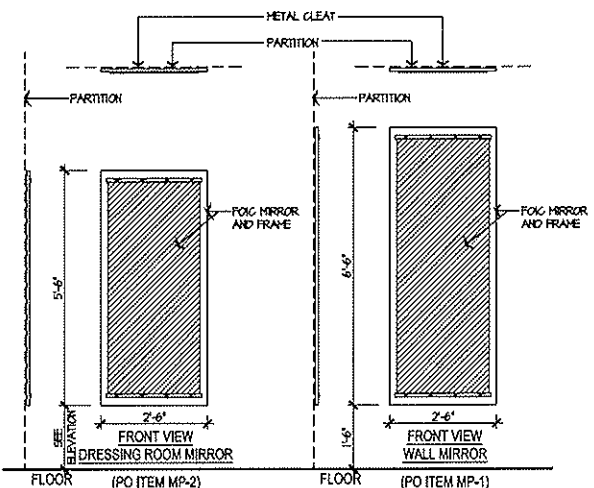
5 P.O.P. PANELS (FOIC)
1/2" = 1'-0"



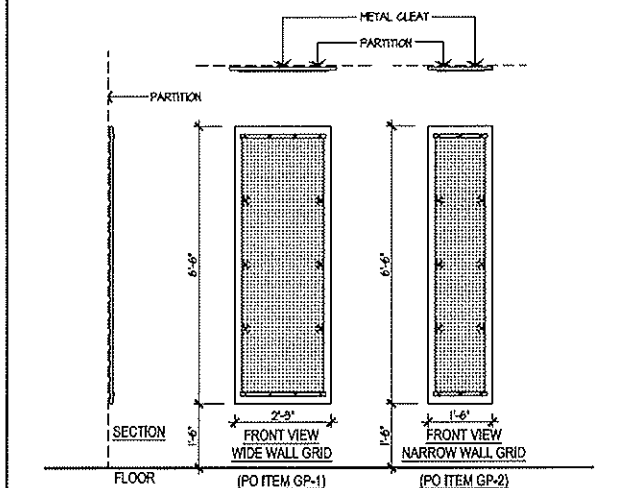
4 10' VERTICAL MERCHANDISE STD
1/2" = 1'-0"



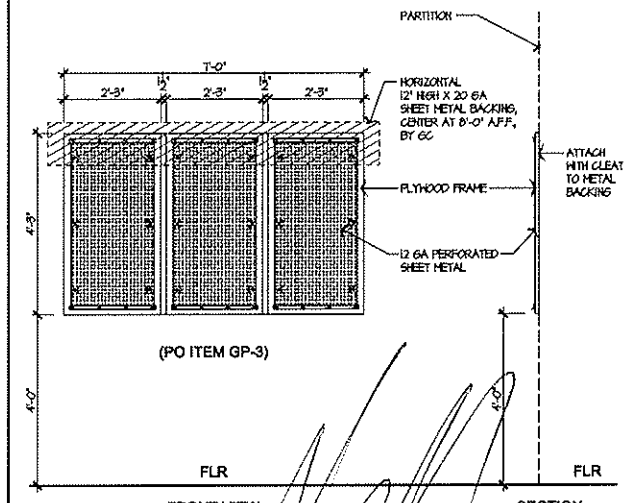
3 SHOE DISPLAY FIXTURE (FOIC)
1/2" = 1'-0"



9 PILASTER DISPLAY W/ MIRROR (FOIC)
1/2" = 1'-0"



8 PILASTER DISPLAY (NO MIRROR)(FOIC)
1/2" = 1'-0"



7 DISPLAY BEHIND CASHWRAP (FOIC)
1/2" = 1'-0"

Revisions:

NO.	DATE	BY	DESCRIPTION

Architect:
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ARCHITECTURE-PLANNING
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LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

EMAIL: jcr@aia-roadrunner.com
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ARCHITECTURAL SYMBOLS:

	ELEVATION NO. SHEET NO.		DETAIL NO. SHEET NO.
	SECTION NO. SHEET NO.		

Zumiez Project Number: 408
Architect Project No.: 1005.06

The
INTERIOR DETAILS

Date: 8/15/10
Drawn By: JCR
Checked By: JCR
Scale Number: **408**
Sheet: **A-4.2**
Of: 21

DIVISION 09 - FINISHES (CONTINUED)

1. PARTS TO BE SUPPLIED BY OTHERS: SEE SPECIFICATIONS AND NOTES FOR PARTS TO BE SUPPLIED BY OTHERS.
2. FINISHES TO BE SUPPLIED BY OTHERS: SEE SPECIFICATIONS AND NOTES FOR FINISHES TO BE SUPPLIED BY OTHERS.
3. FINISHES TO BE SUPPLIED BY OTHERS: SEE SPECIFICATIONS AND NOTES FOR FINISHES TO BE SUPPLIED BY OTHERS.

DIVISION 10 - SPECIALTIES (CONTINUED)

1. PARTS TO BE SUPPLIED BY OTHERS: SEE SPECIFICATIONS AND NOTES FOR PARTS TO BE SUPPLIED BY OTHERS.
2. FINISHES TO BE SUPPLIED BY OTHERS: SEE SPECIFICATIONS AND NOTES FOR FINISHES TO BE SUPPLIED BY OTHERS.
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zumiez STORE #408

GATEWAY SHOPPING CTR 17705 140TH AVE. N.E. WOODINVILLE, WA 98072 SPACE #A-18

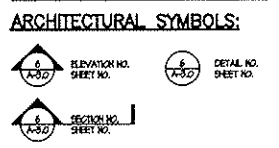
Revisions table with columns: Mark, Date, By, Description. Contains three revision entries.

Architect: JAN C. RUSSELL, AIA ARCHITECTURE-PLANNING 2800 ROSCOMARE ROAD LOS ANGELES, CA 90077 TELEPHONE (310) 476-2170

EMAIL: jcr@aia-roadrunner.com www.russellarchitects.com

Engineer: [Blank space for engineer name]

Scale: [Blank space for scale]



Zumiez Project Number: 408 Architect Project No.: 1005.06

The ARCHITECTURAL SPECIFICATIONS Date: 8/15/10 Sheet: 408 of 21

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PLUMBING FIXTURE SCHEDULE									
MARK	FIXTURE	BRANCH SIZES (MINIMUM)				MANUFACTURER	MODEL	DESCRIPTION	NOTES
		CN	HW	WASTE	VENT				
WC1	WATER CLOSET HANDICAP	3/4"	---	4"	2"	AMERICAN STANDARD	CADET 2467.016	16-1/2" ELONGATED BOWL, 1.6 GPF. STANDARD SEAT 5.311.012 "LAUREL" WITHOUT COVER.	1,2
L1	LAVATORY	1/2"	1/2"	1 1/4"	1 1/4"	AMERICAN STANDARD	DECLYN 0321.075	WALL HUNG, CERAMIC 2000.100 FAUCET, MAX FLOW AT 0.5 GPM, GRID STRAINER AND 1-1/4" P-TRAP	1,3,4
SS1	MDP SNK	1/2"	1/2"	2"	1 1/2"	AMERICAN SHOWER AND BATH	103001	ALL-IN-ONE HEAVY DUTY SERVICE SNK KIT INCLUDES FAUCET AND P-TRAP	---

NOTES:
 1. ALL FIXTURES TO BE WHITE.
 2. MOUNT CONTROLS ON ACCESSIBLE / WIDE SIDE OF TOILET.
 3. PROVIDE TRUBRO GUARD PROTECTIVE PIPE COVERS ON EXPOSED HOT WATER AND DRAIN LINES.
 4. PROVIDE WATTS SERIES USG-B MIXING VALVE OR EQUAL.

WATER HEATER SCHEDULE						
MARK	AREA SERVED	MANUFACTURER	MODEL	TANK SIZE	V/PH/Hz KW	NOTES
WH1	RESTROOMS	A.O. SMITH	DEL-6	6	120/1/60 1.5	A, B

GENERAL INFORMATION (ALL UNITS):
 1. 110°F OUTLET TEMPERATURE.
 2. CONTRACTOR SHALL CHOOSE A SCHEDULED UNIT OR A COMPARABLE UNIT OF A DIFFERENT MANUFACTURER.

NOTES:
 A. PROVIDE ANTI-ROL (OR EQUAL) EXPANSION TANK AND DRAIN PAN SIZED PER MANUFACTURER'S RECOMMENDATIONS.
 B. MOUNT WATER HEATER ON MANUFACTURER'S SUPPORT PLATFORM.

PLUMBING NOTES

- EACH CONTRACTOR IS RESPONSIBLE FOR HAVING THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS AS THEY RELATE TO THIS WORK. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED DUE TO LACK OF THIS KNOWLEDGE.
- PROVIDE ALL MATERIALS FOR A COMPLETE INSTALLATION IN ALL RESPECTS READY FOR INSTANT USE AND IN STRICT ACCORDANCE WITH STATE AND LOCAL CODES AND MANUFACTURER'S RECOMMENDATIONS.
- COORDINATE SEWER, GAS, AND WATER CONNECTIONS WITH CIVIL AND MECH. PROVIDE PRESSURE REDUCING VALVE AND BACKFLOW PREVENTER AS SHOWN OR REQUIRED BY AIA.
- REFER TO RISER DIAGRAMS AND PLUMBING FIXTURE SCHEDULE FOR ALL PIPING AND PIPE SIZES NOT SHOWN ON PLAN.
- FIELD ADJUST WATER CLOSET FLUSHING MECHANISM FOR PROPER FLUSHING OPERATION.
- SANITARY AND STORM SEWER PIPING SLOPE IS BASED ON 1/4" PER FOOT FALL FOR ALL PIPE SMALLER THAN 4" DIAMETER AND 1/8" PER FOOT FALL FOR PIPE 4" DIAMETER AND LARGER.
- ALL SEWER PIPING BELOW SLAB TO BE 2" DIAMETER MINIMUM.
- PROVIDE ACCESS DOORS TO ALL CONCEALED VALVES AND CLEAN-OUTS; AND NOT ABOVE AN ACCESSIBLE CEILING.
- PROVIDE TRAP SEAL PRIMERS AS SHOWN OR AS REQUIRED BY AIA. CONTRACTOR SHALL VERIFY REQUIREMENTS.
- INSTALL VTR'S, EXHAUST FANS, AND FLUES A MINIMUM 5'-0" FROM PARAPET OR OUTSIDE WALL AND 10'-0" MINIMUM FROM EQUIPMENT WITH OUTSIDE AIR INTAKE.
- INSTALL WATER PIPE ON INSIDE OF EXTERIOR WALL INSULATION TO PREVENT FREEZING.
- PROVIDE SEISMIC BRACING BASED ON APPROPRIATE SEISMIC ZONE REQUIREMENTS PER LOCAL AND NATIONAL CODES. CONTRACTOR'S RESPONSIBILITY INCLUDES STRUCTURAL ENGINEER'S CERTIFICATION ON DETAILS SUBMITTED FOR PERMITTING.
- PROVIDE FIRE SEAL WHERE PIPES PENETRATE FIRE RATED ASSEMBLY.

KEYNOTE

15.103 RELOCATE EXISTING WATER METER AS SHOWN ON PLANS. IF REQUIRED BY LANDLORD, PROVIDE NEW 3/4" REMOTE READ WATER METER. PROVIDE BACK FLOW PREVENTER IF REQUIRED BY LOCAL AIA.

PLUMBING SYMBOLS

SS	SANTARY SEWER
---	DOMESTIC COLD WATER
---	DOMESTIC HOT WATER
G	NATURAL GAS
CD	CONDENSATE DRAIN
---	PLUMBING VENT
⊙	BALL VALVE
⚡	BACKFLOW PREVENTER
M	WATER METER
FD1	FLOOR DRAIN
⊗	GAS PRESSURE REGULATOR
⌵	GAS COCK
⊕	CONNECT TO EXISTING

zumiez
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SPACE # A-18

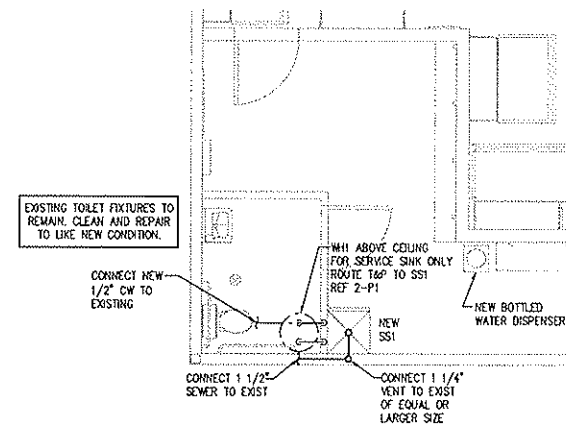
Revisions:

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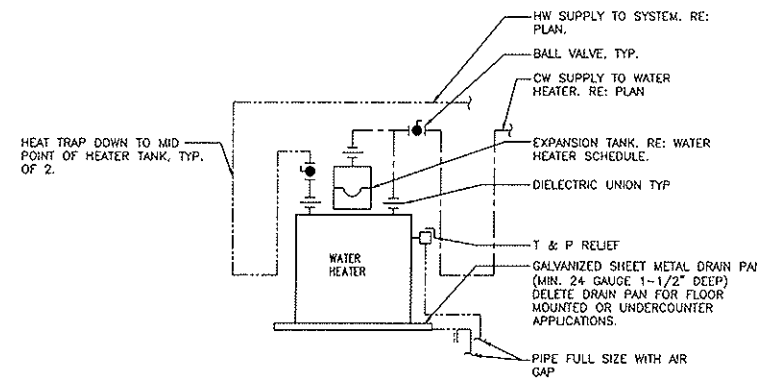
JAN C. RUSSELL, AIA
ARCHITECTURE-PLANNING
2860 ROSCOMARE ROAD
LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

EMAIL: jcrail@roadrunner.com
www.russellarchitects.com

FOR INFORMATION ONLY



1 PLUMBING PLAN
1/4" = 1'-0"



2 WATER HEATER
NTS 05.19.04 P-12

4125 0182
9235
1st floor
B2-27-11

HFA ARCHITECTS ENGINEERS INTERIORS
HARRISON FRENCH ASSOCIATES, LTD.
 809 S.W. A Street, Suite 201
 Bostonville, Arkansas 72712
 t 479.273.7780
 f 479.273.9436
 www.hfa-ec.com

Client Project Number: _____
 Architect's Project No.: 1005.06

Date: 5/15/10
 Drawn By: JPS
 Created By: GJS
 Scale: _____
408
 P1

DIVISION 15

15A - GENERAL

15A.1-1 GENERAL REQUIREMENTS

REQUIREMENTS UNDER DIVISION ONE AND THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS SHALL BE A PART OF THIS SECTION. CONTRACTOR SHALL BECOME THOROUGHLY ACQUAINTED WITH ITS CONTENTS AS TO REQUIREMENTS THAT AFFECT THIS DIVISION OR SECTION. THE WORK REQUIRED UNDER THIS SECTION INCLUDES MATERIAL, EQUIPMENT, APPLIANCES, TRANSPORTATION, SERVICES, AND LABOR REQUIRED TO COMPLETE THE ENTIRE SYSTEM AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECT ARE COMPLEMENTARY, AND PORTIONS OF THE WORK DESCRIBED IN ONE, SHALL BE PROVIDED AS IF DESCRIBED IN BOTH. IN THE EVENT OF DISCREPANCIES, NOTIFY THE ENGINEER AND/OR OWNER AND REQUEST CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK INVOLVED.

15A.1-2 INSPECTION OF SITE

PRIOR TO SUBMITTING BID, VISIT THE SITE OF THE PROPOSED WORK AND BECOME FULLY INFORMED AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO DO SO WILL NOT BE CONSIDERED SUFFICIENT JUSTIFICATION TO REQUEST OR OBTAIN EXTRA COMPENSATION OVER AND ABOVE THE CONTRACT PRICE.

15A.1-3 MATERIAL AND WORKMANSHIP

PROVIDE NEW MATERIAL, EQUIPMENT, AND APPARATUS UNDER THIS CONTRACT UNLESS OTHERWISE STATED HEREIN, OF BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE, AND FREE FROM ANY DEFECTS. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT NECESSARILY INTENDED TO DESIGNATE THE REQUIRED TRIM, WRITTEN DESCRIPTIONS OF THE TRIM GOVERN MODEL NUMBERS.

WORK PERFORMED UNDER THIS CONTRACT SHALL PROVIDE A NEAT AND "WORKMANLIKE" APPEARANCE WHEN COMPLETED, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER. WORKMANSHIP SHALL BE THE FINEST POSSIBLE BY EXPERIENCED MECHANICS. INSTALLATIONS SHALL COMPLY WITH APPLICABLE CODES AND LAWS.

THE COMPLETE INSTALLATION SHALL FUNCTION AS DESIGNED AND INTENDED WITH RESPECT TO EFFICIENCY, CAPACITY, NOISE LEVEL, ETC. ABNORMAL NOISE CAUSED BY RATTLING EQUIPMENT, PIPING, DUCTS, AIR DEVICES, AND SQUEAKS IN ROTATING COMPONENTS WILL NOT BE ACCEPTABLE. IN GENERAL, MATERIALS AND EQUIPMENT SHALL BE OF COMMERCIAL SPECIFICATIONS GRADE IN QUALITY LIGHT DUTY AND RESIDENTIAL TYPE EQUIPMENT WILL NOT BE ACCEPTED.

REMOVE FROM THE PREMISES WASTE MATERIAL PRESENT AS A RESULT OF WORK, INCLUDING CARTONS, CRATING, PAPER, STICKERS, AND/OR EXCAVATION MATERIAL NOT USED IN BACKFILLING, ETC. CLEAN EQUIPMENT INSTALLED UNDER THIS CONTRACT TO PRESENT A NEAT AND CLEAN INSTALLATION AT THE TERMINATION OF THE WORK.

REPAIR OR REPLACE PUBLIC AND PRIVATE PROPERTY DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT TO THE SATISFACTION OF AUTHORITIES AND REGULATIONS HAVING JURISDICTION.

15A.1-4 COORDINATION

COORDINATE WORK WITH THAT OF OTHER TRADES SO THAT THE VARIOUS SYSTEMS OF THE BUILDING WILL BE INSTALLED AT THE PROPER TIME, WILL FIT THE AVAILABLE SPACE, AND WILL ALLOW PROPER SERVICE ACCESS TO THOSE ITEMS REQUIRING MAINTENANCE. COMPONENTS WHICH ARE INSTALLED NEARBY TO THE ABOVE SHALL BE RELOCATED AT NO ADDITIONAL COST TO THE OWNER.

UNLESS OTHERWISE INDICATED, THE GENERAL CONTRACTOR WILL PROVIDE CHASES AND OPENINGS IN CONCRETE CONSTRUCTION REQUIRED FOR INSTALLATION OF THE SYSTEMS SPECIFIED HEREIN. CONTRACTOR SHALL FURNISH THE GENERAL CONTRACTOR WITH INFORMATION WHERE CHASES AND OPENINGS ARE REQUIRED. KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT, AND EXECUTE WORK IN A MANNER AS TO NOT INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.

FIGURED DIMENSIONS SHALL BE TAKEN IN PREFERENCE TO SCALE DIMENSIONS. CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AT THE BUILDING, AS VARIATIONS MAY OCCUR. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ERRORS THAT COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND INSPECTION.

PROVIDE MATERIALS WITH TRIM THAT WILL PROPERLY FIT THE TYPES OF CEILING, WALL, OR FLOOR FINISHES ACTUALLY INSTALLED. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT INTENDED TO DESIGNATE THE REQUIRED TRIM.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR DUCTWORK LAYOUT TO THE CONSTRUCTION MANAGER FOR OWNER APPROVAL PRIOR TO INSTALLATION.

15A.1-5 ORDINANCES AND CODES

WORK PERFORMED UNDER THIS CONTRACT SHALL, AT A MINIMUM, BE IN CONFORMANCE WITH APPLICABLE NATIONAL, STATE AND LOCAL CODES HAVING JURISDICTION. EQUIPMENT FURNISHED AND ASSOCIATED INSTALLATION WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN STRICT COMPLIANCE WITH CURRENT APPLICABLE CODES ADOPTED BY THE LOCAL AHJ INCLUDING ANY AMENDMENTS AND STANDARDS AS SET FORTH BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), UNDERWRITERS LABORATORIES (UL), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS (ASHRAE), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) AND OTHER

NATIONAL STANDARDS AND CODES WHERE APPLICABLE. WHERE THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THEIR REFERENCED CODES, STANDARDS, ETC., THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE. PROCURE AND PAY FOR PERMITS AND LICENSES REQUIRED FOR THE ACCOMPLISHMENT OF THE WORK HEREIN DESCRIBED. WHERE REQUIRED, OBTAIN, PAY FOR AND FURNISH CERTIFICATES OF FITNESS TO THE OWNER. CONTRACTOR WILL BE HELD RESPONSIBLE FOR VIOLATIONS OF THE LAW.

15A.1-6 PROTECTION OF EQUIPMENT AND MATERIALS

STORE AND PROTECT FROM DAMAGE EQUIPMENT AND MATERIALS DELIVERED TO JOB SITE. COVER WITH WATERPROOF, TEAR-RESISTANT, HEAVY TARP OR POLYETHYLENE PLASTIC AS REQUIRED TO PROTECT FROM PLASTER, DIRT, PAINT, WATER OR PHYSICAL DAMAGE. EQUIPMENT AND MATERIAL THAT HAS BEEN DAMAGED BY CONSTRUCTION ACTIVITIES WILL BE REJECTED, AND CONTRACTOR IS OBLIGATED TO FURNISH NEW EQUIPMENT AND MATERIAL OF A LIKE KIND.

KEEP PREMISES ROOM CLEAN FROM FOREIGN MATERIAL CREATED DURING WORK PERFORMED UNDER THIS CONTRACT. PIPING, EQUIPMENT, ETC., SHALL HAVE A NEAT AND CLEAN APPEARANCE AT THE TERMINATION OF THE WORK.

PLUG OR CAP OPEN ENDS OF DUCTWORK AND PIPING SYSTEMS WHILE STORED OR INSTALLED DURING CONSTRUCTION WHEN NOT IN USE TO PREVENT THE ENTRANCE OF DEBRIS INTO THE SYSTEMS.

KEEP THE MANUFACTURER PROVIDED PROTECTIVE COVERINGS ON FLOOR DRAINS, FLOOR SINKS, AND TRENCH DRAINS DURING CONSTRUCTION. REMOVE COVERINGS AT THE TERMINATION OF THE WORK AND POLISH EXPOSED SURFACES.

15A.1-7 OPERATION AND MAINTENANCE INSTRUCTIONS

COLLECT AND COMPILE A COMPLETE BROCHURE OF FIXTURES, MATERIALS, AND EQUIPMENT FURNISHED AND INSTALLED ON THIS PROJECT. INCLUDE OPERATIONAL AND MAINTENANCE INSTRUCTIONS, MANUFACTURER'S CATALOG SHEETS, WIRING DIAGRAMS, PARTS LISTS, APPROVED SHOP DRAWINGS, AND DESCRIPTIVE LITERATURE FURNISHED BY THE MANUFACTURER. INCLUDE AN INSIDE COVER SHEET THAT LISTS THE PROJECT NAME, DATE, OWNER, ARCHITECT, ENGINEER, GENERAL CONTRACTOR, SUBCONTRACTOR, AND AN INDEX OF CONTENTS.

SUBMIT COPIES OF LITERATURE BOUND IN APPROVED BINDERS TO THE ARCHITECT AND OWNER AT THE TERMINATION OF THE WORK. PAPER CLIPS, STAPLES, RUBBER BANDS, AND MAILING ENVELOPES ARE NOT CONSIDERED APPROVED BINDERS. FINAL APPROVAL OF PLUMBING SYSTEMS WILL BE WITHHELD UNTIL THIS EQUIPMENT BROCHURE IS DEEMED COMPLETE BY THE ARCHITECT, ENGINEER, AND OWNER.

15A.1-8 WARRANTIES

WARRANT EACH SYSTEM AND EACH ELEMENT THEREOF AGAINST ALL DEFECTS DUE TO FAULTY WORKMANSHIP, DESIGN OR MATERIAL FOR A PERIOD OF 12 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION, UNLESS SPECIFIC ITEMS ARE NOTED TO CARRY A LONGER WARRANTY IN THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S STANDARD WARRANTY EXCEEDS 12 MONTHS. REMEDY ALL DEFECTS, OCCURRING WITHIN THE WARRANTY PERIOD(S), AS STATED IN THE GENERAL CONDITIONS AND DIVISION 1.

WARRANTIES SHALL INCLUDE LABOR AND MATERIAL. MAKE REPAIRS OR REPLACEMENTS WITHOUT ANY ADDITIONAL COSTS TO THE OWNER.

PERFORM THE REMEDIAL WORK PROMPTLY UPON WRITTEN NOTICE FROM THE ENGINEER OR OWNER.

AT THE TIME OF SUBSTANTIAL COMPLETION, DELIVER TO THE OWNER ALL WARRANTIES, IN WRITING AND PROPERLY EXECUTED, INCLUDING TERM LIMITS FOR WARRANTIES EXTENDING BEYOND THE ONE YEAR PERIOD, EACH WARRANTY INSTRUMENT BEING ADDRESSED TO THE OWNER AND STATING THE COMMENCEMENT DATE AND TERM.

15A.1-9 CUTTING AND PATCHING

PERFORM CUTTING OF WALLS, FLOORS, CEILINGS, ETC. AS REQUIRED TO INSTALL WORK UNDER THIS SECTION. OBTAIN PERMISSION FROM THE ARCHITECT PRIOR TO CUTTING. DO NOT CUT OR DISTURB STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT. CUT HOLES AS SMALL AS POSSIBLE. GENERAL CONTRACTOR SHALL PATCH WALLS, FLOORS, ETC. AS REQUIRED BY WORK UNDER THIS SECTION. PATCHING SHALL MATCH THE ORIGINAL MATERIAL AND CONSTRUCTION. REPAIR AND REFINISH AREAS DISTURBED BY WORK TO THE CONDITION OF ADJOINING SURFACES IN A MANNER SATISFACTORY TO THE ARCHITECT.

15A.1-10 ROUGH-IN

COORDINATE WITHOUT DELAY ROUGHING-IN WITH GENERAL CONSTRUCTION. CONCEAL PIPING AND CONDUIT ROUGH-IN EXCEPT IN UNFINISHED AREAS AND WHERE OTHERWISE SHOWN.

15A.1-11 STRUCTURAL STEEL

STRUCTURAL STEEL USED FOR PIPE SUPPORTS, EQUIPMENT SUPPORTS, ETC., SHALL BE NEW, CLEAN, AND CONFORM TO ASTM DESIGNATION A-36.

SUPPORT PLUMBING AND MECHANICAL EQUIPMENT AND PIPING FROM THE BUILDING STRUCTURE. DO NOT SUPPORT PLUMBING EQUIPMENT FROM CEILINGS, OTHER MECHANICAL OR ELECTRICAL COMPONENTS, AND OTHER NON-STRUCTURAL ELEMENTS.

15A.1-12 ACCESS DOORS

PROVIDE ACCESS DOORS IN CEILINGS AND WALLS WHERE INDICATED OR REQUIRED FOR ACCESS TO CONCEALED VALVES AND EQUIPMENT INSTALLED UNDER THIS SECTION. PROVIDE CONCEALED HINGES, SCREWDRIVER-TYPE LOCK, ANCHOR STRAPS, MANUFACTURED BY MILCOR, ZURN, TITUS, OR EQUAL. OBTAIN ARCHITECT'S APPROVAL OF TYPE, SIZE, LOCATION, AND COLOR BEFORE ORDERING.

15A.1-13 PENETRATIONS

SEAL FLOOR, EXTERIOR WALL AND ROOF PENETRATIONS WITH WEATHER TIGHT WITH APPROPRIATE NON-SHRINK, NON-HARDENING COMMERCIAL CONSTRUCTION SEALANT. SEAL ROOF PENETRATIONS WITH 4 POUND PER SQUARE FOOT LEAD FLASHING. PROVIDE A SLEEVE, AND SEAL NON-FIRE-RATED FLOOR AND WALL PENETRATIONS WITH FIBERGLASS PACKING AND SILICONE CAULK (FOR ACOUSTICAL INSULATION).

COORDINATED FIRE RATING REQUIREMENTS AND LOCATIONS WITH THE ARCHITECT. SEAL PENETRATIONS OF FIRE-RATED ASSEMBLIES WITH 3M # CP-25 FIRE BARRIER CAULK (PROVIDE THICKNESS AND METHOD AS REQUIRED AND RECOMMENDED BY MANUFACTURER) TO MAINTAIN THE FIRE RESISTANCE RATING OF FIRE-RATED ASSEMBLIES.

SEAL EXTERIOR WALL PENETRATIONS BELOW GRADE WITH CAST IRON WALL PIPES AND MODULAR MECHANICAL SLEEVE SEALS, MANUFACTURED BY THUNDERLINE/LINK SEAL, CALPICO, INC AND METRAFLEX.

PROVIDE SLEEVES FOR HORIZONTAL PIPE PASSING THROUGH OR UNDER FOUNDATION. SLEEVES SHALL BE CAST IRON SOIL PIPE TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED.

PROVIDE SLEEVES FOR VERTICAL PIPE PASSING THROUGH SLAB ON GRADE. SLEEVES SHALL BE SCHEDULE 40 PVC PIPE, TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED. SEAL WATER-TIGHT WITH SILICONE CAULK.

15B: HEATING, VENTILATION, AND AIR CONDITIONING

15B.1-1 DUCTWORK

ALL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS CORRESPONDING TO THE SYSTEM PRESSURE. DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR A TWO-INCH PRESSURE RATING AND SEAL CLASS B.

SUPPLY AND RETURN DUCTWORK INSIDE THE BUILDING SHALL BE INSULATED WITH 1" THICK ACOUSTICAL LINING WITH A MINIMUM R-VALUE OF 5 OR EXTERNALLY WRAPPED WITH 2" THICK GLASS FIBER DUCT WRAP. INSULATE SUPPLY AND RETURN DUCTWORK LOCATED OUTSIDE THE BUILDING WITH 2" LINER AND SEAL SEAMS WEATHER TIGHT. DEDICATED OUTSIDE AIR SUPPLY DUCTWORK LOCATED WITHIN THE BUILDING SHALL BE INSULATED WITH 2" DUCT WRAP.

EXPOSED DUCTWORK IN SALES AREA SHALL NOT HAVE ANY INSULATION.

FLEXIBLE DUCTWORK MAINS ARE NOT PERMITTED. PROVIDE MAXIMUM 5'-0" FLEXIBLE DUCT CONNECTIONS TO CEILING DIFFUSERS.

FURNISH AND INSTALL VOLUME/BALANCE DAMPERS AT ALL BRANCH DUCTS TO DIFFUSERS. LOCATE DAMPERS A MINIMUM OF 4'-0" AWAY FROM DIFFUSERS.

INSTALL VIBRATORS, EXHAUST FANS, AND FLUES A MINIMUM OF 5'-0" FROM PARAPET OR OUTSIDE WALL AND 10'-0" MINIMUM FROM EQUIPMENT WITH OUTSIDE AIR INTAKE.

15B.1-2 ELECTRICAL WIRING

LINE VOLTAGE WIRING SHALL BE FURNISHED BY DIVISION 16. LINE VOLTAGE CONTROL, AND INTERLOCK WIRING FOR MECHANICAL SYSTEMS SHALL ALSO BE FURNISHED BY DIVISION 16 CONTRACTOR. LOW VOLTAGE CONTROL WIRING SHALL BE BY THE DIVISION 15 CONTRACTOR. PROVIDE WIRING DIAGRAMS TO THE DIVISION 16 CONTRACTOR AS REQUIRED FOR PROPER EQUIPMENT HOOKUP. COORDINATE WITH THE DIVISION 16 CONTRACTOR THE ACTUAL WIRE SIZING AMPS FOR MECHANICAL EQUIPMENT (FROM THE EQUIPMENT NAMEPLATE) TO ENSURE PROPER INSTALLATION.

ALL TEMPERATURE SENSORS, FAN SWITCHES, AND SPEED CONTROLS SHALL BE INSTALLED 43" ABOVE THE FLOOR FOR ADA REQUIREMENTS.

15B.1-3 FINAL TESTING AND ADJUSTMENTS

AIR BALANCE SHALL BE PERFORMED BY AN INDEPENDENT AIR BALANCE CONTRACTOR. BALANCE EACH SUPPLY, RETURN, OUTSIDE AIR DEVICE WITHIN 5% OF REQUIREMENTS AND FURNISH A REPORT TO THE CONSTRUCTION MANAGER. THE ENTIRE HVAC SYSTEM MUST BE FULLY OPERABLE, BALANCED, AND APPROVED BY OWNER'S REPRESENTATIVE ON THE DAY TENANT OPENS FOR BUSINESS.

ADJUST THERMOSTATS AND CONTROL DEVICES TO OPERATE AS INTENDED. ADJUST BURNERS, PUMPS, FANS, ETC. FOR PROPER AND EFFICIENT OPERATION. CERTIFY TO ARCHITECT THAT ADJUSTMENTS HAVE BEEN MADE AND THAT SYSTEM IS OPERATING SATISFACTORILY. CALIBRATE, SET AND ADJUST AUTOMATIC TEMPERATURE CONTROLS. CHECK PROPER SEQUENCING OF INTERLOCK SYSTEMS, AND OPERATION OF SAFETY CONTROLS.

15C. PLUMBING

15C.1-1 PIPING MATERIALS

MATERIALS SPECIFIED OR NOTED ON THE DRAWINGS ARE SUBJECT TO THE APPROVAL OF LOCAL CODE AUTHORITIES. VERIFY APPROVAL BEFORE INSTALLING ANY MATERIAL OR JOINING METHOD.

DOMESTIC WATER (COLD, HOT, SOFT): DOMESTIC WATER PIPING INSTALLED ABOVE THE FLOOR SLAB INSIDE THE BUILDING SHALL BE TYPE "K" HARD TEMPER COPPER TUBE WITH WROUGHT COPPER.

FITTINGS AND SOLDERED CONNECTIONS MADE UP WITH 95/5 SOLDER. BRAZED MECHANICALLY FORMED TEE CONNECTIONS (T-DRILL) MAY BE USED IN COPPER LINES WHERE APPROVED BY CODE; CONNECTION SHALL BE MADE WITH BRAZED SILVER SOLDER (SILFOS) JOINTS IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS.

UNDERGROUND DOMESTIC WATER PIPING SHALL BE TYPE "K" SOFT TEMPER COPPER TUBING WITH FLARED COPPER ALLOY FITTINGS AND CONNECTIONS, OR TYPE "K" HARD TEMPER COPPER TUBING WITH CONVENTIONAL WROUGHT COPPER FITTINGS AND SILVER SOLDER (SILFOS) JOINTS. INSTALL AS FEW UNDERGROUND COPPER PIPING JOINTS AS POSSIBLE. AT BUILDING SERVICE ENTRANCE, NO JOINTS SHALL BE INSTALLED UNDER OR WITHIN 5 FEET OF THE OUTSIDE WALL. DOMESTIC WATER PIPING BELOW GRADE OUTSIDE BUILDING AT ADEQUATE DEPTH TO PREVENT FREEZING.

INTERIOR WASTE AND VENT BELOW SLAB: WASTE AND VENT PIPE BELOW SLAB INSIDE BUILDING SHALL BE STANDARD WEIGHT CAST IRON SOIL PIPE WITH HUB AND SPIGOT FITTINGS WITH NEOPRENE GASKET JOINTS. HUB LESS WASTE AND VENT PIPE IS NOT PERMITTED BELOW BASE SLAB. PVC DWV PIPE WITH SOCKET FITTINGS AND SOLVENT WELD JOINTS IS ALSO PERMITTED WHERE APPROVED BY CODE.

INTERIOR WASTE AND VENT ABOVE SLAB: WASTE AND VENT PIPE ABOVE SLAB INSIDE BUILDING SHALL BE CAST IRON SOIL PIPE AND FITTINGS WITH HUB AND SPIGOT FITTINGS. PVC DWV PIPE WITH SOCKET FITTINGS AND SOLVENT WELD JOINTS IS ALSO PERMITTED WHERE APPROVED BY CODE.

INTERIOR STORM DRAIN: INSIDE BUILDING SHALL BE SAME AS SPECIFIED FOR INTERIOR WASTE AND VENT PIPE.

INDIRECT AND CONDENSATE DRAIN INSIDE BUILDING: INDIRECT AND CONDENSATE DRAIN PIPE INSTALLED INSIDE THE BUILDING SHALL BE TYPE "M" HARD COPPER WITH WROUGHT COPPER FITTINGS FOR 1" AND SMALLER AND "DWV" COPPER WITH WROUGHT COPPER DRAINAGE PATTERN FITTINGS FOR 1-1/4" AND LARGER HARD TEMPER COPPER TUBE AND SOLDERED CONNECTIONS MADE WITH 95/5 SOLDER. INSTALL CLEANOUTS AT ELBOWS GREATER THAN 45 DEGREES.

GAS PIPING: GAS PIPING SHALL BE BLACK STEEL, STANDARD WEIGHT, SCHEDULE 40 ASTM A53. PIPING 2" AND SMALLER SHALL BE WELDED OR THREADED WITH MALLEABLE IRON FITTINGS. PIPING 2 1/2" AND LARGER SHALL BE WELDED WITH BUTT-WELDED FITTING. FITTINGS SHALL CONFORM TO ASME B16.3, MALLEABLE IRON OR ASTM A 234, FORGED STEEL WELDED TYPE.

15C.1-2 PIPING AND EQUIPMENT INSULATION

DOMESTIC COLD WATER, HOT WATER, INDIRECT AND CONDENSATE DRAIN PIPE (WITHIN BUILDING): 1" ONE-PIECE FIBERGLASS COVERING WITH FIRE-RESISTANT JACKET WITH T-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTED, OWENS-CORNING OR ARMSTRONG. FOR PIPING AT HANGERS PROVIDE 8" LONG SECTIONS OF HIGH DENSITY, HIGH TEMPERATURE CALCIUM SILICATE OR FIBERGLASS BY KNAUF, OR 8" LONG STYROFOAM BILLETS BY DOW. INSULATION SHALL BE CONTINUOUS ALONG THE PIPE SURFACE, EXCEPT AT VALVES, UNIONS, AND WHERE PIPING IS EXPOSED AT FIXTURES.

FOR HOT AND COLD WATER PIPING INSTALLED INSIDE MASONRY UNITS OF WALLS, PROVIDE 1/2" FLEXIBLE UNICELLULAR INSULATION BY ARMACELL.

COVER FITTINGS WITH ZESTON, KNAUF, OR EQUAL ONE-PIECE PVC PREMOULDED INSULATING COVERS. FITTING COVERS, JACKETS AND ADHESIVES SHALL NOT EXCEED FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPMENT RATING OF 50 PER ASTM E84. AT ALL ELBOWS AND TEES, FILL Voids BETWEEN COVERS AND PIPING WITH FIBERGLASS INSULATION AND TAPE JOINTS. INSTALL PIPE INSULATION IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS. WHERE PREMOULDED INSULATING FITTERS ARE NOT APPROVED BY LOCAL AUTHORITIES, MITER INSULATION AT FITTINGS.

15C.1-3 PIPING INSTALLATION

GENERAL: CLEAN PIPE THOROUGHLY PRIOR TO INSTALLATION. REAM ENDS OF PIPE TO REMOVE BURRS. CUT PIPE ACCURATELY TO MEASUREMENTS TAKEN ON THE JOB. INSTALL WITH ADEQUATE CLEARANCE FOR INSTALLATION OF COVERINGS WHERE REQUIRED. PIPE SHALL NOT BE SPRUNG OR BENT. NEATLY ALIGN PIPE, CONNECT IT SECURELY, AND SUPPORT IT FROM THE BUILDING STRUCTURE WITH HANGERS AS SPECIFIED BELOW. PROVIDE CHROME-PLATED ESCUTCHEONS ON PIPES PASSING THROUGH CEILING, FLOORS OR WALLS OF FINISHED SPACES. RUN PIPES FREELY THROUGH FLOOR AND WALL PENETRATIONS USING PIPE SLEEVES. DO NOT GROUT IN PLACE UNLESS REQUIRED FOR STRUCTURAL FIRE INTEGRITY. INSTALL PIPE CONCEALED IN FINISHED SPACES WHEREVER POSSIBLE. USE A DIELECTRIC UNION WHERE FERROUS AND COPPER PIPE CONNECT. DIELECTRIC UNION SHALL HAVE A ZINC STEEL BODY, A THREADED NYLON INSERT, AND INSULATING PRESSURE GASKET. NO FERROUS METAL-TO-COPPER CONNECTION MADE WITHOUT INSULATING UNIONS WILL BE ALLOWED.

HANGER & SUPPORTS: PIPE HANGERS SHALL BE AS DESCRIBED IN THE SPECIFICATIONS BY B-1 UNLESS EQUAL BY ANVIL, MICHIGAN, TRUSSON, OR UNISTRUT. CONNECT HANGERS TO THE STRUCTURE WITH SIDE BEAM CONNECTORS AND ALL THREAD HANGER RODS. PROVIDE ENGINEERED SUPPORT STRUTS BETWEEN JOISTS AND OTHER STRUCTURAL MEMBERS AS REQUIRED TO PROVIDE A RIGID HANGING INSTALLATION. DO NOT HANG PIPES FROM OTHER PIPES, CONDUIT OR DUCTWORK. PROVIDE HANGER RODS AND SPACE HANGERS AT INTERVALS AS REQUIRED.

SOIL, WASTE AND STORM: GRADE SOIL AND WASTE PIPING TO A UNIFORM SLOPE OF NOT LESS THAN 1/8" PER FOOT FOR PIPING 4" OR LARGER, AND NOT LESS THAN 1/4" PER FOOT FOR PIPING 3" OR SMALLER. SLOPE STORM PIPING AT 1/8" PER FOOT. LAY PIPE AT UNIFORM SLOPE, FREE FROM SAGS, WITH HUB END UPSTREAM. SUPPORT PIPE AT EACH JOINT. MAKE CHANGES IN DIRECTION FROM HORIZONTAL TO VERTICAL, AT FIXTURE BRANCHES AND OTHER BRANCH CONNECTIONS WITH SANITARY "TEES" OR SHORT SWEEP "TEES". MAKE CHANGES IN DIRECTION FROM VERTICAL TO HORIZONTAL OR IN THE HORIZONTAL WITH LONG RADIUS FITTINGS, LONG SWEEPING "ELLS", COMBINATION "Y" FITTINGS, OR 45 DEGREE "ELLS" (1/8" BEND FITTINGS) AND "X" FITTINGS.

DOMESTIC WATER: ARRANGE COLD, HOT AND HOT WATER RECIRCULATION PIPING TO DRAIN AT THE LOWEST POINT IN EACH SYSTEM. INSTALL AT LEAST ONE PIPE UNION ADJACENT TO ALL SHUTOFF VALVES, AT CONNECTION POINT OF EACH PIECE OF EQUIPMENT, AND ELSEWHERE IN THE SYSTEM WHERE REQUIRED TO ALLOW PROPER MAINTENANCE. PROVIDE UNIONS OF THE GROUND JOINT TYPE. MAKE ALLOWANCE FOR EXPANSION AND CONTRACTION WHERE REQUIRED BY THE INSTALLATION. WHERE WATER PIPING OCCURS IN EXTERIOR WALLS, HOLD PIPE AS CLOSE AS POSSIBLE TO THE INTERIOR FACE OF WALL AND INSTALL INSULATION BATT OR OTHER INSULATION (MINIMUM R8) BETWEEN PIPING AND THE EXTERIOR WALL FACE.

15C.1-4 EXTERIOR UTILITY CONNECTIONS

TERMINATE DOMESTIC WATER, STORM, AND SEWER LINES AT A POINT APPROXIMATELY FIVE FEET FROM THE BUILDING WALL, OR AS SHOWN ON THE DRAWINGS. MAKE CONNECTION TO THE VARIOUS SERVICES PROVIDED BY OTHERS AND COORDINATE CONNECTION REQUIREMENTS WITH CIVIL ENGINEER. VERIFY THAT INSTALLATION WILL FIT INTO THE VARIOUS SERVICES PROVIDED BY OTHERS AT THE INDICATED INVERT ELEVATION POINT PRIOR TO INSTALLATION. IF THE INSTALLATION WILL NOT FIT INTO THE INDICATED INVERT ELEVATION POINT WHILE MAINTAINING PROPER FALL, NOTIFY ARCHITECT AND CIVIL ENGINEER SO THAT AN ALTERNATIVE MAY BE DETERMINED.

PROVIDE SERVICE PIPING AND ACCESSORIES REQUIRED TO COMPLETE UTILITY CONNECTIONS THAT ARE NOT FURNISHED BY THE SERVING UTILITY.

15C.1-5 SYSTEM TESTING AND ADJUSTING

UPON COMPLETION OF EACH PHASE OF THE INSTALLATION, TEST EACH SYSTEM IN CONFORMANCE WITH LOCAL CODE REQUIREMENTS AND AS NOTED BELOW. FURNISH LABOR AND EQUIPMENT REQUIRED TO TEST PLUMBING WORK INSTALLED UNDER THIS CONTRACT, AND ASSUME COSTS INVOLVED IN MAKING THE TESTS, AND REPAIRING AND/OR REPLACING DAMAGE RESULTING THEREFROM.

NOTIFY THE ARCHITECT AND THE AUTHORITY HAVING JURISDICTION, THREE (3) WORKING DAYS PRIOR TO MAKING PLUMBING SYSTEM TESTS. LEAVE CONCEALED WORK UNCOVERED UNTIL THE REQUIRED TESTS HAVE BEEN COMPLETED, BUT IF NECESSARY DUE TO CONSTRUCTION PROCEDURE, TESTS ON PORTIONS OF THE WORK MAY BE MADE, AND WHEN SATISFACTORY, THE WORK MAY BE CONCEALED. TEST PIPING BEFORE INSULATION IS INSTALLED, AND BEFORE BACKFILL. INSTALLATION. IF THE INSTALLATION DOES NOT MEET THE REQUIREMENTS OF THE ADMINISTRATIVE AUTHORITY AND/OR THE OWNER'S AUTHORIZED REPRESENTATIVE.

15C.1-6 GUARANTEE

THE WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL INCLUDE THE FURNISHING, INSTALLATION, AND CONNECTION OF PLUMBING SYSTEMS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS. BY SIGNING THE CONTRACT, THE CONTRACTOR ACKNOWLEDGES THAT HE HAS ACQUAINTED HIMSELF WITH THE SITE AND THE EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED, AND THE DRAWINGS AND SPECIFICATIONS PERTAINING THERETO, AND HE INDICATES THAT HE WILL COMPLY WITH THE REQUIREMENTS AND INTENT OF PERTINENT DOCUMENTS IN THE PERFORMANCE OF THE WORK.

GUARANTEE THE PLUMBING INSTALLED UNDER THIS CONTRACT IS FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF JOB ACCEPTANCE BY THE OWNER. THIS SHALL INCLUDE A GUARANTEE OF FREE CIRCULATION OF LIQUIDS THROUGHOUT THE SYSTEM AS INTENDED WITHOUT LEAKS, EXCESSIVE NOISE, OR WATER HAMMER.

IF DEFECTS OCCUR DURING THE ONE YEAR GUARANTEE PERIOD, REPAIR OR REPLACE SUCH DEFECTS AT NO EXPENSE TO THE OWNER, AND TO THE SATISFACTION OF THE OWNER, ARCHITECT AND ENGINEER.

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GATEWAY SHOPPING CTR
17705 140TH AVE. N.E.
WOODINVILLE, WA 98072
SPACE # A-18

Revisions:

Rev	Date	By	Description
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Architect:

JAN C. RUSSELL, AIA
ARCHITECTURE-PLANNING
2860 ROSSGOMARE ROAD
LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

EMAIL: jcr@aia.com
www.russellarchitects.com

Engineer:

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Seal:

Original Project Number: _____
Addendum Project No. 1005.06

Title: MECHANICAL SPECS

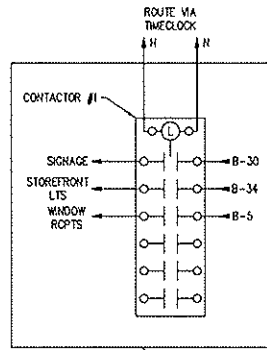
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Bentonville, Arkansas 72712
t 479.273.7780
f 479.273.9436
www.hfa-arc.com



CONTRACTOR TO PROVIDE ENCLOSURE FOR CONTACTORS

3 CONTACTOR DETAIL
N.T.S.

LIGHTING FIXTURE SCHEDULE								
TYPE	MANUFACTURER	CATALOG NUMBER	VOLTS	WATTS	LAMP		DESCRIPTION	NOTES
					ORDER NUMBER	QTY		
A	FOCAL POINT	FR0-2C-42T1-S-120-CH4-LB41-NA	120	91	CK240-4	1	PODANT	1,4
B	LIGHTTOWER	91738BK	120	50	50 W MR16 NFL	1	TRACK LIGHTING	1,4
C	LIGHTTOWER	8110BK	120	45	CM438PAR20L/FL30	1	TRACK LIGHTING	1,4
D	RESOLUTE	ZUMEZ - W WALL	120	23	F21 T5	1	MERCHANDISE LIGHT	1,4
E	RESOLUTE	BOX	120	20	FT18W/2GH/835	1	WALL SCORCE	1,4
F	LIGHTTOWER	04402 801COL 4118VJ	120	28	28W CFL	1	RECESSED DOWNLIGHT	1,4
I	METALUX	ETX-2W WRAP	120	39	F28-T8-SP35-UNX	1	CHAIN HUNG	1,3,4
IE	METALUX	ETX-2W WRAP CL	120	39	F28-T8-SP35-UNX	1	CHAIN HUNG	1,3,4
K	LITHONIA	WC217-120-TUB81	120	32	F017 18 4100K	2	VANITY	1,4
P	LIGHTTOWER	S7142BU/8022	120	45	F42TBX/835/A/ECO	1	RECESSED DOWNLIGHT	1,4
L	LITHONIA	EL4627	120	15	H1206-B-N-SD	2	EMERGENCY	2,4
X	LITHONIA	LQ4-S-1-R-120/277-EL	120	5	LED W/FIXTURE	1	EXIT LIGHT	2,4

LIGHTING NOTES

1. FIXTURE PROVIDED BY OWNER, INSTALLED BY ELECTRICAL CONTRACTOR.
2. FIXTURE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. PROVIDE SEISMIC BRACING AS NEEDED FOR CHAIN HUNG FIXTURES.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AS REQUIRED.

ELECTRICAL SYMBOLS LEGEND	
(SYMBOLS APPLY ONLY WHEN USED ON DRAWINGS)	
SYMBOL	DESCRIPTION
⊠ / ⊠	EXIT FIXTURE (WALL MOUNTED/CEILING MOUNTED)
⊠	EMERGENCY LIGHT
⊠	SWITCH, SINGLE POLE
⊠	SWITCH, THREE-WAY
⊠	SWITCH, OCCUPANCY SENSOR
⊠	CEILING MOUNTED OCCUPANCY SENSOR
⊠	RECEPTACLE, DUPLEX
⊠	RECEPTACLE, QUADRUPLX
⊠	NON-FUSED DISCONNECT
⊠	SURFACE MOUNTED PANELBOARD
⊠	TELEPHONE/DATA
⊠	SPEAKER
⊠	MOTOR
⊠	CIRCUIT, CONCEALED WHERE POSSIBLE, E INDICATES EXISTING WIRING
ABBREVIATIONS	
EF	EXHAUST FAN
GFI	GROUND FAULT CIRCUIT INTERRUPTER
WH	WATER HEATER
ATF	ABOVE FINISHED FLOOR
TYP	TYPICAL

LIGHTING GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL COMMISSION AND DEMONSTRATE LIGHTING CONTROL SYSTEM FOR STORE PERSONNEL. SCHEDULE WITH STORE MANAGER WHEN DEMONSTRATION SHALL TAKE PLACE.
2. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND QUANTITY OF LIGHT FIXTURES.

CONDUIT/ WIRING NOTES

1. AC CABLING, MC CABLING, AND NONMETALLIC SHEATHED CABLING ARE NOT ALLOWED.
2. FLEXIBLE CONDUIT IS NOT ALLOWED, EXCEPT FOR WHIP (LESS THAN 6 FEET IN LENGTH), CONNECTION TO MOTORS, TRANSFORMERS, AND OTHER EQUIPMENT THAT PRODUCES VIBRATIONS. USE ONLY GALVANIZED STEEL FLEX.

GEN. DEMOLITION NOTES

1. REMOVE ALL EXISTING ELECTRICAL BRANCH CIRCUIT WIRING, EQUIPMENT AND DEVICES UNLESS NOTED OTHERWISE.

LIGHTING KEYNOTES

- 16.100 NEW SWITCHBANK. PROVIDE A LIGHTING SWITCH FOR EACH LIGHTING CIRCUIT AS REQUIRED. ENGRAVE EACH COVER PLATE AS FOLLOWS: SALES LIT., D.R. LIT., CASEWORK LIT., CASH WRAP LIT., SALES TRACK LIT., SEE SWITCH BANK DETAIL.
- 16.101 LANDLORD TO PROVIDE CONDUIT, WITH PULL STRING AND 1" BOX FOR THE TENANT'S SIGN. CIRCUIT BREAKER(S), WIRE AND TERMINATIONS SHALL BE PART OF TENANT'S WORK. COORDINATE IF SIGN SHOULD BE ROUTE THROUGH LANDLORD TIMECLOCK.
- 16.102 PROVIDE TRACK LIGHTING AT HEIGHT INDICATED ON ARCHITECTURALS. PROVIDE ALL HARDWARE AND HANGERS.
- 16.103 INSTALL QUANTITY OF LIGHT FIXTURES AS INDICATED ON ARCHITECTURAL DRAWINGS. INSTALL FIXTURES ALONG TRACK AS DIRECTED. PROVIDE MATERIALS AS REQUIRED. SEE ARCHITECTURAL DRAWINGS FOR SUSPENDED LIGHT DETAILS.
- 16.104 INSTALL OWNER FURNISHED SPEAKERS. PONDANT MOUNT AT +13'-0" AFF COORDINATE EXACT LOCATION WITH CONSTRUCTION MANAGER PRIOR TO ROUGH-IN. PROVIDE LOOPED OR SERIES WIRING PLAN WITH 14 GAUGE PLENUM RATED SPEAKER WIRE HIDDEN BEHIND THE DRYWALL. PROVIDE 10' MINIMUM SPARE CABLE COILED AT CASH WRAP FOR FINAL STEREO SYSTEM TERMINATIONS. PROVIDE FINAL CONNECTION TO SPEAKERS AND SOUND SYSTEM AS REQUIRED. ROUTE CONDUIT CONCEALED UP TO STRUCTURE. ROUTE TIGHT TO THE UNDERSIDE OF STRUCTURE TO PANELBOARD.
- 16.105 NOT USED.
- 16.106 ROUTE CIRCUIT TO RECEPTACLE MOUNTED AT LIGHTING TRACK. SEE DETAIL ON SHEET AS.01.
- 16.107 PROVIDE BLACK DUPLEX 5-15R RECEPTACLE AT EACH LOCATION SHOWN. SEE DETAIL ON SHEET AS.01.
- 16.108 PROVIDE J-BOX FOR MILKWORK LIGHTING AT 11'-0" AFF. COORDINATE FINAL CONNECTION WITH CONSTRUCTION MANAGER.

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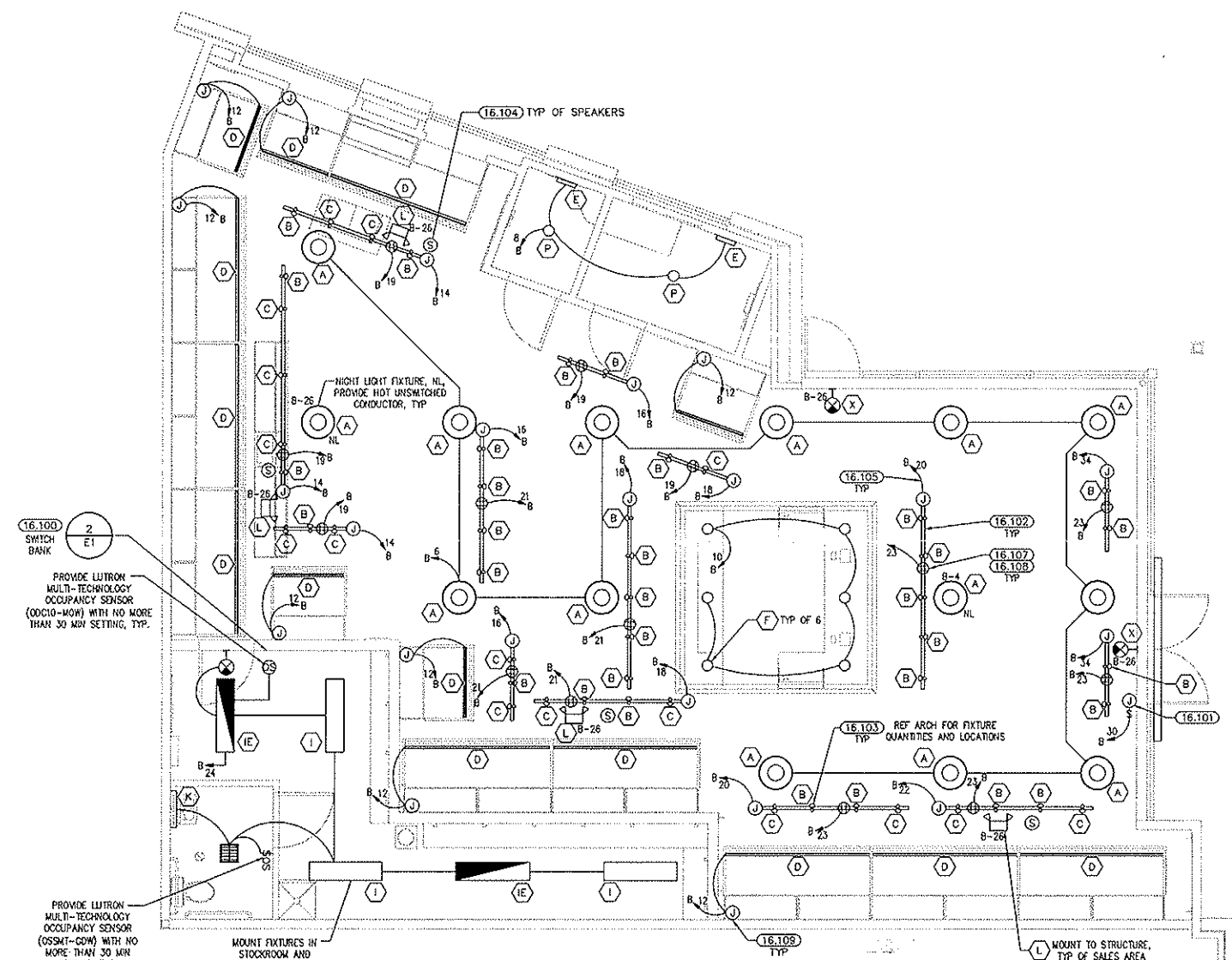
Rev	Date	By	Description

Architect
JAN C. RUSSELL, AIA
ARCHITECTURE-PLANNING
2800 ROSCOMARE ROAD
LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

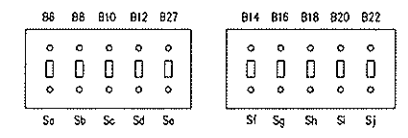
EMAIL: jcr@roadrunner.com
www.russellarchitects.com

Engineer

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1 LIGHTING PLAN
1/4" = 1'-0"



PROVIDE SWITCH LABELS, PER ARCHITECTURAL

2 SWITCHBANK DETAIL
N.T.S.

EACH SUBCONTRACTOR IS RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS IN THEIR RELATED FIELD. THE FAILURE TO ACQUAINT HIMSELF WITH THIS KNOWLEDGE DOES NOT RELIEVE THE RESPONSIBILITY OF PERFORMING HIS WORK PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED BECAUSE OF CONDITIONS THAT OCCUR DUE TO FAILURE TO FAMILIARIZE WORKERS WITH THIS KNOWLEDGE.

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HARRISON FRENCH & ASSOCIATES, LTD
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Bentonville, Arkansas 72712
t 479.273.7780
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www.hfa-arc.com

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B EXISTING PANELBOARD 200A MAIN CIRCUIT BREAKER
SERVICES: TENANT SPACE #0249 3PH 4WRE 208/120V
LOCATION: STOCKROOM 10,000 AIC
GROUND BAR

CK	LOAD SERVED	WRE	BRKR	PL	PHASE A	PHASE B	PHASE C	PL	BRKR	WIRE	LOAD SERVED	CK
1	rtu-1	---	50	3	4.10	2.30				1 20 12	water heater	2
3	---	---	---	---	4.10	2.30				1 20 ---	---	4.1
5	---	---	---	---			4.10	1.09		1 20 12	SALES LTS	6
7	rec (mid on roof top)	12 20 1	0.18	0.13						1 20 12	DRESSING RM LTS	8
9	SALES RECEIPTS	12 20 1			0.90	0.23				1 20 12	CASHWRAP LTS	10
11	LIVING RM COMPUTER	12 20 1					0.36	0.55		1 20 12	MENWRAP LTS	12
13	CASHWRAP IC	12 20 1	0.36	1.60						1 20 12	SALES TRACK LTS	14
15	CASHWRAP	12 20 1			1.08	1.20				1 20 12	SALES TRACK LTS	16
17	WATER HEATER	12 20 1					1.50	1.55		1 20 12	SALES TRACK LTS	18
19	TRACK RECEIPTS	12 20 1	0.90	1.35						1 20 12	SALES TRACK LTS	20
21	TRACK RECEIPTS	12 20 1			0.72	0.60				1 20 12	SALES TRACK LTS	22
23	TRACK RECEIPTS	12 20 1					0.90	0.38		1 20 ---	STOCKROOM LTS (L)	24
25	SPARE	--- 20 1	0.00	0.33						1 20 ---	EMER/EXIT/L (L)	26
27	SKATE CASE	12 20 1			0.36	0.00				1 20 ---	SPARE	28
29	POWER CABINET	12 20 1					0.36	1.20		1 20 12	STOREFRONT SIGN	30
31	SALES FLOOR RECEIPTS	12 20 1	0.72	0.00							SPACE	32
33	STOCK RECEIPTS	12 20 1			0.36	0.60				1 20 12	STOREFRONT LTS	34
35	STOCK RECEIPTS	12 20 1					0.72	0.00			SPACE	36
37	WINDOW RECEIPTS	12 20 1	0.54	0.00							SPACE	38
39	TIMECLOCK/CONTACTORS				0.18	0.00					SPACE	40
41	SPACE						0.00	0.00			SPACE	42
TOTAL					12.71	12.63	12.61			KVA		
TOTAL LOAD					105.92	105.25	106.78			AMPS		
FEEDER LOAD					38.15	KVA	106.03			AMPS		
FEEDER LOAD					40.93	KVA	113.75			AMPS		

lower case indicates existing
(L) INDICATES LOCKING DEVICE
PER NEC ARTICLE 220

TIMECLOCK SCHEDULE

NO.	LOAD SERVED	MANUFACTURER CATALOG NO.	MOTOR VOLTAGE	CONTACT	INITIAL TIME SETTING NOTES
151	STOREFRONT SIGN STOREFRONT LIGHTS WINDOW RECEIPTS	YORK W300L	120V 3P	40A 120V 3PST	INDOOR: 7 DAY 24HR NDR'S: 1,2,3

NOTES:
1. INDICATED SWITCH SHALL BE HEAVY DUTY TYPE.
2. FURNISH AND INSTALL DISCONNECT SWITCHES WITH DUAL ELEMENT.
3. TIME DELAY FUSES AS EQUIPMENT MANUFACTURER REQUIRES.

LOW VOLTAGE GEN. NOTES

1. ALL LOW VOLTAGE WIRING SHALL BE ROUTED IN CONDUIT.

GEN. DEMOLITION NOTES

1. REMOVE ALL EXISTING ELECTRICAL BRANCH CIRCUIT WIRING, EQUIPMENT AND DEVICES UNLESS NOTED OTHERWISE.

CONDUIT/ WIRING NOTES

1. AC CABLING, MC CABLING, AND NONMETALLIC SHEATHED CABLING ARE NOT ALLOWED.
2. FLEXIBLE CONDUIT IS NOT ALLOWED, EXCEPT FOR WHIP (LESS THAN 6 FEET IN LENGTH), CONNECTION TO MOTORS, TRANSFORMERS, AND OTHER EQUIPMENT THAT PRODUCES VIBRATIONS. USE ONLY GALVANIZED STEEL FLEX.

GENERAL NOTES

1. RECEPTACLES SHALL BE Ivory IN COLOR UNLESS INDICATED OTHERWISE.
2. PANEL CIRCUIT IDENTIFICATION SHALL BE PROVIDED, TYPEWRITTEN AND INSTALLED ON THE INSIDE OF THE PANEL DOORS. PROVIDE CIRCUIT IDENTIFICATION FOR ALL NEW PANELS AND EXISTING PANELS THAT ARE TO BE REUSED.
3. IF TENANT SPACE DOES NOT CONTAIN ELECTRICAL SERVICE METER BY LANDLORD, CONTRACTOR SHALL PROVIDE AND INSTALL APPROPRIATE 2000 SERIES C-MON O-MON ELECTRICAL METER ON THE INCOMING ELECTRICAL SERVICE WITHIN THE TENANT SPACE.

POWER KEYNOTES

16.121 SURFACE MOUNTED JUNCTION BOX FOR HARD-WIRED CASEWORK LIGHT FIXTURE. COORDINATE EXACT LOCATION WITH CONSTRUCTION MANAGER. PROVIDE WALL SWITCH AT SWITCH BANK LOCATION FOR ON/OFF CONTROL OF LIGHT FIXTURE NOTED. RUN ALL ASSOCIATED CONDUIT SURFACE MOUNTED ON FLOOR BENEATH CASEWORK. WIRE LIGHT FIXTURE F.B.O.I.C. LOCATION INDICATED IS DIAGRAMMATIC. LOCATE DEVICE BENEATH CASEWORK. COORDINATE EXACT LOCATION WITH CONSTRUCTION MANAGER PRIOR TO COMMENCEMENT OF WORK.

16.122 NEW TELEPHONE TERMINAL BOARD. INSTALL 4"x4"x3/4" FIRE TREATED PLYWOOD BACKBOARD WITH #6 CU GND. WIRE TO NEAREST BUILDING GROUND ELECTRODE. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED TERMINATIONS FOR A COMPLETE SYSTEM. COORDINATE INSTALL WITH LANDLORD. NOT USED

16.126 NOT USED

16.127 NOT USED

16.129 PROVIDE NEW GFI FOR RTU IF NOT ALREADY EXISTING. PROVIDE DUPLEX RECEPTACLE MOUNTED TO SOFFIT ABOVE DISPLAY WINDOW. COORDINATE EXACT LOCATION WITH CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

16.131 ROUTE POWER THROUGH TIMECLOCK. RUN (2) 1" CONDUITS OVERHEAD TIGHT TO UNDERSIDE OF STRUCTURE. EXTEND CONDUITS TO TELEPHONE TERMINAL BOARD. SEE "CASHWRAP" DETAIL. NOT USED

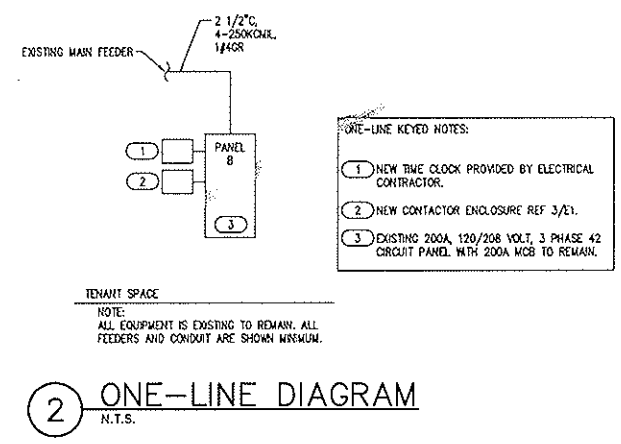
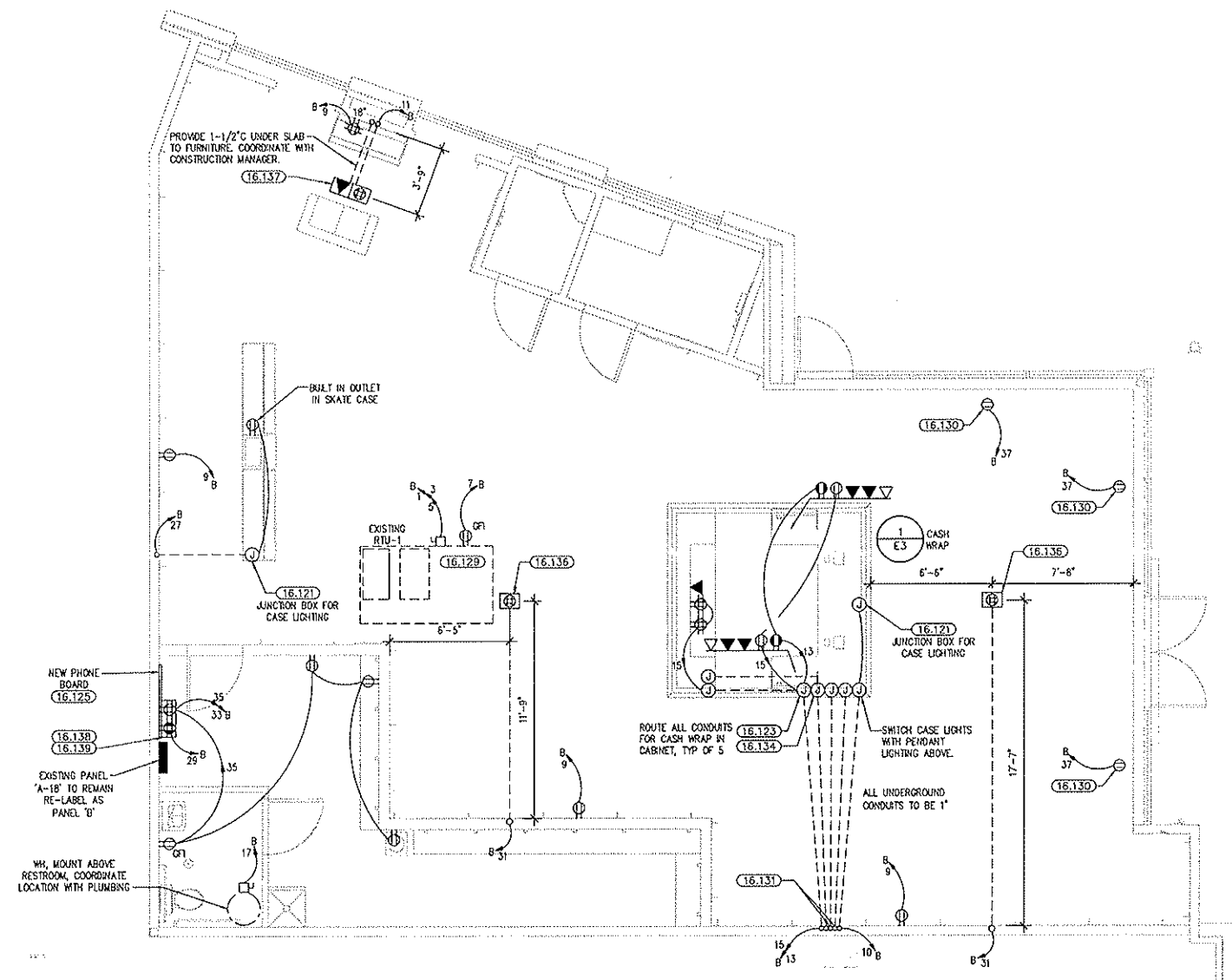
16.133 1" CONDUIT STUB TO CEILING SPACE FOR VIDEO, STEREO, AND CHIME L.V. CABLE TO CASEWORK, VERIFY LOCATION PRIOR TO ROUGH IN. NOT USED

16.134 FSR SMARTFIT - POKE-THROUGH (SF-PK1) OR FLOOR BOX (SF-PB) WITH SF-DOP SUB-PLATE AND SF-SI-CV COVER FOR CASEWORK LIGHTING. COORDINATE ROUTING OF CONDUITS, INCLUDING ANY TRENCHING, CUTTING, DRILLING OR CORING WITH OWNER REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK. MAINTAIN ALL FIRE RATED ASSEMBLIES AS REQUIRED.

16.137 FSR SMARTFIT - POKE-THROUGH (SF-PK1.5) OR FLOOR BOX (SF-PB) WITH SF-DOP SUB-PLATE AND SF-SI-CV COVER FOR THE LIVING ROOM COMPUTER. COORDINATE ROUTING OF CONDUITS, INCLUDING ANY TRENCHING, CUTTING, DRILLING OR CORING WITH OWNER REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK. MAINTAIN ALL FIRE RATED ASSEMBLIES AS REQUIRED. COORDINATE COMPUTER AND MONITOR LOCATION WITH OWNER.

16.138 FUTURE LOW-VOLTAGE CABINET PROVIDED BY OWNER. ROUTE SPEAKERS THROUGH OWNER PROVIDED LOW-VOLTAGE CABINET. WIRE TO CASHWRAP FROM CABINET TO BE IN SAME 1" CONDUIT AS PHONE.

16.139



1 POWER PLAN
1/4" = 1'-0"

2 ONE-LINE DIAGRAM
N.T.S.

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LIFA ARCHITECTS INTERIORS
HARRISON FRENCH & ASSOCIATES, L.P.C.
809 S.W. A Street, Suite 201
Beaverton, Arizona 72712
t 479.273.7780
f 479.273.9436
www.lifa-az.com

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GATEWAY SHOPPING CTR
17705 140TH AVE. N.E.
WOODINVILLE, WA 98072
SPACE # A-18

Architect
JAN C. RUSSELL, AIA
ARCHITECTURE-PLANNING
2800 ROSCOMARE ROAD
LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

EMAIL: jcr@aia-roadrunner.com
www.russellarchitects.com

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POWER PLAN

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△			
△			
△			

Architect
JAN C. RUSSELL, AIA
ARCHITECTURE-PLANNING
2660 ROSCOMARE ROAD
LOS ANGELES, CA 90077
TELEPHONE (310) 476-2170

EMAIL: jcr@a-roadrunner.com
www.russellarchitects.com

Engineer

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Title
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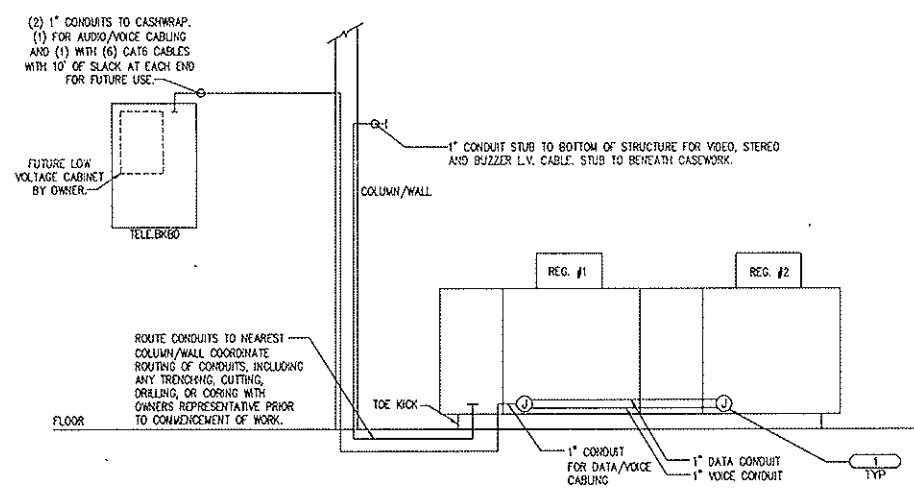
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Sheet: E3
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CASHWRAP DETAIL GENERAL NOTES

1. DETAIL IS DIAGRAMATIC. REGISTER LOCATIONS SHOWN ON PLANS MAY DIFFER FROM DETAIL.
2. SEE POWER PLAN FOR CASEWORK LIGHTING ELECTRICAL REQUIREMENTS.
3. SEE POWER PLAN FOR ADDITIONAL INFORMATION.

CASHWRAP DETAIL KEYED NOTES

1. PROVIDE JUNCTION BOX BENEATH CASEWORK ACCESS PANEL, ADJACENT TO 4-PLEX, FOR ROUTING OF NETWORK, DATA, AND TELEPHONE CABLING.



1 CASH WRAP DETAIL
N.T.S.

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HFA
HARRISON FRENCH & ASSOCIATES, L.P.
809 S.W. A Street, Suite 201
Bentonville, Arkansas 72712
t 479.273.7780
f 479.273.9436
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SECTION 16A: ELECTRICAL

16A.1 GENERAL INSTRUCTIONS

16A.1-1 GENERAL REQUIREMENTS

ALL REQUIREMENTS UNDER DIVISION 1 AND THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS APPLY TO THIS SECTION AND DIVISION. WHERE THE REQUIREMENTS OF THIS SECTION AND DIVISION EXCEED THOSE OF DIVISION 1, THIS SECTION AND DIVISION TAKE PRECEDENCE. BECOME THOROUGHLY FAMILIAR WITH ALL THEIR CONTENTS AS TO REQUIREMENTS THAT AFFECT THIS DIVISION, SECTION OR BOTH. WORK REQUIRED UNDER THIS DIVISION INCLUDES ALL MATERIAL, EQUIPMENT, APPLIANCES, AND LABOR REQUIRED TO COMPLETE THE ENTIRE ELECTRICAL SYSTEM AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS, OR REASONABLY INFERRED TO BE NECESSARY TO FACILITATE EACH SYSTEM'S FUNCTIONING AS IMPLIED BY THE DESIGN AND THE EQUIPMENT SPECIFIED.

THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECT ARE COMPLEMENTARY, AND PORTIONS OF THE WORK DESCRIBED IN ONE, SHALL BE PROVIDED AS DESCRIBED IN BOTH. IN THE EVENT OF DISCREPANCIES, NOTIFY THE ENGINEER AND REQUEST CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK INVOLVED.

DRAWINGS ARE GRAPHIC REPRESENTATIONS OF THE WORK UPON WHICH THE CONTRACT IS BASED. THEY SHOW THE MATERIALS AND THEIR RELATIONSHIP TO ONE ANOTHER, INCLUDING SIZES, SHAPES, LOCATIONS, AND CONNECTIONS. THEY ALSO CONVEY THE SCOPE OF WORK, INDICATING THE INTENDED GENERAL ARRANGEMENT OF THE EQUIPMENT, OUTLETS AND CIRCUITS. WORK SHALL BE DONE IN ACCORDANCE WITH EXACT DETAILS AS TO ELEVATIONS, OFFSETS, CONTROL LINES, AND OTHER INSTALLATION REQUIREMENTS. USE OF THE DRAWINGS AS A GUIDE WHEN LAYING OUT THE WORK AND TO VERIFY THAT MATERIALS AND EQUIPMENT WILL FIT INTO THE DESIGNATED SPACES, AND WHICH, WHEN INSTALLED PER MANUFACTURER'S REQUIREMENTS, WILL ENSURE A COMPLETE, COORDINATED, SATISFACTORY AND PROPERLY OPERATING SYSTEM.

SPECIFICATIONS DEFINE THE QUALITATIVE REQUIREMENTS FOR PRODUCTS, MATERIALS AND WORKMANSHIP UPON WHICH THE CONTRACT IS BASED.

16A.1-2 PRE-BID SITE INSPECTION

PERSONALLY INSPECT THE SITE OF THE PROPOSED WORK AND BECOME FULLY INFORMED OF CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO DO SO WILL NOT BE CONSIDERED SUFFICIENT JUSTIFICATION TO REQUEST OR OBTAIN EXTRA COMPENSATION OVER AND ABOVE THE CONTRACT PRICE.

16A.1-3 MATERIAL AND WORKMANSHIP

PROVIDE ALL MATERIAL AND EQUIPMENT NEW AND IN FIRST CLASS CONDITION. PROVIDE DRAWINGS OR A MAKEUP FOR ALL MATERIAL AND EQUIPMENT IDENTIFYING THE MANUFACTURER AND PROVIDING SUFFICIENT INFORMATION TO ESTABLISH QUALITY, SIZE AND CAPACITY. ALL WORKMANSHIP SHALL BE OF THE BEST POSSIBLE BY EXPERIENCED MECHANICS OF THE PROPER TRADE. IN GENERAL, PROVIDE COMPARABLE SPECIFICATION GRADE QUALITY FOR ALL MATERIALS AND EQUIPMENT. LIGHT DUTY AND RESIDENTIAL TYPE EQUIPMENT WILL NOT BE ACCEPTABLE. PROVIDE ALL HOSTS, SCAFFOLDS, STAGING, RUNWAYS, TOOLS, MACHINERY AND EQUIPMENT REQUIRED FOR THE PERFORMANCE OF THE ELECTRICAL WORK. STORE AND MAINTAIN MATERIAL AND EQUIPMENT IN CLEAN CONDITION AND PROTECTED FROM WEATHER, MOISTURE, AND PHYSICAL DAMAGE.

FURNISH ONLY MATERIAL AND EQUIPMENT THAT ARE LISTED, LABELED, OR BOTH, BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL), WHENEVER ANY LISTING OR LABELING EXISTS FOR THE TYPES OF MATERIAL AND EQUIPMENT SPECIFIED.

16A.1.4 COORDINATION

COORDINATE ALL WORK WITH OTHER DIVISIONS AND TRADES SO THAT THE VARIOUS COMPONENTS OF THE ELECTRICAL SYSTEMS ARE INSTALLED AT THE PROPER TIME, FIT THE AVAILABLE SPACE, AND ALLOW PROPER SERVICE ACCESS TO ALL EQUIPMENT. REFER TO ALL DRAWINGS, INCLUDING, BUT NOT LIMITED TO, CIVIL, ARCHITECTURAL, STRUCTURAL, MECHANICAL AND PLUMBING, AND ALL OTHER RELEVANT EQUIPMENT SUBMITTALS AND SHOP DRAWINGS TO DETERMINE THE EXTENT OF CLEAR SPACES. MAKE ALL OFFSETS REQUIRED TO CLEAR EQUIPMENT, BEAMS AND OTHER STRUCTURAL MEMBERS, AND TO FACILITATE CONCERNING PASSWAYS IN THE MANNER ANTICIPATED IN THE DESIGN. PROVIDE MATERIALS WITH TRIM THAT WILL FIT PROPERLY THE TYPES OF CEILING, WALL, OR FLOOR FINISHES ACTUALLY INSTALLED.

16A.1.5 DEFINITIONS

WHENEVER USED IN THESE SPECIFICATIONS OR DRAWINGS, THE FOLLOWING TERMS SHALL HAVE THE INDICATED MEANINGS:

FURNISH: TO SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLING, INSTALLING AND SIMILAR OPERATIONS.

INSTALL: TO PERFORM ALL OPERATIONS AT THE PROJECT SITE, INCLUDING, BUT NOT LIMITED TO, AND AS REQUIRED: UNLOADING, UNPACKING, ASSEMBLING, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEARING, TESTING, COMMISSIONING, STARTING UP AND SIMILAR OPERATIONS, COMPLETE, AND READY FOR THE INTENDED USE.

PROVIDE: TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.

FURNISHED BY OWNER (OR OWNER-FURNISHED) OR FURNISHED BY OTHER: AN ITEM FURNISHED BY THE OWNER OR UNDER OTHER DIVISIONS OR CONTRACTS, AND INSTALLED UNDER THE REQUIREMENTS OF THIS DIVISION, COMPLETE AND READY FOR THE INTENDED USE, INCLUDING ALL ITEMS INCIDENTAL TO THE WORK NECESSARY FOR PROPER INSTALLATION AND OPERATION. INCLUDE THE INSTALLATION UNDER THE WARRANTY REQUIRED BY THIS DIVISION.

ENGINEER: WHERE REFERRED TO IN THIS DIVISION, "ENGINEER" IS THE ENGINEER OF RECORD AND THE DESIGN PROFESSIONAL FOR THE WORK UNDER THIS DIVISION, AND IS A CONSULTANT TO, AND AN AUTHORIZED REPRESENTATIVE OF, THE ARCHITECT, AS DEFINED IN THE GENERAL AND/OR SUPPLEMENTARY CONDITIONS. WHEN USED IN THIS DIVISION, IT MEANS INCREASED INVOLVEMENT BY, AND OBLIGATIONS TO, THE ENGINEER, IN ADDITION TO INVOLVEMENT BY, AND

16A.1-6 DIMENSIONS AND LAYOUTS

DRAWINGS ARE SCHEMATIC IN NATURE, SHOW THE VARIOUS COMPONENTS OF THE SYSTEMS APPROXIMATELY TO SCALE AND ATTEMPT TO INDICATE HOW THEY SHALL BE INTEGRATED WITH OTHER PARTS OF THE WORK. FIGURED DIMENSIONS TAKE PRECEDENCE TO SCALED DIMENSIONS. DETERMINE EXACT LOCATIONS BY JOB MEASUREMENTS, BY CHECKING THE REQUIREMENTS OF OTHER TRADES, AND BY REVIEWING ALL CONTRACT DOCUMENTS. CORRECT ERRORS THAT COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND INSPECTION, AT NO ADDITIONAL COST TO THE OWNER.

16A.1-7 ORDINANCES AND CODES

COMPLY, AT A MINIMUM, NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES, STATE AND LOCAL BUILDING CODES, AND ALL OTHER APPLICABLE CODES AND ORDINANCES FOR PERFORMANCE, WORKMANSHIP, EQUIPMENT, AND MATERIALS. ADDITIONALLY, COMPLY WITH RULES AND REGULATIONS OF PUBLIC UTILITIES AND MUNICIPAL DEPARTMENTS AFFECTED BY CONNECTION OF SERVICES.

WHERE CONFLICTS BETWEEN VARIOUS CODES, ORDINANCES, RULES, AND REGULATIONS EXIST, COMPLY WITH THE MOST STRINGENT. WHEREVER REQUIREMENTS OF THESE SPECIFICATIONS, DRAWINGS, OR BOTH, EXCEED THOSE OF THE ABOVE ITEMS, THE REQUIREMENTS OF THESE SPECIFICATIONS, DRAWINGS, OR BOTH, SHALL GOVERN. CODE COMPLIANCE, AT A MINIMUM, IS MANDATORY. CONSTRUCT NOTHING IN THESE CONSTRUCTION DOCUMENTS AS PERMITTING WORK NOT IN COMPLIANCE, AT A MINIMUM, WITH THESE CODES.

BRING ALL CONFLICTS OBSERVED BETWEEN CODES, ORDINANCES, RULES, REGULATIONS AND THESE DOCUMENTS TO THE ENGINEER'S ATTENTION FOR FINAL RESOLUTION. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY VIOLATION OF THE LAW.

PROVIDE AND MAINTAIN ALL NECESSARY SIGNAL LIGHTS AND GUARDS FOR THE SAFETY OF THE PUBLIC. OBTAIN AND PAY FOR ALL PERMITS FOR WORK IN THIS DIVISION.

16A.1-8 MANUFACTURERS

IN OTHER ARTICLES WHERE LISTS OF MANUFACTURERS ARE INTRODUCED, THE FOLLOWING REQUIREMENTS APPLY TO PRODUCT SELECTION:

- MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE MANUFACTURERS SPECIFIED.

WHERE A LIST IS PROVIDED, MANUFACTURERS ARE LISTED ALPHABETICALLY AND NOT IN ACCORDANCE WITH ANY RANKING OR PREFERENCE.

16A.1-9 SUBMITTALS

ASSEMBLE AND SUBMIT TO THE ARCHITECT, FOR ENGINEER'S REVIEW, MANUFACTURERS' PRODUCT LITERATURE FOR MATERIAL AND EQUIPMENT TO BE FURNISHED, INSTALLED, OR BOTH, UNDER THIS DIVISION, INCLUDING SHOP DRAWINGS, MANUFACTURERS' PRODUCT DATA AND PERFORMANCE SHEETS, SAMPLES, AND OTHER SUBMITTALS REQUIRED BY THIS DIVISION. PROVIDE THE NUMBER OF SUBMITTALS REQUIRED BY DIVISION 1. BEFORE SUBMITTING, VERIFY THAT ALL MATERIALS AND EQUIPMENT SUBMITTED ARE MUTUALLY COMPATIBLE AND SUITABLE FOR THE INTENDED USE, AND FIT THE AVAILABLE SPACES, AND ALLOW AMPLE AND CODE-REQUIRED ROOM FOR ACCESS AND MAINTENANCE. SUBMITTALS SHALL CONTAIN THE FOLLOWING INFORMATION:

- THE CONTRACTOR'S STAMP, WHICH SHALL CERTIFY THAT THE STAMPED DRAWINGS HAVE BEEN CHECKED BY THE CONTRACTOR, COMPLY WITH THE DRAWINGS AND SPECIFICATIONS, AND HAVE BEEN COORDINATED WITH OTHER TRADES.

TRANSMIT SUBMITTALS AS EARLY AS REQUIRED TO SUPPORT THE PROJECT SCHEDULE. ALLOW FOR TWO WEEKS ENGINEER REVIEW TIME, PLUS MAILING TIME, PLUS A DUPLICATION OF THIS TIME FOR RESUBMITTALS, IF REQUIRED. TRANSMIT SUBMITTALS AS SOON AS POSSIBLE AFTER NOTICE TO PROCEED AND BEFORE CONSTRUCTION STARTS. THE ENGINEER'S SUBMITTAL REVIEWS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN DIMENSIONS, DETAILS, SIZE OF MEMBERS, OR QUANTITIES; OR OMITTING COMPONENTS OR FITTINGS; OR COORDINATING ITEMS WITH ACTUAL BUILDING CONDITIONS.

16A.1-10 ADJUSTING, ALIGNING AND TESTING

ADJUST, ALIGN, AND TEST ALL ELECTRICAL EQUIPMENT ON THIS PROJECT PROVIDED UNDER THIS DIVISION AND ALL ELECTRICAL EQUIPMENT FURNISHED BY OTHERS FOR INSTALLATION OR WIRING UNDER THIS DIVISION, FOR PROPER OPERATION.

TEST ALL SYSTEMS AND EQUIPMENT ACCORDING TO THE REQUIREMENTS IN NETA ATS (LATEST EDITION).

MAINTAIN THE FOLLOWING ON THE PROJECT PREMISES AT ALL TIMES: A TRUE RMS READING VOLTMETER, A TRUE RMS READING AMPMETER, AND A MEGOHMMETER INSULATION RESISTANCE TESTER. PROVIDE TEST DATE READINGS AS REQUESTED OR AS REQUIRED BY THE ENGINEER.

16A.1-11 OPERATION AND MAINTENANCE INSTRUCTIONS

SUBMIT TO THE ARCHITECT, FOR ENGINEER'S REVIEW, COPIES EACH OF OPERATIONS AND MAINTENANCE INSTRUCTION MANUALS, APPROPRIATELY BOUND INTO

16A.2-5 RACEWAYS

MANUAL FORM INCLUDING APPROVED COPIES OF THE FOLLOWING, REVISED IF NECESSARY TO SHOW SYSTEM AND EQUIPMENT AS ACTUALLY INSTALLED. PROVIDE THE NUMBER OF SUBMITTALS REQUIRED BY DIVISION 1 AND INCLUDE AT A MINIMUM THE FOLLOWING INFORMATION:

- MANUFACTURERS' CATALOG AND PRODUCT-DATE SHEETS
- WIRING DIAGRAMS
- MAINTENANCE INSTRUCTIONS
- OPERATING INSTRUCTIONS
- PARTS LIST
- TEST REPORTS AS DEFINED IN NETA ATS FOR THE SYSTEMS AND EQUIPMENT PROVIDED AND INSTALLED UNDER THIS CONTRACT
- NAMES, ADDRESSES, TELEPHONE NUMBERS, AND E-MAIL ADDRESSES OF LOCAL CONTACTS FOR WARRANTY SERVICES AND SPARE PARTS

SUBMIT MANUALS PRIOR TO REQUESTING THE FINAL PUNCH LIST AND BEFORE ANY REQUESTS FOR SUBSTANTIAL COMPLETION. ALSO PROVIDE ADEQUATE VERBAL INSTRUCTIONS OF SYSTEM OPERATIONS TO OWNER'S REPRESENTATIVE AT THE COMPLETION OF, AND BEFORE FINAL ACCEPTANCE OF, THE WORK.

16A.1-12 SYSTEM START UP

PRIOR TO STARTING UP THE ELECTRICAL SYSTEMS, CHECK ALL COMPONENTS AND DEVICES, LUBRICATE ITEMS ACCORDINGLY, AND TIGHTEN SCREWS AND BOLTS FOR CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. IF MANUFACTURER'S TORQUE VALUES ARE NOT INDICATED, USE THOSE SPECIFIED IN UL 486A. ADJUST TAPS ON EACH TRANSFORMER FOR RATED SECONDARY VOLTAGE. CHECK AND RECORD BUILDING'S SERVICE ENTRANCE VOLTAGE, GROUNDING CONDITIONS, GROUNDING RESISTANCE, AND PROPER PHASING. BALANCE ALL SINGLE-PHASE LOADS AT EACH PANELBOARD, REDISTRIBUTING BRANCH CIRCUIT CONNECTIONS UNTIL BALANCE IS ACHIEVED. DO NOT TYPE UP FINAL PANELBOARD DIRECTORIES UNTIL ALL RE-BALANCING AND REDISTRIBUTION OF CIRCUITS ARE COMPLETE. REPLACE ALL BURNED-OUT LAMPS AND LAMPS USED FOR TEMPORARY CONSTRUCTION LIGHTING IN PERMANENT LIGHT FIXTURES. AFTER ALL SYSTEMS HAVE BEEN INSPECTED AND ADJUSTED, CONFIRM ALL OPERATING FEATURES REQUIRED BY THE DRAWINGS AND SPECIFICATIONS AND MAKE FINAL ADJUSTMENTS AS NECESSARY.

16A.1-13 WARRANTIES

WARRANT EACH SYSTEM AND EACH ELEMENT THEREOF AGAINST ALL DEFECTS DUE TO FAULTY WORKMANSHIP, DESIGN OR MATERIAL FOR A PERIOD OF 12 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION, UNLESS SPECIFIC ITEMS ARE NOTED TO CARRY A LONGER WARRANTY IN THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S STANDARD WARRANTY EXCEEDS 12 MONTHS. REMEDY ALL DEFECTS OCCURRING WITHIN THE WARRANTY PERIOD(S), AS STATED IN THE GENERAL CONDITIONS AND DIVISION 1. ALSO WARRANT THE FOLLOWING ADDITIONAL ITEMS:

- ALL RACEWAYS ARE FREE FROM OBSTRUCTIONS, HOLES, CRUSHING, OR BREAKS OF ANY NATURE
- ALL RACEWAY SEALS ARE EFFECTIVE
- THE ENTIRE ELECTRICAL SYSTEM IS FREE FROM ALL SHORT CIRCUITS AND UNWANTED OPEN CIRCUITS AND GROUNDINGS.

THE ABOVE WARRANTIES SHALL INCLUDE LABOR AND MATERIAL. MAKE REPAIRS OR REPLACEMENTS WITHOUT ANY ADDITIONAL COSTS TO THE OWNER.

PERFORM THE REMEDIAL WORK PROMPTLY, UPON WRITTEN NOTICE FROM THE ENGINEER OR OWNER.

AT THE TIME OF SUBSTANTIAL COMPLETION, DELIVER TO THE OWNER ALL WARRANTIES, IN WRITING AND PROPERLY EXECUTED, INCLUDING TRADE LIMITS OF THE PERMANENT RECORD (FOR OR BELOW GRADE OR SLAB). PERIOD, EACH WARRANTY INSTRUMENT BEING ADDRESSED TO THE OWNER AND STATING THE COMMENCEMENT DATE AND TERM.

16A.2 ELECTRICAL WORK

16A.2-1 EXCAVATION AND BACKFILLING

EXCAVATE ALL MATERIALS ENCOUNTERED INCLUDING ROCK REQUIRED FOR WORK UNDER THIS SECTION. BACKFILL ALL TRENCHES, COMPACTING IN 6-INCH LAYERS. TEST UNDERGROUND SYSTEMS, CONFIRM WATER TIGHT INTEGRITY, AND OBTAIN ACCEPTANCE FROM ENGINEER AND AHJ BEFORE BACKFILLING. REMOVE FROM PREMISES ALL EXCESS MATERIAL NOT USED IN BACKFILLING. REPAIR ALL STREETS, SIDEWALKS, DRIVES, PAVING AND OTHER FACILITIES DAMAGED. REPAIR MATERIALS SHALL GENERALLY MATCH EXISTING CONSTRUCTION. ALL BACKFILLING AND REPAIRING SHALL MEET ALL REQUIREMENTS OF THE OWNER, CITY AND OTHERS HAVING JURISDICTION. REPAIR WORK SHALL BE THOROUGHLY FIRST CLASS. CONFORM TO ALL REQUIREMENTS OF DIVISION 2 OF THESE SPECIFICATIONS.

16A.2-2 CLEANING

IN ADDITION TO THE REQUIREMENTS OF DIVISION 1, REMOVE FROM THE PREMISES DIRT AND REFUSE RESULTING FROM THE PERFORMANCE OF THE ELECTRICAL WORK, AS REQUIRED, TO PREVENT ACCUMULATION. COOPERATE IN MAINTAINING REASONABLY CLEAN PREMISES AT ALL TIMES. IMMEDIATELY PRIOR TO FINAL INSPECTION, MAKE A FINAL CLEANUP OF DIRT AND REFUSE RESULTING FROM THE WORK. CLEAN ALL MATERIAL AND EQUIPMENT INSTALLED UNDER THIS DIVISION. REMOVE DIRT, DUST, PLASTER, STAINS AND FOREIGN MATTER FROM ALL SURFACES. TOUCH UP AND RESTORE ALL DAMAGED FINISHES TO THEIR ORIGINAL CONDITION.

16A.2-3 CUTTING AND PATCHING

FOLLOWING THE REQUIREMENTS IN DIVISION 1, CUT WALLS, FLOORS, CEILINGS, AND OTHER PORTIONS OF THE FACILITY AS REQUIRED TO PERFORM WORK UNDER THIS DIVISION. OBTAIN PERMISSION OF THE ENGINEER, OWNER, OR BOTH, BEFORE DOING ANY CUTTING. CUT ALL HOLES AS SMALL AS POSSIBLE. PATCH WALLS, FLOORS, AND OTHER PORTIONS OF THE FACILITY AS REQUIRED BY WORK UNDER THIS DIVISION. ALL PATCHING SHALL BE THOROUGHLY FIRST CLASS AND SHALL MATCH THE ORIGINAL MATERIAL AND CONSTRUCTION, INCLUDING FIRE RATINGS IF APPLICABLE.

16A.2-4 ROUGH-IN

COORDINATE WITHOUT DELAY ALL ROUGH-IN WITH OTHER DIVISIONS. CONCEAL ALL RACEWAYS EXCEPT IN UNFINISHED AREAS AND WHERE OTHERWISE INDICATED ON THE DRAWINGS.

16A.2-5 RACEWAYS

METALLIC CONDUIT AND TUBING:

- ELECTRICAL METALLIC TUBING AND FITTINGS (EMT): ANSI C80.3, UL 797
- FLEXIBLE METAL CONDUIT (FMC): ZINC-COATED STEEL, UL 1
- INTERMEDIATE METAL CONDUIT (IMC): HOT-DIPPED GALVANIZED RIGID STEEL CONDUIT: ANSI C80.6, UL 1242
- LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC): FLEXIBLE STEEL CONDUIT WITH PVC JACKET: UL 360
- RIGID METAL CONDUIT (RMC):
 - HOT-DIP GALVANIZED RIGID STEEL CONDUIT (GRS): ANSI C80.1 UL 6
 - RIGID ALUMINUM CONDUIT (RAC): ANSI C80.5, UL 6A
 - PLASTIC-COATED IMC, RMC, AND FITTINGS: NEMA RN 1, UL LISTED
- IMC AND RMC FITTINGS: NEMA FB 1; COMPATIBLE WITH CONDUIT TYPE AND MATERIAL, UL LISTED

NON-METALLIC CONDUIT AND TUBING:

- ELECTRICAL NONMETALLIC TUBING (ENT): NEMA TO 13, UL LISTED
- LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT (LFNC): UL 1660
- RIGID NONMETALLIC CONDUIT (RNC): SCHEDULE 40 PVC: NEMA TC 2, UL 651
- ENT AND RNC FITTINGS: NEMA TC 3, TC 6; UL 514, COMPATIBLE WITH CONDUIT/TUBING TYPE AND MATERIAL, UL LISTED

16A.2-6 RACEWAY INSTALLATION

INSTALL ALL CIRCUIT RACEWAYS CONCEALED ABOVE SUSPENDED CEILING OR CONCEALED IN WALLS OR FLOORS WHEREVER POSSIBLE EXCEPT WHERE OTHERWISE INDICATED. PROVIDE GRS FOR ALL CONDUITS RUN UNDERGROUND, EXPOSED TO WEATHER, OR EXPOSED TO OTHER HAZARDOUS CONDITIONS. PROVIDE GRS INSTALLED BELOW GRADE WITH A CORROSION RESISTANT BONDED-PLASTIC OR APPROVED MASTIC COATING. THIS SHALL INCLUDE THE 90-DEGREE ELBOW BELOW GRADE AND THE ENTIRE VERTICAL TRANSITION TO ABOVE GRADE. ALL OTHER RACEWAYS MAY BE ENT WHERE APPROVED BY LOCAL CODE. USE COMPRESSION TYPE FITTINGS FOR EMT, WITH ALL FITTINGS UL LISTED FOR THE ENVIRONMENT IN WHICH THEY ARE USED. AT CONTRACTOR'S OPTION, PVC CONDUIT MAY BE USED UNDERGROUND WHERE PERMITTED BY LOCAL CODE AND WHERE NOT SPECIFICALLY RESTRICTED BY THESE DOCUMENTS.

USE FMC FOR FINAL CONNECTION TO EACH MOTOR AND TRANSFORMER, AND TO ANY DEVICE THAT WOULD OTHERWISE TRANSMIT MOTION, VIBRATION, OR NOISE. WHERE EXPOSED TO LIQUIDS, VAPORS OR SUNLIGHT, MAKE INSTALLATION WILL NOT AFFECT THE STRENGTH OF INSULATED GROUND WIRE.

USE ONLY METAL RACEWAYS FOR ALL POWER WIRING FROM THE OUTPUT OF VARIABLE FREQUENCY DRIVES TO THEIR RESPECTIVE MOTORS.

INSTALL RACEWAYS PARALLEL TO BUILDING LINES.

INSTALL RACEWAYS TO REQUIREMENTS OF STRUCTURE AND TO REQUIREMENTS OF ALL OTHER WORK ON THE PROJECT. INSTALL RACEWAYS TO CLEAR ALL OPENINGS, DEPRESSIONS, PIPES, DUCTS, REINFORCING STEEL, AND OTHER IMMOVABLE OBSTACLES. INSTALL RACEWAYS SET IN FORMS FOR CONCRETE STRUCTURE IN SUCH A MANNER THAT INSTALLATION WILL NOT AFFECT THE STRENGTH OF STRUCTURE. EXCEPT WHERE APPROVED IN WRITING BY THE ENGINEER, INSTALL NO RACEWAY IN A SLAB-ON-GRADE. LOCATE RACEWAY BELOW GRANULAR FILL BELOW SLABS-ON-GRADE.

INSTALL RACEWAYS CONTINUOUS BETWEEN CONNECTIONS TO OUTLETS, BOXES AND CABINETS WITH A MINIMUM POSSIBLE NUMBER OF BENDS AND NOT MORE THAN THE EQUIVALENT OF FOUR 90-DEGREE BENDS BETWEEN CONNECTIONS. USE MANUFACTURED ELBOWS FOR ALL 45- AND 90- DEGREE BENDS, UNLESS APPROVED BY THE ENGINEER IN ADVANCE. MAKE OTHER BENDS SMOOTH AND EVEN AND WITHOUT FLATTENING RACEWAY OR FLAKING GALVANIZING OR ENAMEL. RADII OF BENDS SHALL BE AS LONG AS POSSIBLE AND NEVER SHORTER THAN THE CORRESPONDING TRADE ELBOW. USE LONG RADII ELBOWS WHERE NECESSARY, INDICATED, OR BOTH.

SECURELY FASTEN RACEWAYS IN PLACE WITH APPROVED STRAPS, HANGERS AND STEEL SUPPORTS AS REQUIRED. ATTACH RACEWAYS SUPPORTS TO THE BUILDING STRUCTURE. HANG SINGLE RACEWAYS FOR FEEDERS WITH MALLEABLE SPLIT RING HANGERS WITH ROD AND TURNBUCKLE SUSPENSION FROM INSERTS SPACED NOT OVER 10 FEET APART IN CONSTRUCTION ABOVE. CLAMP GROUPS OF HORIZONTAL FEEDER RACEWAYS TO STEEL CHANNELS THAT ARE SUSPENDED FROM INSERTS SPACED NOT OVER 10 FEET APART IN CONSTRUCTION ABOVE. SECURELY CLAMP VERTICAL FEEDER RACEWAYS TO STRUCTURAL STEEL MEMBERS ATTACHED TO STRUCTURE. INSTALL CABLE CLAMPS FOR SUPPORT OF VERTICAL FEEDERS WHERE REQUIRED. ADD RACEWAY SUPPORTS WITHIN 12 INCHES OF ALL BENDS, ON BOTH SIDES OF THE BENDS. DO NOT SUPPORT RACEWAYS FROM SUSPENDED CEILING COMPONENTS.

REAM RACEWAY ENDS, THOROUGHLY CLEAN RACEWAYS BEFORE INSTALLATION, AND KEEP CLEAN AFTER INSTALLATION. PLUG OR COVER OPENINGS AND BOXES AS REQUIRED TO KEEP RACEWAYS CLEAN DURING CONSTRUCTION AND FISH ALL RACEWAYS CLEAR OF OBSTRUCTIONS BEFORE PULLING CONDUCTORS WIRES. PROVIDE RACEWAYS OF AMPLE SIZE FOR PULLING OF WIRE AND NOT SMALLER THAN CODE REQUIREMENTS AND NOT LESS THAN 1/2-INCH IN SIZE, UNLESS INDICATED OTHERWISE ON DRAWINGS.

PROTECT ALL RACEWAY INSTALLATIONS AGAINST DAMAGE DURING CONSTRUCTION. REPAIR ALL RACEWAYS DAMAGED OR MOVED OUT OF LINE AFTER ROUGHING-IN TO MEET ENGINEER'S APPROVAL WITHOUT ADDITIONAL COST TO THE OWNER.

ALIGN AND INSTALL TRUE AND PLUMB ALL RACEWAY TERMINATIONS AT PANELBOARDS, SWITCHBOARDS, MOTOR CONTROL EQUIPMENT AND JUNCTION BOXES.

INSTALL APPROVED EXPANSION/DEFLECTION FITTINGS WHERE RACEWAYS PASS THROUGH OR ACROSS EXPANSION JOINTS.

INSTALL A PULL WIRE IN EACH EMPTY RACEWAY THAT IS LEFT FOR INSTALLATION OF CONDUCTORS OR CABLES UNDER OTHER DIVISIONS OR CONTRACTS. USE POLYPROPYLENE OR MONIFLAMMANT PLASTIC LINE WITH NOT LESS THAN 200-LEB TENSILE STRENGTH. LEAVE AT

16A.2-5 RACEWAYS

LEAST 12 INCHES OF SLACK AT EACH END OF PULL WIRE.

MAKE ALL JOINTS AND CONNECTIONS IN A MANNER THAT WILL ENSURE MECHANICAL STRENGTH AND ELECTRICAL CONTINUITY.

INSTALL CONDUIT-SEALING FITTINGS IN ALL RACEWAYS PASSING FROM NON-HEATED TO HEATED SPACES.

16A.2-7 BUSHINGS AND LOCKNUTS

RIGIDLY CLAMP CONDUITS ENTERING SHEET METAL BOXES TO THE BOX WITH A BUSHING AND LOCKNUT ON THE INSIDE AND A LOCKNUT ON THE OUTSIDE. CONDUIT SHALL ENTER THE BOX SQUARELY. PROVIDE BUSHINGS AND LOCKNUTS MADE OF GALVANIZED MALLEABLE IRON WITH SHARP, CLEAN-CUT THREADS. WHERE ENT ENTERS A BOX, PROVIDE APPROVED ENT COMPRESSION CONNECTORS. USE INSULATED AND/OR GROUNDING BUSHINGS WHEREVER CONNECTION IS SUBJECT TO VIBRATION OR MOISTURE, WHEN REQUIRED BY NFPA 70, OR BOTH.

16A.2-8 SUPPORT SYSTEMS

STEEL SLOTTED SUPPORT SYSTEMS (SLOTTED CHANNEL): COMPLY WITH MFMA-3, FACTORY-FABRICATED COMPONENTS FOR FIELD ASSEMBLY; 1/2-GAUGE, 1-5/8-INCH BY 1-5/8-INCH; COPPER B-LINE, ERICO INTERNATIONAL CORPORATION, POWER-STRUT, THOMAS & BETTS CORPORATION, UNISTRUT.

FINISHES:

METALLIC COATINGS: HOT-DIP GALVANIZED AFTER FABRICATION AND APPLIED ACCORDING TO MFMA-3

NONMETALLIC COATINGS: MANUFACTURER'S STANDARD PVC, POLYURETHANE, OR POLYESTER COATING APPLIED ACCORDING TO MFMA-3.

PAINTED COATINGS: MANUFACTURER'S STANDARD PAINTED COATING APPLIED ACCORDING TO MFMA-3.

STAINLESS STEEL: TYPE 304, PER ASTM A240.

ALUMINUM (EXTRUDED): TYPE 6063-16, PER ASTM B221

FIELD FABRICATION:

WHERE FIELD CUTTING OF STANDARD LENGTHS OF CHANNEL ARE REQUIRED, MAKE CUTS STRAIGHT AND PERPENDICULAR TO MANUFACTURED SURFACES.

FOR FIELD-CUT OR DAMAGED SURFACES OF COATED CHANNELS, DRESS CUT ENDS, DAMAGED SURFACES, OR BOTH, WITH AN ABRASIVE MATERIAL (E.G. FILE, GRINDING STONE, OR SIMILAR) AND CLEANSER TO REMOVE OILS, RUST, SHARP EDGES AND SHARPS.

FOR CHANNEL WITH A FACTORY-APPLIED COATING, RE-FINISH CUT EDGES WITH A COATING COMPATIBLE WITH THE FACTORY FINISH AND AS RECOMMENDED BY THE MANUFACTURER (E.G. MANUFACTURER'S TOUCH-UP PAINT OR ZINC-RICH COLD-GALVANIZING COMPOUND, AS APPLICABLE).

16A.2-9 CONDUCTORS

PROVIDE COPPER CONDUCTORS, WITH UL LABEL, AND 600V INSULATION.

SERVICE LATERAL CONDUCTORS: TYPE THHN OR XHHW WITH STRANDED CONDUCTORS.

ALL FEEDER AND BRANCH CIRCUIT CONDUCTORS NO. 8 AWG AND LARGER: STRANDED, TYPE THHN OR XHHW INSULATION.

ALL CONDUCTORS, NO. 10 AWG AND SMALLER, USED FOR POWER AND LIGHTING CIRCUITS: SOFT COPPER, TYPE THHN (WET OR DAMP LOCATIONS, OR IN CONDUIT BELOW GRADE OR SLAB), TYPE THHN (DRY LOCATIONS ONLY AND ABOVE GRADE) INSULATION, OR DUAL-RATED TYPE THHN/THWN.

ALL BRANCH CIRCUIT WIRING: NOT SMALLER THAN NO. 12 AWG. IF NO CONDUCTOR SIZE IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT PROVIDE NO. 12 AWG CONDUCTORS AND A 20A CIRCUIT BREAKER.

CONDUCTORS FIELD-INSTALLED WITHIN FLUORESCENT LIGHT FIXTURE CHANNELS: TYPE THHN.

CONTROL WIRING: STRANDED COPPER CONDUCTORS, 600V INSULATION, OF THE PROPER TYPE, SIZE AND NUMBER AS REQUIRED TO ACCOMPLISH SPECIFIED FUNCTION. MINIMUM SIZE: NO. 18 AWG, UNLESS OTHERWISE NOTED.

16A.2-10 WIRING INSTALLATION

EXCEPT WHERE SPECIFIED OR INDICATED, FOR LOW-VOLTAGE WIRING, INSTALL ALL WIRING IN APPROVED RACEWAY AND ENCLOSURES.

SUPPORT ALL CONDUCTORS AND CABLES IN VERTICAL INSTALLATIONS, AS REQUIRED BY NFPA 70, BY INSTALLING CABLE SUPPORTS OR PLUG-TYPE CONDUIT RISER SUPPORTS, OR WIRE-MESH SAFETY GRIPS.

INSTALL ALL CONDUCTORS AND CABLE IN RACEWAYS CONTINUOUS WITHOUT TAPS OR SPLICES. SPLICE OR TAP ONLY IN APPROVED BOXES AND ENCLOSURES WITH APPROVED SOLDERLESS CONNECTORS, OR GRMP CONNECTORS AND TERMINAL BLOCKS FOR CONTROL WIRING, AND KEEP TO THE MINIMUM REQUIRED. INSULATE ALL SPLICES, TAPS, AND JOINTS AS REQUIRED BY CODES.

ALL MATERIALS USED TO TERMINATE, SPLICE, OR TAP CONDUCTORS: DESIGNED FOR, PROPERLY SIZED FOR, AND UL LISTED FOR THE SPECIFIC APPLICATION AND CONDUCTORS INVOLVED, AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, USING THE MANUFACTURER'S RECOMMENDED TOOLS.

WHERE WIRING IS INDICATED AS INSTALLED, BUT THE CONNECTION IS INDICATED "FUTURE" OR "BY OTHER DIVISION, TRADES, OR CONTRACTS", LEAVE A MINIMUM 3-FOOT "FISHTAIL" AT THE BOX, TAPE THE ENDS OF THE CONDUCTORS, AND COVER THE BOX.

THE NUMBER OF CONDUCTORS IN A SPECIFIC RACEWAY "HOME RUN" IS INDICATED WITH CROSS LINES (TICK MARKS) ON EACH "CIRCUIT RUN" ON THE DRAWINGS. IN GENERAL, THE DIRECTION OF BRANCH CIRCUIT "HOME RUN" ROUTING IS INDICATED ON THE DRAWINGS COMPLETE WITH CIRCUIT NUMBERS AND PANELBOARD DESIGNATION. CONTINUE ALL SUCH "HOME RUN" WIRING TO THE DESIGNATED PANELBOARD, AS THOUGH "CIRCUIT

16A.2-11 JUNCTION BOXES, PULL BOXES, CABINETS AND WIRWAYS

PROPERLY NUMBER ALL TERMINAL BLOCKS AND WIRE TERMINALS FOR CONTROL WIRING FOR IDENTIFICATION WITH VINYL STICK-ON MARKERS OR EQUIVALENT. PROVIDE AN EQUIPMENT-GROUNDING CONDUCTOR, OR BONDING JUMPER, AS APPLICABLE, IN ALL BRANCH CIRCUITS AND FEEDERS, SIZED IN ACCORDANCE WITH NFPA 70 TABLES 250.66 OR 250.122, AS APPLICABLE, UNLESS INDICATED AS LARGER ON THE DRAWINGS.

16A.2-11 JUNCTION BOXES, PULL BOXES, CABINETS AND WIRWAYS

VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 2 PERCENT.

PROVIDE JUNCTION BOXES, PULL BOXES, CABINETS AND WIRWAYS WHEREVER NECESSARY FOR PROPER INSTALLATION OF VARIOUS ELECTRICAL SYSTEMS ACCORDING TO NFPA 70 AND WHERE INDICATED ON THE DRAWINGS. SIZE AS REQUIRED FOR THE SPECIFIC FUNCTION OR AS REQUIRED BY NFPA 70, WHICHEVER IS LARGER. CONSTRUCTION SHALL BE OF A NEMA DESIGN SUITABLE FOR THE ENVIRONMENT INSTALLED.

JUNCTION BOXES INSTALLED BEHIND WALL CASES, AND IN OR ON OTHER STORE FIXTURES, EXCEPT WHERE OTHERWISE SPECIFIED, SHALL BE 4-INCH SQUARE OR LARGER, WITH GALVANIZED COVERS.

16A.2-12 OUTLET BOXES

ALL OUTLETS INCLUDING LIGHT FIXTURE, SWITCH, RECEPTACLE, AND SIMILAR OUTLETS: NATIONAL ELECTRICAL, APPLETON, STEEL, CUI, OR APPROVED EQUIV. GALVANIZED STEEL KNOCKOUT BOXES, SUITABLE IN DESIGN TO THE PURPOSE THEY SERVE AND THE SPACE THEY OCCUPY. SIZE AS REQUIRED FOR THE SPECIFIC FUNCTION OR AS REQUIRED BY NFPA 70, WHICHEVER IS LARGER. SET ALL OUTLET BOXES IN WALLS, COLLUMNS, FLOORS, OR CEILINGS SO THEY ARE FLUSH WITH THE FINISHED SURFACE, ACCURATELY SET, AND RIGIDLY SECURED IN POSITION. PROVIDE PLASTER RINGS, EXTENSION RINGS AND/OR MASONRY RINGS AS REQUIRED FOR FLUSH MOUNTING. PROVIDE APPROVED CAST OUTLET BOXES, WITH HUBS AND WEATHERPROOF COVERS, IN ALL AREAS SUBJECT TO DAMP, WET, OR HARSH CONDITIONS.

16A.2-13 OUTLET LOCATIONS

COORDINATE LOCATIONS OF OUTLET BOXES, OUTLETS ARE ONLY APPROXIMATELY LOCATED ON THE SMALL SCALE DRAWINGS. USE LARGE CARE IN THE ACTUAL LOCATION BY CONSULTING THE VARIO