Conditionally approved- pending resubmittal of site plan with access width, grade, turning radius, turnaround, and turnouts meeting Fire Dept. access requirements or if unable to meet requirements submittal of fire sprinkler and monitored fire alarm plans and permits. No inspections past foundation until the above is resolved.) www.steamboatsprings.net for details.

PJ4912-1
Fire Prevention
In: 06/15/2021
Out: 06/25/2021

STEAMBOAT SKI & RESORT CORPORATION

SSRC | BASE AREA IMPROVEMENTS

2305 Mount Werner Circle
Steamboat Springs, CO 80487

BID PACK 3: PROMENADE - ISSUE FOR BID & PERMIT

2021.05.19

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners

2305 Mount Werner Circle
Steamboat Springs, CO 80487

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Lakewood, CO 80215
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Tel 303.431.6100

me engineers
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Suite 300
Golden, CO
United States
Tel 303.421.6655

△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

STATE OF COLORADO
JACQUELINE C. GAMBREL
203617
LICENSED ARCHITECT
05.19.2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
COVER

Scale

1A-G0.000

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1A-S0.02	NOTES	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S0.03	NOTES	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S0.10	QUALITY ASSURANCE	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S0.11	QUALITY ASSURANCE	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S1.00	PROMENADE BUILDING - LOWER LEVEL 1	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S1.01	PROMENADE BUILDING - LEVEL 1	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S1.02	PROMENADE BUILDING - LEVEL 2 AND ROOF FRAMING PLAN	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S3.00	TYPICAL CONCRETE DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S3.01	TYPICAL FOUNDATION DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S3.02	CONCRETE DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S3.10	TYPICAL SOG DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S3.11	CONCRETE DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S3.50	CONCRETE SUPPORTING STEEL DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S3.51	CONCRETE SUPPORTING METAL DECK	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S4.00	MASONRY DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S5.00	TYP STEEL BEAM CONNS - LRFD	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S5.01	TYP STEEL BEAM CONNS - LRFD	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S5.02	STEEL DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S5.03	STEEL DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S5.30	TYPICAL COMPOSITE SLAB DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S5.31	TYPICAL SLAB ON METAL DECK DETAILS	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
1A-S5.40	PERFORMANCE SPECIFIED FRAMING	-	BP3: PROMENADE - ISSUE FOR BID AND PERMIT	2021.05.19
04 - STRUCTURAL: 23				

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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

STATE OF COLORADO
JACQUELINE CAMPBELL
203617
LICENSED ARCHITECT

05.19.2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

Description

DRAWING INDEX

Scale

1A-G0.001

ACCESSIBILITY NOTES

1. PILE THICKNESS OF SPECIFIED CARPETS DOES NOT EXCEED 1/2".
2. FLOOR SURFACES SPECIFIED ARE SLIP-RESISTANT.
3. ABRUPT CHANGES IN LEVEL ALONG ACCESSIBLE ROUTE DO NOT EXCEED 1/2" IN HEIGHT. CHANGES BETWEEN 1/4" AND 1/2" ARE BEVELED WITH A SLOPE NO STEEPER THAN 1:2. LEVEL CHANGES NOT EXCEEDING 1/4" MAY BE VERTICAL.
4. LATCHING AND LOCKING DOORS ARE SPECIFIED TO BE OPERABLE WITH A SINGLE EFFORT BY HARDWARE THAT DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. DOOR OPENING HARDWARE IS SPECIFIED TO BE MOUNTED BETWEEN 34" AND 48" ABOVE FLOOR FINISH.
5. CLOSERS FOR FIRE-RATED DOORS ARE SPECIFIED TO BE POWER LEVEL 3 FOR INTERIOR DOORS OR LESS IN WIDTH.
6. MAXIMUM PULL OR PUSH EFFORT TO OPERATE NON-FIRE-RATED DOORS SHALL NOT EXCEED 8.5 POUNDS FOR EXTERIOR DOORS AND 5 POUNDS FOR INTERIOR DOORS, MEASURED AT RIGHT ANGLES TO HINGED DOORS AND AT CENTER PLANE OF SLIDING OR FOLDING DOORS. SPECIFIED CLOSERS TO BE ADJUSTED TO COMPLY.
7. ALL DOORS ARE SPECIFIED TO BE NOT LESS THAN 3'-0" IN WIDTH AND NOT LESS THAN 6'-8" IN HEIGHT. DOORS ARE CAPABLE OF OPENING AT LEAST 90 DEGREES AND CLEAR WIDTH IS NOT LESS THAN 32".
8. FLOOR AREAS ON EACH SIDE OF DOORS ARE SPECIFIED TO BE LEVEL AND CLEAR. THE DIMENSIONS OF THE LEVEL AREAS ARE SPECIFIED TO MEET ANSI A117.3 2003, IAC AND ADA CLEARANCE REQUIREMENTS.
9. FLOORS OR LANDINGS ARE SPECIFIED TO BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" IS SPECIFIED TO BE BEVELED WITH A SLOPE NO STEEPER THAN 1:2.
10. THE UPPER APPROACH AND THE LOWER TREAD OF EACH INTERIOR STAIR IS SPECIFIED TO BE MARKED WITH A STRIP OF CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE, PLACED PARALLEL TO AND NOT MORE THAN 1" FROM THE NOSE OF THE STEP OR LANDING. THE STRIP IS SPECIFIED TO BE A MATERIAL THAT IS AT LEAST AS SLIP RESISTANT AS THE OTHER TREADS OF THE STAIR.
11. ELECTRICAL RECEPTACLE OUTLETS ARE SPECIFIED TO BE NOT LESS THAN 15" ABOVE THE FLOOR OR WORKING PLATFORM.
12. TOILET ROOM ACCESSORIES
    A. BOTTOM OF MIRROR REFLECTIVE SURFACE IS SPECIFIED TO BE NO HIGHER THAN 40" FROM THE FLOOR.
    B. TOILET TISSUE DISPENSERS ARE MOUNTED BETWEEN 7" AND 9" FROM THE FRONT EDGE OF THE TOILET SEAT.
    C. DISPENSING AND DISPOSAL FIXTURES (TOWEL, SANITARY NAPKINS, WASTE, COIN SLOTS, ETC.) WITH OPERATING PARTS ARE MOUNTED NO HIGHER THAN 48" FROM THE FLOOR.
13. THE HEIGHT OF THE WATER CLOSET (TOP OF SEAT) IS BETWEEN 17" AND 19".
14. FLUSH CONTROLS ARE MOUNTED NO MORE THAN 44" ABOVE THE FLOOR, ON THE SIDE OF THE TOILET WITH THE GREATEST CLEARANCE FROM ADJACENT WALL, TOILET PARTITION OR OTHER SURFACE.
15. PROVIDE GRAB BARS IN COMPLIANCE WITH ANSI A117.1 ON EACH SIDE, OR ONE SIDE AND BACK OF WATER CLOSET
    A. GRAB BARS TO BE 33" ABOVE AND PARALLEL TO THE FLOOR.
    B. DIAMETER OF GRAB BARS TO BE 1-1/4" TO 1-1/2".
    C. PROVIDE 1-1/2" CLEARANCE BETWEEN GRAB BARS AND WALL.
    D. GRAB BARS (INCLUDING CONNECTORS, FASTENERS, SUPPORT BACKING, ETC.) SHALL SUPPORT A 250 POUND LOAD.
    E. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
    F. GRAB BARS AND ANY ADJACENT SURFACE SHALL BE FREE OF SHARP OR ABRASIVE ELEMENTS.
    G. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8".
16. PROVIDE A CLEAR FLOOR SPACE 30" X 48" IS PROVIDED IN FRONT OF LAVATORY TO PERMIT A FORWARD APPROACH.
17. SINKS AND LAVATORIES ARE MOUNTED TO COMPLY WITH KNEESPACE REQUIREMENTS OF ANSI A117.1
18. FAUCET CONTROLS AND OPERATING MECHANISMS ARE TO BE OPERABLE WITH ONE HAND AND NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS. SELF-CLOSING CONTROLS ARE TO REMAIN OPEN FOR AT LEAST 10 SECONDS.
19. HOT WATER AND DRAIN PIPES UNDER LAVATORIES ARE INSULATED OR OTHERWISED COVERED.
20. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.

POWER & COMMUNICATION NOTES

1. PRIOR TO CORING SLAB FOR POWER/COMM POKE-THROUGH DEVICES, COORDINATE LOCATIONS WITH OWNER AND/OR OWNER'S FURNISHINGS CONTRACTOR AND REVIEW WITH ARCHITECT.
2. INDICATED DIMENSIONS ARE TO THE CENTER LINE OF OUTLET OR SWITCH, OR CLUSTER OF OUTLETS OR SWITCHES, UNLESS OTHERWISE NOTED.
3. INSTALL OUTLETS ON OPPOSITE SIDES OF PARTITIONS IN SEPARATE STUD CAVITIES. DO NOT INSTALL BACK-TO-BACK.
4. PROVIDE MATCHING COVER PLATES, RECEPTACLES AND RELATED ITEMS. PROVIDE ONE-PIECE TYPE GANG COVER PLATES, UNLESS NOTED OTHERWISE.
5. COORDINATE INSTALLATION OF TELECOMMUNICATIONS, DATA AND SECURITY SYSTEMS.
6. IDENTIFY DEDICATED OR ISOLATED GROUND ELECTRICAL OUTLETS WITH A RED DOT.
7. VERIFY EQUIPMENT SPECIFICATIONS, POWER AND INSTALLATION REQUIREMENTS WITH MANUFACTURER TO ENSURE PROPER FIT AND FUNCTION.
8. VERIFY MOUNTING REQUIREMENTS OF ELECTRICAL, TELEPHONE AND OTHER EQUIPMENT. PROVIDE NON-COMBUSTIBLE BLOCKING WITHIN WALLS AS REQUIRED FOR PROPER EQUIPMENT INSTALLATION.
9. GANG ADJACENT LIGHT SWITCHES AND COVER WITH A SINGLE PLATE.
10. MOUNT STANDARD WALL OUTLETS, SWITCHES AND THERMOSTATS AT HEIGHTS REQUIRED BY ADA GUIDELINES, UNLESS OTHERWISE NOTED. WHEN THERMOSTATS AND LIGHT SWITCH OCCUR TOGETHER, INSTALL BOTH ALIGNED HORIZONTALLY WITH CENTER LINE AT +3'-2" ABOVE FINISHED FLOOR.

FINISH NOTES

1. ENSURE SURFACES TO RECEIVE FINISHES ARE CLEAN, TRUE, AND FREE OF IRREGULARITIES. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
2. REPAIR EXISTING SURFACES TO REMAIN AS REQUIRED FOR APPLICATION OF NEW FINISHES.
3. PROVIDE STRAIGHT, FLUSH RESILIENT BASE AT CARPETED AREAS, AND COVED, TOP SET RESILIENT BASE AT RESILIENT FLOORING, UNLESS OTHERWISE NOTED.

GENERAL NOTES

1. COMPLY WITH CODES, LAWS, ORDINANCES, RULES, AND REGULATIONS OF PUBLIC AUTHORITIES GOVERNING THE WORK.
2. OBTAIN AND PAY FOR PERMITS AND INSPECTIONS REQUIRED BY PUBLIC AUTHORITIES GOVERNING THE WORK.
3. REVIEW DOCUMENTS, VERIFY DIMENSIONS AND FIELD CONDITIONS AND CONFIRM THAT WORK IS BUILDABLE AS SHOWN. REPORT ANY CONFLICTS OR OMISSIONS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK IN QUESTION.
4. SUBMIT REQUESTS FOR SUBSTITUTIONS, REVISIONS, OR CHANGES TO ARCHITECT FOR REVIEW PRIOR TO PURCHASE, FABRICATION OR INSTALLATION.
5. COORDINATE WORK WITH THE LANDLORD AND OWNER, INCLUDING SCHEDULING TIME AND LOCATIONS FOR DELIVERIES, BUILDING ACCESS, USE OF BUILDING SERVICES AND FACILITIES, AND USE OF ELEVATORS. MINIMIZE DISTURBANCE OF BUILDING FUNCTIONS AND OCCUPANTS.
6. OWNER WILL PROVIDE WORK NOTED "BY OTHERS" OR "NIC" UNDER SEPARATE CONTRACT. INCLUDE SCHEDULE REQUIREMENTS IN CONSTRUCTION PROGRESS SCHEDULE AND COORDINATE TO ASSURE ORDERLY SEQUENCE OF INSTALLATION.
7. COORDINATE TELECOMMUNICATIONS, DATA AND SECURITY SYSTEM INSTALLATIONS.
8. MAINTAIN EXITS, EXIT LIGHTING, FIRE PROTECTIVE DEVICES, AND ALARMS IN CONFORMANCE WITH CODES AND ORDINANCES.
9. MAINTAIN WORK AREAS SECURE AND LOCKABLE DURING CONSTRUCTION. COORDINATE WITH TENANT AND LANDLORD TO ENSURE SECURITY.
10. UNDERCUT DOORS TO CLEAR TOP OF FLOOR FINISHES BY 1/4 INCH, UNLESS OTHERWISE NOTED.
11. PROVIDE ALL ACCESS PANELS REQUIRED FOR ALL JUNCTION BOXES, VALVES, CLEANOUTS, PLUGS, FILTERS, EQUIPMENT, AND ALL OTHER ITEMS REQUIRING SERVICE OR MAINTENANCE
12. PROTECT AREA OF WORK AND ADJACENT AREAS FROM DAMAGE.
13. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. IN CASE OF CONFLICT, CONSULT THE ARCHITECT.
14. PARTITIONS ARE DIMENSIONED FROM FINISH FACE TO FINISH FACE, UNLESS OTHERWISE NOTED. MAINTAIN DIMENSIONS MARKED "CLEAR". ALLOW FOR THICKNESS OF FINISHES.
15. PROVIDE CONCEALED BLOCKING AS REQUIRED FOR WORK BY OWNER'S OTHER CONTRACTORS. COORDINATE WITH OTHER CONTRACTORS FOR SIZE, TYPE AND LOCATION OF REQUIRED BLOCKING.
16. WHERE EXISTING ACCESS PANELS CONFLICT WITH CONSTRUCTION, RELOCATE PANELS TO ALIGN WITH AND FIT WITHIN NEW CONSTRUCTION.

FIRE PREVENTION NOTES

1. EVERY EXIT DOOR IS SPECIFIED TO BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY AND WITHOUT ANY SPECIAL KNOWLEDGE OR EFFORT. SPECIAL LOCKING DEVICES SHALL BE OF AN APPROVED TYPE. ALL NEW DOORS SHALL HAVE APPROVED LEVER HANDLES.
2. INTERIOR WALL AND CEILING FINISHES ARE SPECIFIED TO BE CLASS 2 (FLAME SPREAD 26-75, SMOKE DEVELOPED 450 OR LESS) OR BETTER, UNLESS NOTED OTHERWISE.
3. INTERIOR TRIM IS SPECIFIED TO BE CLASS 3 (FLAME SPREAD 76 TO 200, SMOKE DEVELOPED 450 OR LESS) OR BETTER.
4. INTERIOR TRIM FOR CEILINGS IS SPECIFIED TO BE 10% OR LESS OF TOTAL CEILING AREA. INTERIOR TRIM FOR WALLS IS SPECIFIED TO BE 20% OR LESS OF TOTAL WALL AREA.
5. THIS PROJECT DOES NOT INCLUDE STORAGE, DISPENSING OR USE OF ANY FLAMMABLE OR COMBUSTIBLE LIQUIDS, FLAMMABLE GAS OR HAZARDOUS SUBSTANCES.
6. ALL WOOD BLOCKING, CLEATS, GROUNDS, SHEATHING AND OTHER MISC. CARPENTRY ITEMS SHALL BE FIRE RETARDANT TREATED
7. FLOOR COVERINGS FOR CORRIDORS, LOBBIES, STAIRS, OTHER EXIT PATHS OR EXIT AREAS ARE SPECIFIED TO BE CLASS B OR BETTER.
8. PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A WITHIN 75 FOOT TRAVEL DISTANCE TO ALL PORTIONS OF THE BUILDING ON EACH FLOOR, WITHIN ELECTRICAL AND MECHANICAL ROOMS, AND ADDITIONAL EXTINGUISHERS AS REQUIRED BY GOVERNING AUTHORITIES. PROVIDE PORTABLE FIRE EXTINGUISHER COMPATIBLE WITH AUTOMATIC FIRE EXTINGUISHING SYSTEM AGENT AND IN ACCORDANCE WITH SECTION 904.12.5 OF THE IFC, AND WITHIN 30 FT OF COMMERCIAL KITCHEN EQUIPMENT.
9. PROVIDE EXIT SIGN WITH 6" LETTERS OVER REQUIRED EXITS, WHERE SHOWN ON DRAWINGS, AND ADDITIONAL SIGNS AS REQUIRED BY BUILDING DEPARTMENT INSPECTOR OR FIRE DEPARTMENT FIELD INSPECTOR. CONNECT EXIT SIGNS TO EMERGENCY POWER CIRCUITS. COMPLY WITH BUILDING CODES.
10. PROVIDE EMERGENCY LIGHTING OF ONE FOOT-CANDLE AT FLOOR LEVEL. COMPLY WITH BUILDING CODES.
11. MAINTAIN AISLES AT LEAST 44" WIDE AT PUBLIC AREAS.
12. DOORS OPENING INTO REQUIRED 1-HOUR, FIRE-RESISTIVE CORRIDORS SHALL BE PROTECTED WITH A SMOKE OR DRAFT STOP ASSEMBLY HAVING A 20-MINUTE RATING AND SHALL BE SELF-CLOSING.
13. 20-MINUTE DOOR JAMBS TO BE TIGHT-FITTING, SMOKE AND DRAFT CONTROLLED.
14. EXIT DOORS SHALL SWING IN THE DIRECTION OF TRAVEL WHEN SERVING 50 OR MORE PERSONS AND IN ANY HAZARDOUS AREA.
15. DECORATIONS (CURTAINS, DRAPES, SHADES, HANGINGS, ETC.) SHALL BE NON-COMBUSTIBLE OR BE FLAMEPROOFED IN AN APPROVED MANNER.
    DECORATIONS (CURTAINS, DRAPES, SHADES, HANGINGS, ETC.) SHALL BE NON-COMBUSTIBLE OR BE FLAMEPROOFED IN AN APPROVED MANNER.
16. PROVIDE FIRE DAMPERS, FIRE SMOKE DAMPERS OR DOORS WHERE DUCTS PENETRATE FIRE-RATED WALLS OR CEILINGS. TYPICAL ALL AREAS. COORDINATE WITH EOR TO ENSURE FIRE SMOKE OR SMOKE DAMPER ARE REQUIRED AT LOCATIONS. WORK PERFORMED WITH OUT CLARIFICATION OR COORDINATION SHALL BE REMOVED AND REPLACED AT THE EXPENSE OF THE GC.
17. STORAGE, DISPENSING OR USE OF ANY FLAMMABLE OR COMBUSTIBLE LIQUIDS, FLAMMABLE GAS AND HAZARDOUS SUBSTANCES SHALL COMPLY WITH UNIFORM, FIRE CODE REGULATIONS.
18. EXTEND OR MODIFY EXISTING FIRE/LIFE SAFETY SYSTEM AS REQUIRED TO PROVIDE AN APPROVED FIRE/ LIFE SAFETY SYSTEM FOLLOWING APPROVAL BY LANDLORD'S LIFE SAFETY ENGINEER. SUBMIT PLANS TO FIRE DEPARTMENT WITH COMPLETE DESCRIPTION OF SEQUENCE OF OPERATION, AND OBTAIN APPROVAL PRIOR TO INSTALLATION.
19. LOCATE THE CENTER OF FIRE ALARM INITIATING DEVICES 48" ABOVE THE LEVEL OF THE FLOOR, WORKING PLATFORM, GROUND SURFACE OR SIDEWALK.
20. EMERGENCY WARNING SYSTEMS SHALL ACTIVATE A MEANS OF WARNING THE HEARING IMPAIRED. FLASHING VISUAL WARNING SHALL HAVE A FREQUENCY OF NOT MORE THAN 60 FLASHES PER MINUTE.
21. EXTEND OR MODIFY EXISTING AUTOMATIC FIRE EXTINGUISHING SYSTEM AS REQUIRED TO PROVIDE AN APPROVED AUTOMATIC FIRE EXTINGUISHING SYSTEM FOLLOWING APPROVAL BY LANDLORD'S LIFE SAFETY ENGINEER. SUBMIT PLANS TO FIRE DEPARTMENT AND OBTAIN APPROVAL PRIOR TO INSTALLATION.
22. AUTOMATIC SPRINKLER SYSTEMS SHALL BE SUPERVISED BY AN APPROVED CENTRAL, PROPRIETARY OR REMOTE STATION SERVICE OR A LOCAL ALARM WHICH WILL GIVE AN AUDIBLE SIGNAL AT A CONSTANTLY ATTENDED LOCATION.

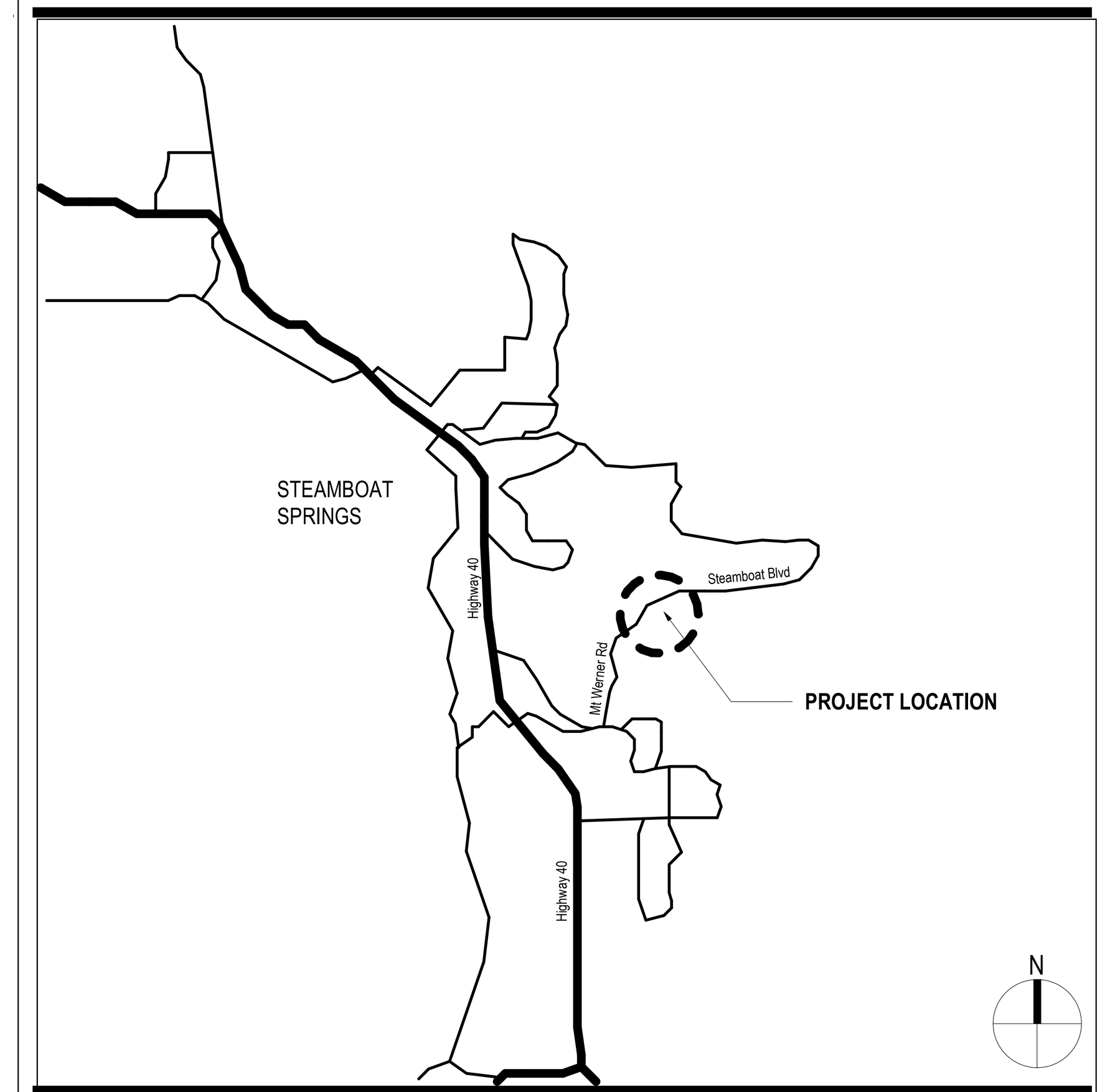
DEMOLITION NOTES

1. REMOVE DESIGNATED PARTITIONS, CEILINGS COMPONENTS, BUILDING EQUIPMENT, AND FIXTURES AS REQUIRED FOR NEW WORK.
2. REMOVE EXISTING WORK AS REQUIRED TO ACCOMODATE NEW WORK, EVEN WHERE NOT EXPRESSLY INDICATED ON DEMOLITION PLANS.
3. REMOVE ABANDONED HVAC EQUIPMENT, DUCT WORK, CONTROLS, REGISTERS, GRILLES AND ALL ASSOCIATED HARDWARE & ACCESSORIES.
4. REMOVE ABANDONED ELECTRICAL, TELEPHONE, DATA, SECURITY AND SIMILAR OTHER CABLING, CONDUIT, EQUIPMENT AND DEVICES, UNLESS NOTED OTHERWISE.
   4. REMOVE ABANDONED ELECTRICAL, TELEPHONE, DATA, SECURITY AND SIMILAR OTHER CABLING, CONDUIT, EQUIPMENT AND DEVICES, UNLESS NOTED OTHERWISE.
5. REMOVE ABANDONED PLUMBING EQUIPMENT, VALVES, PIPING AND ALL ASSOCIATED HARDWARE & ACCESSORIES.
6. REMOVE EXISTING FLOOR FINISHES WHERE INDICATED AND PREPARE SUBFLOOR AS REQUIRED FOR NEW FLOOR FINISHES.
7. COMPLY WITH APPLICABLE LOCAL, STATE AND FEDERAL CODES AND REGULATIONS PERTAINING TO SAFETY OF PERSONS, PROPERTY AND ENVIRONMENTAL PROTECTION.
8. PROVIDE AND MAINTAIN BARRICADES, LIGHTING, AND GUARDRAILS AS REQUIRED BY APPLICABLE CODES AND REGULATIONS TO PROTECT OCCUPANTS OF BUILDING AND WORKERS.
9. ERECT AND MAINTAIN DUSTPROOF PARTITIONS AS REQUIRED TO PREVENT SPREAD OF DUST, FUMES, AND SMOKE, ETC. TO OTHER PARTS OF THE BUILDING. ON COMPLETION, REMOVE PARTITIONS AND REPAIR DAMAGED SURFACES TO MATCH ADJACENT SURFACES.
10. IF DEMOLITION IS PERFORMED IN EXCESS OF THAT REQUIRED, RESTORE EFFECTED AREAS AT NO COST TO THE OWNER.
11. REMOVE FROM SITE DAILY AND LEGALLY DISPOSE OF REFUSE, DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS. LEAVE ALL AREAS BROOM CLEAN DAILY.
12. NO EXISTING LANDLORD WORK SHALL BE REMOVED UNLESS SUCH REMOVAL IS APPROVED IN WRITING BY LANDLORD.

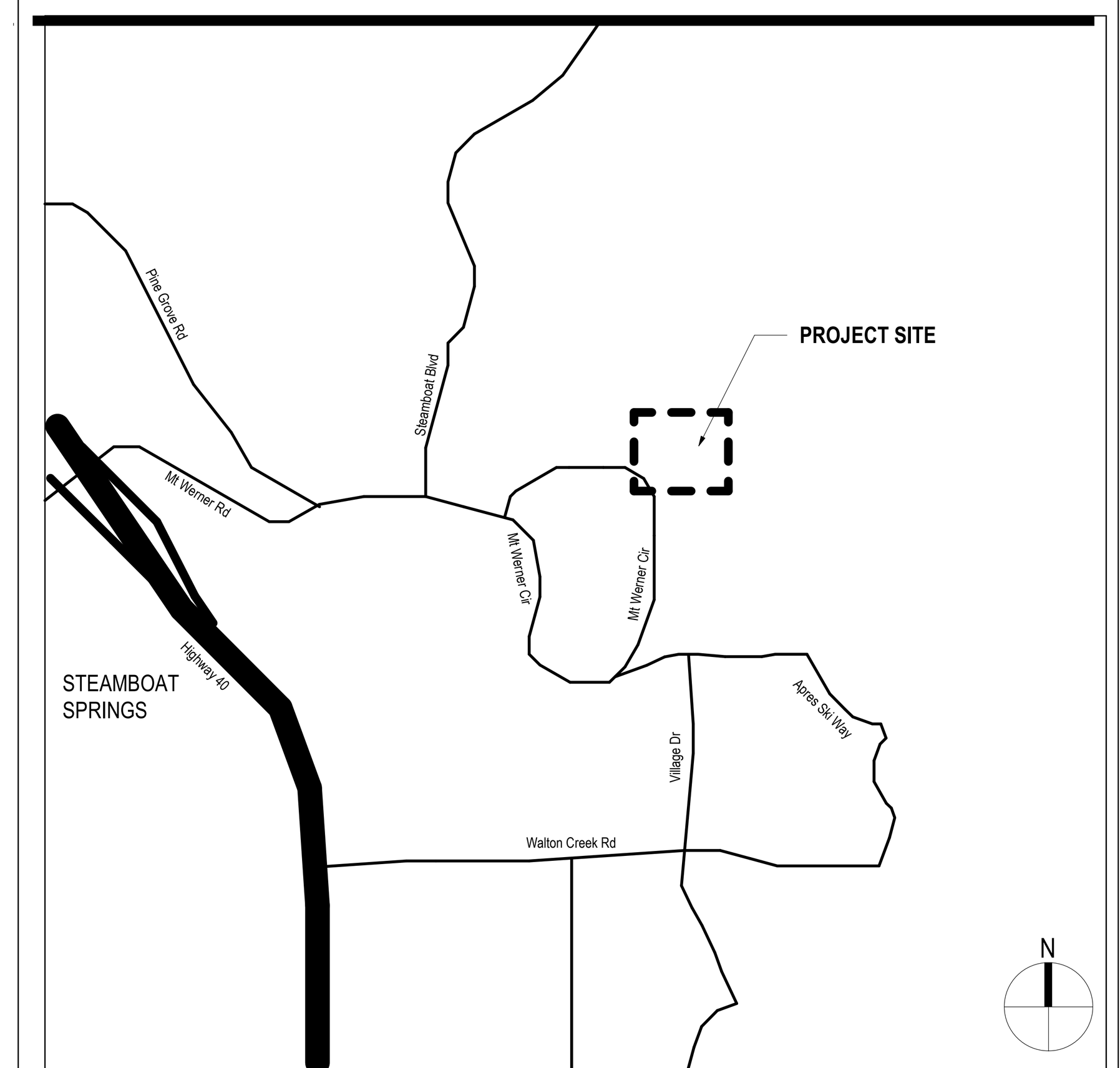
REFLECTED CEILING NOTES

1. LOCATE REGISTERS AND LIGHTING FIXTURES WITHIN GRID LINES. CENTER SPRINKLER HEADS, SPEAKERS, RECESSED FIXTURES, AND SIMILAR CEILING ELEMENTS IN ACOUSTICAL UNITS, UNLESS NOTED OTHERWISE.
2. FINISH HVAC DIFFUSERS, DRAPERY/SHADE POCKETS, SPEAKER GRILLES AND OTHER ITEMS LOCATED IN CEILING TO MATCH ADJACENT FINISH, UNLESS OTHERWISE NOTED.
3. DIMENSIONS FOR CEILING LOCATIONS, ENLARGED PLAN TARGETS, DETAIL TARGETS, ETC. ARE NOTED ON REFLECTED CEILING PLANS. DIMENSIONS, TARGETS, ETC. THAT ARE TYPICAL FOR MANY AREAS ARE NOTED ONLY ONCE.
4. SEE ENGINEERING AND CONSULTANT(S) DRAWINGS FOR QUANTITY AND LOCATION OF ALL EXIT AND EMERGENCY LIGHTS, THERMOSTATS, SPRINKLER HEADS, LIFE SAFETY SPEAKERS, AND DIFFUSER GRILLES, TYPICAL UNLESS NOTED OTHERWISE.
5. SEE ENGINEERING AND CONSULTANT(S) DRAWINGS FOR ADDITIONAL INFORMATION, DEVICES, DETAILS, ETC., TYPICAL.
6. REFER TO ELECTRICAL DRAWINGS FOR SWITCHING AND/OR POWER ZONES.
7. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED CONDUITS, PULL BOXES, HOME RUNS, WALL JUNCTION BOXES, PLASTER RINGS, ETC. FOR INSTALLATION, PULLING, ETC. OF ALL VOICE/DATA DEVICES, CABLES, SECURITY DEVICES, ETC., TYPICAL UNLESS NOTED OTHERWISE. GENERAL CONTRACTOR TO COORDINATE.
8. ALL LIGHT FIXTURES, LIFE SAFETY DEVICES AND SPRINKLER HEADS SHALL BE LOCATED IN THE CENTER OF A CEILING TILE IN BOTH DIRECTIONS AND SHALL ALSO ALIGN WITH ADJACENT FIXTURES, DEVICES OR HEADS IN A RUN OR ROW OF FIXTURES, DEVICES OR HEADS, TYPICAL UNLESS NOTED OTHERWISE.
9. IF LOCATION DIMENSION ARE NOT NOTED AND/OR INDICATED, FINAL POSITIONING OF ALL/ANY EXPOSED DEVICES TO BE COORDINATED WITH DESIGNER/ARCHITECT.
10. ALL EXIT LIGHTS/SIGNS TO MATCH BASE BUILDING UNLESS NOTED OTHERWISE.
11. ALL DIMENSIONS INDICATING LIGHT SWITCH AND/OR ANY OTHER DEVICE LOCATIONS ARE TO CENTER LINES OF SWITCHES AND/OR DEVICES, TYPICAL UNLESS NOTED OTHERWISE.

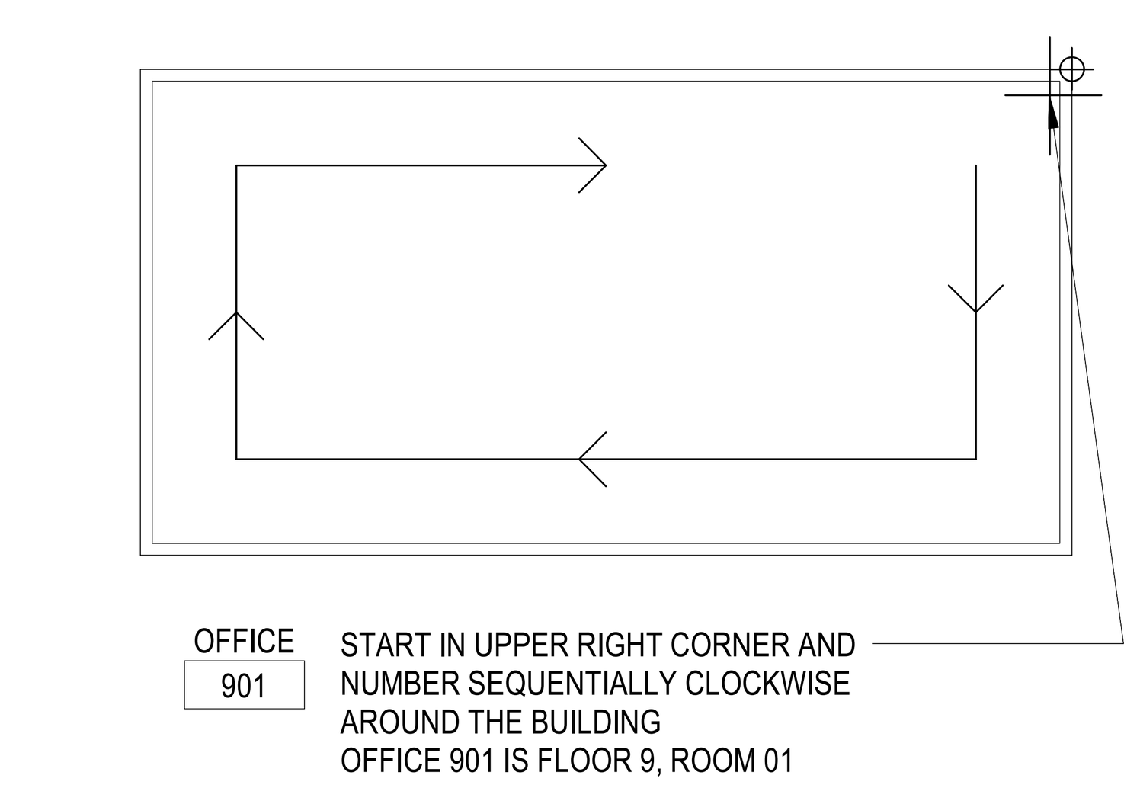
VICINITY MAP



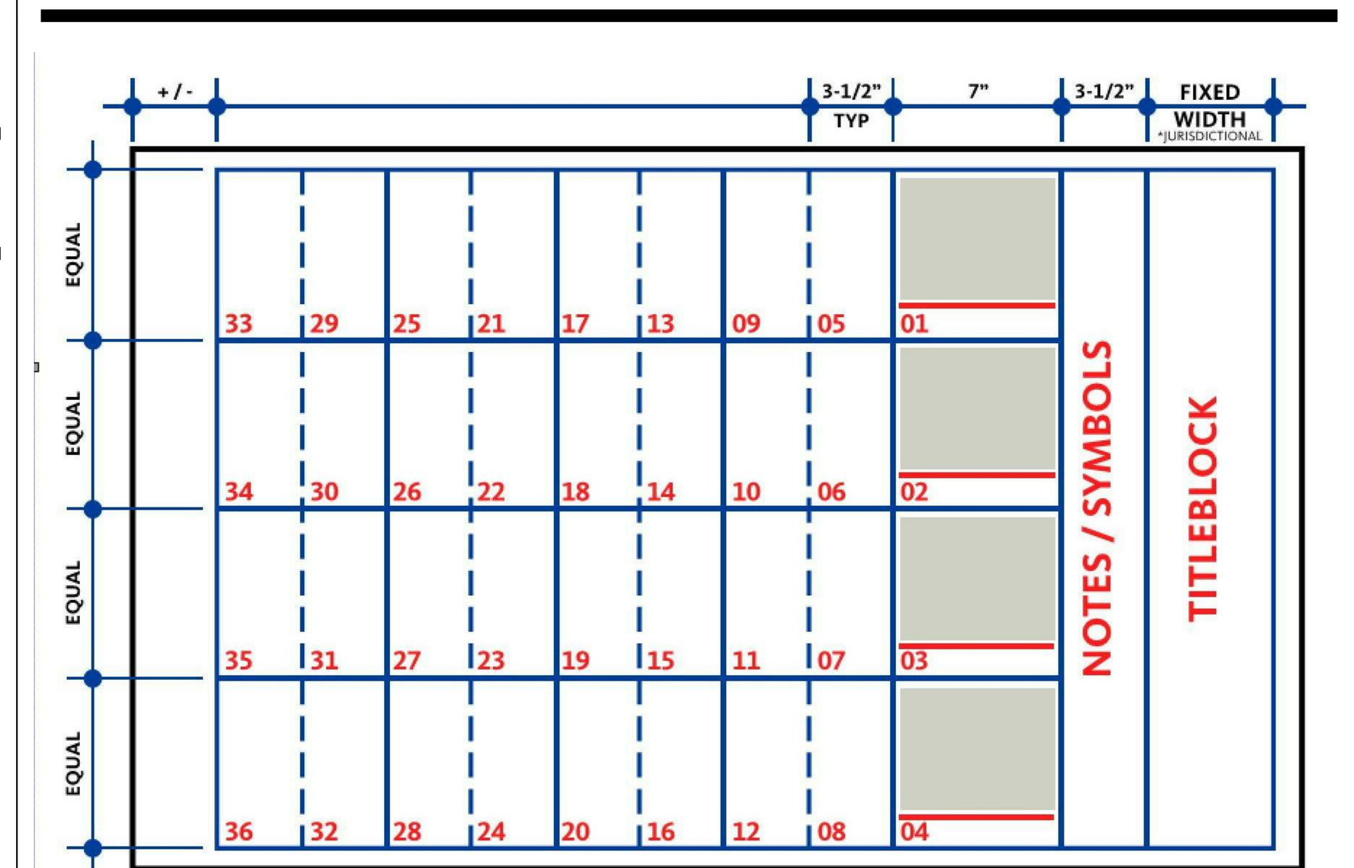
LOCATION MAP



ROOM NUMBERING SYSTEM



SHEET LAYOUT GRID SYSTEM



Typical Detail Sheet Layout Grid (30" x 48" Sheet)

PROJECT INFORMATION

FOLLOWING ARE THE PLANS OUTLINING THE SCOPE OF WORK REQUIRED FOR THE NEW CONSTRUCTION AND RENOVATION OF THE STEAMBOAT BASE VILLAGE.

THE WORK OF PROJECT IS DEFINED BY THE CONTRACT DOCUMENTS AND CONSISTS OF NEW CONSTRUCTION AND RENOVATION OF THE STEAMBOAT BASE VILLAGE.

THE WORK FOR THE PROMENADE BUILDING AND PLAZA BUILDING WILL BE PERMITTED IN 3 PACKAGES. A CERTIFICATE OF OCCUPANCY IS NOT BEING REQUESTED UNTIL THE FINAL PACKAGE IS PERMITTED, CONSTRUCTED, AND ALL LIFE SAFETY SYSTEMS AND INSPECTIONS AND OTHER REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION ARE COMPLETED AND APPROVED.

PACKAGE I: PROMENADE BUILDING SHELL AND CORE. THIS INCLUDES FOUNDATIONS, SUPERSTRUCTURE, AND UNDERGROUND UTILITIES. PLAZA LANDSCAPING – HARDSCAPE AND SOFTSCAPE, ICE RINK, AND STAGE. MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND INFORMATION TECHNOLOGY SCOPES INCLUDE EQUIPMENT, DISTRIBUTION SYSTEMS FOR THE SHELL AND CORE BUILDING AND INCLUDING THE REFRIGERATION PLANT AND PIPING FOR THE ICE RINK. ARCHITECTURAL SCOPE INCLUDES NEW PARTITIONS, FINISHES, DOORS AND HARDWARE, WATERPROOFING, AND EXTERIOR ENCLOSURE. NO VERTICAL TRANSPORTATION – ELEVATORS AND STAIRS ARE INCLUDED.

PACKAGE II – PROMENADE BUILDING – TENANT INTERIORS: THIS WORK INCLUDES NEW PARTITIONS, FINISHES, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION FOR PROGRAMMED SPACE IN THE PREVIOUS SHELL AND CORE FUTURE SPACE.

PACKAGE III – PROMENADE PLAZA BUILDING – PERMIT AND CONSTRUCTION. THIS WORK INCLUDES THE CONSTRUCTION OF A FOOD AND BEVERAGE HALL ON THE PLAZA LEVEL. ALL ARCHITECTURAL SYSTEMS FOR COMPLETING THE PROMENADE- PLAZA BUILDING AS ONE BUILDING WILL BE PART OF THIS PACKAGE. THIS SCOPE INCLUDES EXTERIOR ENCLOSURE, INTERIOR FINISHES, EXTERIOR OPEN LEVEL PATIO, PARTITIONS, AND FOOD SERVICE EQUIPMENT. THE PLAZA BUILDING PACKAGE WILL INCLUDE VERTICAL TRANSPORTATION – ELEVATOR – CONNECTING THE PROMENADE BUILDING TO THE UPPER FLOORS OF THE PLAZA BUILDING, AND THE EGRESS STAIR FROM THE PROMENADE BUILDING TO THE PLAZA BUILDING – THUS COMPLETING THIS EGRESS PATH.

THE DRAWINGS, IN CONCERT WITH THE PROJECT MANUAL, COMPRISE THE CONTRACT DOCUMENTS OUTLINING THE DESIGN INTENT AND PROJECT SCOPE, AND MAY BE SUPPLEMENTED BY FURTHER INFORMATION ISSUED BY ARCHITECT.

THE DRAWINGS ARE ARRANGED IN GENERAL TO SPECIFIC ORDER, FOLLOWING A TOP TO BOTTOM, RIGHT TO LEFT FORMAT. CONTRACTORS ARE ADVISED TO READ AND FAMILIARIZE THEMSELVES WITH THE INFORMATION IN THE PROJECT MANUAL, AS WELL AS THE GENERAL LEGENDS CONTAINED IN THE G SERIES OF DRAWINGS, PRIOR TO REVIEW OF THE PLANS, ELEVATIONS AND DETAILS. ADVISE THE ARCHITECT WHERE INTENT IS NOT CLEARLY PERCEIVED, PRIOR TO PROCEEDING WITH WORK.

BUILDING ADDRESS:	2305 MOUNT WERNER CIRCLE STEAMBOAT SPRINGS, CO 80487
BUILDING JURISDICTION:	ROUTT COUNTY, STEAMBOAT SPRINGS, COLORADO
APPLICABLE CODES:	2018 INTERNATIONAL BUILDING CODE 2018 INTERNATIONAL MECHANICAL CODE 2018 INTERNATIONAL PLUMBING CODE 2018 INTERNATIONAL FUEL GAS CODE 2018 INTERNATIONAL FIRE CODE 2020 NATIONAL ELECTRIC CODE 2018 INTERNATIONAL ENERGY CONSERVATION CODE 2009 ICC A117.1, ACCESSIBILITY REQUIREMENTS 2010 ADA ACCESSIBILITY GUIDELINES ANSI/ASME A17.1, SAFETY CODE FOR ELEVATORS 2013 USEABLE BUILDING & FACILITIES CODE STEAMBOAT SPRINGS AND ROUTE COUNTY CODE AMENDMENTS
OCCUPANCY TYPE:	PROMENADE BUILDING = S-2, B-BUSINESS PLAZA BUILDING= A-2, S-2
CONSTRUCTION TYPE:	PROMENADE BUILDING, PLAZA BUILDING = IIB
FIRE SUPPRESSION:	FIRE ALARM AND SMOKE DETECTION SYSTEM PER IBC 907.2 & NFPA 72
FIRE ALARM SYSTEM:	FIRE RESISTIVE, (100% SPRINKLERED PER NFPA 13 AND STANDPIPES IN EACH STAIRWAY ENCLOSURE WITH 2.5 HOSE CONNECTIONS AT INTERMEDIATE LANDINGS AND ROOF MANIFOLDS
DEFERRED SUBMITTALS:	• CFMF WALLS • SHOP-FABRICATED METAL STAIRS • GUARDRAILS (INCLUDING CABLE RAILS IN PARKING GARAGE) • GLASS (STOREFRONT AND CURTAINWALL) • FIRE ALARM SYSTEM • FIRE SPRINKLER SYSTEM • ACCESS CONTROL HARDWARE • ELEVATOR GUIDE RAILS AND SUPPORT • SPRAY-APPLIED FIRE PROOFING
NUMBER OF STORIES IN BUILDING:	3 STORIES, BASEMENT, LEVEL 01, LEVEL 02 LEVELS 01 AND 02 WILL BE PART OF A FUTURE PACKAGE
TOTAL FLOOR AREA:	PROMENADE BUILDING 23,839 GSF
LEED CERTIFICATION:	CERTIFIED LEVEL

PROJECT TEAM

CLIENT / OWNER:	ALTERRA MOUNTAIN COMPANY REAL ESTATE DEVELOPMENT 3501 WAZEE STREET DENVER, CO 80216 (303) 749 - 8200
CIVIL ENGINEER:	LANDMARK CONSULTANTS, INC 141 9TH STREET, PO BOX 774943 STEAMBOAT SPRINGS, CO 80477 (970) 871-9494
LANDSCAPE ARCHITECT:	DESIGN WORKSHOP 1390 LAWRENCE STREET DENVER, CO 80204 (303) 623-5186
ARCHITECT:	GENSLER 1225 17TH STREET, SUITE 150 DENVER, CO 80202 (303) 595 - 8585
STRUCTURAL ENGINEER:	MARTIN / MARTIN ENGINEERS 12499 WEST COLFAX AVE LAKEWOOD, CO 80215 (303) 431 - 6100
MECHANICAL / ELECTRICAL / PLUMBING ENGINEER:	ME ENGINEERS 14143 DENVER WEST PKWY, SUITE 300 GOLDEN, CO 80401 (303) 421-6655

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ALTERRA MOUNTAIN COMPANY
east west partners

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

STATE OF COLORADO
JON CHARLES GABRIEL
203617
LICENSED ARCHITECT
05.19.2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROJECT INFORMATION

Scale
12" = 1'-0"

1A-G1.001

ABBREVIATIONS

W/	WITH
W/O	WITHOUT
WB	WOOD BASE
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WF	WIDE FLANGE (STRUCTURAL STEEL)
WH	WATER HEATER
WLD	WELD
WM	WIRE MESH
WP	WATERPROOFING
WPT	WORKING POINT
WR	WATER RESISTANT OR WATER REPELLANT
WRSTP	WEATHERSTRIPPING
WT	WEIGHT
WTRPRF	WATERPROOFING
WWF	WELDED WIRE FABRIC
X	
X HVY	EXTRA HEAVY
X STR	EXTRA STRONG
XH	EXTRA HEAVY
Y	
YD	YARD
YR	YEAR

RH	RIGHT HAND
RM	ROOM
RMV	REMOVE
RO	ROUGH OPENING
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RPT	REPEAT (LIKE "DITTO")
RR	RAILROAD
S	
S4S	SURFACED 4 SIDES
SALV	SALVAGE
SAN	SANITARY
SC	SOLID CORE
SCHED	SCHEDULE
SCR	SCRIBE
SCRN	SCREEN
SCUP	SCUPPER
SCWD	SOLID CORE WOOD DOOR
SE	STRUCTURAL ENGINEER
SECT	SECTION
SECUR	SECURITY
SECY	SECRETARY
SED	SEWAGE EJECTOR DISCHARGE
SEL	SELECT
SERV	SERVICE
SEV	SEWAGE EJECTOR VENT
SF	SQUARE FEET
SF	SQUARE FOOT
SFGL	SAFETY GLASS
SG	SINGLE
SGG	STRUCTURAL GLAZING GASKET
SGL	SINGLE
SGS	SILICONE GLAZING SEALANT
SHORG	SHORING
SHT	SHEET
SHTHG	SHEATHING
SHWR	SHOWER
SIM	SIMILAR
SK	SINK
SLOT	SLOTTED
SLV	SLEEVE
SNT	SEALANT
SP	SOIL PIPE
SPEC	SPECIFICATION
SPECS	SPECIFICATIONS
SPK	SPEAKER
SPL	SPECIAL
SPLR	SPRINKLER
SQ	SQUARE
SSD	SUB-SOIL DRAIN
SSGS	SILICONE STRUCTURAL GLAZING SEALANT
SST	STAINLESS STEEL
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STG	SEATING
STGG	STRUCTURAL GLAZING GASKET
STGR	STAGGER
STIFF	STIFFENER
STL	STEEL
STM	STEAM
STOR	STORAGE
STR	STRAIGHT (RE-BARS)
STRFR	STOREFRONT
STRUC	STRUCTURAL
STRUCT	STRUCTURAL
STW	STORM WATER
SUPP	SUPPLEMENTARY, SUPPLEMENT
SUR	SURFACE
SURF	SURFACE
SUSP	SUSPENDED
SW	SWITCH
SY	SQUARE YARD
SYM	SYMMETRICAL
SYN	SYNTHETIC
SYS	SYSTEM(S)
T	
T&G	TOUNGUE AND GROOVE
T/	TOP
TAN	TANGENT
TC	TOP OF CURB
TD	TRENCH DRAIN
TEL	TELEPHONE
TEMP	TEMPORARY
TERR	TERRAZZO
THK	THICK
THRESH	THRESHOLD
THRU	THROUGH
TKBD	TACKBOARD
TLT	TOILET
TOC	TOP OF CONCRETE
TOL	TOLERANCE
TOS	TOP OF STEEL
TOW	TOP OF WALL
TP	TOP OF PAVEMENT
TPTN	TOILET PARTITION
TRAF	TRAFFIC
TRANS	TRANSPARENT
TRAV	TRAVERTINE
TRD	TREAD
TRTD	TREATED
TSL	TOP OF SLAB
TST	TOP OF STEEL
TSTAT	THERMOSTAT
TV	TELEVISION
TYP	TYPICAL
U	
UL	UNDERWRITERS' LABORATORIES
UNDRLAY	UNDERLAYMENT
UNO	UNLESS NOTED OTHERWISE
USS	UNITED STATES STANDARD
UTL, UTIL	UTILITY
V	
VAC	VACUUM
VAR	VARIES
VB	VAPOR BARRIER
VBC	VINYL BASE (COVED)
VBS	VINYL BASE (STRAIGHT)
VCT	VINYL COMPOSITION TILE
VEH	VECHICLE
VENT	VENTILATE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VIT	VITREOUS
VLT	VAULT
VOL	VOLUME
VP	VENT PIPE
VR	VAPOR RETARDER
VS	VENT STACK
VWC	VINYL WALL COVERING
W	

MONO	MONOLITHIC
MOT	MOTOR(IZED)
MOV	MOVABLE
MP	METAL ACOUSTICAL PANEL
MR	MOP RECEPTOR
MRD	METAL ROOF DECK
MTD	MOUNTED
MTL	MOUNTED
MTR	MOTOR
MULL	MULLION
MWK	MILLWORK
N	
NAT	NATURAL
NEUT	NEUTRAL
NIC	NOT IN CONTRCT
NMT	NON-METALLIC
NO	NUMBER
NOM	NOMINAL
NR	NOISE REDUCTION
NRC	NOISE REDUCTION COEFFICIENT
NS	NEAR SIDE
NTS	NOT TO SCALE
O	
O TO O	OUT TO OUT
O, O/	OVER
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OFF	OFFICE
OH	OVERHEAD
OHD	OVERHEAD DOOR
OPNG	OPENING(S)
OPP	OPPOSITE
OPP H	OPPOSITE HAND
OPR	OPERABLE
ORD	OVERFLOW ROOF DRAIN
ORN	ORNAMENTAL
ORNA	ORNAMENTAL
OSD	OPEN SIGHT DRAIN
OUT	OUTLET
OVFL	OVERFLOW
OVHD	OVERHEAD
OZ	OUNCE
P	
P SL	PIPE SLEEVE
PA	PUBLIC ADDRESS
PB	PULL BOX
PBD	PARITICLE BOARD
PCF	POUNDS PER CUBIC FOOT
PCPL	PORTLAND CEMENT PLASTER
PD	PLAZA DRAIN
PED	PEDESTAL OR PEDESTRIAN
PEDR	PEDESTRIAN
PERF	PERFORATE
PERIM	PERIMETER
PERP	PERPENDICULAR
PKG	PARKING
PKWY	PARKWAY
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLSTC	PLASTIC
PLTF	PLATFORM
PLYWD	PLYWOOD
PNEU	PNEUMATIC
PNL	PANEL
PNT	PAINT
POL	POLISH(ED)
POLYST	POLYSTRENE
PORT	PORTABLE
POT W	POTABLE WATER
PR	PAIR
PRCST	PRECAST
PRE	PREFINISHED
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PRESS	POLYSTYRENE
PRI	PRIMARY
PRTECN	PROTECTION
PRTN	PARTITION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PAINT
PTC	POST-TENSIONED CONCRETE
PTD	PAINTED
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
PVF	POLYVINYLIDENE FINISH
PVG	PAVING
PVMT	PAVEMENT
PVT	PRIVATE
PWR	POWER
Q	
QT	QUARRY TILE
QTR	QUARTER
QTY	QUANTITY
QUAL	QUALITY
R	
RA	RETURN AIR
RAD	RADIUS
RADN	RADIAN
RB	RUBBER BASE
RBT	RABBET
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
RDR	READER
REBAR	REINFORCING BAR
REC	RECEIVER
RECEP	RECEPTACLE
RECES	RECESSED
RECPT	RECEPTACLE
RED	REDUCER
REF	REFER(ENCE)
REFL	REFLECTED
REFR	REFRIGERATOR
REG	REGULAR
REINF	REINFORCED(D)(ING)(MENT)
REM	REMOVE
REQ	REQUIRE
REQD	REQUIRED
RESIL	RESILIENT
RESIS	RESIST(ANT)(IVE)
RET	RETURN OR RETAINING
REV	REVERSE OR REVISE OR REVISION
REV DR	REVOLVING DOOR
RF	ROOF
RFG	ROOFING
RGH	ROUGH
RGTR	REGISTER

HC	HOLLOW CORE
HD	HEAD, HEADER, HEAVY DUTY
HDCP	HANDICAPPED (BETTER CALLED "ACCESSIBLE")
HDN	HARDEN
HDR	HEADER
HDWD	HARDWOOD
HDWE	HARDWARE
HEX	HEXAGONAL
HGR	HANGER
HGT	HEIGHT
HID	HIGH INTENSITY DISCHARGE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HS	HEAT STRENGTHENED
HSS	HOLLOW STAINLESS STEEL
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HTW	HIGH TEMPERATURE WATER
HVAC	HEATING, VENTILATIING, AND AIR CONDITIONING
HVY	HEAVY
HW	HOT WATER OR HEAVY WALL
HWC	HOT WATER CIRCULATING OR HEAVY WALL CONDUIT
HWD	HARDWOOD
HWH	HOT WATER HEATER
HWR	HOT WATER RECIRCULATING RETURN
HWS	HOT WATER SUPPLY
HWY	HIGHWAY
HYD	HYDRAULIC
HYDRO	HYDROSTATIC
I	
ID	INSIDE DIAMETER
IN	INCH
INCAND	INCANDESCENT
INCR	INCREASE
INFIL	INFILTRATION
INFILTR	INFILTRATION
INFO	INFORMATION
INSP	INSPECT
INSTRUM	INSTRUMENT(ATION)
INSUL	INSULATION
INT	INTERIOR OR INTERNAL
INTERM	INTERMEDIATE
INTLK	INTERLOCK(ING)
IW	INDIRECT WASTE
J	
J-BOX	JUNCTION BOX
JAN	JANITOR
JC	JANITOR'S CLOSET
JCT	JUNCTION
JST	JOIST
JT	JOINT
K	
KG	KILOGRAM
KIP	KILOPOUND (1000 POUNDS)
KIT	KITCHEN
KM	KILOMETER
KO	KNOCKOUT
KPL	KICKPLATE
KVA	KILOVOLT-AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR
L	
LA	LANDSCAPE ARCHITECT
LAB	LABORATORY, LABOR
LAD	LADDER
LAM	LAMINATE, LAMINATED
LAT	LATERAL
LAV	LAVATORY
LB	POUND
LBL	LABEL
LBR	LUMBER
LCD	LIQUID CRYSTAL DIODE
LD	LEADER DRAIN
LH	LEFT HAND
LIB	LIBRARY
LIN	LINEAR
LINO	LINOLEUM
LIQ	LIQUID
LL	LIVE LOAD
LN	LENGTH
LNDG	LANDING
LNTL	LINTEL
LOC	LOCATE
LOCS	LOCATIONS
LP	LOW POINT
LT	LIGHT
LTG	LIGHTING
LTWT	LIGHTWEIGHT
LV	LOW VOLTAGE
LVLG	LEVELING
LVR	LOUVER
LVT	LOUVER
LWC	LIGHT-WEIGHT CONCRETE
£	BRITISH POUND (CURRENCY)
M	
M	METER
MACH	MACHINE
MAINT	MAINTENANCE
MAN	MANUAL
MAR	MARBLE
MARB	MARBLE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MD	MEDIUM
ME	MECHANICAL ENGINEER
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MET	METAL
MEZZ	MEZZANINE
MFD	MANUFACTURED
MFR	MANUFACTURER
MH	MANHOLE
MHO	MAGNETIC HOLD OPEN
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MK	MARK
MLDG	MOLDING
MLWK	MILLWORK
MM	MILLIMETER
MMB	MEMBRANE
MO	MASONRY OPENING
MOD	MODULE
MOIST	MOISTURE

DO	DOOR OPENING
DPR	DAMPER
DR	DOOR
DRN	DRAIN
DS	DOWNSPOUT
DSCON	DISCONNECT
DSP	DRY STANDPIPE
DTL	DETAIL
DWG	DRAWING
DWGS	DRAWINGS
DWR	DRAWER
E	
EA	EACH
ECC	ECCENTRIC
ED	EMERGENCY DRAIN
EJ	EXPANSION JOINT
EJECT	EJECTOR
EL	ELEVATION OR ELEVATOR
ELAST	ELASTOMERIC
ELEC	ELECTRICAL
ELEV	ELEVATOR OR ELEVATION
ELP	EMERGENCY LIGHTING PANEL
EMBED	EMBEDD(ED)(ING)
EMER	EMERGENCY
ENAM	ENAMEL
ENCL	ENCLOSURE
ENG	ENGINEER
ENGR	ENGINEER(ED)
ENT	ENTRANCE
ENTR	ENTRANCE
EOR	ENGINEER OF RECORD
EOS	EDGE OF SLAB
EPDM	ETHYLENE PROPLYLENE DIENE MONOMER
EQ	EQUAL
EQUIP	EQUIPMENT
ESC	ESCALATOR
EST	ESTIMATE
EVAP	EVAPORATOR
EWH	ELECTRIC WATER HEATER
EX	EXISTING
EXCAV	ESCAVATE
EXEC	EXECUTIVE
EXG	EXISTING
EXH	EXHAUST
EXH AIR	EXHAUST AIR
EXIST	EXISTING
EXP	EXPANSION OR EXPOSED
EXP JT	EXPANSION JOINT
EXPN	EXPANSION
EXPS	EXPOSED(D)
EXT	EXTERIOR
EXTR	EXTRUDE
F	
F	DEGREES FARENHEIT
FA	FIRE ALARM OR FRESH AIR
FAB	FABRICATION
FAR	FLOOR AREA RATIO
FAST	FASTENER OR FASTEN
FC	FOOT CANDLE
FD	FLOOR DRAIN, OR FIRE DEPARTMENT
FDC	FIRE DEPARTMENT CONNECTION
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FE&C	FIRE EXTINGUISHER AND CABINET
FEC	FIRE EXTINGUISHER CABINET
FF&E	FIXTURES, FURNISHINGS & EQUIPMENT
FGR	FIBERGLASS REINFORCED
FH	FIRE HYDRANT
FHC	FIRE HOSE AND CABINET
FIN	FINISH, FINISHED
FIXT	FIXTURE
FL	FLOOR OR FIRE LINE
FLASH	FLASHING
FLDG	FOLDING
FLEX	FLEXIBLE
FLG	FLOORING
FLR	FLOOR(ING)
FLUOR	FLUORESCENT
FM	FACTORY MUTUAL COMPANY
FO	FINISHED OPENING
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOS	FACE OF STUDS
FP	FIREPROOF
FPLC	FIREPLACE
FPM	FEET PER MINUTE
FPRF	FIREPROOF
FR	FIRE RAT(ING)(ED)
FRMG	FRAMING
FS	FLUSH SINK
FSCW	FLUSH SOLID CORE DOOR
FT	FT
FTG	FITTING
FURN	FURNITURE
FURR	FURRING
FUT	FUTURE
FVC	FIRE VALVE CABINET
FWC	FABRIC WALL COVERING
FXD	FIXED
FXTR	FIXTURE
G	
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GD	GUTTER DRAIN
GEN	GENERATOR OR GENERAL
GENL	GENERAL
GFRC	GLASS FIBER REINFORCED CONCRETE
GFRG	GLASS FIBER REINFORCED GYPSUM
GFRP	GLAS FIBER REINFORCED PLASTER
GKT	GASKET
GL	GLASS
GL BLK	GLASS BLOCK
GLZ	GLAZE
GND	GROUND
GOVT	GOVERNMENT
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GALLONS PER SECOND
GR	GRAD(E)(ING)
GRAN	GRANITE
GRND	GROUND
GRTG	GRATING
GT	GROUT
GV	GALVANIZED
GYP	GYPSUM
GYP-BD	GYPSUM BOARD
H	
HB	HOSE BIB

A	
&	AND
ABV	ABOVE
ACCESS	ACCESSORY
ACI	AMERICAN CONCRETE INSTITUTE
ACOUS	ACOUSTIC(AL)
ADDL	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITIES HAVING JURISDICTION
AL	ALUMINUM
ALT	ALTERNATE
ALUM	ALUMINUM
AMT	AMOUNT
ANCH	ANCHOR, ANCHORAGE
ANNUNC	ANNUNCIATOR
ANOD	ANODIZED
ANT	ANTENNA
AOR	ARCHITECT OF RECORD
APPL	APPLIANCE
APPROX	APPROXIMATE
APRVD	APPROVED
ARCH	ARCHITECT(URAL)
ASPH	ASPHALT
ASSOC	ASSOCIATION, ASSOCIATE
ASSY	ASSEMBLY
AUTH	AUTHORIZED
AUTO	AUTOMATIC
AVG	AVERAGE
B	
B TO B	BACK TO BACK
B/	BOTTOM (OF)
BD	BOARD (OR BUILDING DEPARTMENT)
BETW	BETWEEN
BEV	BEVEL
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BLW	BELOW
BM	BEAM (OR BENCHMARK)
BOL	BOLLARD
BOLLD	BOLLARD
BOT	BOTTOM
BRDG	BRIDGE, BRIDGING
BRDLM	BROADLOOM
BRG	BEARING
BRKT	BRACKET
BRZ	BRONZE
BU	BUILT UP
BUR	BUILT UP ROOF
BW	BOTH WAYS
C	
C/C	CENTER TO CENTER
CAB	CABINET
CAP	CAPACITY
CEM	CEMENT(ITIOUS)
CER	CERAMIC
CF	CUBIC FEET
CFL	COUNTERFLASHING
CFT	CUBIC FOOT
CHAM	CHAMFER
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CIP	CAST-IN-PLACE
CIR	CIRCLE
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLKG	CAULKING
CLR	CLEAR
CLR OPG	CLEAR OPENING
CMU	CONCRETE MASONRY UNIT
CND	CONDITION
CNTR	CENTER (OR COUNTER)
COATG	COATING
COEF	COEFFICIENT
COILG	COILING
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMP	COMPRESSED
COMPT	COMPARTMENT
CON	CONSTRUCTION
CONC	CONCRETE
COND	CONDENSER, CONDUIT
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS(ATION)
CONTR	CONTROL, CONTRACT(OR)
CONV	CONVECTOR
COR	CORNER, CORRIDOR
CORR	CORRIDOR, CORRUGATE
COV	COVER
CPR	COPPER
CPT	CARPET
CR	CARD READER
CRS	COURSE OR COLD ROLLED STEEL
CSG	CASING
CSTG	CASTING
CT	CERAMIC TILE, CORK TILE
CTD	COATED
CTR	CENTER OR COUNTER
CTSK	COUNTERSUNK
CTV	CLOSED CIRCUIT TV
CU.FT.	CUBIC FEET
CU.YD.	CUBIC YARD
CUR	CURRENT
CV	CHECK VALVE
CW	COLD WATER
CWP	CIRCULATING WATER PUMP
CWR	CONDENSATE WATER PUMP
CWS	CONDENSATE WASTE SUPPLY
CY	CUBIC YARD OR CYCLE
CYL	CYLINDER
D	
$	DOLLAR (US CURRENCY)
DB	DECIBEL
DBL	DOUBLE
DC	DIRECT CURRENT
DD	DECK DRAIN
DEG	DEGREE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DES	DESIGN(ED)
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGONAL
DIFF	DIFFUSER
DIM	DIMENSION
DISP	DISPENSER
DIV	DIVISION
DMT	DEMOUNTABLE
DN	DOWN

GRAPHIC SYMBOLS (CONT.)

SECTION INDICATIONS

- ACOUSTICAL CEILING TILE
- ALUMINUM
- BRICK
- CARPET
- CONCRETE
- CONCRETE MASONRY UNIT
- CUT STONE
- EARTH
- FABRIC WRAPPED PANEL
- GLASS
- GRAVEL
- GYPSUM PLASTER
- INSULTATION (LOOSE OR BATT)
- INSULATION (RIGID)
- METAL
- PLASTIC
- PLYWOOD
- PRE-CAST PANELS
- SAND OR GROUT
- STONE
- WOOD (FINISHED)
- WOOD (CONTINUOUS MEMBER)
- WOOD (INTERRUPTED MEMBER)

REFLECTED CEILING

- ACOUSTICAL CEILING AND GRID
- CEILING HEIGHT CHANGE SYMBOL
- FINISH CEILING HEIGHT SYMBOL
- GRID STARTPOINT SYMBOL
- CEILING FINISH TAG
- MOTION SENSOR
- CEILING MOUNTED SPEAKER
- CEILING MOUINTED CAMERA
- CEILING MOUNTED SPRINKLER HEAD
- CEILING MOUNTED SMOKE DETECTOR
- CEILING MOUNTED STROBE LIGHT
- CEILING MOUNTED EXIT SIGNS
- WALL MOUNTED EXIT SIGNS - PARALLEL
- WALL MOUNTED EXIT SIGNS - PERPENDICULAR
- DENOTES EXISTING TO REMAIN
- DENOTES EXISTING TO BE RELOCATED
- ACCESS DOOR

LIGHT FIXTURES

- FLORESCENT LIGHT FIXTURE
- FLORESCENT LIGHT FIXTURE / EMERGENCY CIRCUIT
- EXISTING LIGHT FIXTURE TO BE REMOVED
- UNDER CABINET FLORESCENT FIXTURE
- FLORESCENT STRIP FIXTURE
- FLORESCENT PENDANT FIXTURE
- RECESSED DOWNLIGHT
- RECESSED ADJUSTABLE DOWNLIGHT
- RECESSED WALL WASHER
- TRACK LIGHTING
- SURFACE MOUNTED LIGHT FIXTURE
- WALL SCONCE
- LIGHT SWITCH
- DIMMER SWITCH

MECHANICAL FIXTURES

- RETURN AIR
- SUPPLY AIR
- CIRCULAR DIFFUSER
- LINEAR DIFFUSER
- EXHAUST FAN

GRAPHIC SYMBOLS

CONSTRUCTION

- COLUMN GRID REFERENCE NUMBER
- COLUMN GRID LINES AND REFERENCE NUMBER
- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE DEMOLISHED
- NEW PARTITION
- 1 HR. RATED PARTITION
- 2 HR. RATED PARTITION
- 3 HR. RATED PARTITION
- 4 HR. RATED PARTITION
- MILLWORK
- MILLWORK ABOVE
- DETAIL NUMBER
- SHEET NUMBER
- DESCRIPTION OF SIMILAR OR OPPOSITE
- AREA TO BE DETAILED
- LOCATION ON SHEET WHERE ELEVATION IS SHOWN
- DIRECTION OF ELEVATION
- SHEET NUMBER WHERE ELEVATION IS SHOWN
- INTERIOR AND EXTERIOR ELEVATION MARKER
- REVISION REFERENCE NUMBER
- REVISION CLOUD DEPICTING AREA REVISED
- ROOM NAME
- ROOM NUMBER
- SHEETNOTE REFERENCE
- WALL TYPE REFERENCE
- FIRE RATING
- DOOR REFERENCE NUMBER (REFER TO DOOR SCHEDULE)
- DOOR NUMBER
- DOOR TYPE
- DOOR NUMBER
- DOOR TYPE | HARDWARE TYPE
- WINDOW REFERENCE NUMBER (REFER TO WINDOW SCHEDULE)
- MILLWORK REFERENCE NUMBER (REFER TO MILLWORK SCHEDULE)
- ELEVATION DATUM REFERENCE
- FLOOR ELEVATION TRANSITION
- MATCH LINE SEE XX/XX MATCH LINE SYMBOL
- ALIGN WITH ESTABLISHED / ADJACENT SURFACES

WALL MOUNTED LIFE SAFETY EQUIPMENT AND DEVICES

- FIRE WARDEN STATION SYMBOL
- WALL MOUNTED FIRE ALARM STROBE SYMBOL
- FIRE ALARM PULL SYMBOL
- WALL MOUNTED, FIRE EXTINGUISHER CABINET
- WALL MOUNTED FIRE EXTINGUISHER
- WALL MOUNTED FIRE HOSE CABINET
- WALL MOUNTED FIRE VALVE
- WALL MOUNTED FIRE VALVE CABINET

FINISH

- WALL FINISH TAG / BASE FINISH TAG
- EXTENT OF FINISH TYP.
- WALL FINISH TAG
- SPECIAL FINISH TAG
- FLOOR FINISH TAG
- CEILING FINISH TAG
- CHANGE IN FLOOR FINISH

ELEVATION INDICATION

- GLASS SYMBOL
- MASONRY COURSING
- WOOD VENEER
- STONE

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Seal / Signature

STATE OF COLORADO
JACQUELINE C. GENSERT
203617
LICENSED ARCHITECT
05.19.2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

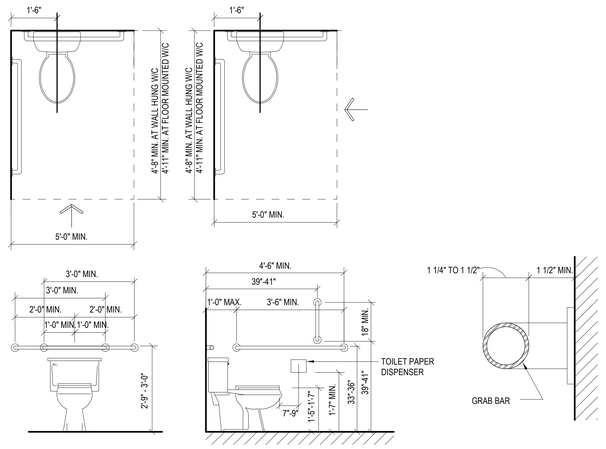
003.7835.000

Description

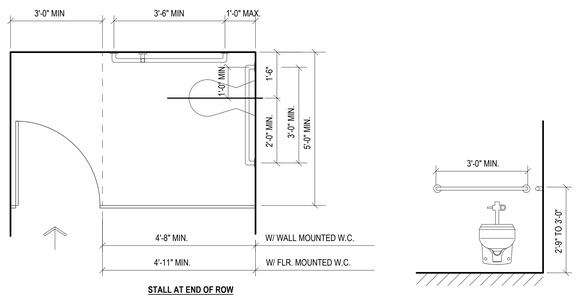
SYMBOLS & ABBREVIATIONS

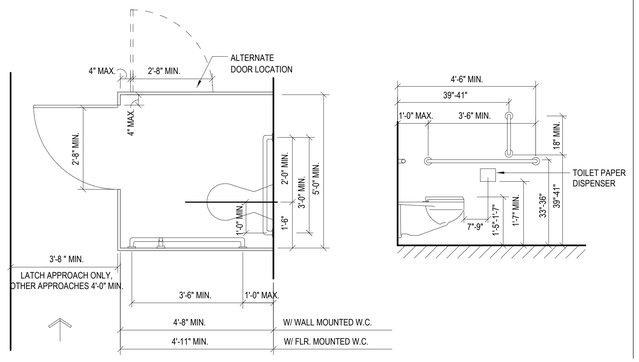
Scale

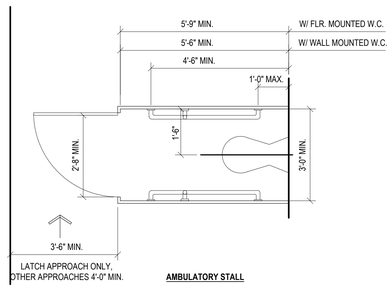
1A-G1.002

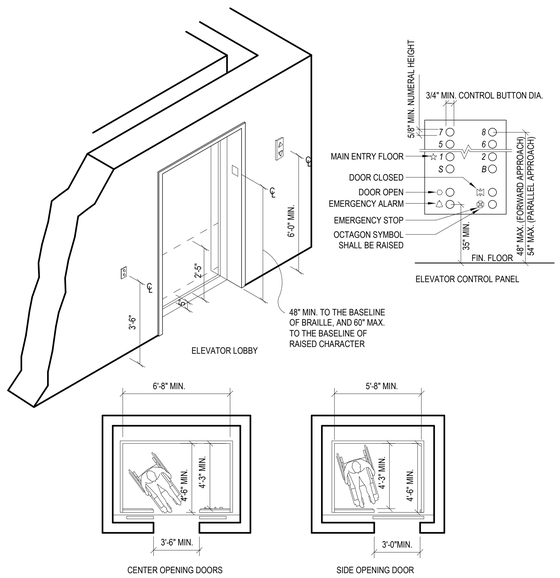


9 SINGLE USER TOILET
SCALE: 1/2" = 1'-0"



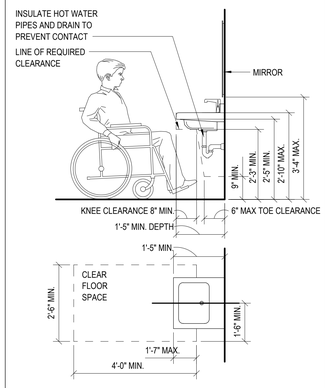




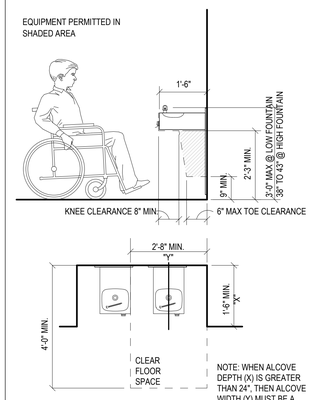


13 ELEVATOR
SCALE: VARIES

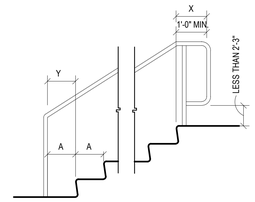
10 MULTI-USER TOILET
SCALE: 1/2" = 1'-0"



6 SINK OR VANITY
SCALE: 1/2" = 1'-0"



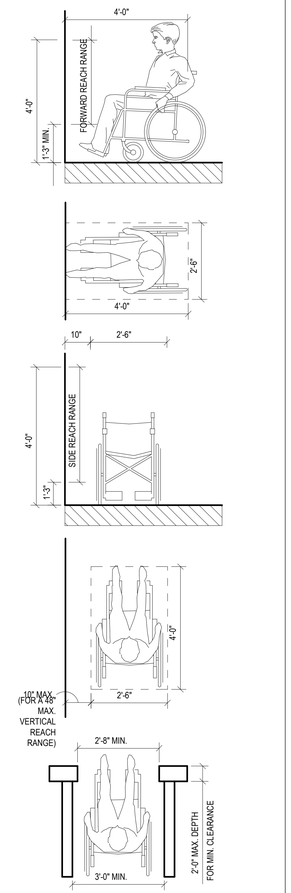
7 DRINKING FOUNTAIN
SCALE: 1/2" = 1'-0"



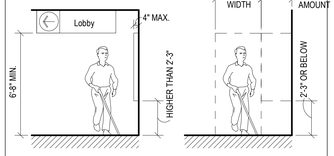
X IS THE 1'-0" MINIMUM HANDRAIL EXTENTION REQUIRED AT EACH TOP RISER

Y IS THE MINIMUM HANDRAIL EXTENTION OF THE WIDTH OF ONE TREAD THAT IS REQUIRED AT EACH BOTTOM RISER.

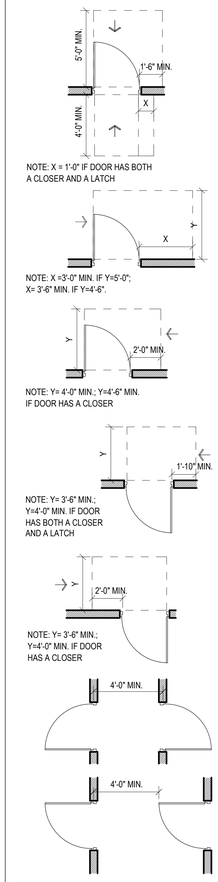
8 HANDRAIL EXTENSIONS
SCALE: 1/2" = 1'-0"



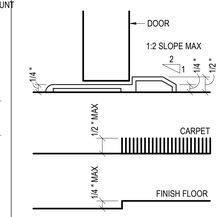
3 REACH RANGES
SCALE: 1/2" = 1'-0"



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



1 CLEARANCES
SCALE: 1/2" = 1'-0"



2 THRESHOLD
SCALE: FULL

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Date	Description
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RCRBD Record Set TC 07/10/2021

Seal / Signature

STATE OF COLORADO · JOSHUA CHARLES CAMPBELL · 203617 · LICENSED ARCHITECT

05.19.2021

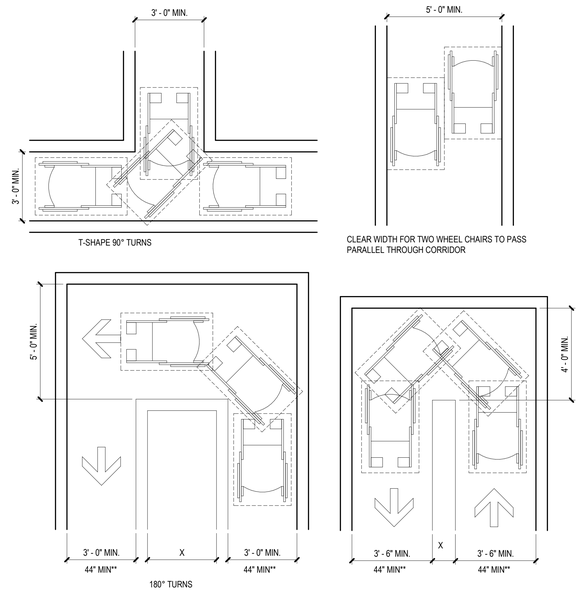
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
ADA REQUIREMENTS & DETAILS

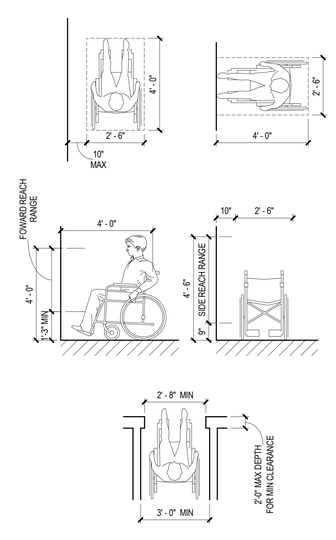
Scale

1A-G1.110



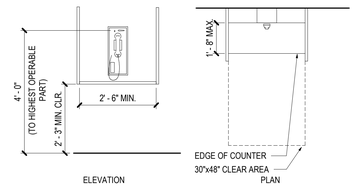
6 MANEUVERING REQUIREMENTS

SCALE: 3/8" = 1'-0"



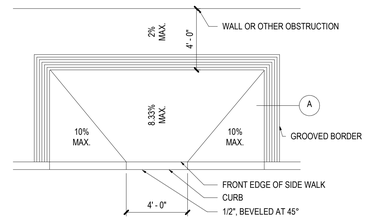
1 REACH RANGES

SCALE: 3/8" = 1'-0"



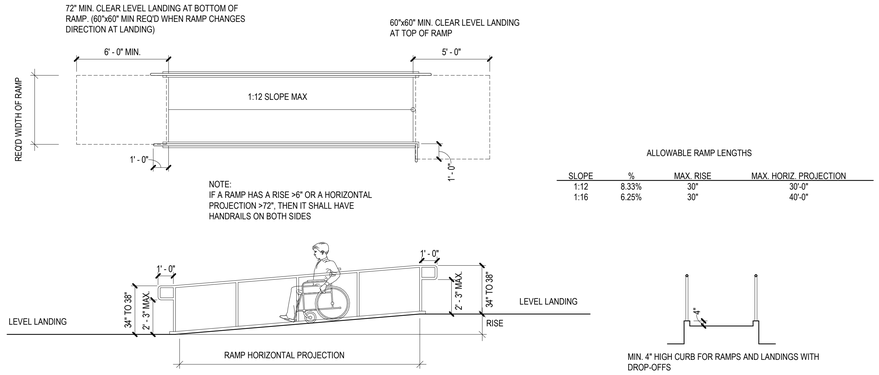
2 TELEPHONE

SCALE: 1/2" = 1'-0"



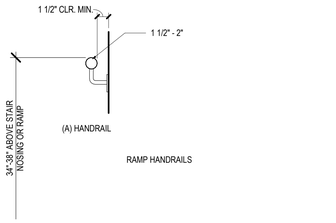
3 CURB CUT

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



8 RAMPS

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



4 HANDRAIL @ RAMP

SCALE: 1 1/2" = 1'-0"

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RCRBD
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TC
07/10/2021

Seal / Signature

STATE OF COLORADO
DOUGLAS C. GENERAL
203617
LICENSED ARCHITECT
05.19.2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
ADA REQUIREMENTS & DETAILS

Scale
As indicated

1A-G1.120

CODE ANALYSIS

Gensler
CODE COMPLIANCE SUMMARY

I. PROJECT INFORMATION

	Project Name:	Steamboat Base Village Redevelopment BP3 Promenade	Project #:	003.7835.000
	Location:	2305 Mount Werner Circle, Steamboat Springs, Co. 80487		
	Authority Having Jurisdiction:	Routt County, Steamboat Springs, Co.		
	Owner:	Steamboat Ski and Resort Corporation		
NEW BUILDING	Building Code:	International Building Code	Year:	2018
	Mechanical Code:	International Mechanical Code	Year:	2018
	Plumbing Code:	International Plumbing Code	Year:	2018
	Electrical Code:	National Electric Code	Year:	2020
	Energy Code:	International Energy Conservation Code	Year:	2018
	*	ASHRAE 90.1	Year:	2016
	Local Amendments:	City of Steamboat Springs Code adoption ordinance	Year:	2020
	Fire Code:	International Fire Code	Year:	2018
	Other:	ADA Standards for Accessible Design	Year:	2010
		ANSI/ASME A17.1 Safety Code for Elevators	Year:	2013
		International Existing Building Code (if applicable)	Year:	2018

* Use of ASRHAE 90.1 is per IECC 2018 C401.2, item 1. path for compliance per ANSI/ASHRAE /IESNA 901.

Code Analysis by: Geoffrey Brooksher Date: 2021-0519

RCRBD has a local amendment that requires stairways to be a minimum of 48" wide.

II. USE AND OCCUPANCY CLASSIFICATION

1. Occupancy Classification — New
302.1 A. Primary Occupancies: B (Office, Retail), A-2 (Restaurant), S-2 Storage, mechanical

307.1 H occupancy — The quantities of hazardous materials do not exceed tables 307.1 and 307.2. Thus there is no H Occupancy. Building to be maintained in accordance with IFC.
307.1.1 Uses other than Group H: Mechanical / Ice Plant Room No P005. Not a H classification. Per item 7. Refrigeration systems are not to be classified as Group H but shall be classified as the occupancy that it most nearly resembles. The classification proposed is S-2.

509 B. Incidental Use Areas:

Area	Requirement	Provided
Furnace room where any piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic sprinkler system	sprinkler system provided. Equipment is over 400,000 BTU. Sprinkler system and smoke partitions to be provided.
Rooms with boilers where the largest piece of equipment is over 15psi and 10 horsepower	1 hour or provide automatic sprinkler system	sprinkler system provided. No equipment is over 15 psi or 10 BNP.
refrigerant machinery rooms	1 hour or provide automatic sprinkler system	sprinkler system provided
Laundry rooms over 100 sq. ft.	1 hour or provide automatic sprinkler system	sprinkler system provided
electrical installations and transformers	See Sections 110.26 through 110.34 and Sections 450.8 through 450.48 of NFPA 70 for protection and separation requirements.	ratings indicated on drawings

508.2 C. Accessory Use Areas (<10%): no accessory occupancies - each occupancy is more than 10% of the others.

508 2. Separated Uses: non separated mix use is proposed. no rated separations by occupancy is req.

III 3. Special Detailed Requirements Based on Occupancy

403 High Rise Buildings
Is the building a high-rise (>75 feet)? — building height from grade plane to average height of roof surface is less than 75 ft — No - NA
405 Underground Buildings — building spaces having a floor level used for human occupancy more than 30 feet below the finished floor of the lowest level of exit discharge — NA
414 Hazardous Materials — no hazardous materials are being used or stored in this building — NA

IV General Building Heights and Areas
504 Building Height and Number of Stories
504.2 Mixed occupancy — in a building containing mixed occupancies, in accordance with section 508, no individual occupancy shall exceed the height and number of story limits specified for the applicable occupancies — Mixed Occupancy Building Proposed
506.2.4 mixed occupancy, multistory buildings — each story of a mixed occupancy building with more than one story above the grade plane shall individually comply with the applicable requirements of section 508.1
for buildings more than three stories above the grade plane, the total building area shall be such that the aggregate sum of the ratios of the actual area of each story divided by the allowable area of each story, determined in accordance with Equation 5-3 based on the applicable provisions of Section 508.1, shall not exceed three. — NA - design is 3 stories not over three stories

ALLOWABLE AREA & HEIGHT

1. Area of Building Proposed (Gross Floor Area)

Level	Area
Level B1	23,839 SF
Level 01	6,176
Level 02	6,204
Total	36,219 SF

2. Proposed Number of Stories: 3
Table 503 3. Proposed Construction Type: Type IIB

4. Allowable Height of Building

	Construction Type / Occupancy	Type IIB Allowable	Type IIB Actual		
Table 504.3	A. In feet:	75'-0"	55'-0"		
Table 504.4	B. In stories:	3	3	A-2 occupancy governs	sec 504.2
Table 506.2	C. Increase allowed:	NA		increase included for sprinklered bldg.	
	D: Total allowable height/stories:	3	55'-0"		

506 5. Allowable Floor Area (Based on Occupancy & Construction Type)

			Allowable	Actual	
507	A. Unlimited Area Allowed?		No	No	
Table 506.2	B. Allowable Area per Floor:	A-2	28,500 GSF		see below
		B	69,000 GSF		
		S-2	78,000 GSF		

506.2.4 mixed occupancy multistory building proof

Level	Occupancy	Sq. Ft		
level 00	Group B occupancy			5803
	Group B occupancy - locker rms			8281
	Group S-2 occupancy			8461
	total sq. ft of floor by OL - includes net and gross sq. ft.			22545
Level 01	Group B occupancy	2100		
	Group S-2 occupancy	600		
	Group A-2 occupancy	410		
	Group A-2 occ -kitchen	800		
	total sq. ft of floor by OL - includes net and gross sq. ft.	3910	A-2 total	1210
Level 02	Group B occupancy	0		
	Group S-2 occupancy	140		
	Group A-2 occupancy	299		
	Group A-2 occupancy	1971		
	Group A-2 kitchen	621		
	total sq. ft of floor by OL - includes net and gross sq. ft.	3031	A-2 total	2891

506.2.4 all levels individually qualify for non-separated mixed occupancy based on acceptable mixed occupancy provision.
level 00 — B is most restrictive occupancy, sq. ft of B is less than allowable area per floor for B — B actual 14084 < B allowable 69000
level 01 — A-2 is most restrictive occupancy, A-2 actual is less than A-2 allowable. — A-2 actual 2890 < A-2 allowable 28,500
level 02 — A-2 is most restrictive occupancy, A-2 actual is less than A-2 allowable. — A-2 actual 2891 < A-2 allowable 28,500

508.3.2 Allowable building area, height, and number of stories
A-2 occupancy governs - max area allowed for A-2 building per floor = 28,500.
largest floor = level 00 sq. ft = 22545, 28,500

705 6. Fire Walls Req'd to Separate Areas? N/A — NA — NA

V. TYPE OF CONSTRUCTION/FIRE-RESISTIVE REQUIREMENTS

1. Building Elements: Type IIB

		Type IIB	
602 & Tbl 601	A. Primary Structural Frame:	0	
602 & Tbl 601	B. Bearing Walls - Exterior:	0	see table 602
602 & Tbl 601	C. Bearing Walls - Interior:	0	
602 & Tbl 601	D. Non-bearing Walls - Exterior:		see table 602
602	E. Non-bearing Walls - Interior:	0	
602 & Tbl 601	F. Floor Construction and associated secondary members	0	
602 & Tbl 601	G. Roof Construction and associated secondary members	0	

Table 602 2. Exterior Wall Based on Fire Separation Distance (but cannot be less than B. above):
A. <5' — 1
B. 5' - 10' — 1
C. 10' - 30' — 0
D. >30' — 0

3. Construction Classification:
602.2 Type IIB - non combustible
603.1 Combustible materials in Type I and type II construction

603.1 4 **Use of Wood in Non Combustible Construction**
FRTWD permitted
non bearing partitions 2 hours or less — NA
non bearing exterior walls where fire resistance rated construction is not req. — NA
Roof Construction including girder, trusses and framing and decking — Applicable for future plaza building. Glulam - CLT proposed for Future Plaza building
balconies porches, decks and exterior stairways not used as required exits on building three stories or less above the grade plane. — Exterior dining areas is on a floor as is not a porch or deck.
Heavy timber as permitted by Note C to Table 601 and Sections 602.4.3 and 705.2.3.1
tab 601 note c. — In all occupancies, heavy timber complying with Section 2304.11 shall be allowed where a 1-hour or less fire-resistance rating is required. — Type IIB construction proposed. 1 HR FRR of Primary and Secondary Structural Frame req. Heavy timber allowed.

CODE ANALYSIS CONTINUED

602.4.3 Exterior Structural Members — where a horizontal separation of 20 feet or more is provided, wood columns conforming with section 2304.11 shall be permitted externally. If a building of type IV construction has a fire separation distance of less than 20 feet, the wood columns and arches are to be located on the interior side of the exterior wall. — Future plaza building, Wood structure is more than 20 feet from property line. / and where not the structure is to be located within the interior of the exterior rated 1 hour wall.

tab. 2304.11 — re this table for min. dim. of heavy timber structural members — to be applied for future Plaza Building

602.4.2 Cross Laminated Timber in exterior walls — Cross laminated timber complying with Section 2303.1.4 shall be permitted within exterior wall assemblies not less than 6 inches in thickness with a 2 hour rating or less, provided the exterior surface of the cross laminated timber is protected by one of the following. — NA - no CLT proposed in exterior walls at future Plaza Building

5 Allowable Area of Openings (Based on Fire Separation Distance):
Table 705.8 & 705.8.1 B. Based on Table 705.8:

Distance	Unprotected & Sprinklered (UP,S)
0-3'	NP
3'-5'	15%
5'-10'	25%
10'-15'	45%
15'-20'	75%
20'-25'	No Limit
25'-30'	No Limit
>30'	No Limit

Tbl 716.1.3 6 Exterior Wall Openings Shall be Protected per Table 716.1.3
706 7 Fire Barriers:
706.4 A. Shall extend from top of floor below to underside of deck above.
706.6 B. Openings shall be protected according to table below and limited in area.
Tbl 716.5 Wall Rating 1 hour — Opening Rating 1 hour — *(Req'd 1 HR, Enclosures for shafts, stairways, exit access ramps or passageways)*
714.2 B. Opening Protection:
708 8 Fire Partitions: (Corridor Walls)
30 min. — 20 min.
708.4 B. Corridors serving occupant loads greater than 30 in Group A,B, E, F, M, S, and U occupancies are not required when sprinklered.
715 D. Opening Protection:
Tbl 716.5 A. Rating: 1 hour *(except 0.1" steel at Group I-3)*
B. Openings: 20 min.
716.5 9 Fire Door Assemblies:
See section 716.5 & NFPA 80

716.5.8 10 Glazing in Fire Door Assemblies:
716.5.8.1.1 A. Fire-resistance-rated glazing (tested to ASTM E119 or UL 263 and NFPA 252, UL 10B or UL 10C) in fire barriers & fire partitions rated greater than 1-hour is PERMITTED, see table 716.5 for
716.5.8.1.2 B. Fire-protection-rated glazing in fire barriers & fire partitions rated greater than 1-hour is PROHIBITED.

717 11 Fire & Smoke Dampers:
717.2 A. Required locations:

	Location	Damper Type	Exceptions (No Damper Required)
717.5.1	Fire Walls	Fire Only	
717.5.2	Fire Barriers	Fire Only	Penetrations in compliance with ASTM E119 or UL 263; Ducts used as part of smoke control per Section 909
715.5.3	Exit Enclosures	Smoke Only	
715.5.3.1	Shaft Enclosures	Fire & Smoke	Fire-dampers not required at: Penetrations in compliance with ASTM E119 or UL 263; Subducts, smoke control
714.5.4	Fire Partitions	Fire Only	Yes for occupancies other than Group H, see 717.5.4 for Exceptions; or Where duct is 0.019" gage and has no opening to corridor

VI. FIRE PROTECTION SYSTEMS

903.2	1.	Automatic Sprinkler System Required Based on Occupancy?	Yes, Group A-2
903.2.12-15	2.	Automatic Sprinkler System Required Based on Special Condition?	No building is not over 55 feet in height.
905.3.1-6	3.	Standpipe Class Required:	Class I
906	4	Portable Fire Extinguishers as Required by the *International Fire Code.*	2A-10BC fire extinguisher at all standpipes; located per NFPA 10, 75 ft max travel dist.
907	5	Fire Alarm and Detection Systems:	Per NFPA 72
907.2.1-23		B. Manual alarm required based on occupancy or special condition?	No in A-2 No in Group B exception based on automatic
907.2.1-23		C. Automatic detection req'd based on occupancy or special condition?	Yes, per 907.2.8.2

VII EXIT REQUIREMENTS Refer to the code egress plans

1009 1 Accessible means of egress
1009.1 A. Quantity required — 2 or more

1010.1 2 Doors
1010.1.1 A. Minimum Clear Width: 32"
1010.1.5 C. Floor Elevation — 0.5" due to finish material variations, 0.25" vertical per 12" horizontal at exterior doors
1010.1.5 D. Landings: Not less than width of stairway or door whichever is greater

1011 3 Stairways
1011.1 A. Width: 44"
1011.2 B. Headroom 80"
1011.5.2 C. Riser: 7" max
1014 E. Handrails: 34" to 38" max
1014 F. Guards: 42" min. height where 30" vertical to surface below

1016 4 Exit Access
1007.1.1 A. Separation: 1/3 of diagonal distance — Exception 2, automatic sprinkler system
1017 C. Travel Distance: 300 ft w/ sprinkler system — B Occupancy; 250 ft w/ sprinkler system — A Occupancy; 400 ft w/ sprinkler system — S-2 Occupancy

1006.2.2.1 5 Boiler, Incinerator, and Furnace rooms — Goldwalk Room 100
A. Quantity required — 2 exit access doorways are req. in boiler, incinerator, and furnace rooms. If following conditions are met
B. room size min. — sq. ft > 500 sq. ft — sq. ft actual = 1490
C. & fuel fired equip. size exceeds 400,000 BTUs — size > 400,000 BTUs — equip. size of boilers is greater than 400,000 BTIU. 1B-MEP0.000
conclusion — both conditions must be met for 2 exit access doors to be req. 2 exit access doorways req. — 2 exit access doorways provided

1006.2.2 6 Refrigeration Machinery rooms — Mechanical / ICE plant P.005
A. Quantity required — 2 exit access doorways are req. if following conditions area met.
B. room size min. — sq. ft > 1000 sq. ft — sq. ft actual = 1230 — 2 exit access doorways provided
all portions of machinery rooms shall be within 150 feet of an exit or exist access doorway - increases per 1017.1 allowed — 150 feet provided

1016.2 7 Egress through Intervening spaces — allowed where the adjoining rooms or areas and the area served are accessory to one or the other.
not a group H
provide a discernable path of egress travel
not pass through a room that can be locked to prevent egress
shall not pass through kitchens, storage rooms, closets, or spaces used for similar purposes
note per commentary this is not meant to prevent egress through s-2 occupancies, the concern is for blocking the egress path - if a discernable egress path is kept egress is allowed. — egress though adjoing rooms req. For storage rooms discernable paths will be provided

1020 8 Corridors:
1020.1 A. Construction: Fire-resistance rating in accordance with Table 1020.1 & Section 708 for fire partitions
TBL 1020.1 B. Fire resistance rating: 0 hours A, B, S Occupancy (where occupant load served by corridor >30) & sprinklered; 0.5 hours R Occupancy (where occupant load served by corridor >10) & sprinklered
TBL 1020.2 C. Width: not less than 44"
1020.5 E. Air movement — corridors do not provide air
1020.6 F. Corridor continuity

VII Accessibility Requirements
3409 1. Accessibility for existing buildings
3409.3 A. Extent of Application: an alteration of an existing element, space or area of a building or facility shall not impose a requirement for greater accessibility than that which would
3409.8.9 1. Toilet Rooms: Where it is technically infeasible to alter existing toilet and bathing facilities to be accessible, an accessible unisex toilet or bathing facility is permitted. The unisex

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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Seal / Signature
STATE OF COLORADO — JON CHARLES GAMBRILL — 203617 — LICENSED ARCHITECT
05.19.2021

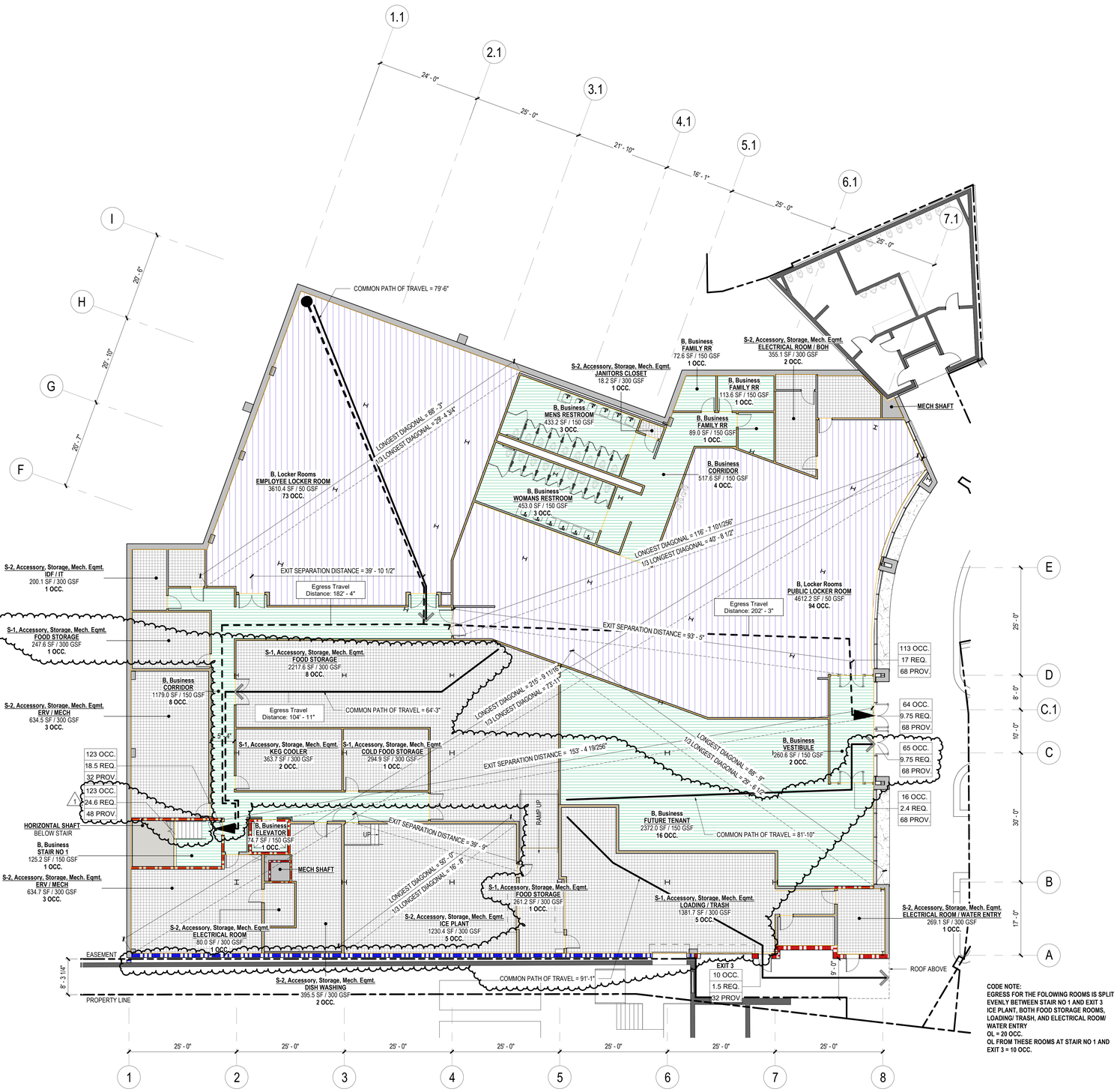
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
CODE COMPLIANCE - CODE ANALYSIS

Scale
12" = 1'-0"

1A-G2.001



01 EGRESS & OCCUPANCY PLAN - LEVEL 00
SCALE: 3/32" = 1'-0"

GRAPHIC SYMBOLS LEGEND

- EXIT ACCESS TRAVEL DISTANCE
- COMMON PATH OF TRAVEL
- SECURITY LOCATIONS
- X-X, FUNCTION — OCCUPANCY, FUNCTION OF SPACE
- 1HR FIRE BARRIER / 20MIN OPENINGS
- 1HR FIRE BARRIER / 45MIN OPENINGS
- 2HR FIRE BARRIER / 90MIN OPENINGS
- 3HR FIRE BARRIER

FUNCTION LEGEND (OCCUPANT LOAD)

- ASSEMBLY, UNCONC.
- ASSEMBLY, CONC.
- BUSINESS AREA
- KITCHENS, COMMERCIAL
- ACCESS. STORAGE, MECHANICAL
- LOCKER ROOM

GENERAL NOTES

A. WORK AREAS TONED IN LIGHT & DARK GRAY N.I.C.

SHEET NOTES

1. EGRESS ALLOWED IN DIRECTION OF EGRESS TRAVEL.

NUMBER OF OCCUPANTS	0 OCC.
WIDTH REQUIRED IN INCHES	0 REQ.
WIDTH PROVIDED IN INCHES	0 PROV.

EGRESS REQUIREMENTS - LEVEL 00

TOTAL GROSS AREA OF TENANT - ENTIRE LEVEL:	APPROX. 22,642 SF
TOTAL AREA IN SCOPE:	APPROX. 23,839 SF
TENANT OCCUPANT LOAD CALCULATIONS:	IBC TABLE 1004.1.2
ASSEMBLY (5 NSF/PERSON)	0 OCCUPANTS
ASSEMBLY (15 NSF/PERSON):	0 OCCUPANTS
STORAGE/ MECHANICAL (300 GSF/PERSON): 8,461 GSF	37 OCCUPANTS
BUSINESS (150 GSF/PERSON): 5,803 GSF	4 OCCUPANTS
LOCKER ROOMS (50 GFS/PERSON): 8,281 GSF	167 OCCUPANTS
TOTAL:	246 OCCUPANTS
NOTE: OCCUPANT LOADS HAVE BEEN CALCULATED BASED ON ROOM LAYOUT AND NOT COMBINED AREAS.	
EGRESS WIDTH REQUIREMENTS:	
OTHER EGRESS COMPONENTS	IBC 1005.3.2
REQUIRED (.15 IN/OCCUPANT):	39.9 INCHES
PROVIDED AT EXIT STAIR DOORS:	100 INCHES
EXIT STAIR WIDTH	IBC 1005.3.1
REQUIRED (.2 IN/OCCUPANT)	12.4 INCHES
PROVIDED AT EXIT STAIRS	1 48 INCHES
MINIMUM WIDTH OF EGRESS CORRIDOR REQUIRED:	IBC 1020.2 44 INCHES
MINIMUM WIDTH OF EGRESS CORRIDOR PROVIDED:	63 INCHES
MINIMUM NUMBER OF EXITS REQUIRED:	IBC TABLE 1006.2.1 2 EXITS
NUMBER OF EXITS PROVIDED:	3 EXITS
MAXIMUM LENGTH OF EGRESS TRAVEL:	IBC TABLE 1017.2 FOOTNOTE C 300 FEET (BUSINESS) 250 FEET (ASSEMBLY) 400 FEET (S-2) 1 250 FEET (S-1)
MAXIMUM COMMON PATH OF TRAVEL:	IBC 1006.2.1 FOOTNOTE A 100 FEET (BUSINESS) 100 FEET (ASSEMBLY) 75 FEET (S-2) 1 100 FEET (S-1)
MAXIMUM DEAD END CORRIDOR:	IBC 1020.4 EXCEPTION 2 50 FEET
REMOTENESS OF EXITS: LONGEST DIAGONAL	
REMOTENESS OF EXITS	SEE PLAN

LEVEL 00

OCCUPANCY TOTALS	'A'	'B'	'S'
	0	209	37

FIXTURE REQUIREMENTS		REQUIRED 'A'	REQUIRED 'B'	REQUIRED 'S'	TOTAL REQUIRED	PROVIDED
WATER CLOSETS	MEN	*0/125 =* **0**	*2 + (54.5/50) =* **3.09**	*18.5/100 =* **.185**	3.275	**10.5**
	WOMEN	*0/65 =* **0**	*2 + (54.5/50) =* **3.09**	*18.5/100 =* **.185**	3.275	**10.5**
LAVATORIES	MEN	*0/200 =* **0**	*2 + (29/80) =* **2.3625**	*18.5/100 =* **.185**	2.5475	**7.5**
	WOMEN	*0/200 =* **0**	*2 + (29/80) =* **2.3625**	*18.5/100 =* **.185**	2.5475	**7.5**
DRINKING FOUNTAINS		*0/500 =* **0**	*209/ 100 =* **2.09**	*37/1,000 =* **.037**	2.127	**4**
SERVICE SINK					1	**1**

*UNISEX RESTROOM WATER CLOSET AND LAVATORY COUNTS HAVE BEEN APPLIED AS .5 PER EACH SEX.

CODE NOTE:
EGRESS FOR THE FOLOWING ROOMS IS SPLIT EVENLY BETWEEN STAIR NO 1 AND EXIT 3
ICE PLANT, BOTH FOOD STORAGE ROOMS, LOADING/ TRASH, AND ELECTRICAL ROOM/ WATER ENTRY
OL = 20 OCC.
OL FROM THESE ROOMS AT STAIR NO 1 AND EXIT 3 = 10 OCC.

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RCRBD
Record Set
TC
07/10/2021

△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT
1	2021.07.02	BP3: PROMENADE - BULLETIN 03 - PERMIT RESPONSE

Seal / Signature

STATE OF COLORADO
JOSH CHARLES CAMPBELL
203617
LICENSED ARCHITECT
07.09.2021

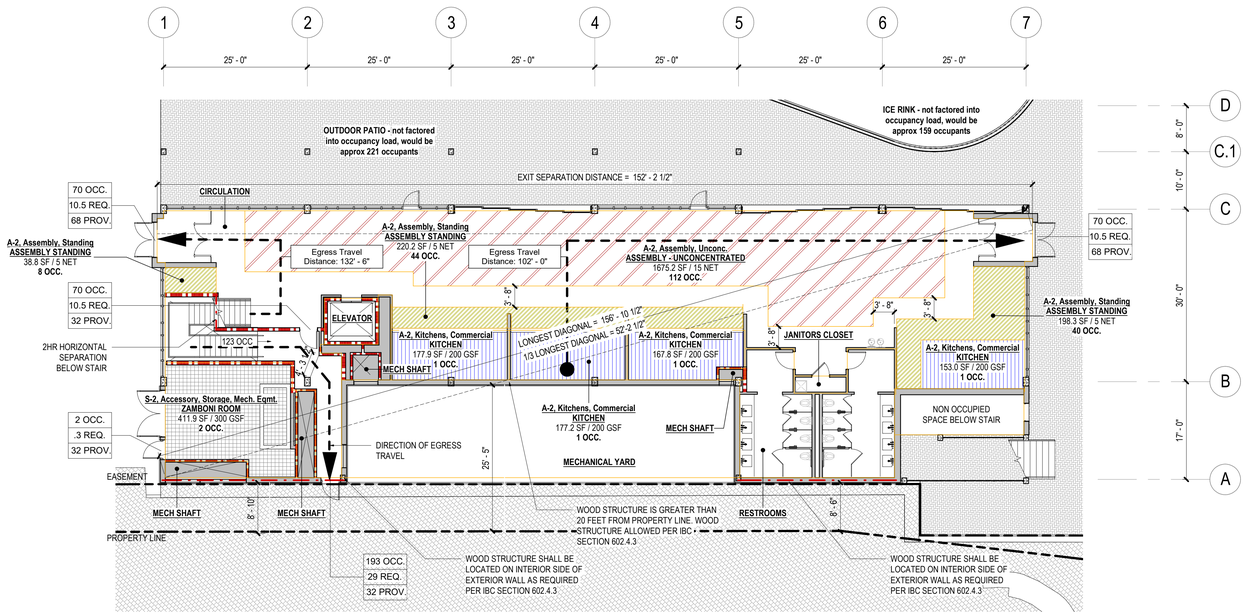
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
EGRESS & OCCUPANCY PLAN - LEVEL 00

Scale
As indicated

1A-G3.100



01 EGRESS & OCCUPANCY PLAN - LEVEL 01

SCALE: 3/32" = 1'-0"

GRAPHIC SYMBOLS LEGEND

- EXIT ACCESS TRAVEL DISTANCE
- COMMON PATH OF TRAVEL
- SECURITY LOCATIONS
- X-X, FUNCTION — OCCUPANCY, FUNCTION OF SPACE
- 1HR FIRE BARRIER / 20MIN OPENINGS
- 1HR FIRE BARRIER / 45MIN OPENINGS
- 2HR FIRE BARRIER / 90MIN OPENINGS
- 3HR FIRE BARRIER

FUNCTION LEGEND (OCCUPANT LOAD)

- ASSEMBLY, UNCONC.
- ASSEMBLY, CONC.
- BUSINESS AREA
- KITCHENS, COMMERCIAL
- ACCESS. STORAGE, MECHANICAL
- LOCKER ROOM

GENERAL NOTES

A. WORK AREAS TONED IN LIGHT & DARK GRAY N.I.C.

SHEET NOTES

1. EGRESS ALLOWED IN DIRECTION OF EGRESS TRAVEL.

NUMBER OF OCCUPANTS	0 OCC.
WIDTH REQUIRED IN INCHES	0 REQ.
WIDTH PROVIDED IN INCHES	0 PROV.

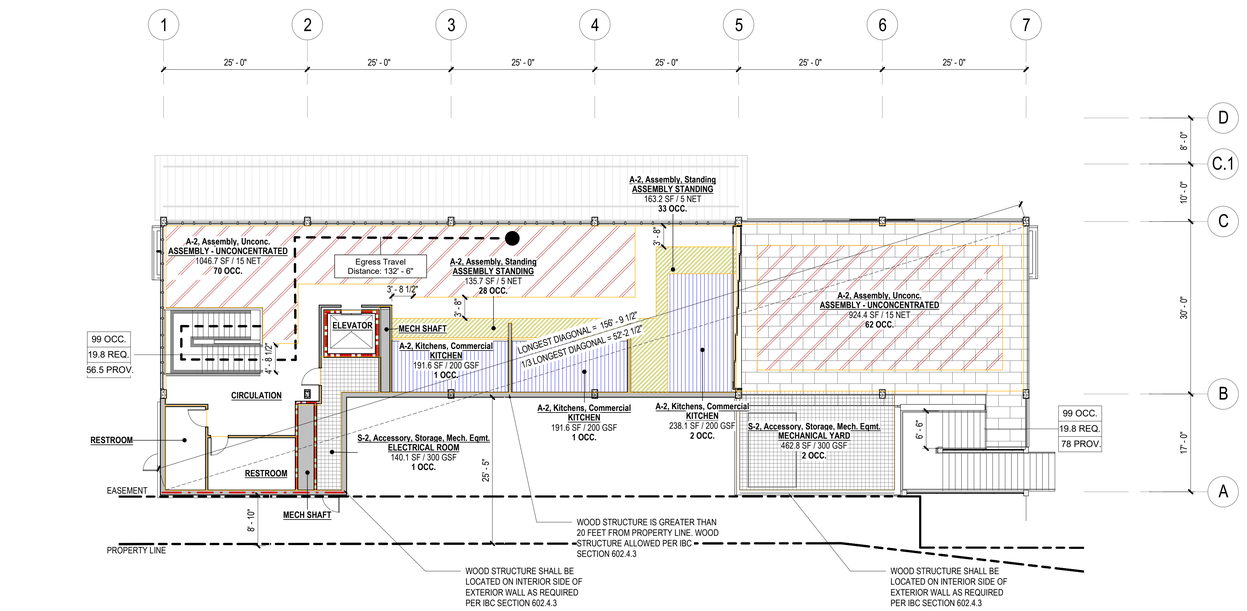
EGRESS REQUIREMENTS - LEVEL 01

TOTAL GROSS AREA OF TENANT - ENTIRE LEVEL:	APPROX. 5,194 SF
TOTAL AREA IN SCOPE:	APPROX. 6,204 SF
TENANT OCCUPANT LOAD CALCULATIONS:	IBC TABLE 1004.1.2
ASSEMBLY (5 NSF/PERSON) 457.3 NSF	92 OCCUPANTS
ASSEMBLY (15 NSF/PERSON): 1,675.2 NSF	112 OCCUPANTS
STORAGE/ MECHANICAL (300 GSF/PERSON): 411.5 GSF	2 OCCUPANTS
BUSINESS (150 GSF/PERSON):	0 OCCUPANTS
COMMERCIAL KITCHEN (200 GSF/PERSON): 675.9 GSF	4 OCCUPANTS
LOCKER ROOMS (50 GFS/PERSON):	0 OCCUPANTS
TOTAL:	210 OCCUPANTS
NOTE: OCCUPANT LOADS HAVE BEEN CALCULATED BASED ON ROOM LAYOUT AND NOT COMBINED AREAS.	
EGRESS WIDTH REQUIREMENTS:	
OTHER EGRESS COMPONENTS	IBC 1005.3.2
REQUIRED (.15 IN/OCCUPANT):	31.5 INCHES
PROVIDED AT EXIT STAIR DOORS:	170 INCHES
EXIT STAIR WIDTH	IBC 1005.3.1
REQUIRED (.2 IN/OCCUPANT)	NA
PROVIDED AT EXIT STAIRS	NA
MINIMUM WIDTH OF EGRESS CORRIDOR REQUIRED:	IBC 1020.2 44 INCHES
MINIMUM WIDTH OF EGRESS CORRIDOR PROVIDED:	51.5 INCHES
MINIMUM NUMBER OF EXITS REQUIRED:	IBC TABLE 1006.2.1 2 EXITS
NUMBER OF EXITS PROVIDED:	2 EXITS
MAXIMUM LENGTH OF EGRESS TRAVEL:	IBC TABLE 1017.2 FOOTNOTE C 300 FEET (BUSINESS) 250 FEET (ASSEMBLY) 400 FEET (S-2)
MAXIMUM COMMON PATH OF TRAVEL:	IBC 1006.2.1 FOOTNOTE A 100 FEET (BUSINESS) 100 FEET (ASSEMBLY) 75 FEET (S-2)
MAXIMUM DEAD END CORRIDOR:	IBC 1020.4 EXCEPTION 2 50 FEET
REMOTENESS OF EXITS:	
LONGEST DIAGONAL	SEE PLAN
REMOTENESS OF EXITS	

LEVEL 01

OCCUPANCY TOTALS	'A'	'B'	'S'
	208	0	2

FIXTURE REQUIREMENTS		REQUIRED 'A'	REQUIRED 'B'	REQUIRED 'S'	TOTAL REQUIRED	PROVIDED
WATER CLOSETS	MEN	*104/125 =* **.832**	*X + (X/50) =* **0**	*1/100=* **.02**	.852	**4**
	WOMEN	*104/65 =* **1.6**	*X + (X/50) =* **0**	*1/100=* **.02**	1.62	**4**
LAVATORIES	MEN	*104/200 =* **.52**	*X + (X/80) =* **0**	*1/100=* **.02**	.54	**4**
	WOMEN	*104/200 =* **.52**	*X + (X/80) =* **0**	*1/100=* **.02**	.54	**4**
DRINKING FOUNTAINS		*208/500 =* **.416**	*X / 100 =* **0**	*2/1,000 =* **.002**	.418	**2**
SERVICE SINK					1	**1**



02 EGRESS & OCCUPANCY PLAN - LEVEL 02

SCALE: 3/32" = 1'-0"

GRAPHIC SYMBOLS LEGEND

- EXIT ACCESS TRAVEL DISTANCE
- COMMON PATH OF TRAVEL
- SECURITY LOCATIONS
- X-X, FUNCTION — OCCUPANCY, FUNCTION OF SPACE
- 1HR FIRE BARRIER / 20MIN OPENINGS
- 1HR FIRE BARRIER / 45MIN OPENINGS
- 2HR FIRE BARRIER / 90MIN OPENINGS
- 3HR FIRE BARRIER

FUNCTION LEGEND (OCCUPANT LOAD)

- ASSEMBLY, UNCONC.
- ASSEMBLY, CONC.
- BUSINESS AREA
- KITCHENS, COMMERCIAL
- ACCESS. STORAGE, MECHANICAL
- LOCKER ROOM

GENERAL NOTES

A. WORK AREAS TONED IN LIGHT & DARK GRAY N.I.C.

SHEET NOTES

1. EGRESS ALLOWED IN DIRECTION OF EGRESS TRAVEL.

NUMBER OF OCCUPANTS	0 OCC.
WIDTH REQUIRED IN INCHES	0 REQ.
WIDTH PROVIDED IN INCHES	0 PROV.

EGRESS REQUIREMENTS - LEVEL 02

TOTAL GROSS AREA OF TENANT - ENTIRE LEVEL:	APPROX. 4,162 SF
TOTAL AREA IN SCOPE:	APPROX. 6,176 SF
TENANT OCCUPANT LOAD CALCULATIONS:	IBC TABLE 1004.1.2
ASSEMBLY (5 NSF/PERSON) 298.9 NSF	61 OCCUPANTS
ASSEMBLY (15 NSF/PERSON): 1,971.1 NSF	132 OCCUPANTS
STORAGE/ MECHANICAL (300 GSF/PERSON): 602.9 GSF	3 OCCUPANTS
BUSINESS (100 GSF/PERSON):	0 OCCUPANTS
COMMERCIAL KITCHEN (200 GSF/PERSON): 621.3 GSF	4 OCCUPANTS
LOCKER ROOMS (50 GFS/PERSON):	0 OCCUPANTS
TOTAL:	200 OCCUPANTS
NOTE: OCCUPANT LOADS HAVE BEEN CALCULATED BASED ON ROOM LAYOUT AND NOT COMBINED AREAS.	
EGRESS WIDTH REQUIREMENTS:	
OTHER EGRESS COMPONENTS	IBC 1005.3.2
REQUIRED (.15 IN/OCCUPANT):	30 INCHES
PROVIDED AT EXIT STAIR DOORS:	00 INCHES
EXIT STAIR WIDTH	IBC 1005.3.1
REQUIRED (.2 IN/OCCUPANT)	40 INCHES
PROVIDED AT EXIT STAIRS	134.5 INCHES
MINIMUM WIDTH OF EGRESS CORRIDOR REQUIRED:	IBC 1020.2 NA
MINIMUM WIDTH OF EGRESS CORRIDOR PROVIDED:	NA
MINIMUM NUMBER OF EXITS REQUIRED:	IBC TABLE 1006.2.1 2 EXITS
NUMBER OF EXITS PROVIDED:	2 EXITS
MAXIMUM LENGTH OF EGRESS TRAVEL:	IBC TABLE 1017.2 FOOTNOTE C 300 FEET (BUSINESS) 250 FEET (ASSEMBLY) 400 FEET (S-2)
MAXIMUM COMMON PATH OF TRAVEL:	IBC 1006.2.1 FOOTNOTE A 100 FEET (BUSINESS) 100 FEET (ASSEMBLY) 75 FEET (S-2)
MAXIMUM DEAD END CORRIDOR:	IBC 1020.4 EXCEPTION 2 50 FEET
REMOTENESS OF EXITS:	
LONGEST DIAGONAL	SEE PLAN
REMOTENESS OF EXITS	

LEVEL 02

OCCUPANCY TOTALS	'A'	'B'	'S'
	197	0	3

FIXTURE REQUIREMENTS		REQUIRED 'A'	REQUIRED 'B'	REQUIRED 'S'	TOTAL REQUIRED	PROVIDED
WATER CLOSETS	MEN	*98.5/125 =* **.788**	*X + (X/50) =* **0**	*1.5/100=* **.015**	.8	**1**
	WOMEN	*98.5/65 =* **1.51**	*X + (X/50) =* **0**	*1.5/100=* **.015**	1.53	**1**
LAVATORIES	MEN	*98.5/200 =* **.49**	*X + (X/80) =* **0**	*1.5/100=* **.015**	.50	**1**
	WOMEN	*98.5/200 =* **.49**	*X + (X/80) =* **0**	*1.5/100=* **.015**	.50	**1**
DRINKING FOUNTAINS		*197/500 =* **.394**	*X / 100 =* **0**	*3/1,000 =* **.003**	.397	**0**
SERVICE SINK					1	**1**

SHEET NOTES

GENERAL NOTES

A. THE PLAZA BUILDING LEVEL 01 AND LEVEL 02 IS FUTURE NIC. IT IS BEING SHOWN TO CLARIFY THE CURRENT INTENT OF THE FINAL PROJECT.

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

STATE OF COLORADO · REGISTERED · 203617 · LICENSED ARCHITECT

05.19.2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

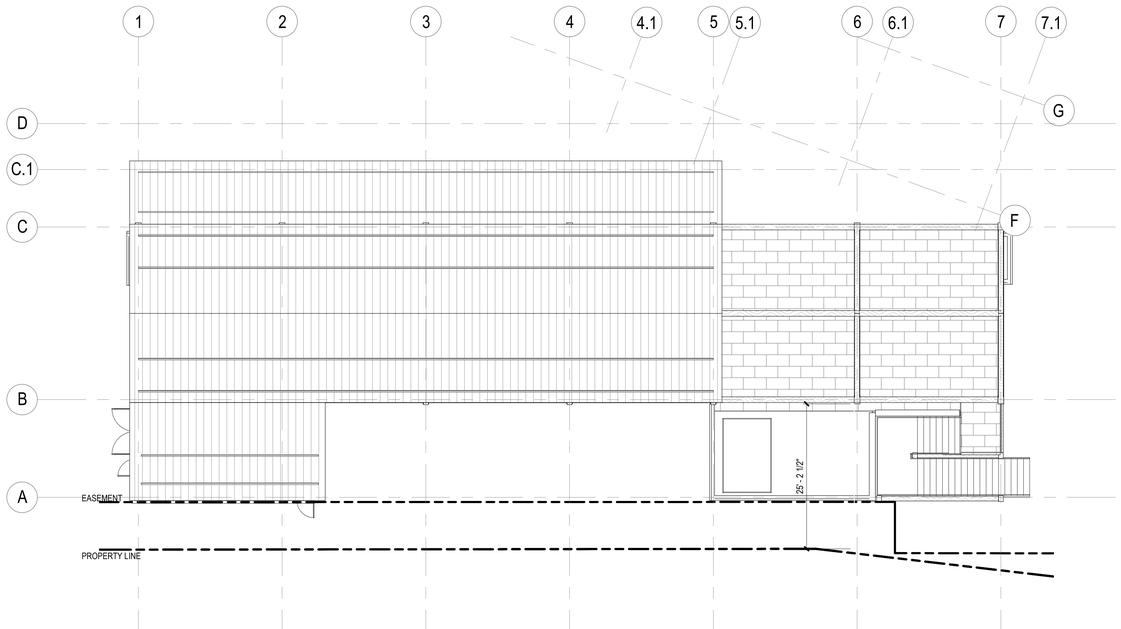
Description

EGRESS & OCCUPANCY PLAN - LEVEL 01

Scale

As indicated

1A-G3.101



01 EGRESS AND OCCUPANCY PLAN - ROOF

SCALE: 3/32" = 1'-0"

GRAPHIC SYMBOLS LEGEND

- EXIT ACCESS TRAVEL DISTANCE
- COMMON PATH OF TRAVEL
- SECURITY LOCATIONS
- X-X, FUNCTION — OCCUPANCY, FUNCTION OF SPACE
- 1HR FIRE BARRIER / 20MIN OPENINGS
- 1HR FIRE BARRIER / 45MIN OPENINGS
- 2HR FIRE BARRIER / 90MIN OPENINGS
- 3HR FIRE BARRIER

FUNCTION LEGEND (OCCUPANT LOAD)

- ASSEMBLY, UNCONC.
- ASSEMBLY, CONC.
- BUSINESS AREA
- KITCHENS, COMMERCIAL
- ACCESS. STORAGE, MECHANICAL
- LOCKER ROOM

GENERAL NOTES

A. WORK AREAS TONED IN LIGHT & DARK GRAY N.I.C.

SHEET NOTES

1. EGRESS ALLOWED IN DIRECTION OF EGRESS TRAVEL.

NUMBER OF OCCUPANTS	0 OCC.
WIDTH REQUIRED IN INCHES	0 REQ.
WIDTH PROVIDED IN INCHES	0 PROV.

EGRESS REQUIREMENTS - LEVEL ROOF

TOTAL GROSS AREA OF TENANT - ENTIRE LEVEL:	APPROX. 8,501 SF
TOTAL AREA IN SCOPE:	APPROX. 8,501 SF
TENANT OCCUPANT LOAD CALCULATIONS:	IBC TABLE 1004.1.2
ASSEMBLY (5 NSF/PERSON)	0 OCCUPANTS
ASSEMBLY (15 NSF/PERSON):	0 OCCUPANTS
ACCESSORY (300 GSF/PERSON):	0 OCCUPANTS
BUSINESS (150 GSF/PERSON):	0 OCCUPANTS
LOCKER ROOMS (50 GFS/PERSON):	0 OCCUPANTS
TOTAL:	0 OCCUPANTS
EGRESS WIDTH REQUIREMENTS:	
OTHER EGRESS COMPONENTS	IBC 1005.3.2
REQUIRED (.15 IN/OCCUPANT):	NA
PROVIDED AT EXIT STAIR DOORS:	NA
EXIT STAIR WIDTH	IBC 1005.3.1
REQUIRED (.2 IN/OCCUPANT)	NA
PROVIDED AT EXIT STAIRS	NA
	IBC 1020.2
MINIMUM WIDTH OF EGRESS CORRIDOR REQUIRED:	NA
MINIMUM WIDTH OF EGRESS CORRIDOR PROVIDED:	NA
	IBC TABLE 1006.3.1
MINIMUM NUMBER OF EXITS REQUIRED:	0 EXITS
NUMBER OF EXITS PROVIDED:	0 EXITS
	IBC TABLE 1017.2 FOOTNOTE C
MAXIMUM LENGTH OF EGRESS TRAVEL:	300 FEET (BUSINESS) 250 FEET (ASSEMBLY) 400 FEET (S-2)
	IBC 1006.2.1 FOOTNOTE A
MAXIMUM COMMON PATH OF TRAVEL:	100 FEET (BUSINESS) 100 FEET (ASSEMBLY) 75 FEET (S-2)
	IBC 1020.4 EXCEPTION 2
MAXIMUM DEAD END CORRIDOR:	50 FEET
REMOTENESS OF EXITS:	
LONGEST DIAGONAL	SEE PLAN, OR
REMOTENESS OF EXITS	N/A AS SUITE IS < 5,000 SF

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners

2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler

1225 17th Street
Suite 150
Denver, CO 80202
United States
Tel 303.595.8585
Fax 303.825.6823

LANDMARK CONSULTANTS, INC.

141 9th Street
PO Box 774943
Steamboat Springs, CO 80477
Tel 970.871.9494

DESIGNWORKSHOP

1390 Lawrence Street
Suite 100
Denver, CO 80204
Tel 303.623.5186

MARTIN/MARTIN CONSULTING ENGINEERS

12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers

14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

STATE OF COLORADO
JOHN CHARLES CAMPBELL
203617
LICENSED ARCHITECT

05.19.2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

Description

EGRESS & OCCUPANCY PLAN - ROOF

Scale

As indicated

1A-G3.102

UL DESIGN NO. U419 CONTINUED

5B. **Gypsum Board* —** (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) — Nom 5/8 in. or ϕ in. may be used as alternate to all 5/8 in. or ϕ in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).

RAY-BAR ENGINEERING CORP — Type RB-LBG

5C. **Gypsum Board* —** (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.

CGC INC — Type SCX.

UNITED STATES GYPSUM CO — Type SCX, SGX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type SCX

USG MEXICO S A DE C V — Type SCX

5D. **Gypsum Board* —** (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.

CGC INC — Type USGX

UNITED STATES GYPSUM CO — Type USGX

USG MEXICO S A DE C V — Type USGX

5E. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

5F. **Gypsum Board* —** (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.

UNITED STATES GYPSUM CO — 5/8 in. thick Type SCX, SGX

USG BORAL ZAWAWI DRYWALL L L C SFZ — 5/8 in. thick Type SCX

5G. **Gypsum Board* —** (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Item 2E	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 4)
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR;, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, C, , FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

5I. **Gypsum Board* —** (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.

CGC INC — Type ULX

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1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, **Steel Framing Members***, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. **Gypsum Board* —** (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.

CGC INC — Type SHX.

UNITED STATES GYPSUM CO — Type FRX-G, SHX.

USG MEXICO S A DE C V — Type SHX.

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, **Steel Framing Members***, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. **Gypsum Board* —** (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.

CGC INC — Type SHX.

UNITED STATES GYPSUM CO — Type FRX-G, SHX.

USG MEXICO S A DE C V — Type SHX.

UL DESIGN NO. U419 CONTINUED

2. **Steel Studs —** Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. **Steel Studs —** (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J and 5K) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2B. **Framing Members* - Steel Studs —** (As an alternate to Item 2, For use with Items 5C, 5I or 5K) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™

CRACO MFG INC — SmartStud25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™

2C. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

2D. **Framing Members* — Steel Studs —** In lieu of Item 2 — Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

2E. **Framing Members* — Steel Studs —** (Not Shown, As an alternate to Item 2) — For use with Items SF or 5G or 5I or 5J only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2F. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.

SUPER STUD BUILDING PRODUCTS — The Edge

2G. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height.

STUDCO BUILDING SYSTEMS — CROCSTUD

2H. **Framing Members* — Steel Studs —** (Not Shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

TELLING INDUSTRIES L L C — TRUE-STUD™

2I. **Framing Members* — Steel Studs —** (As an alternate to Item 2, For use with Items 5C or 5I, or 5K) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.

TELLING INDUSTRIES L L C — Viper25™

2J. **Framing Members* — Metal Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights

TELLING INDUSTRIES L L C — Viper20™

2K. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

EB MÉTAL INC — EB Stud

2L. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

OLMAR SUPPLY INC — PRIMESTUD

2M. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2O. **Framing Members* — Steel Studs —** As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.

RONDO BUILDING SERVICES PTY LTD — Rondo Lipped Wall Stud

3. **Wood Structural Panel Sheathing —** (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

4. **Batts and Blankets* —** (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4A. **Batts and Blankets* —** (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4B. **Batts and Blankets* —** For use with Item 5K. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

5. **Gypsum Board* —** Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

UL DESIGN NO. U419

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

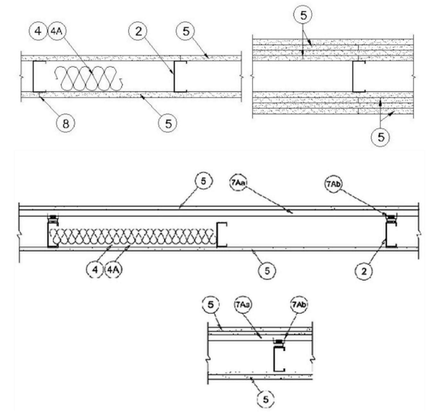
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U419

August 25, 2016

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5 through 5K)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™ Track

CRACO MFG INC — SmartTrack25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track

1B. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

1C. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — In lieu of Item 1 — Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

1D. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2A — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1E. **Framing Members* — Floor and Ceiling Runners —** (Not Shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.

CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1F. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

SUPER STUD BUILDING PRODUCTS — The Edge

1G. **Framing Members* — Floor and Ceiling Runner —** For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling with fasteners 24 in. OC max.

STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.02 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

1I. **Framing Members* — Floor and Ceiling Runners —** (Not Shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

1J. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.

TELLING INDUSTRIES L L C — Viper25™ Track

1K. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — Viper20™ Track

1M. **Framing Members* — Floor and Ceiling Runners —** Not Shown — As an alternate to Item 1 — For use with Item 2O, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

RONDO BUILDING SERVICES PTY LTD — Rondo Wall Track

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners
2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler
1225 17th Street
Suite 150
Denver, CO 80202
United States
Tel 303.595.8585
Fax 303.825.6823

LANDMARK CONSULTANTS
141 9th Street
PO Box 774943
Steamboat Springs, CO 80477
Tel 970.871.9494

DESIGNWORKSHOP
1390 Lawrence Street
Suite 100
Denver, CO 80204
Tel 303.623.5186

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

STATE OF COLORADO
DEPARTMENT OF REGULATORY AGENCIES
203617
LICENSED ARCHITECT

05.19.2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

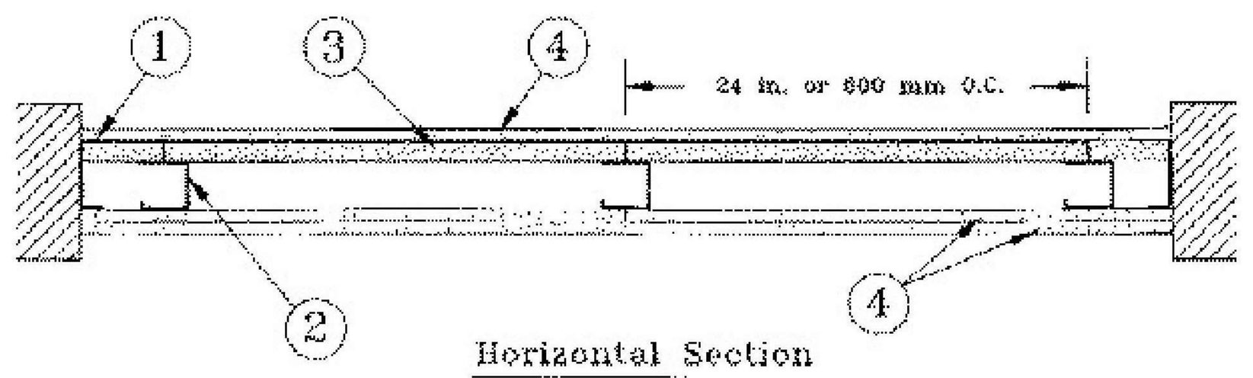
Description
U.L. ASSEMBLIES

Scale
12" = 1'-0"

1A-G4.001

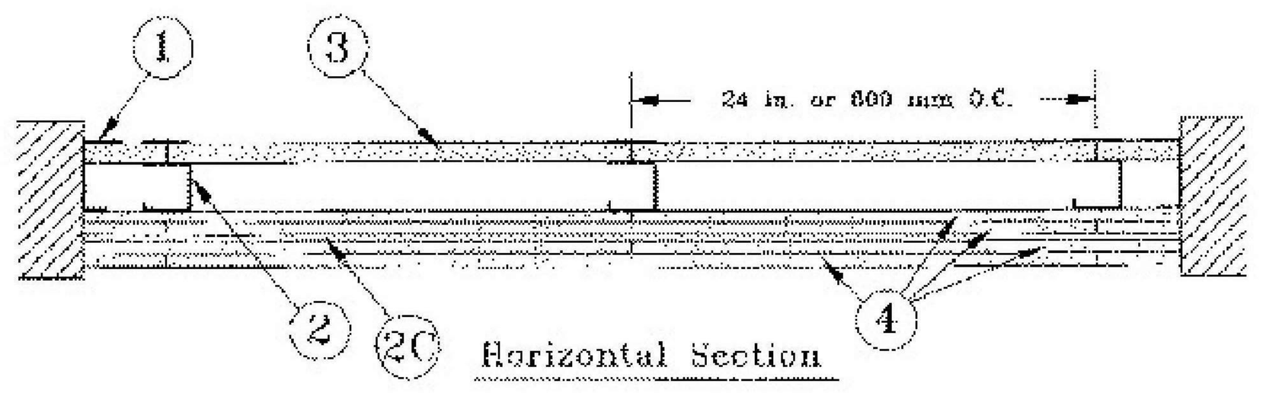
UL DESIGN NO. U415 CONTINUED

System H — 3 Hr.



Horizontal Section

System I — 4 Hr.



Horizontal Section

1. **Floor, Side and Ceiling Runners —** "J" - shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A, 4B, 4C, 4D or 7 are used) galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC. "E" - shaped studs (Item 2A) may be used as side runners in place of "J" - shaped runners.

2. **Steel Studs —** "C-H" - shaped studs, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Items 2D, 4A, 4B, 4C, 4D or 7 is used) galv steel. Cut to lengths 3/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4A, 4B, 4C, or 4D are used).

2A. **Steel Studs —** (Not Shown) — "E" - shaped studs installed back to back in place of "C-H" - shaped studs (Item 2) "E" - shaped studs secured together with steel screws spaced a maximum 12 in. OC. Fabricated from min 25 MSG (min 20 MSG when Item 2D, 4A, 4B or 7 is used) galv steel, min 2-1/2 in. deep (min 4 in. deep when System C is used), with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths 3/8 to 1/2 in. less than floor to ceiling heights.

2B. **Furring Channels —** (Optional, Not Shown) — For use with single or double layer systems. Resilient furring channels fabricated from min 25MSG corrosion protected steel, installed horizontally, and spaced vertically a max 24 in. OC. Flange portion of channel attached to each intersecting "C-H" or "E" stud on side of stud opposite the 1 in. liner panels with 1/2 in. long Type S or S-12 pan-head steel screws. When furring channels are used, wallboard to be installed vertically only. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B) or cementitious backer units (Item 7).

2C. **Furring Channels —** For use with System I - "Hat" - shaped, 25 MSG galv steel furring channels attached directly over the inner layers of wallboard to each stud with 2 in. long Type S pan head steel screws. Screws alternate from top flange to bottom flange at each stud intersection. Furring channels spaced vertically max 24 in. OC.

2D. **Steel Framing Members* —** (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B) or cementitious backer units (Item 7):

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC., and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

2E. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Gypsum board attached to furring channels as described in Item 3. Side joint furring channels shall be attached to studs with RESILMOUNT Sound Isolation Clips - Type A237R located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2Ea) to studs. Clips spaced 24 in. OC., and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

2F. **Steel Framing Members* —** (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B) or cementitious backer units (Item 7):

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.

PLITEQ INC — Type GENIECLIP

3. **Gypsum Board* —** Gypsum liner panels, nom 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" portion of "C-H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "J" - runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC. When wall height exceeds liner panel length, liner panel may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min 36 in. Butt joints backed with 6 in. by 22 in. strips of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips.

CGC INC — Type SLX

UNITED STATES GYPSUM CO — Type SLX

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type SLX

USG MEXICO S A DE C V — Type SLX

UL DESIGN NO. U415

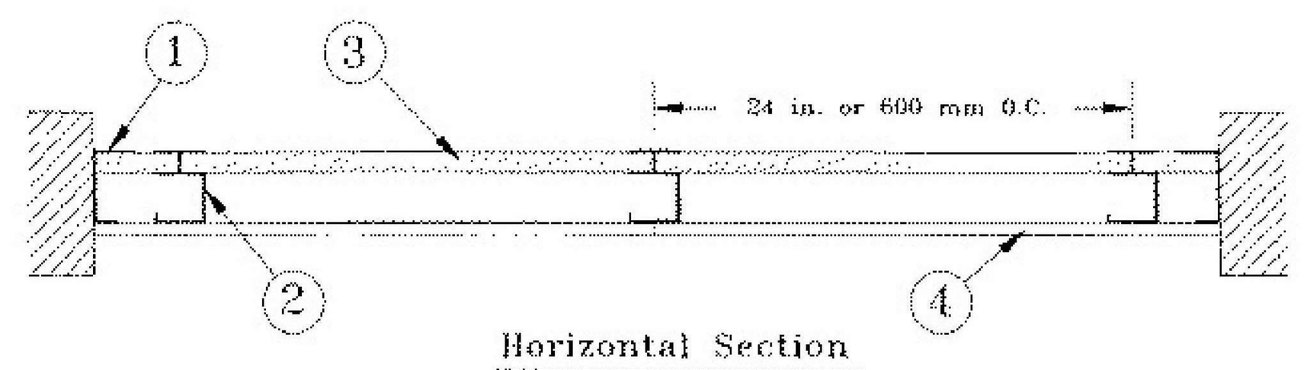
Design No. U415

July 14, 2016

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr

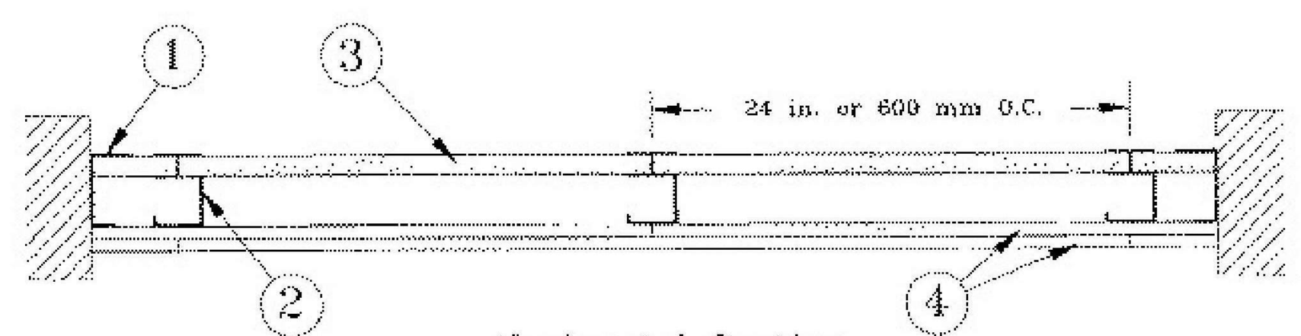
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

System A — 1 Hr.



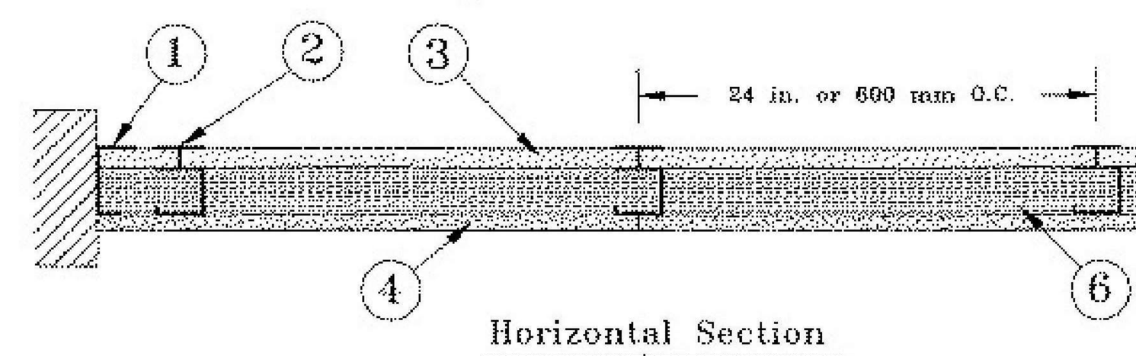
Horizontal Section

System B — 2 Hr.



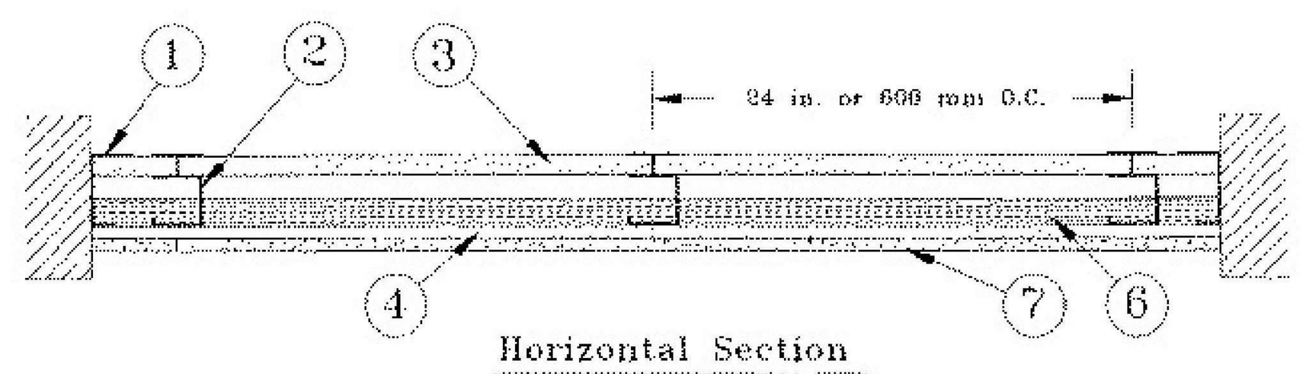
Horizontal Section

System C — 2 Hr.



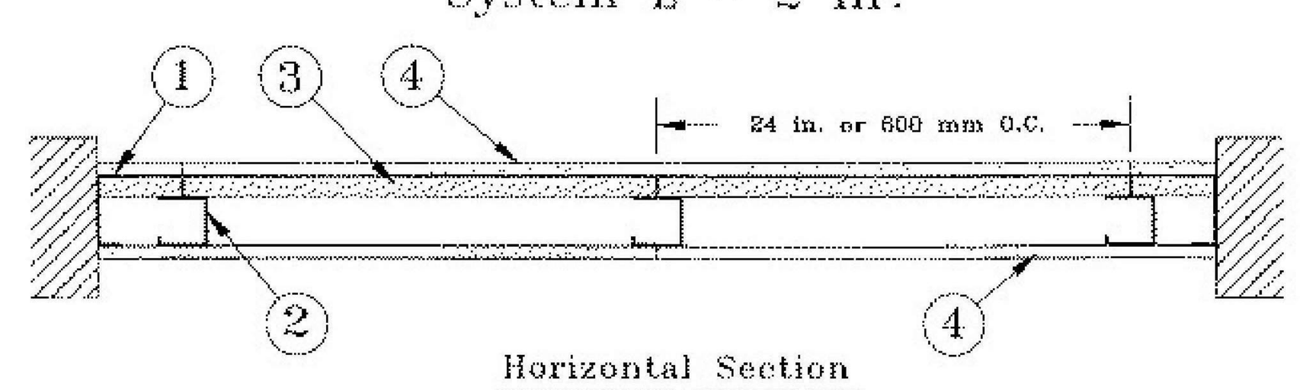
Horizontal Section

System D — 2 Hr.



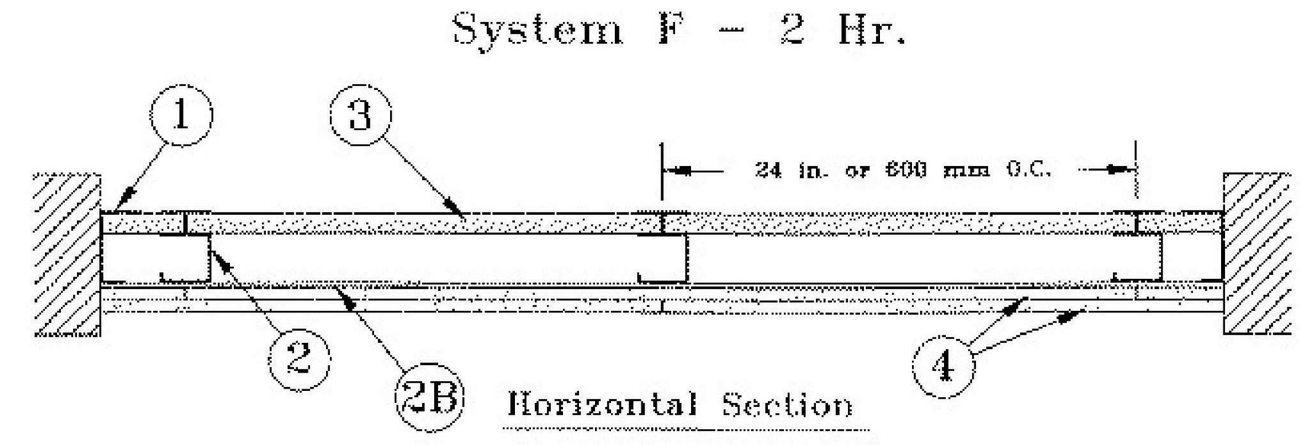
Horizontal Section

System E — 2 Hr.



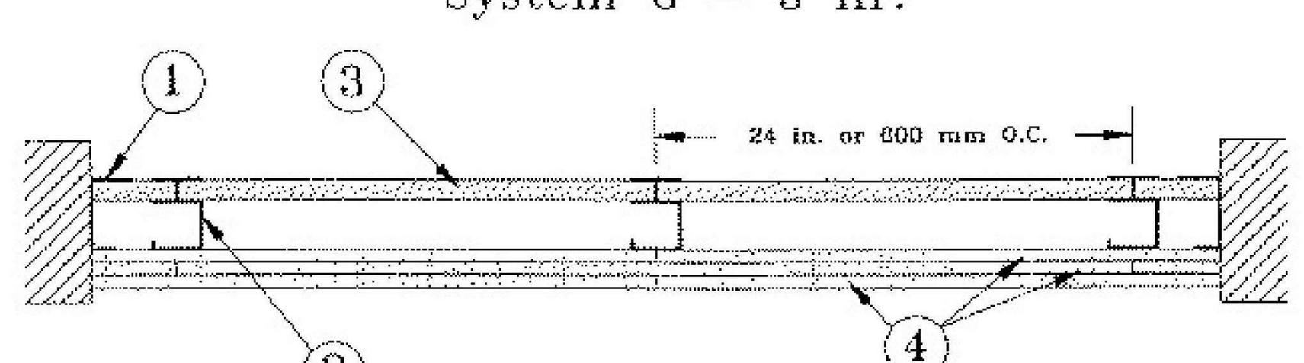
Horizontal Section

System F — 2 Hr.



Horizontal Section

System G — 3 Hr.



Horizontal Section

UL DESIGN NO. U419 CONTINUED

with screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long screws, spaced 24 in. OC. Second layer- 1-5/8 in. long screws, spaced 24 in. OC. Third layer- 2-5/8 in. long screws, spaced 8 in. OC. Screws offset min 6 in. from layer below. Four-layer systems: First layer- 1 in. long screws, spaced 24 in. OC. Second layer- 1-5/8 in. long screws, spaced 24 in. OC. Third layer- 2-5/8 in. long screws, spaced 24 in. OC. Fourth layer- 3 in. long screws, spaced 8 in. OC. Screws offset min 6 in. from layer below.

7. **Furring Channels —** (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A and 5E.

7A. **Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. **Framing Members* —** (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

KINETICS NOISE CONTROL INC — Type Isomax

7C. **Framing Members* —** (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.

PLITEQ INC — Type GENIECLIP

7D. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Gypsum board attached to furring channels as described in Item 4. Side joint furring channels shall be attached to studs with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Da) to studs. Clips spaced 24 in. OC., and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

8. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. **Siding, Brick or Stucco —** (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. **Caulking and Sealants* —** (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.

UNITED STATES GYPSUM CO — Type AS

11. **Lead Batten Strips —** (Not Shown, For Use With Item 5B) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. **Lead Batten Strips —** (Not Shown, For Use With Item 5H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

12. **Lead Discs or Tabs —** (Not Shown, For Use With Item 5B) — Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

12A. **Lead Discs —** (Not Shown, for use with Item 5H) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

13. **Lead Batten Strips —** (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

14. **Lead Tabs —** (Not Shown, For Use With Item 5E) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-08-25

UL DESIGN NO. U419 CONTINUED

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

5J. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5K. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) need not be staggered. The number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2 through 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4B)
1	3-5/8	1 layer, 5/8 in. thick	3-1/2 in.
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

UNITED STATES GYPSUM CO — 5/8 in. thick Type ULIX

6. **Fasteners —** (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer.**Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

6A. **Fasteners —** (Not Shown) — For use with Item 5K- Type S or S-12 steel screws used to attach panels to studs or furring channels (Item 7). Single layer systems: 1 in. long screws, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems: First layer- 1 in. long screws, spaced 16 in. OC. Second layer- 1-5/8 in. screws, spaced 8 in. OC

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

5J. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5K. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) need not be staggered. The number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2 through 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4B)
1	3-5/8	1 layer, 5/8 in. thick	3-1/2 in.
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

UNITED STATES GYPSUM CO — 5/8 in. thick Type ULIX

6. **Fasteners —** (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer.**Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

6A. **Fasteners —** (Not Shown) — For use with Item 5K- Type S or S-12 steel screws used to attach panels to studs or furring channels (Item 7). Single layer systems: 1 in. long screws, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems: First layer- 1 in. long screws, spaced 16 in. OC. Second layer- 1-5/8 in. screws, spaced 8 in. OC

Steamboat
ALTERRA MOUNTAIN COMPANY
east west partners

2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler

1225 17th Street
Suite 150
Denver, CO 80202
United States

Tel 303.595.8585
Fax 303.825.6823

LANDMARK CONSULTANTS, INC.
141 9th Street
PO Box 774943
Steamboat Springs, CO 80477
Tel 970.871.9494

DESIGNWORKSHOP
1390 Lawrence Street
Suite 100
Denver, CO 80204
Tel 303.623.5186

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Seal / Signature

STATE OF COLORADO
JON CHARLES GAMBRILL
203617
LICENSED ARCHITECT
05.19.2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
U.L. ASSEMBLIES

Scale
12" = 1'-0"

1A-G4.002

UL DESIGN NO. X701

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

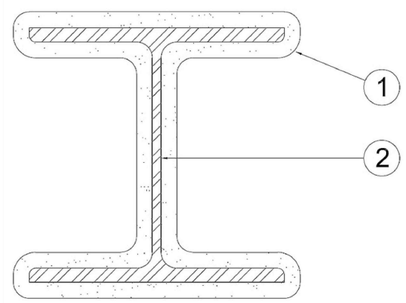
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. X701

May 23, 2016

Ratings — 1, 2, 3 and 4 Hr.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Spray-Applied Fire Resistive Materials* —** See table below for appropriate thickness. Min avg and min ind density of 15/14 pcf respectively. Min avg and min ind density of 19/18 pcf respectively for Types 7GP and 7HD. Min avg and min ind density of 40/36 pcf for Type AV600. Min avg and min ind density of 30/45 pcf for Type AV800. Min avg and min ind density of 22/19 pcf respectively for Types Z-106 and Z106/HY. Min avg and min ind density of 40/36 pcf for Type Z-146. For method of density determination, refer to Design Information Section, preceding these designs.

Rating Hr	Min Thkns In.
4	2-1/2
3	1-11/16
2	1-1/8
1-1/2	7/8
1	11/16

The thicknesses contained in the table below are applicable when the Spray-Applied Fire Resistive Materials applied to columns flange tips are reduced to one-half that shown in the table below:

Rating Hr	Min Thkns In.
4	2-7/8
3	2-1/16
2	1-3/8
1-1/2	1-1/16
1	13/16

ARABIAN VERMICULITE INDUSTRIES — Types AV650 and AV800 evaluated for Exterior Exposure.

GCP KOREA INC — Types MK-6/CBF, MK-6/ED, MK-6/HY, MK-6s, Monokote Acoustic 1.

PYROK INC — Type LD.

SOUTHWEST FIREPROOFING PRODUCTS CO — Types 4, S, SEF, SGP, SMD, 7GP, 7HD, 8EF, 8GP, 8MD, 9EF, 9GP, 9MD.

GCP APPLIED TECHNOLOGIES INC — Types MK-6/HY, MK-6s, Monokote Acoustic 1, RG, Z-106, Z-106/HY and Z-146.

2. **Steel Column —** Minimum size of column, W10x49, with outside dimensions of 10x10 in., a flange thickness of 9/16 in., a web thickness of 5/16 in., and a cross-sectional area of 14.4 sq in.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-05-23

UL DESIGN NO. U415 CONTINUED

8. **Laminating Adhesive* —** (Optional, Not Shown) — Used to bond outer layer of Cementitious Backer Units (Item 7) to inner layers of Gypsum Board (Item 4) in System D. ANSI A136.1 Type 1 organic adhesive applied with 1/4 in. square notched trowel. See Adhesives (BYWR) in the Fire Resistance Directory or Adhesives (BJLZ) in the Building Materials Directory for names of Classified companies.

9. **Lead Batten Strips —** (Not Shown, For Use With Item 4A) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Required behind vertical joints.

9A. **Lead Batten Strips —** (Not Shown, for use with Item 4C) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 6) and optional at remaining stud locations.

10. **Lead Discs or Tabs —** (Not Shown, For Use With Item 4A) — Used in lieu of or in addition to the lead batten strips (Item 9) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4A) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

10A. **Lead Discs —** (Not Shown, for use with Item 4C) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

11. **Lead Batten Strips —** (Not Shown, For Use With Item 4B) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4B) and optional at remaining stud locations.

12. **Lead Tabs —** (Not Shown, For Use With Item 4B) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 4B) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-07-14

UL DESIGN NO. I503

Design No. I503

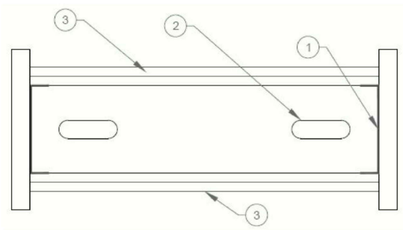
July 23, 2020

Ceiling Membrane Rating - 2 Hr.

Load Restriction - Limited to the Dead Weight of the Assembly.

 # Indicates item is shown for illustrative purposes only as that item may be tested and certified to a standard other than UL 263.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Supporting Structure —** Fire-resistance rated. Suitable point of attachment of Perimeter Channels (Item 2).

2. **Perimeter Channels —** Used to support steel joists at both ends of structure. Min. 6 in. deep with min. 1-3/8 in. legs and formed from min. No. 16 MSG galv. steel (0.053 in. thick bare metal thickness). Perimeter channels attached to a fire-resistant rated supporting structure (item 1) with fasteners spaced not greater than 18 in. O.C. at both the top and bottom of the vertical leg. Maximum clear span from vertical leg to vertical leg of the perimeter channels is 8 ft.

2A. **Steel Joists —** Min. 6 in. wide with min. 1-5/8 in. legs containing folded back flanges and formed from min. No. 16 MSG galv. steel (0.053 in. thick bare metal thickness). Studs to be cut 1/2 in. to 3/4 in. less than the clear span between the vertical legs of the perimeter channels. Studs spaced a max. 16 in. O.C. At each end of the stud, the un-faced side shall be secured to the perimeter channel with one 1/2 in. long pan-head steel screw. Studs are used at each end of the horizontal barrier to terminate the assembly at the adjoining wall.

3. **Gypsum Board* —** Two layers of nom. 5/8 in. thick, 46 to 54 in. wide, gypsum board installed with long dimension perpendicular to the steel studs. Base layer installed with end joints in adjacent rows staggered min. 64 in. Boards secured to studs and perimeter channels with 1-1/4 in. long Type S steel screws spaced max. 12 in. OC at perimeter and max. 16 in. OC in the field. Face layer installed with end joints in adjacent rows staggered min. 32 in. Boards secured to the studs and perimeter channels with 1-7/8 in. long Type S steel screws spaced max. 12 in. OC at perimeter and max. 16 OC in the field. Face layer end joints staggered min. 16 in. from base layer joints. Face layer long edge joints staggered min. 8 in. from base layer joints.
AMERICAN GYPSUM CO — Type AG-C

UNITED STATES GYPSUM CO — Type C

USG BORAL DRYWALL SFZ LLC — Type C

4. **Joint Tape and Compound —** Not Shown — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, nom. 2 in. wide, embedded in first layer of compound over all joints.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

UL DESIGN NO. U415 CONTINUED

System F — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically in two layers. Inner or base layer attached to resilient furring channels (Item 2B) with 1 in. long Type S steel screws spaced 24 in. Outer or face layer attached to resilient furring channels (Item 2B) with 1-5/8 in. long Type S steel screws spaced 12 in. OC and staggered 12 in. from base layer screws. Joints between inner and outer layers staggered 24 in.

CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX

USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System G — 3 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in three layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in OC when installed horizontally. Middle layer attached to studs with 1-5/8 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 2-1/4 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent layers staggered a min of 12 in. . Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. on adjacent layers.

CGC INC — Types C, IP-X2, IPC-AR, WRC

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, WRC

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR, WRC

System H — 3 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, two layers over the flange of the "C" section of the studs, one layer over the flange of the "H" section of the studs. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. on adjacent layers.

CGC INC — Types C, IP-X2, IPC-AR, WRC

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, WRC

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR, WRC

System I — 4 Hr

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 4 ft wide (or 1200 mm for metric spacing) wallboard with square or tapered edges. Total of four layers to be used. First and second (inner) layers applied vertically or horizontally over the steel studs. Horizontal joints need not be backed by steel framing. When applied vertically, joints centered over studs and staggered min 24 in., otherwise all joints staggered min 12 in. First layer secured to studs with 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 24 in. OC. Second layer secured to studs with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Third layer applied vertically over the furring channels (Item 2C) with a 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Fourth layer applied vertically or horizontally with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. When applied vertically, joints to be staggered min 24 in. from third layer, otherwise all joints staggered min 12 in.

CGC INC — Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — Types IP-X3 or ULTRACODE

Systems A, B, E, F, G, H, I

(Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance.

System A With Type ULIX Gypsum Boards

Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

Systems C & D

Min 3 in. (System C) and min 1-1/2 in. (System D) thick mineral wool batts, friction fitted between the studs and floor and ceiling runners.

ROXUL INC — Type AFB

THERMAFIBER INC — Type SAFB

7. **Cementitious Backer Units* —** (System D) — Nom 1/2 or 5/8 in. thick panels, square edge, attached to studs over gypsum wallboard with 1-5/8 in. long, Type S-12, corrosion resistant steel screws spaced 8 in. OC and staggered 8 in. from gypsum wall board screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud cavity from gypsum wallboard joints. Horizontal joints staggered a min of 12 in. from the gypsum wallboard joints.

UNITED STATES GYPSUM CO — Type DCB

base layer, For direct attachment only) — Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1, 2, 2A, 2B and 2D. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 9A) or Lead Discs (see Item 10A). Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip.

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4D. **Gypsum Board* —** (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5. **Joint Tape and Compound —** (Not Shown)

Systems A, B, C, E, F, G, H, I

Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.

6. **Batts and Blankets* —**

Systems A, B, E, F, G, H, I

(Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance.

System A With Type ULIX Gypsum Boards

Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

Systems C & D

Min 3 in. (System C) and min 1-1/2 in. (System D) thick mineral wool batts, friction fitted between the studs and floor and ceiling runners.

ROXUL INC — Type AFB

THERMAFIBER INC — Type SAFB

7. **Cementitious Backer Units* —** (System D) — Nom 1/2 or 5/8 in. thick panels, square edge, attached to studs over gypsum wallboard with 1-5/8 in. long, Type S-12, corrosion resistant steel screws spaced 8 in. OC and staggered 8 in. from gypsum wall board screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud cavity from gypsum wallboard joints. Horizontal joints staggered a min of 12 in. from the gypsum wallboard joints.

UNITED STATES GYPSUM CO — Type DCB

UL DESIGN NO. U415 CONTINUED

4. **Gypsum Board* —**

System A — 1 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in OC when installed horizontally. Horizontal joints need not be backed by steel framing.

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, WRC, WRX, USGX. When ULIX is used insulation, Item 6, **Batts and Blankets*** is required and minimum stud depth is 4 in.

USG BORAL ZAWAWI DRYWALL L L C SFZ — Types C, SCX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System B — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed horizontally and staggered 8 in. from base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in.

CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-X2, IPC-AR, or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX

USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System C — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, secured with 1-1/4 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field when installed vertically or 8 in. OC along the vertical edges and in the field when installed horizontally. Horizontal joints need not be backed by steel framing. Screws along side joints offset 4 in. Requires min 4 in. deep framing per Items 1, 2 and 3. Requires min 3 in. thick mineral wool batts per Item 6.

CGC INC — Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — Types IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type ULTRACODE

USG MEXICO S A DE C V — Types IP-X3 or ULTRACODE

System D — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached directly to studs with 1 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Horizontal joints need not be backed by steel framing. Requires face layer of 1/2 or 5/8 in. thick cementitious backer units per Item 7 and min 1-1/2 in. thick mineral wool batts per Item 6.

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type C, SCX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System E — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. OC when installed vertically or 8 in. when installed horizontally. Horizontal joints need not be backed by steel framing.

CGC INC — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX

USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners
2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler
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LANDMARK CONSULTANTS
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Steamboat Springs, CO
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DESIGNWORKSHOP
1390 Lawrence Street
Suite 100
Denver, CO 80204
Tel 303.623.5186

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

STATE OF COLORADO
REGISTERED
203617
LICENSED ARCHITECT

05.19.2021

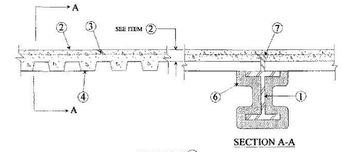
Project Name
SSRC | BASE AREA IMPROVEMENTS

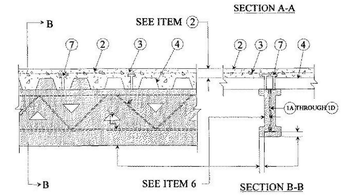
Project Number
003.7835.000

Description
U.L. ASSEMBLIES

Scale
12" = 1'-0"

1A-G4.003





UL DESIGN NO. D902

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. D902

September 22, 2016

Restrained Assembly Ratings — 1, 1-1/2, 2 and 3 Hr.

Unrestrained Assembly Ratings — 0, 1, 1-1/2, 2 or 3 Hr. (See Items 4 & 6)

Unrestrained Beam Ratings — 1, 1-1/2, 2 and 3 Hr.

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

1. **Beam —** W12X14, W8X28, W8x24 or W6x12, min size, see Items 6A through 6E.

1A. **Steel Joists —** (Not Shown) — As an alternate to Item 1 — Composite or noncomposite min 8k1 or min depth and weight shall be 8 in. and 4.9 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design stress of 30, 000 psi (30 ksi). Welded or bolted to end supports. The top chords shall consist of two angles measuring 1-1/4 by 1-1/4 by 0.127 in. thick. Bottom chords shall consist of two round bars measuring 0.566 in. in diam. or two angles measuring 1 by 1 by 0.125 in. thick. Bearing plates shall consist of two angles measuring 1-1/2 by 2 by 0.188 in. thick and 5-1/16 in. long. Web members shall consist of 0.565 in. diam bars.

1B. **Steel Joists —** (Not Shown) — As an alternate to Item 1 — Composite or noncomposite min 12k5 or min depth and weight shall be 12 in. and 7.1 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design stress of 30, 000 psi (30 ksi). Welded or bolted to end supports. Top chords shall consist of two angles measuring 1-1/2 by 1-1/2 by 0.156 in. thick. Bottom chords shall consist of two round bars measuring 0.675 in. in diam. or two angles measuring 1 by 1 by 0.125 in. thick. Bearing plates shall consist of two angles measuring 2 by 2 by 0.192 in. thick and shall be min 4-15/16 in long. The second web member at each end shall consist of 0.654 in. diam round bar. All remaining web members, including the end web members, shall consist of 0.774 in. diam round bars. Bridging per S.J.I. specifications is required when noncomposite joists are used.

1C. **Steel Joists —** (Not Shown) — As an alternate to Item 1 — Composite or noncomposite min 12k5 or min depth and weight shall be 12 in. and 7.1 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design stress of 30, 000 psi (30 ksi). Welded or bolted to end supports. Top chords shall consist of two angles measuring 1-1/2 by 1-1/2 by 0.156 in. thick. Bottom chord shall consist of two round bars measuring 0.675 in. in diam. or two nangles measuring 1 by 1 by 0.125 in. thick. The second web member at each end shall consist of 0.654 in. diam round bar. All remaining web members, including the end web members, shall consist of 0.774 in. diam round bars. Bridging per S.J.I. specifications is required when noncomposite joists are used.

1D. **Steel Joists —** (Not Shown) — As an alternate to Item 1 — Composite or noncomposite min 8k1 or min depth and weight shall be 8 in. and 4.9 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design stress of 30, 000 psi (30 ksi). Welded or bolted to end supports. The top chords shall consist of two angles measuring 1-1/4 by 1-1/4 by 0.127 in. thick. Bottom chords shall consist of two round bars measuring 0.566 in. in diam. or two angles measuring 1 by 1 by 0.125 in. thick. Bearing plates shall conform to S.J.I. specifications. Web members shall consist of 0.565 in. diam bars.

2. **Normal Weight or Lightweight Concrete —** Normal weight concrete, carbonate or siliceous aggregate, 3500 psi compressive strength, vibrated. Lightweight concrete, expanded shale or slate aggregate by rotary-kiln method or expanded clay aggregate by rotary-kiln or sintered-grate method, or pelletized expanded blast furnace slag aggregate, 3000 psi compressive strength, vibrated, 4 to 7 per cent entrained air.

Restrained Assembly Rating Hr	Concrete (Type)	Concrete Unit Weight pcf	Concrete Thkns In.
1	Normal Weight	147-153	3-1/2
1-1/2	Normal Weight	147-153	4
2	Normal Weight	147-153	4-1/2
3	Normal Weight	147-153	5-1/4
1	Lightweight	107-113	2-1/2
1	Lightweight	107-120	2-5/8
1-1/2	Lightweight	107-113	3
2	Lightweight	107-113	3-1/4
2	Lightweight	107-116	3-1/4*
2	Lightweight	114-120	3-1/2
3	Lightweight	107-113	4-3/16
3	Lightweight	114-120	4-7/16

* With 2 and 3 in. deep steel floor units only.

3. **Welded Wire Fabric —** 6x6 10/10 SWG.

3A. **Negative Reinforcement —** (Not Shown) — Optional - Used in lieu of Item 3 and with Items 3B or 3C. For floor spans with concrete cast continuous over the supporting beams. Deformed bars designed to resist the support moments of the concrete slab in accordance with the latest ACI Building Code Specifications.

3B. **Fiber Reinforcement* —** (Not Shown) — Required with Item 3A. Engineered synthetic fibers added to concrete mix to control shrinkage cracks in concrete. Fibers added to concrete mix at rate of 1 lb of fiber for each cubic yard of concrete.

PROPEX OPERATING COMPANY L L C — Fibermesh 150 and Fibermesh 300.

3C. **Fiber Reinforcement* —** (Not Shown) — Required with Item 3A. Any fiber reinforcement bearing the UL Classification Marking for Fire Resistance, Classified for use in lieu of welded wire fabric.

See **Fiber Reinforcement** (CBXQ) Category for names of manufacturers.

4. **Steel Floor and Form Units* —** Composite 1-1/2, 1-5/8 , 2 or 3 in. deep galv units or 4-1/2 in. deep non-composite galv units. Fluted units may be phos/ptd. Min gauges are 22 MSG for fluted and 20/20 for cellular and partial cellular units. The following combinations of units may be used:

(1) All 24, 26, 28 or 36 in. wide cellular or partial cellular.

(2) All fluted.

(3) One or two 3 in. deep, 12 in. wide, 18/18 MSG min cellular alternating with 3 in. deep fluted or other cellular.

(4) Any blend of fluted and 24, 26, 28 or 36 in. wide cellular or partial cellular.

(5) Corrugated, nom 1-5/16 or 2 in. deep, 30 in. wide, 24 MSG min galv units with shear wires factory welded to deck corrugations. Welded to supports 12 in. OC through welding washers. For shear wire spacing of 8 in. or less the steel deck stress shall not exceed 20 KSI. For shear wire spacing greater than 8 in. OC but less than or equal to 12 in. OC steel deck stress shall not exceed 12 KSI.

ASC STEEL DECK, DIV OF ASC PROFILES L L C — 32 in. wide Types NH-32, NHN-32, NHF-32; 36 in. wide, Types BH-36, BHN-36, BHN-35-1/4, BHF-36, BHF-36A, 2WH-36, 2WHS-36, 2WHF-36, 2WHF-36A, 3WxH-36, 3WxHF-36, 3WxHF-36A, 3WH-36, 3WHF-36, 3WHF-36A, 3W-36, 3WF-36, DG3W-36, DG3WF-36. All units may be galvanized or Prime Shield. Non-cellular decks may be vented designated with a "V" suffix to the product name. Cellular deck top and bottom sections may be riveted together (designated with "Fr") vs. arc spot welded, "F"

CANAM STEEL CORP — 24 in. wide Type P-2432 composite or 36 in. wide Type P-3623, P-3606, P-3615 and 24 in wide Type P-2432 composite, Type P-3606 and P-3615 non-composite

CANAM STEEL CORP — 12 or 24 in. wide, Types 1-1/2, 2, or 3 in. LOK-Floor and LOK-Floor Cell; 36 in. wide, Types 2 or 3 in. LOK-Floor and LOK-Floor Cell; 24, 30 or 36 in. wide, Type 1-1/2 in. B-LOK and B-LOK Cell; 24 in. wide, Types N-LOK and N-LOK Cell

CENTRIA — QL Types, 24 in. wide, 3 or 3 inverted, UKX, 21 or 21 inverted, 2 in. 99, 121, AKX, NKX, TKX; 24 or 30 in. wide GKX, GKXH, GKX-A; 36 in. wide 2 in. 99, AKX, WKX; 12 in. wide NKC, TKC; 12 in. wide non-composite Sec 12. Side joints of 99, 121, TKC, TKX, WKX may be welded together 60 in.

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OC. Side joints of 99, AKX, WKX, GKX, GKX-A, TKX may be fastened together with min 1 in. long No. 12x14 self-drilling, self-tapping steel screws 36 in. OC

CHIA TEH CONSTRUCTION MATERIAL CO LTD — 24 or 36 in. wide Mac-Lok 3; 24 in. wide CFD-3

DECK WEST INC — 36 in. wide Type B-DW, Inverted B-DW, BA-DW, Inverted BA-DW, 2-DW or 3-DW. Side joints of Type 2-DW and 3-DW may be fastened together with min 1 in. long No. 12 x 14 self-drilling, self-tapping steel screws 36 in. OC

DESIGN ASSISTANCE CONSTRUCTION SYSTEMS INC — 36 in. wide Type DACS1.5CD, or 24 in. wide Type DACS2.0CD, or DACS3.0CD

EPIC METALS CORP — 24 in. wide Types EC150, EC150 inverted, EC300, EC366, ECP150, ECP300, ECP366, ECA; 30 in. wide Types ECB150, ECBR150; 36 in. wide Types EC156, EC266, ECP266

KAM INDUSTRIES LTD, DBA CORDECK — 24 in. wide, Types 2 or 3 in. WDR

MARLYN STEEL DECKS INC — Type 1.5 CF, 2.0 CF or 3.0 CF

MORIN CORP — 24, 30 or 36 in. wide Types LXR-B, LXR-B inverted; 24 or 36 in. wide Type LXR-3W; 36 in. wide Type LXR-2W

NEW MILLENNIUM BUILDING SYSTEMS L L C — 24 in. wide Types CFD-2, CFD-3; 24, 30 or 36 in. wide Type CFD-1.5; 24 or 36 in. wide Types Mac-Lok 2, Mac-Lok 3; 24 in. wide Types B2C, B2FC, NC, NFC; 30 in. wide, Type B3C; 12 in. wide Mac-Way Cellular 45 MDW, 2-633 MTWA, 3-633 MTWA+. 30 in. wide, Mac-Cor Types 1 and 2

NEW MILLENNIUM BUILDING SYSTEMS L L C — Type 1.5CD, 1.5CDI, 1.5CDR, 2.0CD, or 3.0CD. Units may be phos/painted or galvanized

ROOF DECK INC — 36 in. wide Types LOK-1-1/2, LOK-1-1/2R; 24 in. wide Types LOK-2, LOK-3

VALLEY JOIST — 24 or 36 in. wide Types WVC 1-1/2 or WVC 2

VERCO DECKING INC - A NUCOR CO — 24, 30 or 36 in. wide Types PLB, PLBCD, B, BCD, BR; 24 or 36 in. wide Types PLW2, PLW2CD, W2, W2CD, PLW3, PLW3CD, W3, W3CD; 24 in. wide Types PLN, PLNCD, N, NCD . 12 in. wide PLW2, W2, PLW3 or W3 units may be blended with 24 or 36 in. wide PLW2, W2, PLW3 or W3 units, respectively; or Types PLN3-CD, N3-CD, PLN3, N3. Fluted units may be phos/ptd

VULCRAFT, DIV OF NUCOR CORP — 24, 30 or 36 in. wide Types 1.5VL, 1.5VLI, 1.5PLVLI, 1.5VLP, 1.5 VLR, 1.5PLVLP; 24 or 36 in. wide Types 1.5VLPA, 1.5PLVLPA, 2VLI, 2.0PLVLI, 2VLJ, 3VLI, 3.0PLVLI, 3VLJ, 2VLP, 2.0PLVLP, 3VLP, 3.0PLVLP, 2VLPA, 2.0PLVLPA, 3VLPA, 3.0PLVLPA. Types 1.5VL, 1.5VLI, 1.5PLVLI, 1.5 VLR, 1.5VLPA, 1.5PLVLPA, 2VLI, 2.0PLVLI, 2VLJ, 3VLI, 3.0PLVLI, 3VLJ units may be phos/ptd. 24 or 36 in. wide Types 2VLJ, 3VLJ units ++ may be used for max 2 hr Restrained Assembly Rating. 36 in. wide Types 1.5 SB, 1.5 SBR; 24 or 36 in wide Types 2.0 SB, 3.0 SB, 36 in. wide Type High Strength 1.5 SBI, 36 in. wide Type High Strength 1.5 SBN; Units may be phos/ptd

Spacing of welds attaching units to supports shall be 12 in. OC for 12, 24, 36 in. wide units, four welds per sheet for 30 in. wide units. 6 in. OC for 18 in. wide and Sec. 12 units. Unless specified otherwise for specific units types, adjacent units button-punched or welded together 36 in. OC along side joints. For **3 Hr Rating**, units with overlapping type side joints welded together 24 in. OC max.

When a superimposed load of 250 PSF is desired the spacing of welds or button-punches shall not exceed 24 in. OC along side joints.

\+ 12 in. wide, 1-1/2 in. deep Mac-Way units may be blended with 24 in. wide B2C or 30 in wide B3C units in a blend of one cell to one or more fluted units. 12 in. wide, 2 in. deep Mac-Way units may be blended with 24 or 36 in. wide Mac-Lock units in a blend of one cell to one or more fluted units. 12 in. wide, 3 in. deep Mac-Way units may be blended with 24 or 36 in. wide Mac-Lock 3 units in a blend of one cell to one or more fluted units. The side edge of the fluted units is placed on the top of the side edge of the Mac-Way unit and the two are welded together with welding washers spaced a max. of 32 in. OC for Mac-Lock 2 or 3 units and a max of 24 in. OC for the B2C or B3C units.

++ Side joints of Types 2VLJ or 3VLJ units may be fastened together with No. 8-3/4 in. long self-drilling Tek screws driven diagonally from the top side through the joint of the units at 36 in. O. C. max.

Alternate Construction — Noncomposite units of the same type listed above may be used provided allowable loading is calculated on the basis of noncomposite design.

The Unrestrained Assembly Rating is equal to the Unrestrained Beam Rating (See Item 6) for a max 3 Hr and is limited to the following units and limitations:

(a) 1-1/2, 2 and 3 in. deep, 24 in. wide, 22 MSG or thicker fluted with clear spans not more than 7 ft, 8 in.

(b) 1-1/2, 2 and 3 in. deep, 24 in. wide, 20 MSG or thicker fluted with clear spans not more than 8 ft, 8 in.

(c) 1-1/2 and 2 in. deep, 24 in. wide, 16 MSG or thicker fluted and 18/18 MSG or thicker cellular with clear spans not more than 9 ft, 11 in.

(d) 3 in. deep, 36 in. wide, 18 MSG or thicker fluted and 24 in. wide, 20/18 MSG or thicker cellular with clear spans not more than 13 ft, 2 in.

For assemblies utilizing 3-1/4 in. lightweight concrete topping with a max Restrained Assembly Rating of 2 Hr, the Unrestrained Assembly Rating is equal to the Unrestrained Beam Rating (See Item 6) and is limited to the following floor units and spans:

(a) 1-1/2, 2 and 3 in. deep, 24 or 36 in. wide, 22 MSG fluted and 20/20 MSG cellular with clear spans not more than 9 ft, 6 in.

(b) 2 and 3 in. deep, 24 or 36 in. wide, 20 MSG fluted and 20/20 MSG cellular with clear spans not more than 10 ft, 0 in.

(c) 3 in. deep, 24 in. wide, 20 MSG fluted and 20/20 MSG cellular with clear spans not more than 13 ft, 2 in.

4A. **Steel Floor and Form Units* —** As an alternate to Item 4, for use only when top of steel beam (Item 1) is filled solid with concrete for the full width of bearing from top of steel beam to top of concrete (Item 2):

BAILEY METAL PRODUCTS LTD — Type COMSLAB™ 210 and COMSLAB™ 225, Steel End Closure Flashing

5. **Joint Cover —** (Use with fluted units optional — Not Shown) — 2 in. wide cloth adhesive tape applied following the contour of the units.

6. **Spray-Applied Fire Resistive Materials* —** Applied by spraying with water, in one coat to a final thickness as shown above and in table below to steel beam surface which is free of dirt, oil or scale. When fluted steel deck is used and the fire protection thickness selected is based on all fluted deck, the area between the steel deck and the top flange of the steel beam shall be filled. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged. Use of adhesive is optional. Min avg untamped density is 13 pcf with min ind untamped density of 11 pcf for Types II or DC/F. Min avg and min ind untamped densities of 22 and 19 pcf, respectively, for Type HP. Tamping is optional. For method of density determination, refer to Design Information Section. The thickness of the Spray-Applied Fire Resistive Materials on the Structural Members (Item 1, 1A, or 1B) shall be as follows:

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Concrete Type	Protection Mtl Thkns on Structural Member In.				
			W8x28 When Deck Is All Fluted	W8x28 When Deck Is Blend or All Cellular	W12x14 When Deck Is All Fluted	Joist Item 1A When Deck Is Fluted Cellular or Blend	Joist Item 1B When Deck Is Fluted Cellular or Blend
1	1	NW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	1++	—
1-1/2	1	NW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	1-9/16	—
2	1	NW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	2-1/16	—
2	2	NW	3/4	1-3/8+	1-1/16	2-1/16	—
2	3	NW	1-3/16	2-1/8+	1-11/16	—	3-1/4
3	1-1/2	NW	1/2	7/8*	3/4	—	3-1/4
3	2	NW	3/4	1-3/8+	1-1/16	—	3-1/4
3	3	NW	1-3/16	2-1/8+	1-11/16	—	3-1/4
1	1	LW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	1-1/8++	—
1-1/2	1	LW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	1-3/4	—
2	1	LW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	2-1/4	—
2	2	LW	1	1-3/8+	1-7/16	2-1/4	—
2	3	LW	1-9/16+	2-1/8+	2-1/4	—	3-1/4
3	1-1/2	LW	11/16	7/8*	1	—	3-1/4
3	2	LW	1+	1-3/8+	1-7/16	—	3-1/4

* May be reduced to 3/4 in. for the 1-1/2 hr Unrestrained Beam Rating when the material is sprayed 2 in. beyond the beams's top flange and no reduction in thickness is made at the tips of the bottom flange.

** This thickness applies when optional Item 12 or 13 are used over 3-1/4 in. lightweight concrete topping.

\+ Thickness of Spray-Applied Fire Resistive Materials may be reduced to one half of this thickness on the lower flange tips of the steel beam.

++ When bottom chords consist of 1 by 1 by 0.125 in. thickn steel angles, the thickness of spray-applied fire resistive material shall be increased by 1/4 in. on the bottom chord only.

ISOLATEK INTERNATIONAL — Type D-C/F, HP, Type II, Type EBS or Type X adhesive which may also be used as a surface sealer

6A. **Spray-Applied Fire Resistive Materials* —** Alternate to Item 6. See table below for appropriate thicknesses. When fluted steel deck is used and the fire protection thickness selected is based on all fluted deck, the area between the steel deck and the top flange of the steel beam shall be filled. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged. Prepared by mixing with water and spray-applied in one or more coats to beam surfaces which must be clean and free of dirt, loose scale and oil. Min average density of 17.5 pcf with min individual value of 17.0 pcf. For method of density determination, see Design Information Section, Sprayed Material.

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Thkns on W8x28, In.	
		When Deck Is All Fluted	When Deck Is Blend or All Cellular
1, 1-1/2, 2	1	5/16, 7/16*	5/16, 7/16*
2	2	11/16	13/16
2	3	1-1/16	1-5/16
3	1-1/2	1/2	9/16
3	2	11/16	13/16
3	3	1-1/16	1-5/16

* This thickness applies when optional Items 12, 13 are used over 3-1/4 in. lightweight concrete topping.

+++ When bottom chords consist of 1 by 1 by 0.125 in. thick steel angles, the thickness of spray-applied fire resistive material shall be increased by 1/4 in. on the bottom chord only.

ISOLATEK INTERNATIONAL — Type 280

UL DESIGN NO. D902 CONTINUED

6B. **Spray-Applied Fire Resistive Materials* —** Alternate to Item 6 or 6A. Applied by mixing with water according to instructions on each bag of material. Mixture can be spray or trowel applied in one or more coats. The thickness of the mixture is dependent on the type of floor unit. See table below for appropriate thickness. When fluted steel deck is used and the fire protection thickness selected is based on all fluted deck, the area between the steel deck and the top flange of the steel beam shall be filled. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged. The steel surfaces must be clean and free of dirt, loose scale and oil. Minimum average density of 38 pcf and minimum individual density of 35 pcf for Type 800. Min avg density of 44 pcf with min ind value of 40 pcf for Type M-II. Min avg density of 47 pcf, with min individual value of 43 pcf for Type M-II/P. Min avg density of 44 pcf with min ind value of 42 pcf for Type TG. For method of density determination, refer to Design Information Section, Sprayed Material.

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Thkns on W8x28, In.	
		When Deck Is All Fluted	When Deck Is Blend or All Cellular
1, 1-1/2, 2	1	3/8, 1/2*	7/16, 9/16*
2	2	15/16	1-1/4
2	3	1-5/16	1-1/2
3	1-1/2	5/8	1
3	2	15/16	1-1/4
3	3	1-5/16	1-1/2

* This thickness applies when optional Item 12 or 13 are used over 3-1/4 in. lightweight concrete topping.

BERLIN CO LTD — Types M-II or TG. Types M-II and TG Investigated for exterior use

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types M-II, M-II/P or TG. Types M-II, M-II/P and TG Investigated for exterior use

ISOLATEK INTERNATIONAL — Types 800, M-II, M-II/P or TG investigated for exterior use

NEWKEM PRODUCTS CORP — Types M-II or TG. Types M-II and TG Investigated for exterior use

6C. **Spray-Applied Fire Resistive Materials* —** Alternate to Items 6A or 6B. Applied by mixing with water in accordance with instructions on each bag and applied in one or more coats to a final thickness as shown in table below to steel beam surface which is free of dirt, oil or scale. When fluted steel deck is used and the fire protection thickness selected is based on all fluted deck, the area between the steel deck and the top flange of the steel beam shall be filled. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged.

Min average and min individual density is 15 and 14 pcf, respectively, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively. For method of density determination, refer to Design Information Section. The thickness of the material on the Structural Members (Item 1, 1C, or 1D) shall be as follows:

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Mtl Thkns on Structural Members In.			
		W8x28 When Deck Is All Fluted	W8x28 When Deck Is Blend or All Cellular	W12x14 When Deck Is All Fluted	Joist (Item 1C or 1D) When Deck Is Fluted Cellular or Blend
1	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	9/16
1-1/2	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	1
2	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	1-3/8
2	2	11/16	13/16	1	1-3/8
2	3	1-1/16	1-5/16	1-1/2	2-1/4
3	1-1/2	1/2	9/16	3/4	2-1/4
3	2	11/16	13/16	1	2-1/4
3	3	1-1/16	1-5/16	1-1/2	2-1/4

* This thickness applies when optional Item 12 or 13 are used over 3-1/4 in. lightweight concrete topping.

BERLIN CO LTD — Type 300, Type 300ES, Type 300N or Type SB

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, or 400AC

ISOLATEK INTERNATIONAL — Type 300, Type 300AC, Type 300ES, Type 300HS, Type 300N, Type SB, Type 400AC, Type 400ES, Type 3000 or Type 3000ES

NEWKEM PRODUCTS CORP — Type 300, Type 300ES, Type 300N, or Type SB

6D. **Spray-Applied Fire Resistive Materials* —** Alternate to Items 6A, 6B or 6C. Applied by mixing with water in accordance with instructions on each bag and applied in one or more coats to a final thickness as shown in table below to steel beam surface which is free of dirt, oil or scale. When fluted steel deck is used and the fire protection thickness selected is based on all fluted deck, the area between the steel deck and the top flange of the steel beam shall be filled. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged.

Min average and min individual density is 17.5 and 16 pcf, respectively, for 300TW. Min average and min individual density of 22 and 19 pcf, respectively, for Type 400. For method of density determination, refer to Design Information Section. The thickness of the material on the Structural Members (Item 1, 1C, or 1D) shall be as follows:

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Mtl Thkns on Structural Members In.			
		W8x28 When Deck Is All Fluted	W8x28 When Deck Is Blend or All Cellular	W12x14 When Deck Is All Fluted	Joist (Item 1C or 1D) When Deck Is Fluted Cellular or Blend
1	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	9/16
1-1/2	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	1
2	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	1-3/8
2	2	11/16	13/16	1	1-3/8
2	3	1-1/16	1-5/16	1-1/2	2-1/4
3	1-1/2	1/2	9/16	3/4	2-1/4
3	2	11/16	13/16	1	2-1/4
3	3	1-1/16	1-5/16	1-1/2	2-1/4

* This thickness applies when optional Item 12 or 13 are used over 3-1/4 in. lightweight concrete topping.

BERLIN CO LTD — Type 400

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type 400

UL DESIGN NO. D902 CONTINUED

ISOLATEK INTERNATIONAL — Type 300TW, Type 400

NEWKEM PRODUCTS CORP — Type 400

6E. **Mastic and Intumescent Coatings* —** As an alternate to Items 6 through 6D. For use with fluted steel floor and form units only. Min. size W8x24 or W6x12 beams shall be primed with a phenolic modified alkyd primer, a metal alkyd primer, an acrylic primer or an epoxy primer at a nominal thickness of 2 mil. Coating spray or brush applied in accordance with the manufacturer's instructions at the min dry thickness as shown in the table below. The thickness shown below includes the primer thickness. Flutes above beam to be completely filled with minimum 6 pcf mineral wool insulation, or the top flange of the beam to be protected with the same thickness of coating as required on the beam.

Minimum Dry Thickness mils	Minimum Dry Thickness mm	Beam Size	Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr
53	1.34	W8x24	1	2
95	2.41	W8x24	1-1/2	3
73	1.83	W6x12	1	2
123	3.10	W6x12	1-1/2	3

BERLIN CO LTD — Type WB 3. Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 6F

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type WB 3. Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 6F

ISOLATEK INTERNATIONAL — Type SprayFilm-WB 3 and Type WB 3. Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB 4, Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB4, Investigated for Exterior Use with top coat as described in Item 6F

NEWKEM PRODUCTS CORP — Type WB 3. Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 6F

6F. **Mastic and Intumescent Coatings* —** As an alternate to Items 6 through 6E. For use with normal weight concrete. Min. size W8x28 beams shall be primed with a phenolic modified alkyd primer a metal alkyd primer, an acrylic primer or an epoxy primer at a nominal thickness of 2 mil. Coating spray or brush applied in accordance with the manufacturer's instructions at the min dry thickness as shown in the table below. The thickness shown below includes the primer thickness. The top surface of the top flange where fluted units are used must be protected with the coating material at the same min dry thickness at a min distance of 1 in. (25 mm) inward from the flange tip on both sides of the beam. Mineral wool insulation optional above top surface of the beam.

Minimum Dry Thickness mils	Minimum Dry Thickness mm	Steel Floor Units	Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr
103	2.62	Fluted or Cellular	1-1/2	2
179	4.55	Cellular	1-1/2	3
341	8.67	Cellular	2	3

BERLIN CO LTD — Type WB 3. Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB 4, Investigated for Exterior Use with top coat as described in Item 6G

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type WB 3, Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB 4, Investigated for Exterior Use with top coat as described in Item 6G

ISOLATEK INTERNATIONAL — Type SprayFilm-WB 3 and Type WB 3. Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB 4, Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB 4, Investigated for Exterior Use with top coat as described in Item 6G

NEWKEM PRODUCTS CORP — Type WB 3. Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 6F

6G. **Top Coat —** Type SprayFilm — TOPSEAL and Type TOPSEAL required for Exterior Use, applied at a minimum dry thickness of 14 mils (0.34 mm) over the intumescent material.

See Classification information in the **Mastic and Intumescent Coating** (CDWZ) category, Isolatek International, for mixing requirements.

6H. **Mastic and Intumescent Coatings* —** As an alternate to Items 6 through 6F. For use with normal weight or light weight concrete and fluted steel floor and form units only. Min size W8x24 beams shall be primed with a phenolic modified alkyd primer at a thickness of 2 mils or a epoxy primer at a nominal thickmess of 1 mil. Coating spray or brush applied in accordance with the manufacturer's instructions at the thicknesses shown below. The thickness includes the thickness of primer. The top surface of the top flange where fluted units are used must be protected with the coating material at the same min dry thickness or filled with nominal 4 pcf mineral wool.

Minimum Dry Thickness mils	Minimum Dry Thickness mm	Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr
35	0.88	1	2
66	1.68	1-1/2	3

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type SprayFilm-WB-5 and Type WB-5. Investigated for Interior General Purpose

ISOLATEK INTERNATIONAL — Type SprayFilm-WB-5 and Type WB-5. Investigated for Interior General Purpose

7. **Shear Connector Studs —** Optional — Studs, 3/4 in. diam by 3 in. long, for 1-1/2 in. deep form units to 5-1/4 in. long for 3 in. deep form units, headed type or equivalent per AISC specifications. Welded to the top flange of the beam through the steel form units.

8. **Lath Hanger —** (Not Shown) — Optional - For use in caged beams with Items 6, 6A, 6B or 6C Galv steel 6 SWG min diam spaced 27 in. O. C.

9. **Clips —** (Not Shown) — Optional - For use in caged beams with Items 6, 6A, 6B or 6C No. 24 MSG spring steel pushed on to top and bottom flanges of beam spaced 6 in. O. C. max.

10. **Metal Lath —** (Not Shown) — Optional - For use in caged beams with Items 6, 6A, 6B or 6C 3/8 in. diamond mesh or rib lath, 3.4 lbs per sq yd expanded steel attached to beam with clips spaced 6 in. OC max; or tied to lath hangers with 18 SWG galv steel wire spaced 6 in. OC max.

11. **Electrical Inserts* —** (Not Shown) — Classified as "Outlet Boxes and Fittings Classified for Fire Resistance".

12. **Mineral and Fiberboards* —** (Optional, Not Shown) — Applied over concrete floor with no restriction on board thickness. When mineral and fiber boards are used, the unrestrained beam rating shall be increased by a minimum of 1/2 hr.

See **Mineral and Fiber Board** (CERZ) category for names of manufacturers.

13. **Foamed Plastic* —** (Optional, Not Shown) — Consisting of polyisocyanurate or urethane roof insulations. Applied over concrete floor with no restrictions on thickness. When polyisocyanurate or urethane insulation is used, the unrestrained beam rating shall be increased by a minimum of 1/2 hr.

See **Foamed Plastic** (CCVW) for list of manufacturers.

14. **Insulating Concrete —** (Optional, Not Shown) — Various types of insulating concrete prepared and applied as follows:

A. Vermiculite Concrete - Blend 6 to 8 cu ft of **Vermiculite Aggregate*** to 94 lb Portland cement and air entraining agent. Min thickness of 2 in. as measured to the top surface of the structural concrete or foamed plastic (Item 15) when it is used. See **Vermiculite Aggregate** (CJZZ) category for names of Classified companies.

B. Cellular **Concrete-Roof Topping Mixture*** - Concentrate mixed with water and Portland cement per manufacturer's specifications. Min. thickness of 2-in. as measured to the top surface of the structural concrete or foamed plastic (Item 15 and 15A) when used. Cast dry density and 28-day min compressive strength of 190 psi as determined with ASTM C495-66.

AERIX INDUSTRIES — Cast dry density of 37 (+ or -) 3.0 pcf

CELCORE INC — Type Celcore with cast dry density of 31 (+ or - 3.0) pcf or Type Celcore MF with cast dry density of 29 (+ or - 3.0) pcf

ELASTIZELL CORP OF AMERICA — Type II, with a cast dry density of 39 (+ or - 3.0) pcf

LITE-CRETE INC — Cast density of 29 (+ or -) 3.0 pcf

SIPLAST INC — Mix #1, Cast dry density of 32 (+ or -) 3 pcf

SIPLAST INC — Mix #2, Cast dry density of 36 (+ or -) 3 pcf

C. Cellular **Concrete-Roof Topping Mixture*** - Foam concentrate mixed with water, Portland cement and UL Classified Vermiculite Aggregate per manufacture's application instructions. Cast dry density of 33 (+ or -) 3 pcf and 28 day compressive strength of min 250 psi as determined in accordance with ASTM C495-86.

AERIX INDUSTRIES — Mix #3

ELASTIZELL CORP OF AMERICA — Type II. Mix #1 of cast dry density 39 (+ or -) 3.0 pcf, Mix #2 of cast dry density 40 (+ or -) 3.0 pcf, Mix #3 of cast dry density 47 (+ or -) 3.0 pcf

SIPLAST INC — Mix #3

D. Perlite Concrete - 6 cu ft of **Perlite Aggregate*** to 94 lb of Portland Cement and 1-1/2 pt air entraining agent. Min thickness 2 in. as measured to the top surface of structural concrete or foamed plastic (Item 15A) when it is used.

See **Perlite Aggregate** (CFFX) in Fire Resistance Directory for names of Classified companies.

15. **Foamed Plastic* —** (Optional, Not Shown) — For use only with vermiculite (Item 14A) or cellular (Item 14B) concretes-Rigid polystyrene foamed plastic insulation having slots and/or holes sandwiched between vermiculite concrete slurry which is applied to the normal or lightweight concrete surface and vermiculite concrete topping (Item 14A).

See **Foamed Plastic*** (BRYX) category in Building Materials Directory or **Foamed Plastic*** (CCVW) Category in Fire Resistance Directory for list of Classified companies.

15A. **Foamed Plastic* —** (Not Shown) — For use only with cellular or perlite concrete. Nominal 24 by 48 in. polystyrene foamed plastic insulation boards having a density of 1.0 (+ or - 0.1) pcf, encapsulated within concrete topping. Each insulation board shall contain six nominal 3 in. diameter holes oriented in two rows of three holes each with the holes spaced 12 in. OC transversely and 16 in. OC longitudinally.

See **Foamed Plastic*** (BRYX) category in Building Materials Directory or Foamed Plastic* (CCYW) category in Fire Resistance Directory for list of Classified companies.

16. **Roof Covering Materials* —** (Optional, Not Shown) — Consisting of materials compatible with insulations described herein which provide Class A, B or C coverings.

See Built-Up Roof Covering Materials in Building Materials Directory.

17. **Insulated Concrete —** (Optional, Not Shown) — various types of insulated concrete prepared and applied in the thickness indicated.

A. **Vermiculite Concrete —** Mix consists of 6 cu ft of Vermiculite Aggregate*, 94 lbs of Portland cement and 6 ox of air entraining agent. Thickness to be 2 in min from the top plane of steel roof deck.

ELASTIZELL CORP OF AMERICA — Types MS16-U, MSV 200.

B. **Perlite Concrete —** Mix consists of 6.2 cu ft **Perlite Aggregate*** to 94 lbs of Portland cement and 1-1/2 pt air entraining agent. Compressive strength 80 psi min.

See **Perlite Aggregate** (CFFX) category for names of Classified companies.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-09-22

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

JON CHARLES GAMBRILL
203617
05.19.2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
U.L. ASSEMBLIES

Scale
12" = 1'-0"

1A-G4.004

UL DESIGN NO. HW-D-1001

System No. HW-D-1001

October 21, 2015

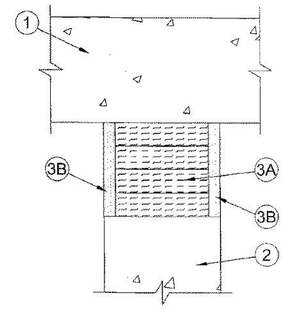
Assembly Ratings — 1, 2 & 3 Hr (See Item 1)

L Rating At Ambient — Less Than 1 CFM/LIN Ft

L Rating At 400 F — Less Than 1 CFM/LIN Ft

Nominal Joint Width — 4 In.

Class II Movement Capabilities — 25% Compression Or Extension



1. **Floor Assembly** — Lightweight or normal weight reinforced (100-150 pcf or 1600-2400 kg/m^3) structural concrete. The hourly rating of the joint system is dependent upon the min thickness of the floor as tabulated below:

Min Thickness of Floor, In (mm)	Assembly Rating, Hr
2-1/2 (64)	1
3-1/4 (83)	2
4-1/2 (114)	3

2. **Wall Assembly** — Min 5 in. (127 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) structural concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***.

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

3. **Joint System — Max separation between bottom of floor and top of wall (at time of installation of joint system) is 4 in. (102 mm). The joint system is designed to accommodate max 25 percent compression or extension from its installed width.** The joint system shall consist of the following:

A. **Forming Material* —** Min 4 pcf (64 kg/m^3) mineral wool batt insulation installed in joint opening as a permanent form. Pieces of batt cut to min width of 4 in. (102 mm) and installed edge-first into joint opening, parallel with joint direction, such that batt sections are compressed min 50 percent in thickness and such that the compressed batt sections are recessed from each surface of the wall to accommodate the required thickness of fill material. Adjoining lengths of batt to be tightly butted with butted seams spaced min 16 in. (406 mm) apart along the length of the joint.

INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing

JOHNS MANVILLE — Safing

ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL MALAYSIA SDN BHD — SAFE

ROXUL INC — SAFE

THERMAFIBER INC — Type SAF

B. **Fill, Void or Cavity Material* —** Min 1/2 in. (13 mm) thickness of fill material installed within joint on each side of the wall, flush with each surface of wall.

SPECIFIED TECHNOLOGIES INC — Pensil 300 Sealant or SpecSeal Series SIL300 Sealant

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2015-10-21

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
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Seal / Signature

STATE OF COLORADO
JOHN CHARLES CAMPBELL
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Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

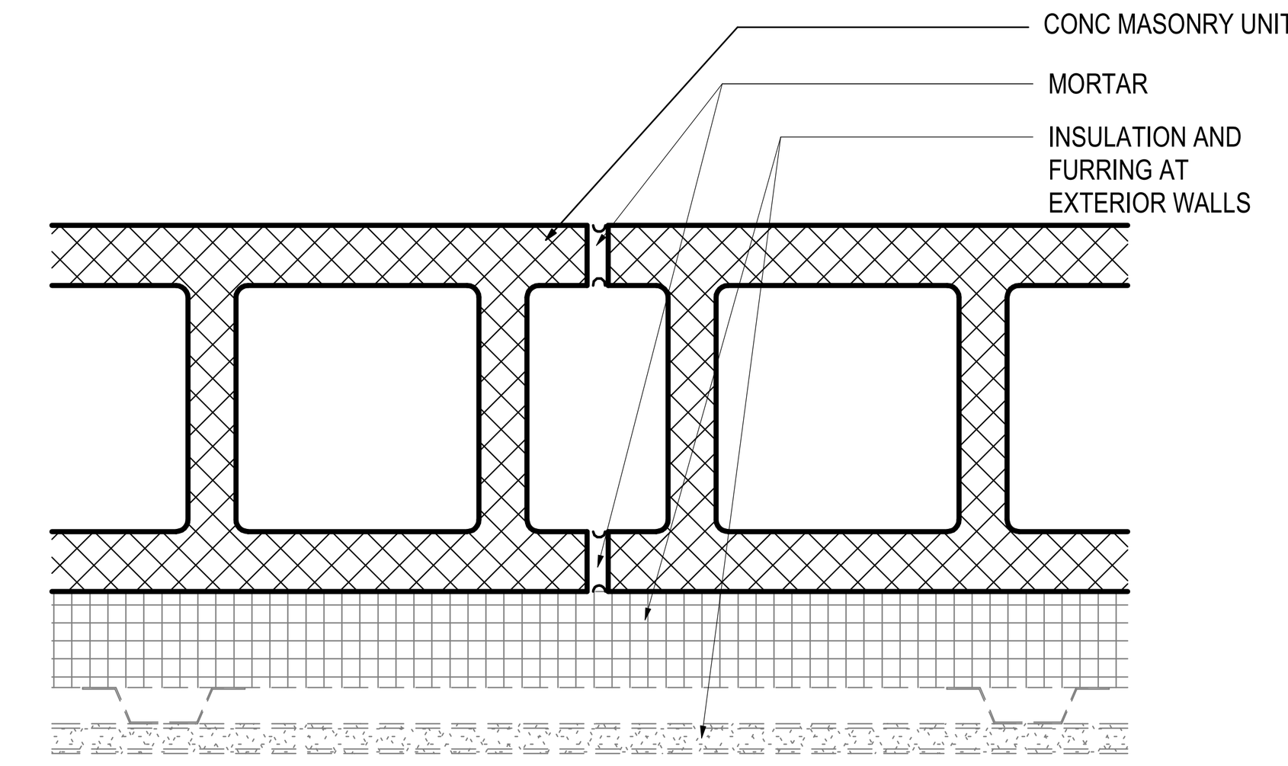
Description

U.L. ASSEMBLIES

Scale

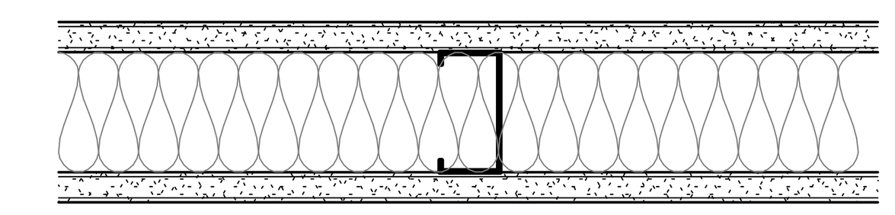
12" = 1'-0"

1A-G4.005



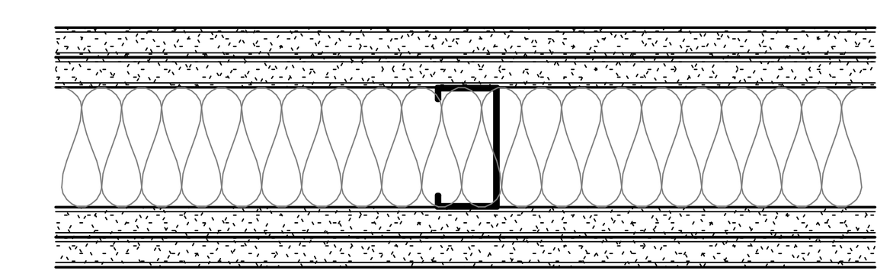
PARTITION TYPE MARK	CMU THK (IN)	DETAILS TOP	DETAILS BOT	FIRE RTG	TESTED ASSEMBLY	STC RTG	SHEET NOTES
M8A	8"	M-T01	M-B01				
M8B	8"	M-T02	M-B01	1	HW-D-1001		

05 M SERIES PARTITION TYPES
SCALE: 3" = 1'-0"



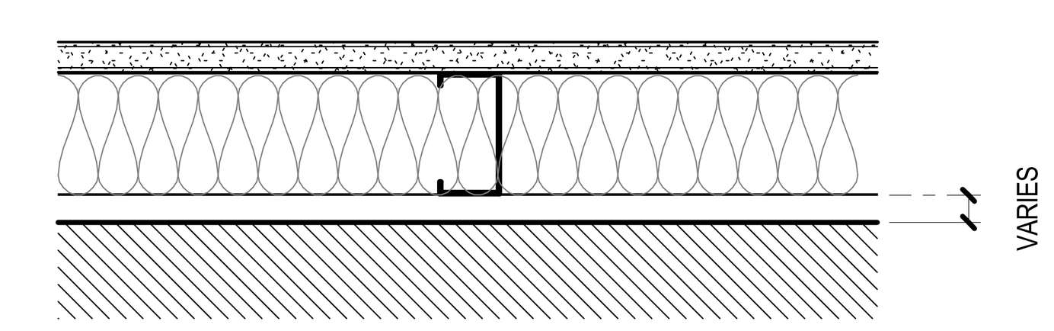
PARTITION TYPE MARK	FRAMING THK (IN)	FRAMING DEPTH	FRAMING SPACING	DETAILS TOP	DETAILS BOT	ATTEN THK	FIRE RTG	TESTED ASSEMBLY	STC RTG	SHEET NOTES
A3A	.0312	3 5/8"	16 OC	A-T01	A-B01					
A3B	.0312	3 5/8"	16 OC	A-T01	A-B01	3 5/8"			60	
A6C	.0312	6"	16 OC	A-T01	A-B01	6"	1	U419	60	

01 A SERIES PARTITION TYPES
SCALE: 3" = 1'-0"



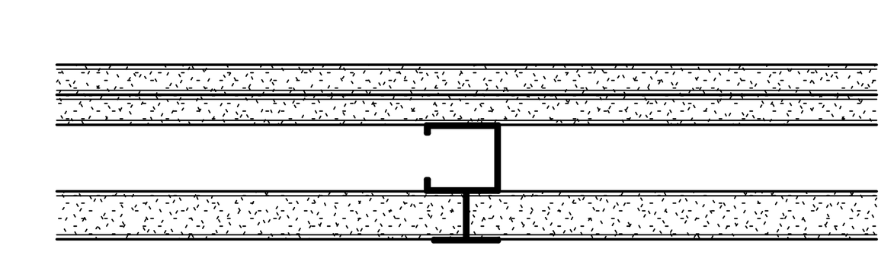
PARTITION TYPE MARK	FRAMING THK (IN)	FRAMING DEPTH	FRAMING SPACING	DETAILS TOP	DETAILS BOT	ATTEN THK	FIRE RTG	TESTED ASSEMBLY	STC RTG	SHEET NOTES
B6C	.0312	6"	16 OC	B-T01	B-B02		1	U419		

02 B SERIES PARTITION TYPES
SCALE: 3" = 1'-0"



PARTITION TYPE MARK	FRAMING THK (IN)	FRAMING DEPTH	FRAMING SPACING	DETAILS TOP	DETAILS BOT	ATTEN THK	FIRE RTG	TESTED ASSEMBLY	STC RTG	SHEET NOTES
D3A	.0312	3 5/8"	16 OC	D-T01	D-B01					
D6A	.0312	6"	16 OC	D-T01	D-B01					

03 D SERIES PARTITION TYPES
SCALE: 3" = 1'-0"



PARTITION TYPE MARK	FRAMING THK (IN)	FRAMING DEPTH	FRAMING SPACING	DETAILS TOP	DETAILS BOT	ATTEN THK	FIRE RTG	TESTED ASSEMBLY	STC RTG	SHEET NOTES
J4A	.0312	4"	16 OC	J-T02	J-B01		1	U415		

04 J SERIES PARTITION TYPES
SCALE: 3" = 1'-0"

PARTITION NOTES

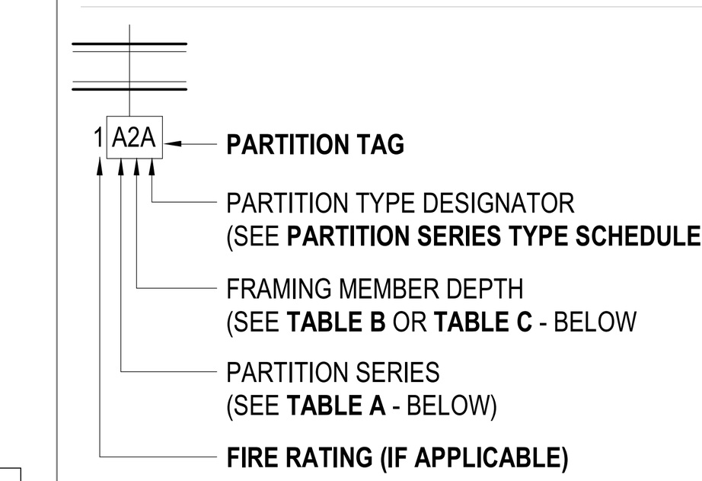


TABLE A- PARTITION SERIES CONSTRUCTION ASSEMBLY

SERIES	SHEATHING	FRAMING MEMBERS	SHEATHING
A	1-LAYER	METAL C-STUD	1-LAYER
B	2-LAYERS	METAL C-STUD	2-LAYERS
C	1-LAYER	METAL C-STUD	2-LAYERS
D	1-LAYER	METAL C-STUD	NONE
E	2-LAYERS	METAL C-STUD	NONE
F	1-LAYER	MTL HAT CHANNEL	NONE
G	1-LAYER	NONE	NONE
H	1-LAYER	METAL C-H STUD	NONE
J	2-LAYERS	METAL C-H STUD	LINER PNL
K	1-LAYER	(2) METAL C-STUDS	1-LAYER
L	2-LAYERS	(2) METAL C-STUDS	2-LAYERS
M	NONE	CMU	NONE
N-U	RESERVED FOR FUTURE EXPANSION		
V-Z	CUSTOM	N/A	N/A

TABLE B- FRAMING DEPTH SCHEDULE

TAG NUMBER DESIGNATION	MTL STUD DEPTH	MTL C-H STUD DEPTH	WOOD STUD DEPTH
-	NO FRAMING		
0	7/8" FURRING CHANNEL		N/A
1	1 5/8"	N/A	N/A
2	2 1/2"	2 1/2"	N/A
3	3 5/8"	N/A	N/A
4	4"	4"	3 1/2"
6	6"	6"	5 1/2"
8	8"	N/A	7 1/4"
10	10"	N/A	9 1/4"

TABLE C- MASONRY WIDTH SCHEDULE

TAG NUMBER DESIGNATION	CMU WIDTH
4	3 5/8"
6	5 5/8"
8	7 5/8"
10	9 5/8"
12	11 5/8"

STEEL SHEET THICKNESS FOR STUDS AND RUNNERS

GAUGE*	MIN. STEEL BASE METAL THICKNESS (UNCOAT'D) INCH	MILS	MM
12	0.1017	97	X
14	0.0713	68	X
16	0.0566	54	1.34
18	0.0451	43	1.09
20	0.0312	30	0.84
22	0.0270	27	0.68
25	0.0179	18	0.45

*GAUGE 16,18 USED FOR STRUCTURAL FRAMING; 20, 22, AND 25 USED FOR NON-STRUCTURAL FRAMING

*USE OF DIMPLED STEEL STUDS ACCEPTABLE PROVIDED CONTRACTOR SUPPLIES DOCUMENTATION PROVING THE EQUIVALENT MINIMUM BASE METAL THICKNESS IS ACHIEVED

GENERAL NOTES

GN-01. PARTITION TYPES ARE NOT SEQUENTIAL.

GN-02. ALL PARTITION SHEATHING TO BE **5/8"** GYPSUM BOARD UNLESS OTHERWISE NOTED.

GN-03. REFER TO **G5.001** SERIES FOR TOP OF PARTITION AND **G5.001** SERIES FOR BOTTOM OF PARTITION CONDITIONS LISTED IN PARTITION SCHEDULE.

GN-04. ALL PARTITIONS SHALL BE COORDINATED WITH SCHEDULED FINISHES FOR PARTITION LAYOUT AND REQUIRED CLEARANCES.

GN-05. PROVIDE BLOCKING IN PARTITIONS FOR ARTWORK HANGING AS INDICATED. SEE CONSTRUCTION PLAN(S) AND/ OR INTERIOR ELEVATIONS FOR LOCATIONS.

GN-06. FOR INTERIOR FRAMING LIMITING HEIGHTS REFER TO SSMA TABLES FOR INTERIOR NON-STRUCTURAL NON-COMPOSITE PARTITIONS

GN-07. CONTRACTOR TO RE-CONFIRM STUD SIZING AND SUBMIT SELECTION CRITERIA FOR REVIEW INCLUDING DELINEATION OF SLAB TO UNDERSIDE OF SLAB INFORMATION

GN-08. ALL STUD CAVITIES TO HAVE ACOUSTICAL BATT INSULATION AS MINIMUM. WALLS NOT IDENTIFIED IN SCHEDULE AS HAVING INSULATION TO HAVE MINIMUM THICKNESS OF ACOUSTICAL INSULATION (1 5/8" STUD = 1" INSULATION, 3 5/8" STUD = 3.5" INSULATION, 6" STUD = 5.5" INSULATION). REFER TO SCHEDULE TO PROVIDE INSULATION CRITERA EXCEEDING THIS MINIMUM.

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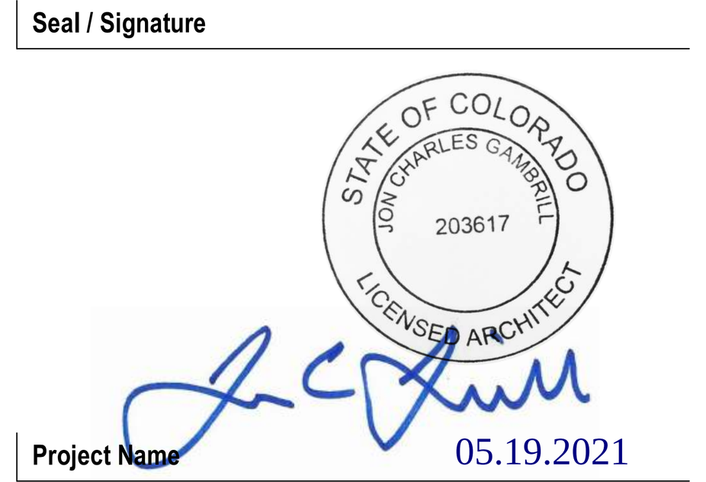
△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature



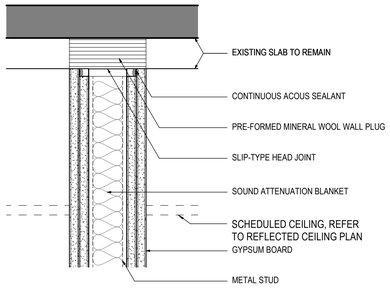
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PARTITION SCHEDULES

Scale
3" = 1'-0"

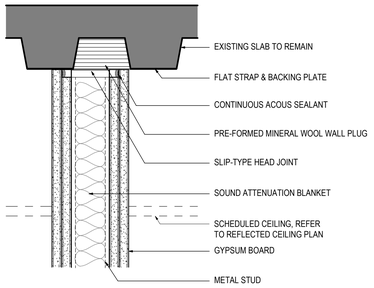
1A-G5.001



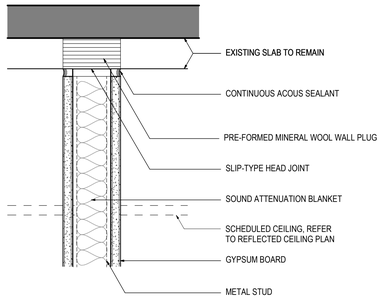
PERPENDICULAR TO RIBBING

(2-HOUR RATED-BASIS OF DESIGN UL SYSTEM NO. U419)

13 B-T01
SCALE: 3" = 1'-0"

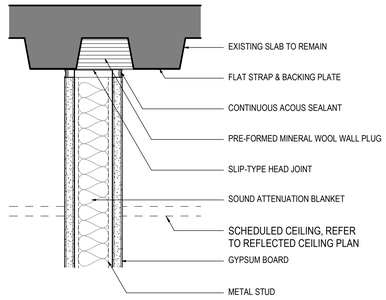


PARALLEL TO RIBBING



PERPENDICULAR TO RIBBING

05 A-T01
SCALE: 3" = 1'-0"



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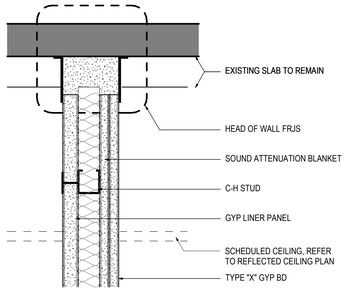

PERPENDICULAR TO RIBBING

(2-HOUR RATED-BASIS OF DESIGN UL SYSTEM NO. U415)

14 J-T02
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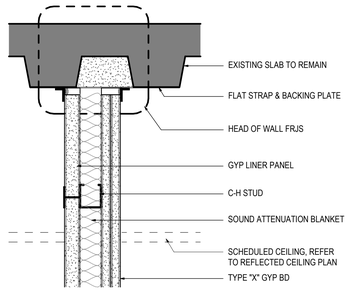

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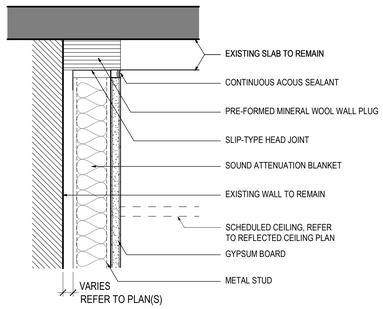

PERPENDICULAR TO RIBBING

06 D-T01
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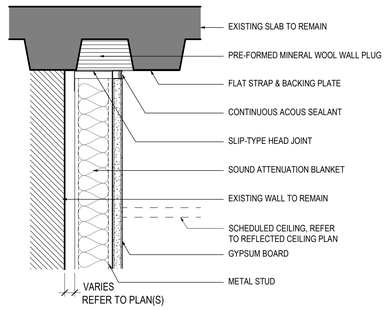

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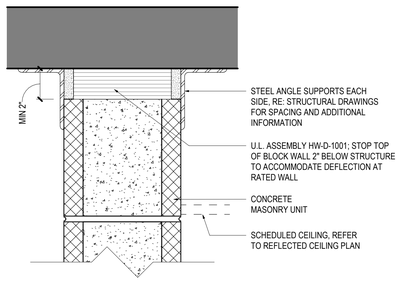

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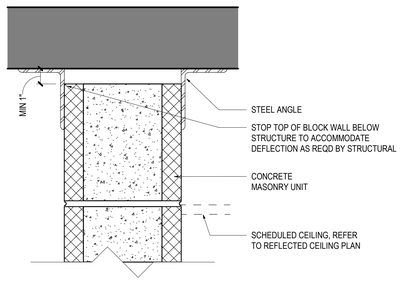

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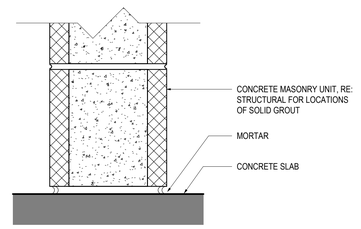

03 M-BO1
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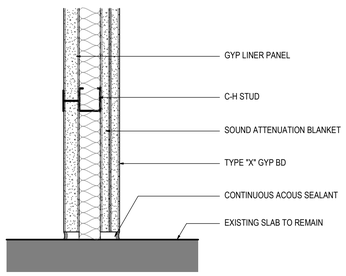
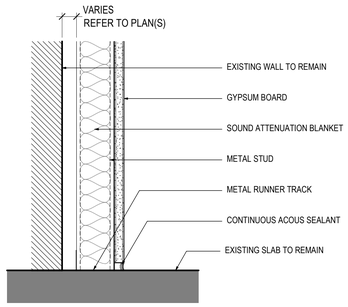


(2-HOUR RATED-BASIS OF DESIGN UL SYSTEM NO. U415)

16 J-B01
SCALE: 3" = 1'-0"



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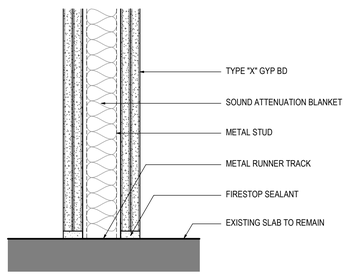

(2-HOUR RATED-BASIS OF DESIGN UL SYSTEM NO. U419)

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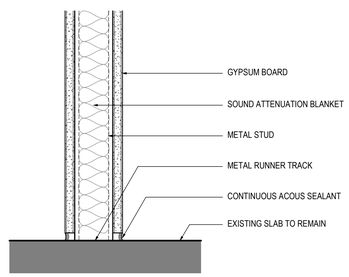
SCALE: 3" = 1'-0"



04 A-B01
SCALE: 3" = 1'-0"

PARTITION NOTES

TOP OF PARTITION DETAILS

TYPE	DESCRIPTION
T01	TOP OF PARTITION AT UNDERSIDE OF METAL DECK SLAB
T02	TOP OF PARTITION AT UNDERSIDE OF METAL DECK SLAB (FIRE RATED)
T03	TOP OF PARTITION STUD AT UNDERSIDE OF METAL DECK SLAB AND SHEATHING 6" ABOVE SCHEDULED FINISHED CEILING
T04	TOP OF PARTITION AT UNDERSIDE OF CONCRETE SLAB (NON-RATED)
T05	TOP OF PARTITION AT UNDERSIDE OF CONCRETE SLAB (FIRE-RATED)
T06	TOP OF PARTITION STUD AT UNDERSIDE OF CONCRETE SLAB AND SHEATHING 6" ABOVE SCHEDULED FINISHED CEILING
T07	TOP OF PARTITION AT UNDERSIDE OF ACOUSTIC TILE/PANEL CEILING
T08	TOP OF PARTITION AT UNDERSIDE OF GYPSUM BOARD CEILING
T09	TOP OF PARTITION (LOW PARTITION) WITH WOOD CAP
T10	TOP OF PARTITION (LOW PARTITION) GYPSUM BOARD CAP
T11	TOP OF PARTITION AT UNDERSIDE OF METAL DECK SLAB (NON-RATED) NO CEILING
T12	TOP OF PARTITION AT UNDERSIDE OF METAL DECK SLAB (FIRE-RATED) NO CEILING
T13-T20	RESERVED FOR FUTURE EXPANSION
T21	CUSTOM

BOTTOM OF PARTITION DETAILS

TYPE	DESCRIPTION
B01	BOTTOM OF PARTITION AT SLAB
B02	BOTTOM OF PARTITION AT SLAB (FIRE RATED)
B03	BOTTOM OF PARTITION AT CURB
B04	BOTTOM OF PARTITION AT CURB (FIRE RATED)
B05	BOTTOM OF PARTITION AT CURB OFFSET
B06	BOTTOM OF PARTITION AT CURB OFFSET (FIRE RATED)
B07	BOTTOM OF PARTITION AT RAISED FLR.
B08-B15	RESERVED FOR FUTURE EXPANSION
B16	CUSTOM

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Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

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Seal / Signature

STATE OF COLORADO
JONATHAN CHARLES CAMPBELL
203617
LICENSED ARCHITECT
05.19.2021

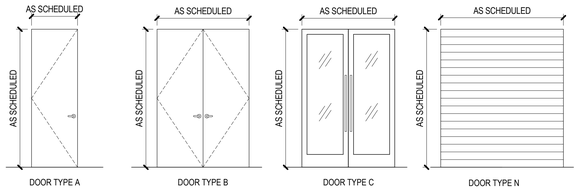
Project Name
SSRC | BASE AREA IMPROVEMENTS

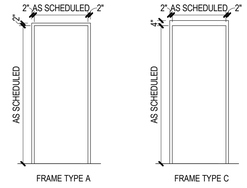
Project Number
003.7835.000

Description
PARTITION DETAILS

Scale
3" = 1'-0"

1A-G5.002

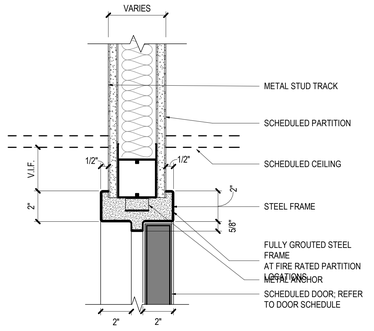




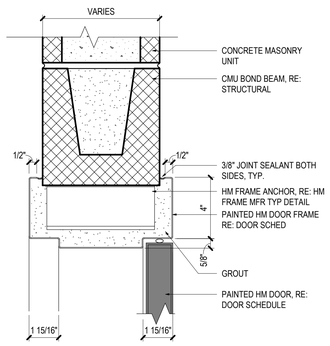
13 DOOR & FRAME TYPES
SCALE: 1/4" = 1'-0"

DOOR SCHEDULE

NUMBER	LOCATION	DOOR ASSEMBLY TYPE	DIMENSIONS WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	FRAME ASSEMBLY HEAD DETAIL	JAMB DETAIL	SILL DETAIL	MATERIAL	FINISH	ASSEMBLY RATING FIRE RATING	TEMP RISE	SMOKE LABEL	HARDWARE SET	REMARKS
P.001A	VESTIBULE	C	6'-0"	8' - 0"		AL/GL	PT2			08/1A-A5.100		PT2				8	
P.001B	VESTIBULE	C	6'-0"	8' - 0"		AL/GL	PT2			08/1A-A5.100		PT2				8	
P.001C	VESTIBULE	C	6'-0"	8' - 0"		AL/GL	PT2			08/1A-A5.100		PT2				8	
P.001D	VESTIBULE	C	6'-0"	8' - 0"		AL/GL	PT2			08/1A-A5.100		PT2				8	
P.002A	MAIN ELEC	D	3'-0"	7' - 0"	1 3/4"	HM/FR	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HR/FR	PT	90 MIN			38	
P.002B	MAIN ELEC	D	3'-0"	7' - 0"	1 3/4"	HM/FR	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HR/FR	PT	90 MIN			38A	
P.003	WATER ENTRY	A	3'-0"	7' - 0"	1 3/4"	HM	PT	07/1A-G6.002	03/1A-G6.002	04/1A-G6.002	HM/NR	PT				41	
P.004A	LOADING/TRASH	A	3'-0"	7' - 0"	1 3/4"	HM	PT	07/1A-G6.002	03/1A-G6.002	04/1A-G6.002	HM/NR	PT				47	
P.004B	FOOD STORAGE	N	10'-0"	10' - 0"	2"	AL	PT		08/1A-G6.002							33	
P.004C	LOADING/TRASH	N	8'-0"	8' - 0"	2"	AL	PT		08/1A-G6.002							33	
P.004D	LOADING/TRASH	N	12'-0"	8' - 6"	2"	AL	PT		08/1A-G6.002							33	
P.004E	LOADING/TRASH	D	3'-0"	7' - 0"	1 3/4"	HM/FR	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HR/FR	PT	90 MIN			48	
P.005A	MECHANICAL/ICE PLANT	A	3'-0"	7' - 0"	1 3/4"	HM	PT	07/1A-G6.002	03/1A-G6.002	04/1A-G6.002	HM/NR	PT				38	
P.005B	MECHANICAL/ICE PLANT	A	3'-0"	7' - 0"	1 3/4"	HM	PT	07/1A-G6.002	03/1A-G6.002	04/1A-G6.002	HM/NR	PT				38	
P.005C	MECHANICAL/ICE PLANT	N	10'-0"	10' - 0"	2"	AL	PT		08/1A-G6.002							33	
P.006	PLAZA DISHWASHING	A	3'-0"	7' - 0"	1 3/4"	HM	PT	07/1A-G6.002	03/1A-G6.002	04/1A-G6.002	HM/NR	PT				39	
P.007	ELEC	A	3'-0"	7' - 0"	1 3/4"	HM	PT	07/1A-G6.002	03/1A-G6.002	04/1A-G6.002	HM/NR	PT				40	
P.008	ERV2	A	3'-0"	7' - 0"	1 3/4"	HM	PT	07/1A-G6.002	03/1A-G6.002	04/1A-G6.002	HM/NR	PT				41	
P.010	STAIR	D	3'-0"	7' - 0"	1 3/4"	HM/FR	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HR/FR	PT	90 MIN			42	
P.011A	CORRIDOR	B	6'-0"	7' - 0"	1 3/4"	HM	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HM/NR	PT				43	
P.011B	CORRIDOR	B	6'-0"	7' - 0"	1 3/4"	HM	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HM/NR	PT				44	
P.012	KEG ROOM	A	3'-0"	7' - 0"	1 3/4"	HM	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HM/NR	PT				39A	
P.013	PLAZA COLD FOOD STORAGE	A	3'-0"	7' - 0"	1 3/4"	HM	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HM/NR	PT				39A	
P.014	ERV1	A	3'-0"	7' - 0"	1 3/4"	HM	PT	07/1A-G6.002	03/1A-G6.002	04/1A-G6.002	HM/NR	PT				41	
P.015	CORRIDOR	B	6'-0"	8' - 6"	1 3/4"	HM	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HM/NR	PT				45	
P.016	FOOD STORAGE	A	3'-0"	7' - 0"	1 3/4"	HM	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HM/NR	PT				39	
P.017	IDF/IT	A	3'-0"	7' - 0"	1 3/4"	HM	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HM/NR	PT				46	
P.018	IDF/IT RM	A	3'-0"	7' - 0"	1 3/4"	HM	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HM/NR	PT				46	
P.019	IRRIGATION CLOSET	A	3'-0"	7' - 0"	1 3/4"	HM	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HM/NR	PT				40	
P.020	ELEC	A	3'-0"	7' - 0"	1 3/4"	HM	PT	06/1A-G6.002	02/1A-G6.002	04/1A-G6.002	HM/NR	PT				40	

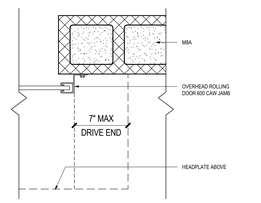


06 H.M. FRAME 2" HEAD DETAIL
SCALE: 3" = 1'-0"

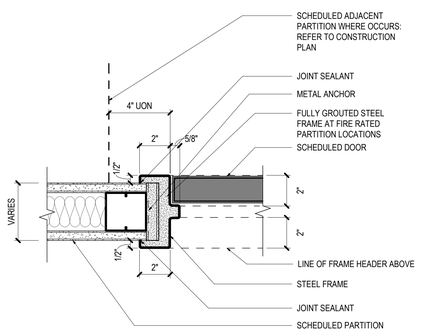


*DOOR SWING VARIES W/ EGRESS PATH

07 H-04
SCALE: 3" = 1'-0"



08 OVERHEAD DOOR JAMB - MASONRY
SCALE: 1 1/2" = 1'-0"



02 H.M. FRAME 2" JAMB DETAIL
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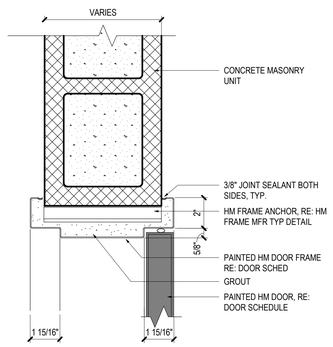
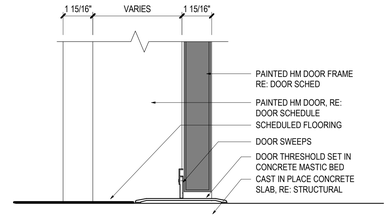


*DOOR SWING VARIES W/ EGRESS PATH

03 J-04
SCALE: 3" = 1'-0"



04 S-01
SCALE: 3" = 1'-0"

GEN. NOTES DOOR

A. G.C. TO PROVIDE COMPLETE DOOR/HARDWARE PACKAGE TO FUNCTION AS INDICATED. ALL DOORS AND HARDWARE SHALL BE BUILDING STANDARD, U.O.N. SUBMIT COMPLETE SPECS TO ARCHITECT FOR REVIEW AND APPROVAL.

B. ALL HARDWARE TO MEET ANSI 117.1 AND ADAAG 2010 AND ALL ACCESSIBILITY REQUIREMENTS. SEE REQUIRED CLEARANCES AND MOUNTING HEIGHTS SHEET.

C. CONTRACTOR TO FIELD VERIFY CONDITION, HAND, THROAT SIZE AND WORKABILITY OF ALL DOORS AND HARDWARE; REPAIR OR REPLACE AS REQUIRED.

D. HINGES AT RATED ASSEMBLIES SHALL BE BALL BEARING.

E. 90 MIN. ASSEMBLIES SHALL HAVE METAL THRESHOLDS.

F. LOCK CYLINDERS AND KEYS SHALL BE COORDINATED WITH TENANT AND BUILDING OWNER.

G. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.

H. ALL GLAZING SHALL BE TEMPERED, ALL EXPOSED EDGES SHALL BE POLISHED. GLAZING WITHIN A 24" ARC OF EITHER SIDE OF DOORS MUST BE OF SAFETY GLAZING MATERIAL.

J. HAND-ACTIVATED DOOR OPENING HARDWARE SHALL BE CENTERED BETWEEN 30" AND 44" A.F.F. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND ARE IN THE PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER-TYPE HARDWARE, PANIC BARS OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE HARDWARE.

DOOR ABBREV.

AL =	ALUMINUM	HM =	HOLLOW METAL
BS =	BLDG STANDARD	NR =	NON FIRE RATED
CL =	CLEAR	PG =	PAINT GRADE
(E) =	EXISTING	PT =	PAINT
FH =	FULL HEIGHT	SC =	SOLID CORE
FR =	FIRE RATED	ST =	STAIN
GL =	GLASS	TG =	TEMPERED GLASS
HC =	HOLLOW CORE	WD =	WOOD

HARDWARE NOTES

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Date	Description
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RCRBD
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Seal / Signature

STATE OF COLORADO · JACQUELINE C. GENSEL · 203617 · LICENSED ARCHITECT

05.19.2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
DOOR SCHEDULE

Scale
As indicated

1A-G6.002

EXTERIOR ASSEMBLY TYPES

ASSEMBLY TYPE SUMMARY

EW1 - METAL STUD W/ EXTERIOR RIGID INSULATION
EW2 - CONCRETE WALL
EW3 - CLT WALLS
EW4 - STL FRAME WALL [MECH YARD]

FL1 - CONCRETE SLAB ON METAL DECK
FL2 - CONCRETE SLAB ON GRADE
FL3 - CLT SLAB
FL4 - CONCRETE SLAB ON EXISTING

RF1 - METAL DECK
RF2 - CONCRETE SLAB ON METAL DECK
RF3 - CLT SLAB
RF4 - HEAVY TIMBER WITH HSS TUBES
RF5 - EXISTING CAST IN PLACE CONCRETE SLAB
RF6 - EXISTING POST TENSION CONCRETE SLAB

FN1 - CONCRETE WALL ON FOOTER TBD, RE STRUCT

ADDITIONAL NOTES

ABBREVIATIONS

R-VALUE: THERMAL RESISTANCE
U-VALUE: THERMAL TRANSMITTANCE
C-FACTOR: THERMAL CONDUCTANCE
Rs: R-VALUE OF THE SYSTEM
Re: EFFECTIVE R-VALUE OF THE SYSTEM

"Re" CALCULATED PER ASHRAE 90.1 TABLE A3.1-4

ASSEMBLY C-FACTOR FOR BELOW GRADE WALL PER ASHRAE 90.1 TABLE A4.2.1

FIRE-RESISTANT ASSEMBLIES

FOR TESTED ASSEMBLIES REFERENCED, SEE SHEETS G4.001-G4.005

ASSEMBLY COMPONENTS

AIR / WATER BARRIERS & RETARDERS

AWB1 DESCRIPTION: FLUID APPLIED AIR AND WATER BARRIER
DESCRIPTION (CONT): VAPOR PERMEABLE
MANUFACTURER: DOW
MODEL NAME: DEFENDAIR 200

AWB2 DESCRIPTION: SELF ADHERED ROOFING UNDERLAYMENT
MANUFACTURER: GCP TECHNOLOGIES
MODEL NAME: GRACE ICE & WATER SHIELD

WATERPROOFING & DAMPPROOFING

WP1 DESCRIPTION: COLD FLUID APPLIED WATERPROOFING WITH PROTECTION BOARD AND DRAIN MAT
LOCATION: FOUNDATION

WP2 DESCRIPTION: DAMPROOFING

WP3 DESCRIPTION: 215 MIL FABRIC REINFORCED, HOT FLUID APPLIED WATERPROOFING WITH INTEGRAL PROTECTION COURSE. TOP WITH COMPOSITE DRAINAGE MAT; MODEL NAME: HYDROTECH 6125 OR EQUIVALENT

WP4 DESCRIPTION: CONCRETE PENETRATING 40% SILANE SEALER
COLOR: CLEAR

WP5 DESCRIPTION: WATERPROOFING MEMBRANE: HYDROTECH MM 6125-FR OR EQUIVALENT. DRAINAGE BOARD NOT REQUIRED.

WP6 DESCRIPTION: BLIND SIDE WATERPROOFING MEMBRANE FOR SHOTCRETE FOUNDATION WALLS.
MANUFACTURER: GCP APPLIED TECHNOLOGIES
MODEL NAME: PREPRUFE SCS ON WALLS

WP7 DESCRIPTION: BLIND SIDE WATERPROOFING MEMBRANE FOR BELOW SLAB AND FOOTINGS
MANUFACTURER: GCP APPLIED TECHNOLOGIES
MODEL NAME: PREPRUFE 300R PLUS UNDER SLABS

VAPOR BARRIERS

VB1 DESCRIPTION: UNDER SLAB VAPOR BARRIER
MANUFACTURER: STEGO WRAP OR EQUIVALENT
THICKNESS: RE: SPECIFICATION

VB2 DESCRIPTION: 6MM POLYETHLYENE SHEET VAPOR RETARDER

VB3 DESCRIPTION: SELF-ADHERED, FIRE-RETARDANT VAPOR RETARDER

INSULATION

INS1 DESCRIPTION: MINERAL BOARD (ROCK WOOL) INSULATION
DESCRIPTION (CONT): R4.3/INCH MIN.
MANUFACTURER: THERMAFIBER
MODEL NAME: RAINBARRIER
THICKNESS: REFER TO ASSEMBLY

INS2 DESCRIPTION: CLOSED CELL SPRAY-FOAM INSULATION
DESCRIPTION (CONT): WITH THERMAL BARRIER PER IBC 2603.4, NO-BURN FIRE RETARDANT COATING OR EQUIVALENT
MANUFACTURER: BASIS OF DESIGN DOW STYROFOAM BRAND SPF CM2030; BASIS OF DESIGN: "INTERNATIONAL FIREPROOF TECHNOLOGY, INC DC 315".
THICKNESS: REFER TO ASSEMBLY, R-6/INCH MIN

INS3 DESCRIPTION: BATT INSULATION - FACED
DESCRIPTION (CONT): ER=7.10, PER TABLE A9.2-2
MANUFACTURER: REFER TO SPECIFICATIONS
THICKNESS: REFER TO ASSEMBLY, TO MEET R-3.17/INCH

INS4 DESCRIPTION: BATT INSULATION - UNFACED
DESCRIPTION (CONT): ER=7.10, PER TABLE A9.2-2
MANUFACTURER: REFER TO SPECIFICATIONS
THICKNESS: REFER TO ASSEMBLY, TO MEET R-3.17/INCH

INS5 DESCRIPTION: UNFACED EXTRUDED POLYSTYRENE RIGID INSULATION W/ INTEGRAL DRAINAGE BOARD
MANUFACTURER: DOW STYROFOAM HIGHLOAD 60 OR EQUAL
THICKNESS: REFER TO ASSEMBLY, R-5/INCH MIN.
NOTE: HIGH COMPRESSIVE STRENGTH (60PSI)

INS6 DESCRIPTION: POLYISOCYANURATE INSULATION
THICKNESS: REFER TO ASSEMBLY, R-7.2/INCH MIN

INS7 DESCRIPTION: UNFACED EXTRUDED POLYSTYRENE RIGID INSULATION
MANUFACTURER: DOW STYROFOAM - ROOFMATE AND PLAZAMATE
THICKNESS: REFER TO ASSEMBLY, R-5/INCH MIN
NOTE: HIGH COMPRESSIVE STRENGTH (60 PSI)

INS8 DESCRIPTION: UNFACED EXTRUDED POLYSTYRENE RIGID INSULATION
DESCRIPTION (CONT): WITH SUFFICIENT BEARING CAPACITY TO SUPPORT VEHICLES
MANUFACTURER: DOW STYROFOAM HIGHLOAD 60 OR EQUAL
THICKNESS: REFER TO ASSEMBLY, R-5/INCH MIN
NOTE: HIGH COMPRESSIVE STRENGTH (60PSI)

INS9 DESCRIPTION: UNFACED EXPANDED POLYSTYRENE RIGID INSULATION
DESCRIPTION (CONT): WITH SUFFICIENT BEARING CAPACITY TO SUPPORT PAVERS
MANUFACTURER: CARLISLE INSULFOAM GEOFOAM
THICKNESS: REFER TO DRAWINGS

EXPANSION JOINTS

EJ1 DESCRIPTION: WABO WATERTITE
DESCRIPTION (CONT): SLAB TO SLAB CONNECTION
MANUFACTURER: WATSON BOWMAN ACME
MODEL NAME: WT-200/450
THICKNESS: REFER TO ASSEMBLY
NOTE: (MAX. MOVEMENT 2.25")

EJ2 DESCRIPTION: WABO WATERTITE
DESCRIPTION (CONT): SLAB TO WALL CONNECTION
MANUFACTURER: WATSON BOWMAN ACME
MODEL NAME: WT-200/450C
THICKNESS: REFER TO ASSEMBLY
NOTE: (MAX. MOVEMENT 2.25")

EJ3 DESCRIPTION: WABO WATERTITE
DESCRIPTION (CONT): SLAB TO WALL CONNECTION
MANUFACTURER: WATSON BOWMAN ACME
MODEL NAME: WT-200/450C
THICKNESS: REFER TO ASSEMBLY
NOTE: (MAX. MOVEMENT 3.5")

EXTERIOR FINISH LEGEND

GUARDRAIL SYSTEM

GR1 DESCRIPTION: CUSTOM GUARDRAIL SYSTEM
DESCRIPTION (CONT): 42" PRE-FINISHED STEEL RAILING
FINISH: GALVANIZED AND PAINTED CUSTOM COLOR TO MATCH PT2

GR2 DESCRIPTION: CUSTOM GUARDRAIL SYSTEM
DESCRIPTION (CONT): PRE-FINISHED STEEL RAILING. 2" X 1/2" STEEL FLAT BAR. EDGES RADIUS TO BE 0.01 INCH
FINISH: GALVANIZED AND PAINTED CUSTOM COLOR TO MATCH PT2
LOCATION: MAIN STAIR

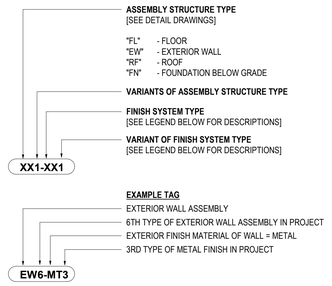
GR3 DESCRIPTION: GUARDRAIL SYSTEM TO MATCH EXISTING WALL AND TOP RAIL CONDITION
DESCRIPTION (CONT): GC TO SALVAGE EXISTING STONE CLADDING TO BE REMOVED AND REUSE AT BRIDGE IF IN ACCEPTABLE CONDITION. VERIFY WITH ARCHITECT. GC TO PROVIDE NEW STONE CLADDING TO MATCH EXISTING IF NOT ACCEPTABLE, HEIGHT: 42" MIN
FINISH: MATCH MATERIALS AND FINISHES OF EXISTING BRIDGE GUARDRAIL AND WALL
LOCATION: GOLD WALK BRIDGE

GR4 DESCRIPTION: GUARDRAIL SYSTEM TO MATCH EXISTING GUARDRAIL ALONG GRID LINE 5
DESCRIPTION (CONT): SAWCUT EXISTING CONCRETE TO NEW FLOOR FINISH ELEVATION. GC TO SALVAGE EXISTING RAILING TO BE REMOVED AND REUSE AT THIS LOCATION IF IN ACCEPTABLE CONDITION, VERIFY WITH ARCHITECT. GC TO PROVIDE NEW RAILING TO MATCH EXISTING IF NOT ACCEPTABLE, HEIGHT: 42" MIN
FINISH: MATCH MATERIALS AND FINISHES OF EXISTING GUARDRAIL ALONG GRID LINE 5

GR5 DESCRIPTION: 1 1/2" PIPE GUARDRAIL SYSTEM
DESCRIPTION (CONT): PROVIDE 1 1/2" HANDRAIL WHERE APPLICABLE
FINISH: GALVANIZED AND PAINTED CUSTOM COLOR TO MATCH PT2
LOCATION: STORAGE ROOM

EXTERIOR SYSTEM & FINISH LEGEND

ASSEMBLY TAG INFORMATION & DESCRIPTION



WALL FINISH MATERIAL TAG

XX1 DESCRIPTION: MATERIAL TYPE DESCRIPTION
MANUFACTURER: MATERIAL TYPE MFR
MODEL NAME: MATERIAL NAME

GENERAL NOTES

1. NOT ALL ASSEMBLIES AND MATERIALS LISTED ARE USED IN PROJECT. REFER TO DRAWINGS FOR APPLICABLE MATERIALS.

EXTERIOR FINISH LEGEND

STONE

ST1 DESCRIPTION: FULL DEPTH STONE MASONRY VENEER
DESCRIPTION (CONT): 3" - 4" NOMINAL NATURAL STONE CLADDING
SUPPLIER:GALLEGOS STONE
MODEL NAME: MOUNTAIN ASH GRANITE
NOTE: DRY STACK LEDGE

ST2 DESCRIPTION: FULL DEPTH STONE MASONRY COPING CAP
DESCRIPTION (CONT): 3" NOMINAL NATURAL STONE CAP, SEE DRAWINGS FOR LENGTHS AND WIDTHS
SUPPLIER:GALLEGOS STONE
MODEL NAME: TENNESSEE BLUE/ GRAY CAP LIMESTONE

WOOD

WD1 DESCRIPTION: NATURAL WOOD SIDING
DESCRIPTION (CONT): 4" VERTICAL BOARD
SPECIES: WESTERN RED CEDAR
STAIN: SIKKENS CEDAR 1 & 23 STAIN OR APPROVED ALTERNATE
NOTE: STK SELECT KNOTTY GRADE D @ BETTER CLEAR

WD2 DESCRIPTION: STRUCTURAL CLT [CROSS LAMINATED TIMBER] SLAB
MANUFACTURER: LAMWOOD
FINISH: CUSTOM STAINED TO MATCH ARCHITECTS SAMPLE
NOTE: SLAB THICKNESS PER STRUCTURAL CONDITION

WD3 DESCRIPTION: STRUCTURAL GLULAM BEAM/ COLUMN
DESCRIPTION (CONT): DOUGLAS FIR, ARCHITECTURAL GRADE, PRESSURE TREATED
MANUFACTURER: LAMWOOD
STAIN: CUSTOM STAINED TO MATCH ARCHITECTS SAMPLE
NOTE: SIZE PER STRUCT

WD4 DESCRIPTION: NATURAL WOOD SIDING
DESCRIPTION (CONT): 4" TONGUE AND GROOVE
SPECIES: DOUGLAS FIR, ARCHITECTURAL GRADE, PRESSURE TREATED
STAIN: CUSTOM STAINED TO MATCH ARCHITECTS SAMPLE

WD5 DESCRIPTION: T1-11 WOOD SIDING
DESCRIPTION (CONT): 3/4" FIRE RATED
FINISH: PAINT: MATCH ADJACENT

ARCHITECTURAL LOUVER

LV1 DESCRIPTION: PREFINISHED ARCHTECTURAL LOUVER
DESCRIPTION (CONT): BASIS OF DESIGN, CS SPECIALTIES THINLINE RS-4700
COLOR: CUSTOM COLOR TO MATCH PT2

EXTERIOR PAINT

PT1 DESCRIPTION: EXTERIOR PAINT FINISH
COLOR: CUSTOM CHARCOAL GRAY TO MATCH ARCHITECTS SAMPLE

PT2 DESCRIPTION: EXTERIOR PAINT FINISH
MODEL NUMBER: SW6258
COLOR: TRICORN BLACK

PT3 DESCRIPTION: EXTERIOR PAINT FINISH
COLOR: CUSTOM GRAY TO MATCH ARCHITECTS SAMPLE

CEMENT PLASTER

CP1 DESCRIPTION: THREE COAT STUCCO SYSTEM WITH ACRYLIC FINISH
MANUFACTURER: PAREX OR APPROVED EQUAL
COLOR: TO BE SELECTED FROM FULL RANGE OF MANUFACTURERS STANDARD COLORS

EXTERIOR FINISH LEGEND

CONCRETE

CN1 DESCRIPTION: FINISH CONCRETE

CN2 DESCRIPTION: FINISH CONCRETE WITH WP3

CN3 DESCRIPTION: CONCRETE UNIT PAVER WITH SNOW MELT BED , RE: LANDSCAPE

CN4 DESCRIPTION: CONCRETE UNIT PAVER WITH SNOW MELT BED

CN5 DESCRIPTION: CIP CONCRETE STEPS, INTEGRAL COLOR, SANDSCAPE FINISH

CN6 DESCRIPTION: REFRIGERATED ICE RINK SLAB, RE: DIV 13

STOREFRONT SYSTEMS

SF1 DESCRIPTION: CURTAIN WALL SYSTEM
MANUFACTURER: KAWNEER 1620UT OR ARCHITECT APPROVED ALTERNATE
FINISH: CUSTOM COLOR TO MATCH PT2 CUSTOM MULLION CAP @ ALL LOCATIONS

SF2 DESCRIPTION: WINDOW WALL SYSTEM
MANUFACTURER: KAWNEER 601T OR ARCHITECT APPROVED ALTERNATE
FINISH: CUSTOM COLOR TO MATCH PT2

SKYLIGHT SYSTEMS

SK1 DESCRIPTION: SKYLIGHT SYSTEM
DESCRIPTION (CONT): KAWNEER 2000 SKYLIGHT, RAFTER DEPTH 8 1/4 #822001", CONDENSATION GUTTER 822010, PERIMETER SNAP ON COVER 822031, AND INTERIOR SSG MULLIONS
MANUFACTURER: KAWNEER OR ARCHITECT APPROVED ALTERNATE
FINISH: CUSTOM COLOR TO MATCH PT1 MULLION CAP @ ALL LOCATIONS
NOTE: GLAZING: GL2

GLAZING

GL1 DESCRIPTION: INSULATED GLAZING UNIT
DESCRIPTION (CONT): CLEAR GLASS, AIR FILLED
MANUFACTURER: VITRO
MODEL NAME: SOLARBAN 70
THICKNESS: 1" IGU = 1/4" / 1/2" AIR SPACE / 1/4"
U VALUE: 0.29
SHGC: 0.45 SEW ORIENTATIONS

GL2 DESCRIPTION: LAMINATED GLASS
MANUFACTURER: VIRACON
MODEL NAME: 13/16" ULTRACLEAR LAMINATED GLASS
THICKNESS: 13/16" OA (3/8" GLASS, 0.060" CLEAR PVB, 3/8" GLASS)

METAL

MT1 DESCRIPTION: A606 WEATHERING STEEL
DESCRIPTION (CONT): CORTEN ACCENT PANEL
MANUFACTURER: CMG GROUP

MT2 DESCRIPTION: BONDERIZED STANDING SEAM
MANUFACTURER: BERRIDGE METAL
MODEL NAME: CEE-LOCK STANDING SEAM PANEL SYSTEM
FINISH: RAW BONDERIZED FINISH
SIZE: 16 1/2" COVERAGE PANEL W/ 1 1/2" HT SEAM

MT3 DESCRIPTION: PREFINISHED AND PREFORMED METAL
MANUFACTURER: TBD
FINISH: CUSTOM COLOR TO MATCH PT1
SIZE: 18 GA MIN.

MT4 DESCRIPTION: STEEL PLATE
DESCRIPTION (CONT): 1/2" COLD ROLLED STL PLATE W/ BLACKENED FINISH, FACTORY APPLIED
MANUFACTURER: TBD
SIZE: PER ELEVATION/PLAN
LOCATION: PER ELEVATION/PLAN

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STATE OF COLORADO
JEFFREY CHARLES CZARNECKI
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LICENSED ARCHITECT
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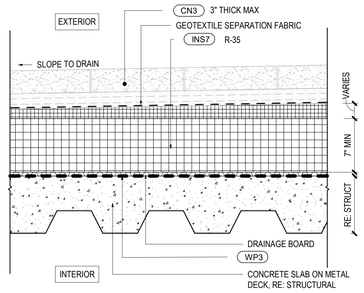


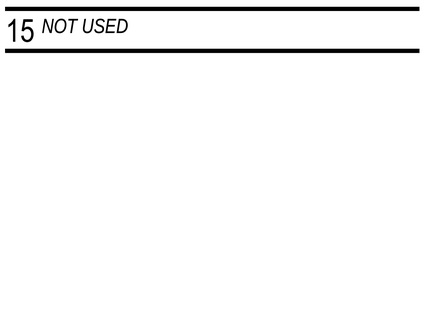
AIR FILM INTERIOR, R0.68
AIR FILM EXTERIOR, R0.17

R VALUE = 35.85
ASSEMBLY U-FACTOR= 0.026

17 *NOT USED*

13 RF2-CN3 - ROOF AT PLAZA & GOLD WALK

SCALE: 1 1/2" = 1'-0"



AIR FILM INTERIOR, R0.68
AIR FILM EXTERIOR, R0.17

R VALUE = 35.85
ASSEMBLY U-FACTOR= 0.026

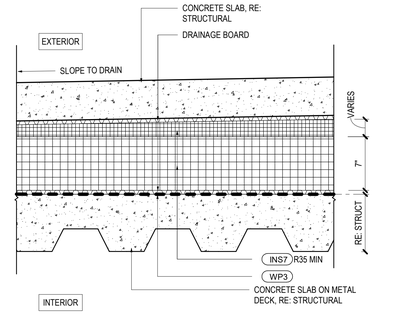
18 *NOT USED*

14 RF2-CN6 - ROOF AT ICE RINK

SCALE: 1 1/2" = 1'-0"

19 *NOT USED*

15 *NOT USED*



AIR FILM INTERIOR, R0.68
AIR FILM EXTERIOR, R0.17

R VALUE = 35.85
ASSEMBLY U-FACTOR= 0.026

09 RF2-CN1 - ROOF AT MECH YARD

SCALE: 1 1/2" = 1'-0"

10 *NOT USED*

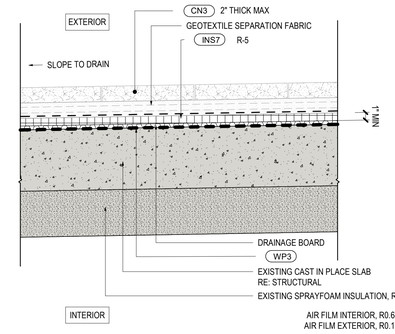
11 *NOT USED*

05 *NOT USED*

06 *NOT USED*

07 *NOT USED*

01 *NOT USED*

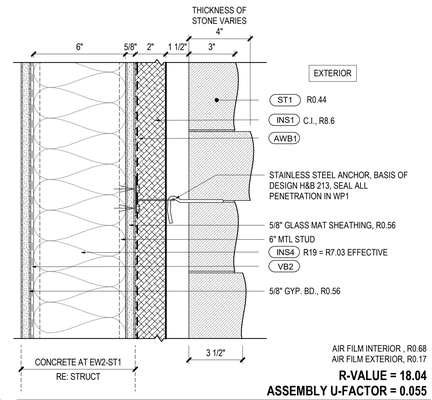


AIR FILM INTERIOR, R0.68
AIR FILM EXTERIOR, R0.17

R VALUE = 49.85
ASSEMBLY U-FACTOR= 0.020

02 RF5-CN3 - ROOF AT STAGE

SCALE: 1 1/2" = 1'-0"



AIR FILM INTERIOR , R0.68
AIR FILM EXTERIOR, R0.17

R-VALUE = 18.04
ASSEMBLY U-FACTOR = 0.055

03 EW1-ST1 STONE ON FRAMING

SCALE: 3" = 1'-0"

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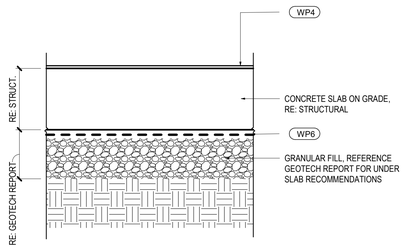
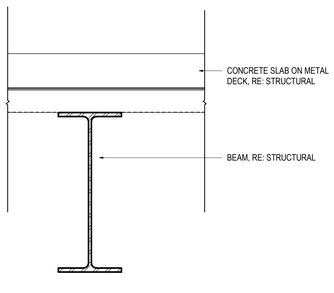




17 *NOT USED*

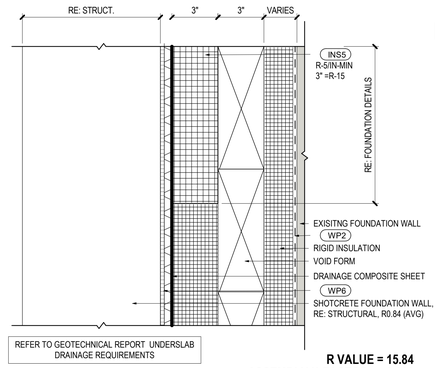
13 *NOT USED*

09 FL2-CN1 - SLAB ON GRADE

SCALE: 1 1/2" = 1'-0"

10 *NOT USED*

05 *NOT USED*



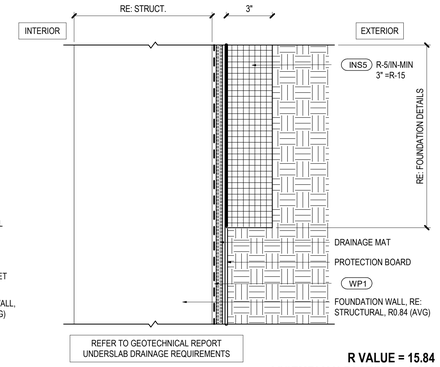
R VALUE = 15.84
ASSEMBLY U-FACTOR = 0.063

06 FN2 - FOUNDATION WALL

SCALE: 3" = 1'-0"

01 FL1-CN1 - CONCRETE ON METAL DECK

SCALE: 1 1/2" = 1'-0"



R VALUE = 15.84
ASSEMBLY U-FACTOR = 0.063

02 FN1 - FOUNDATION WALL

SCALE: 3" = 1'-0"

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners

2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler
1225 17th Street
Suite 150
Denver, CO 80202
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Tel 303.595.8585
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LANDMARK CONSULTANTS, INC.
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DESIGNWORKSHOP
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MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

STATE OF COLORADO · JOHN CHARLES CAMMELL · 203617 · LICENSED ARCHITECT

05.19.2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
EXTERIOR MATERIALS SCHEDULE

Scale
As indicated

1A-G8.003

GENERAL NOTES

1. TOPOGRAPHIC AND EXISTING CONDITIONS MAPPED BY LANDMARK CONSULTANTS, INC.
2. CITY OF STEAMBOAT SPRINGS PLAN REVIEW AND APPROVAL IS ONLY FOR GENERAL CONFORMANCE WITH CITY DESIGN CRITERIA AND THE CITY CODE. THE CITY IS NOT RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF THE DRAWINGS. DESIGN, DIMENSIONS, AND ELEVATIONS SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE.
3. ONE COPY OF THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS SHALL BE KEPT ON THE JOB SITE AT ALL TIMES. PRIOR TO THE START OF CONSTRUCTION, VERIFY WITH PROJECT ENGINEER THE LATEST REVISION DATE OF THE APPROVED CONSTRUCTION PLANS.
4. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF PUBLIC IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH IN THE CITY OF STEAMBOAT SPRINGS TECHNICAL SPECIFICATIONS (MARCH, 2018 EDITION), THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" BY THE COLORADO DEPARTMENT OF TRANSPORTATION, (2017 EDITION), AND APPLICABLE STATE AND FEDERAL REGULATIONS. WHERE THERE IS A DIRECT CONFLICT BETWEEN THESE PLANS AND THE SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE MOST RESTRICTIVE STANDARD SHALL APPLY.
5. ALL WATER AND SANITARY SEWER CONSTRUCTION AND RELATED WORK SHALL CONFORM TO THE MOUNT WERNER WATER STANDARD SPECIFICATIONS FOR WATER AND WASTEWATER UTILITIES, CURRENT EDITION.
6. ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AS REQUIRED MUST BE OBTAINED IN ORDER TO PERFORM THE WORK. THIS INCLUDES, BUT IS NOT LIMITED TO, RIGHT-OF-WAY PERMIT, GRADING AND EXCAVATION PERMIT, CONSTRUCTION DEWATERING PERMIT, STORM WATER QUALITY PERMIT, ARMY CORP OF ENGINEER PERMIT, ETC. IT IS THE APPLICABLE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF ALL APPLICABLE CODES, LICENSES, SPECIFICATIONS, AND STANDARDS NECESSARY TO PERFORM THE WORK, AND BE FAMILIAR WITH THEIR CONTENTS PRIOR TO COMMENCING ANY WORK.
7. PRIOR TO ANY WORK IN THE CITY RIGHT-OF-WAY INCLUDING STREET CUTS, CONTACT THE CITY OF STEAMBOAT SPRINGS STREET DEPARTMENT AT 970.879.1807 FOR PERMIT REQUIREMENTS. NO WORK SHALL OCCUR IN THE ROW BETWEEN NOVEMBER 1 - APRIL 1 UNLESS A WRITTEN VARIANCE HAS BEEN APPROVED AND ISSUED BY THE CITY PUBLIC WORKS DIRECTOR.
8. PRIOR TO CLOSURE OF ANY STREET OR PART OF STREET, AN APPROVED OBSTRUCTION PERMIT MUST BE ISSUED BY CITY CONSTRUCTION SERVICES FOREMAN.
9. PRIOR TO START OF CONSTRUCTION A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH THE APPROPRIATE CONTRACTORS, ENGINEER, SURVEYOR, TESTING COMPANY, AFFECTED AGENCIES AND KEY SUBCONTRACTORS A MINIMUM OF 48-HOURS PRIOR TO THE START OF WORK.
10. THE LOCAL ENTITY AND ENGINEER SHALL BE NOTIFIED AT LEAST 2 WORKING DAYS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY, OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS. THE LOCAL ENTITY RESERVES THE RIGHT NOT TO ACCEPT THE IMPROVEMENTS IF SUBSEQUENT TESTING REVEALS AN IMPROPER INSTALLATION.
11. COORDINATE WITH THE PROJECT ENGINEER TO IDENTIFY PROJECT INSPECTION AND TESTING REQUIREMENTS. PROVIDE FOR INSPECTIONS AND TESTING AT AN ADEQUATE FREQUENCY FOR THE PROJECT ENGINEER TO DOCUMENT THAT PROJECT IS CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. PRIOR TO MAKING ANY CHANGES TO THE APPROVED PLANS, IT IS THE APPROPRIATE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE PROJECT ENGINEER.
12. PROVIDE THE OWNER, ENGINEER, THEIR CONSULTANTS, INDEPENDENT TESTING LABORATORIES, ANY GOVERNMENTAL AGENCIES WITH JURISDICTIONAL INTERESTS, OTHER REPRESENTATIVES AND PERSONNEL, ACCESS TO THE SITE AND THE WORK AT REASONABLE TIMES FOR THEIR OBSERVATION, INSPECTING, AND TESTING. PROVIDE THEM PROPER AND SAFE CONDITIONS FOR SUCH ACCESS AND ADVISE THEM OF THE DEVELOPER'S SITE SAFETY PROCEDURES AND PROGRAMS SO THAT THEY MAY COMPLY THEREWITH AS IS APPLICABLE. COORDINATE WITH THE PROJECT ENGINEER SO THAT INSPECTING AND TESTING ARE PROVIDED AT AN ADEQUATE FREQUENCY FOR THE PROJECT ENGINEER TO AFFIRM THAT WORK WAS COMPLETED IN SUBSTANTIAL CONFORMANCE WITH THESE APPROVED PLANS.
13. NO WORK MAY COMMENCE WITHIN ANY IMPROVED PUBLIC RIGHT-OF-WAY UNTIL A RIGHT-OF-WAY PERMIT OR APPROPRIATE CONSTRUCTION PERMIT IS OBTAINED, IF APPLICABLE. SUBMIT A CONSTRUCTION TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH MUTCD, TO THE APPROPRIATE RIGHT-OF-WAY AUTHORITY, (LOCAL ENTITY, COUNTY OR STATE), FOR APPROVAL, PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING, THE RIGHT-OF-WAY. PROVIDE ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES.
14. SUBMIT A CONSTRUCTION SITE MANAGEMENT PLAN (CSMP) FOR REVIEW AND APPROVAL BY THE CITY CONSTRUCTION SERVICES FOREMAN PRIOR TO START OF CONSTRUCTION. THE CSMP MUST BE MAINTAINED ON-SITE AND UPDATED AS NEEDED TO REFLECT CURRENT CONDITIONS.
15. ALL CONTRACTORS ARE SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO UNCC) AT 1-800-922-1987, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING EXCAVATION OR GRADING, TO HAVE ALL REGISTERED UTILITY LOCATIONS MARKED. OTHER UNREGISTERED UTILITY ENTITIES (I.E. DITCH / IRRIGATION COMPANY) ARE TO BE LOCATED BY CONTACTING THE RESPECTIVE REPRESENTATIVE. UTILITY SERVICE LATERALS ARE ALSO TO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING. THE TYPE, SIZE, LOCATION AND NUMBER OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THE DRAWINGS. VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK BEFORE COMMENCING NEW CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.
16. FIELD LOCATE AND VERIFY ELEVATIONS OF ALL EXISTING SEWER MAINS, WATER MAINS, CURBS, GUTTERS AND OTHER UTILITIES AT THE POINTS OF CONNECTION SHOWN ON THE PLANS, AND AT ANY UTILITY CROSSINGS PRIOR TO INSTALLING ANY OF THE NEW IMPROVEMENTS. IF A CONFLICT EXISTS AND/OR A DESIGN MODIFICATION IS REQUIRED, COORDINATE WITH THE ENGINEER TO MODIFY THE DESIGN. DESIGN MODIFICATION(S) MUST BE APPROVED BY THE LOCAL ENTITY PRIOR TO BEGINNING CONSTRUCTION.
17. ALL UTILITY INSTALLATIONS WITHIN OR ACROSS THE ROADBED OR OTHER PAVED AREAS MUST BE COMPLETED PRIOR TO THE FINAL STAGES OF ROAD CONSTRUCTION. FOR THE PURPOSES OF THESE STANDARDS, ANY WORK INCLUDING, GRAVELS, PAVEMENTS, CURB AND GUTTER ABOVE THE SUBGRADE IS CONSIDERED FINAL STAGE WORK. ALL SERVICE LINES MUST BE STUBBED BEYOND THE ROAD PLATFORM OR TO THE PROPERTY LINES AND MARKED SO AS TO REDUCE THE EXCAVATION NECESSARY FOR BUILDING CONNECTIONS.
18. COORDINATE AND COOPERATE WITH THE LOCAL ENTITY, AND ALL UTILITY COMPANIES INVOLVED, WITH REGARD TO RELOCATIONS, ADJUSTMENTS, EXTENSIONS AND REARRANGEMENTS OF EXISTING UTILITIES DURING CONSTRUCTION, AND TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE. CONTACT, IN ADVANCE, ALL PARTIES AFFECTED BY ANY DISRUPTION OF ANY UTILITY SERVICE AS WELL AS THE UTILITY COMPANIES.
19. NO WORK MAY COMMENCE WITHIN ANY PUBLIC STORM WATER, SANITARY SEWER OR POTABLE WATER SYSTEM UNTIL THE UTILITY PROVIDERS ARE NOTIFIED. NOTIFICATION SHALL BE A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF ANY WORK. AT THE DISCRETION OF THE WATER UTILITY PROVIDER, A PRE-CONSTRUCTION MEETING MAY BE REQUIRED PRIOR TO COMMENCEMENT OF ANY WORK.
20. PROTECT ALL UTILITIES DURING CONSTRUCTION AND FOR COORDINATE WITH THE APPROPRIATE UTILITY COMPANY FOR ANY UTILITY CROSSINGS REQUIRED.
21. WHEN APPLICABLE, THE DEVELOPER AND/OR CONTRACTOR SHALL HAVE ONSITE AT ALL TIMES, EACH OF THE FOLLOWING:

- BEST MANAGEMENT PRACTICES (BMP) MAINTENANCE FOLDER
- UP TO DATE STORMWATER MANAGEMENT PLAN (SWMP) THAT ACCURATELY REPRESENTS CURRENT FIELD CONDITIONS
- ONE (1) SIGNED COPY OF THE APPROVED PLANS
- ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS
- A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB.

23. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, CONTACT THE DESIGNER AND THE LOCAL ENTITY ENGINEER IMMEDIATELY.
24. ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE.
25. PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS, OR DESIGNATED TO BE PROVIDED, INSTALLED, OR CONSTRUCTED, UNLESS SPECIFICALLY NOTED OTHERWISE.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT ON THE CONSTRUCTION SITE, AND AVAILABLE TO THE LOCAL ENTITY'S INSPECTOR AT ALL TIMES.
27. DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. IF PERTINENT DIMENSIONS OR ELEVATIONS ARE NOT SHOWN, CONTACT THE DESIGNER FOR CLARIFICATION, AND ANNOTATE THE PROVIDED DIMENSION ON THE AS-BUILT RECORD DRAWINGS. CONTOURS ARE NOT SUITABLE FOR CONSTRUCTION LAYOUT.
28. SEQUENCE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO MINIMIZE POTENTIAL UTILITY CONFLICTS. IN GENERAL, GRADE RESTRICTED UTILITIES SUCH AS STORM SEWER AND SANITARY SEWER, SHOULD BE CONSTRUCTED PRIOR TO INSTALLATION OF THE WATER LINES AND DRY UTILITIES.
29. EXISTING FENCES, TREES, STREETS, SIDEWALKS, CURBS AND GUTTERS, LANDSCAPING, STRUCTURES, AND IMPROVEMENTS DESTROYED, DAMAGED OR REMOVED DUE TO CONSTRUCTION OF THIS PROJECT SHALL BE REPLACED OR RESTORED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE INDICATED ON THESE PLANS.
30. THESE CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF THREE YEARS FROM THE DATE OF APPROVAL BY THE AHJ. USE OF THESE PLANS AFTER THE EXPIRATION DATE WILL REQUIRE A NEW REVIEW AND APPROVAL PROCESS BY THE LOCAL ENTITY PRIOR TO COMMENCEMENT OF ANY WORK SHOWN IN THESE PLANS.
31. ALL CONSTRUCTION IN AREAS DESIGNATED AS WILD FIRE HAZARD AREAS SHALL BE DONE IN ACCORDANCE WITH THE CONSTRUCTION CRITERIA AS ESTABLISHED IN THE WILD FIRE HAZARD AREA MITIGATION REGULATIONS IN FORCE AT THE TIME OF CONSTRUCTION.
32. THE CONTRACTOR AGREES THAT BY COMMENCING CONSTRUCTION THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING, BUT NOT LIMITED TO THE SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD T THE ENGINEER, AND THE GOVERNING AGENCIES AND THE OFFICERS, DIRECTORS, PARTNERS, EMPLOYEES, AGENTS AND OTHER CONSULTANTS OF EACH AND ANY OF THEM HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE NEGLIGENCE OF THE OWNER, THE ENGINEER, OR THE GOVERNING AGENCIES.
33. NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERING ANY CONFLICTS OR OTHER PROBLEMS IN CONFORMING TO THE APPROVED CONSTRUCTION DRAWINGS, SPECIFICATIONS OR DETAILS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO PROCEEDING WITH ITS CONSTRUCTION.
34. COORDINATE THE INSTALLATION OR RELOCATION OF THE DRY UTILITY COMPANY'S FACILITIES. COST OF THE DRY UTILITY WORK SHALL BE BORNE BY THE OWNER, EXCEPT AS INDICATED IN THE PLANS AND SPECIFICATIONS.
35. PRESERVE PRIVATE AND PUBLIC PROPERTY AND PROTECT IT FROM DAMAGE THAT MAY RESULT FROM CONSTRUCTING THESE PROPOSED IMPROVEMENTS.
36. ACCESS TO ALL ADJACENT PROPERTIES AND FACILITIES SHALL BE MAINTAINED AT ALL TIMES. REQUIRED INTERRUPTION OF ACCESS SHALL BE COORDINATED WITH THE PROPERTY AND PROJECT OWNERS.
37. IF HAZARDOUS MATERIAL OR SUSPECT MATERIAL IS ENCOUNTERED NOTIFY THE OWNER AND ENGINEER BEFORE CONTINUING WORK. HAZARDOUS MATERIALS SHALL BE REMOVED AS REQUIRED.
38. THE APPROPRIATE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SOURCE OF CONSTRUCTION WATER FOR USE ON THIS PROJECT.
39. EXCESS MATERIAL SHALL BE REMOVED FROM SITE AND HANDLED IN ACCORDANCE TO ALL RULES AND REQUIREMENTS. A SEPARATE PERMIT MAY BE REQUIRED AND SHALL BE COORDINATED WITH THE AUTHORITY HAVING JURISDICTION.
40. OFFSITE AND ADJACENT SITE DATA IS FOR REFERENCE PURPOSES ONLY.
41. ALL LANDSCAPING, REVEGETATION AND WETLANDS REQUIREMENTS DESIGN BY OTHERS. ALL DISTURBED AREAS ARE TO BE REVEGETATED UNLESS OTHERWISE NOTED.
42. ENSURE THAT WORK FOR THIS PROJECT BE PERFORMED BY CONTRACTORS (INCLUDING CONTRACTOR'S EMPLOYEES AND AGENTS) POSSESSING THE SKILLS, EXPERTISE AND UNDERSTANDING OF ALL APPLICABLE CODES, SPECIFICATIONS, STANDARDS AND MANUFACTURER REQUIREMENTS. BY COMMENCING WORK, THE CONTRACTORS REPRESENT THAT THEY UNDERSTAND AND ACCEPT THIS REQUIREMENT.
43. ALL CONSTRUCTION ACTIVITIES AND DISTURBANCES SHALL OCCUR WITHIN THE PROPERTY LIMITS. WHERE OFF-SITE WORK IS APPROVED, WRITTEN PERMISSION OF THE ADJACENT PROPERTY OWNER MUST BE OBTAINED PRIOR TO ANY OFF-SITE GRADING OR CONSTRUCTION.

CONSTRUCTION NOTES

A. GRADING AND DRAINAGE

44. NO WORK SHALL OCCUR IN WETLANDS OR FLOODPLAINS WITHOUT PERMITS. ANY WORK SHALL BE IN ACCORDANCE WITH ISSUED PERMITS.
45. VEGETATED SLOPES GREATER THAN 3:1 REQUIRE SOIL STABILIZATION.
46. CLEAN ALL INSTALLED CULVERTS AND STORM SEWERS PRIOR TO SUBSTANTIAL COMPLETION INSPECTIONS.
47. LENGTHS SHOWN ON PLANS ARE HORIZONTAL LENGTHS FROM CENTER OF MANHOLE TO CENTER OF MANHOLE OR TO THE END OF THE FLARED END SECTIONS, ACTUAL LENGTHS MAY VARY.
48. SLOPES ARE CALCULATED FROM INSIDE EDGE OF MANHOLE/STRUCTURE TO INSIDE EDGE OF MANHOLE/STRUCTURE.
49. IMPERVIOUS CLAY DAMS ARE REQUIRED IN TRENCH AT 50-FT INTERVALS AND AT CHANGES IN PIPE DIRECTION AND/OR AT PIPE JUNCTIONS FOR ALL DRAINAGE STRUCTURES.
50. MINIMUM RECOMMENDATIONS (TO BE CONFIRMED OR REPLACED BY GEOTECHNICAL ENGINEER): PROPOSED FILL AREAS WHERE PAVEMENT OR SITE CONCRETE IS ANTICIPATED SHOULD BE PREPARED BY STRIPPING EXISTING TOPSOIL AND ORGANIC MATERIALS, SCARIFICATION TO A DEPTH OF AT LEAST 8 INCHES AND COMPACTION TO MINIMUM VALUES GIVEN BELOW. MOISTURE CONDITIONING MAY BE REQUIRED TO ATTAIN STABILITY AND MINIMUM COMPACTION.

    SITE FILLS AND TRENCH BACKFILL SHOULD CONSIST OF APPROVED ON-SITE OR IMPORTED MATERIALS. FILLS SHOULD BE UNIFORMLY PLACED AND COMPACTED IN 6 TO 8 INCH LOOSE LIFTS TO AT LEAST 95 PERCENT OF THE MAXIMUM STANDARD PROCTOR DENSITY AND WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT (ASTM D698). MOISTURE CONDITIONING OF FILL MATERIALS MAY BE REQUIRED TO ATTAIN MINIMUM COMPACTION AND STABILITY REQUIREMENTS.
51. A GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED UNDER THE TITLE OF "SUBSOIL AND FOUNDATION INVESTIGATION, STEAMBOAT BASE AREA REDEVELOPMENT, STEAMBOAT SPRINGS, COLORADO" BY NWCC DATED DECEMBER 30, 2020, AND THEIR RECOMMENDATIONS ARE HEREBY INCORPORATED HEREIN. IF A CONFLICT OR DISCREPANCY OCCURS, NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY.

B. CONSTRUCTION SITE AND STORMWATER MANAGEMENT

52. CONTRACTOR SHALL SUBMIT A CONSTRUCTION SITE MANAGEMENT PLAN TO THE CITY FOR APPROVAL PRIOR TO BUILDING PERMIT ISSUANCE.
53. WHEN REQUIRED THE CONTRACTOR SHALL PREPARE A STORMWATER MANAGEMENT PLAN. THE STORMWATER MANAGEMENT PLAN SHALL BE PREPARED BY A QUALIFIED INDIVIDUAL WITH KNOWLEDGE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROL AND POLLUTION PREVENTION. THIS INDIVIDUAL SHOULD BE RESPONSIBLE FOR DEVELOPING, IMPLEMENTING, MAINTAINING, AND REVISING THE STORMWATER MANAGEMENT PLAN FOR THE DURATION OF THE PROJECT.
54. THE STORMWATER MANAGEMENT PLAN SHOULD ADDRESS INSTALLATION, INSPECTION AND MAINTENANCE OF ALL NECESSARY EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION AND REMOVE EROSION CONTROL WHEN PROJECT IS COMPLETE AND VEGETATION IS ESTABLISHED. WHEN TEMPORARY EROSION CONTROL MEASURES ARE REMOVED, CLEAN UP AND REMOVE ALL SEDIMENT AND DEBRIS FROM ALL DRAINAGE INFRASTRUCTURE AND OTHER PUBLIC FACILITIES.
55. ALL REQUIRED PERIMETER SILT AND CONSTRUCTION FENCING SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY (STOCKPILING, STRIPPING, GRADING, ETC). ALL OTHER REQUIRED EROSION CONTROL MEASURES SHALL BE INSTALLED AT THE APPROPRIATE TIME IN THE CONSTRUCTION SEQUENCE AS INDICATED IN THE APPROVED PROJECT SCHEDULE, CONSTRUCTION PLANS, AND STORMWATER MANAGEMENT PLAN.
56. ENSURE THAT NO MUD OR DEBRIS SHALL BE TRACKED ONTO THE EXISTING PUBLIC STREET SYSTEM. MUD AND DEBRIS MUST BE REMOVED BY THE END OF EACH WORKING DAY BY AN APPROPRIATE MECHANICAL METHOD (I.E. MACHINE BROOM SWEEP, LIGHT DUTY FRONT-END LOADER, ETC.) OR AS APPROVED BY THE LOCAL ENTITY STREET INSPECTOR.
57. ALL STRUCTURAL EROSION CONTROL MEASURES SHALL BE INSTALLED AT THE LIMITS OF CONSTRUCTION AND AT AREAS WITH DISTURBED SOIL, ON- OR OFF-SITE, PRIOR TO ANY OTHER GROUND-DISTURBING ACTIVITY. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR, UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS IS STABILIZED WITH HARD SURFACE OR LANDSCAPING. TO MITIGATE EROSION, UTILIZE STANDARD EROSION CONTROL TECHNIQUES DESCRIBED IN THE URBAN STORM DRAINAGE CRITERIA MANUAL, VOLUME 3 - BEST MANAGEMENT PRACTICES, AS PUBLISHED BY THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT (UDFCD).
58. PRE-DISTURBANCE VEGETATION SHALL BE PROTECTED AND RETAINED WHEREVER POSSIBLE. REMOVAL OR DISTURBANCE OF EXISTING VEGETATION SHALL BE LIMITED TO THE AREA(S) REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS, AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
59. IMMEDIATELY CLEAN UP ANY CONSTRUCTION MATERIALS INADVERTENTLY DEPOSITED ON EXISTING STREETS, SIDEWALKS, OR OTHER PUBLIC RIGHTS OF WAY, AND MAKE SURE STREETS AND WALKWAYS ARE CLEANED AT THE END OF EACH WORKING DAY.
60. ALL RETAINED SEDIMENTS, PARTICULARLY THOSE ON PAVED ROADWAY SURFACES, SHALL BE REMOVED AND DISPOSED OF IN A MANNER AND LOCATION SO AS NOT TO CAUSE THEIR RELEASE INTO ANY WATERS OF THE UNITED STATES.
61. THE STORMWATER VOLUME CAPACITY OF DETENTION PONDS WILL BE RESTORED AND STORM SEWER LINES WILL BE CLEANED UPON COMPLETION OF THE PROJECT.
62. THE COLORADO DISCHARGE PERMIT SYSTEM (CDPS) REQUIREMENTS MAKE IT UNLAWFUL TO DISCHARGE OR ALLOW THE DISCHARGE OF ANY POLLUTANT OR CONTAMINATED WATER FROM CONSTRUCTION SITES. POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, OIL AND GAS PRODUCTS, LITTER, AND SANITARY WASTE. TAKE WHATEVER MEASURES ARE NECESSARY TO ASSURE THE PROPER CONTAINMENT AND DISPOSAL OF POLLUTANTS ON THE SITE IN ACCORDANCE WITH ANY AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
63. THE DRAINAGE REPORT SHALL BE REFERENCED WHEN PREPARING THE PROJECT'S STORMWATER MANAGEMENT PLAN. A DRAINAGE REPORT FOR THIS PROJECT WAS COMPLETED BY LANDMARK CONSULTANTS TITLED "TBD" AND IS DATED "TBD".

C. PAVING

64. UNLESS NOTED OTHERWISE, THE PAVEMENT SECTION SHALL CONSIST OF:

    A. 8-INCH THICK AGGREGATE SUBBASE COURSE: MODIFIED CDOT STANDARD CLASS 3 BASE AGGREGATE OR WELL GRADED PIT RUN CONFORMING TO CDOT STANDARD SPECIFICATION SECTION 703 FOR AGGREGATES.
    B. 4-INCH THICK AGGREGATE BASE COURSE: CDOT STANDARD SPECIFICATIONS SECTION 703.03 FOR CLASS 6 AGGREGATE BASE COURSE;
    C. 4-INCH THICK ASPHALT PAVEMENT: CDOT STANDARD SPECIFICATIONS, LATEST EDITION, WITH TYPE SX GRADATION AND PG58-28 BINDER. TACK COATS SHALL BE SS-1H AND CONFORM TO AASHTO M140.PAVING OF PUBLIC STREETS SHALL NOT START UNTIL SUBGRADE COMPACTION AND MATERIAL TESTS ARE TAKEN AND ACCEPTED BY THE PUBLIC WORKS DIRECTOR.
65. EXISTING ASPHALT PAVEMENT SHALL BE STRAIGHT SAW CUT A MINIMUM DISTANCE OF 12 INCHES FROM THE EXISTING EDGE, TO CREATE A CLEAN CONSTRUCTION JOINT. REMOVE EXISTING PAVEMENT TO A DISTANCE WHERE A CLEAN CONSTRUCTION JOINT CAN BE MADE. TACK COAT SHALL BE APPLIED TO ALL EXPOSED SURFACES INCLUDING SAW CUTS, POTHOLES, TRENCHES, AND ASPHALT OVERLAY. ASPHALT PATCHES IN THE RIGHT-OF-WAY SHALL BE PER CITY SPECIFICATIONS.
66. CONTACT CITY STREETS SUPERINTENDENT AT (970) 879-1807 TO SCHEDULE INSTALLATION OF PUBLIC STREET SIGNS. ALL OTHER TRAFFIC CONTROL SIGNS ARE THE RESPONSIBILITY OF THE DEVELOPER.
67. NO BASE MATERIAL SHALL BE LAID UNTIL THE SUBGRADE HAS BEEN INSPECTED AND APPROVED BY THE ENGINEER.
68. VALVE BOXES, CLEANOUTS AND MANHOLES ARE TO BE BROUGHT UP TO GRADE AT THE TIME OF PAVEMENT PLACEMENT OR OVERLAY. VALVE BOX ADJUSTING RINGS ARE NOT ALLOWED.
69. WHEN AN EXISTING ASPHALT STREET MUST BE CUT, THE STREET MUST BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION. THE EXISTING STREET CONDITION SHALL BE DOCUMENTED BY THE ENGINEER BEFORE ANY CUTS ARE MADE. THE FINISHED PATCH SHALL BLEND SMOOTHLY INTO THE EXISTING SURFACE.
70. PERFORM A GUTTER WATER FLOW TEST IN THE PRESENCE OF THE ENGINEER AND PRIOR TO INSTALLATION OF ASPHALT. GUTTERS THAT HOLD MORE THAN 1/4 INCH DEEP OR 5 FEET LONGITUDINALLY, OF WATER, SHALL BE COMPLETELY REMOVED AND RECONSTRUCTED TO DRAIN PROPERLY.
71. PRIOR TO PLACEMENT OF H.B.P. OR CONCRETE WITHIN THE STREET AND AFTER MOISTURE/DENSITY TESTS HAVE BEEN TAKEN ON THE SUBGRADE MATERIAL (WHEN A FULL DEPTH SECTION IS PROPOSED) OR ON THE SUBGRADE AND BASE MATERIAL (WHEN A COMPOSITE SECTION IS PROPOSED), A MECHANICAL "PROOF ROLL" WILL BE REQUIRED. THE ENTIRE SUBGRADE AND/OR BASE MATERIAL SHALL BE ROLLED WITH A HEAVILY LOADED VEHICLE HAVING A TOTAL GVW OF NOT LESS THAN 50,000 LBS. AND A SINGLE AXLE WEIGHT OF AT LEAST 18,000 LBS. WITH PNEUMATIC TIRES INFLATED TO NOT LESS THAT 90 P.S.I.G. "PROOF ROLL" VEHICLES SHALL NOT TRAVEL AT SPEEDS GREATER THAN 3 M.P.H. ANY PORTION OF THE SUBGRADE OR BASE MATERIAL WHICH EXHIBITS EXCESSIVE PUMPING OR DEFORMATION, AS DETERMINED BY THE ENGINEER, SHALL BE REWORKED, REPLACED OR OTHERWISE MODIFIED TO FORM A SMOOTH, NON-YIELDING SURFACE. THE ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE "PROOF ROLL." ALL "PROOF ROLLS" SHALL BE PREFORMED IN THE PRESENCE OF AN ENGINEER.
72. NO UNDERMINING OF EXISTING PAVEMENT SHALL BE ALLOWED. IF UNDERMINING IS EVIDENT, PAVEMENT SHALL BE CUT BACK ACCORDINGLY. NO ADDITIONAL PAYMENT SHALL BE PROVIDED.

D. WATER AND SEWER NOTES

79. ALL WATER AND SEWER CONSTRUCTION SHALL BE PER MT. WERNER WATER STANDARD SPECIFICATIONS, LATEST EDITION, AS APPLICABLE.
80. MAINTAIN 10' HORIZONTAL AND 18" VERTICAL MINIMUM SEPARATION BETWEEN ALL SANITARY SEWER MAINS, WATER MAINS & SERVICES.
81. MANHOLES LOCATED OUTSIDE OF THE ROADWAY SHALL PROTRUDE 1' ABOVE EXISTING GRADE TO REDUCE INFILTRATION. GRADE SURFACE TO DRAIN AROUND/AWAY FROM MANHOLE RIMS.
82. ALL MANHOLES LOCATED IN THE ROADWAY SHALL HAVE RIM ELEVATIONS ADJUSTED TO ¼" BELOW FINISHED GRADE. IF NECESSARY, CONE SECTIONS SHALL BE ROTATED TO PREVENT LIDS BEING LOCATED WITHIN VEHICLE OR BICYCLE WHEEL PATHS.
83. SEWER SERVICE SHALL HAVE A MINIMUM OF 4-FT OF COVER.
84. WATER SERVICE SHALL HAVE A MINIMUM OF 7-FT OF COVER.
85. ALL WATER PIPE SHALL BE INSTALLED WITH A #10 SOLID COPPER WIRE COATED WITH 45 MIL POLYETHYLENE FOR LOCATING PURPOSES. "GLENN TEST STATIONS" BY VALVCO, INC TRACER WIRE TEST STATIONS SHALL BE INSTALLED ADJACENT TO ALL FIRE HYDRANTS. ADDITIONAL LOCATIONS MAY BE REQUIRED.
86. THE PARTICLE SIZE OF BEDDING AND SHADING MATERIAL SHALL BE 3/4 INCH WASHED OR SCREENED ROCK (NOT ROAD BASE OR CLASS 6) AND SHALL EXTEND THE FULL WIDTH OF THE TRENCH.
87. ALL MATERIALS USED FOR BACKFILL SHALL BE FREE FROM REFUSE ORGANIC MATERIAL, COBBLES, BOULDERS, LARGE ROCKS OR STONES OR FROZEN SOILS GREATER THAN 6-INCHES IN DIAMETER.
88. ALL TRENCHES SHALL BE COMPACTED TO 95% AS DETERMINED BY ASTM D698 (STANDARD PROCTOR) OR AS SPECIFIED BY GEOTECHNICAL ENGINEER.

PROJECT NOTES:

89. AN AUTOCAD COMPATIBLE FILE WILL BE PROVIDED FOR CONSTRUCTION STAKING PURPOSES, UPON ACCEPTANCE OF LANDMARK'S CAD RELEASE POLICY.
90. IF THESE DRAWINGS ARE PRESENTED IN A FORMAT OTHER THAN 24" X 36", THE GRAPHIC SCALE SHOULD NOT BE USED.
91. THE CONTRACTOR ACKNOWLEDGES AND UNDERSTANDS THAT THE CONTRACT DOCUMENTS MAY REPRESENT IMPERFECT DATA AND MAY CONTAIN ERRORS, OMISSIONS, CONFLICTS, INCONSISTENCIES, CODE VIOLATIONS AND IMPROPER USE OF MATERIALS. SUCH DEFICIENCIES WILL BE CORRECTED WHEN IDENTIFIED. THE CONTRACTOR AGREES TO CAREFULLY STUDY AND COMPARE THE INDIVIDUAL CONTRACT DOCUMENTS AND REPORT AT ONCE IN WRITING T THE OWNER ANY DEFICIENCIES THE CONTRACTOR MAY DISCOVER. THE CONTRACTOR FURTHER AGREES TO REQUIRE EACH SUBCONTRACTOR TO LIKEWISE STUDY THE DOCUMENTS AND REPORT AT ONCE ANY DEFICIENCIES DISCOVERED.

    THE CONTRACTOR SHALL RESOLVE ALL REPORTED APPLICABLE DEFICIENCIES WITH LANDMARK PRIOR TO AWARDING ANY SUBCONTRACTS OR STARTING ANY WORK WITH THE CONTRACTOR'S OWN EMPLOYEES. IF ANY DEFICIENCIES CANNOT BE RESOLVED BY THE CONTRACTOR WITHOUT ADDITIONAL TIME OR ADDITIONAL EXPENSES, THE CONTRACTOR SHALL SO INFORM THE OWNER IN WRITING. ANY SUCH ADDITIONAL WORK PERFORMED PRIOR TO RECEIPT OF INSTRUCTIONS FROM THE OWNER WILL BE DONE AT THE CONTRACTOR'S RISK.

CONSTRUCTION PHASE SERVICES:

IT IS UNDERSTOOD AND AGREED THAT LANDMARK DOES NOT HAVE AN OBLIGATION TO CONDUCT CONSTRUCTION OBSERVATION OR REVIEW OF THE CONTRACTOR'S PERFORMANCE OR ANY OTHER CONSTRUCTION PHASE SERVICES, AND THAT SUCH SERVICES WILL BE PROVIDED FOR BY THE OWNER AS MAY BE REQUIRED BY THE AUTHORITY HAVING JURISDICTION/CITY OF STEAMBOAT SPRINGS. THE OWNER ASSUMES ALL RESPONSIBILITY FOR INTERPRETATION OF THESE CONSTRUCTION DOCUMENTS AND FOR CONSTRUCTION OBSERVATION AND THE OWNER WAIVES ANY CLAIMS AGAINST LANDMARK THAT MAY BE IN ANY WAY CONNECTED THERETO.

IN ADDITION, THE OWNER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LANDMARK, ITS OFFICERS, DIRECTORS, EMPLOYEES AND SUBCONSULTANTS (COLLECTIVELY, LANDMARK) AGAINST ALL DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF SUCH SERVICES BY OTHER PERSONS OR ENTITIES AND FROM ANY AND ALL CLAIMS ARISING FROM MODIFICATIONS, CLARIFICATIONS, INTERPRETATIONS, ADJUSTMENTS OR CHANGES MADE TO THESE CONSTRUCTION DOCUMENTS TO REFLECT CHANGED FIELD OR OTHER CONDITIONS, EXCEPT FOR CLAIMS ARISING FROM THE SOLE NEGLIGENCE OR WILLFUL MISCONDUCT OF LANDMARK.

ABBREVIATIONS

ADA	AMERICAN'S WITH DISABILITIES ACT
APR	APPROXIMATE
BMP	BEST MANAGEMENT PRACTICE
BOT	BOTTOM
BVCS	BEGIN VERTICAL CURVE STATION
BVCE	BEGIN VERTICAL CURVE ELEVATION
BW OR BOW	BOTTOM OF WALL
C&C	CUT & CAPPED
CAP	CORRUGATED ALUMINUM PIPE
CIP	CAST-IN-PLACE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
C.O.	CLEAN OUT
CP	CONCRETE PIPE
CSP	CORRUGATED STEEL PIPE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
EG	EXISTING GROUND
EL	ELEVATION
EOA OR EA	EDGE OF ASPHALT
EOC	EDGE OF CONCRETE
EOP	EDGE OF PAVEMENT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX	EXISTING
F&G	FRAME & GRATE
F&C	FRAME & COVER
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FH	FIRE HYDRANT
FL	FLOW LINE
FG	FINISH GRADE
FG@BW	FINISH GRADE AT BOTTOM OF WALL
GB	GRADE BREAK
GFFE	GARAGE FINISH FLOOR ELEVATION
GTD	GRADE TO DRAIN
HDPE	HIGH DENSITY POLYETHYLENE PIPE
INV	INVERT
LBS	POUNDS
LOD	LIMITS OF DISTURBANCE
M/E/P	MECHANICAL, ELECTRIC, AND PLUMBING
MAX	MAXIMUM
ME	MATCH EXISTING
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
NAP OR N.A.P.	NOT A PART (NOT INCLUDED IN SCOPE)
NTS	NOT TO SCALE
OFF	OFFSET
PC	POINT OF CURVE
PI	POINT OF INTERSECTION
PCC	POINT OF CONCAVE CURVE
PLDP	POROUS LANDSCAPE DETENTION POND
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REQ	REQUIRED
ROW	RIGHT OF WAY
STA	STATION
TB	THRUST BLOCK
TBC	TOP BACK OF CURB
TBR	TO BE REMOVED
TG	TOP OF GRATE
TOP	TOP OF PIPE
TTG	TAPERED TO GRADE
TW OR TOW	TOP OF WALL
TYP	TYPICAL
VCP	VITRIFIED CLAY PIPE
VOL	VOLUME
W/	WITH

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△	Date	Description
--	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

ERIK J. GRIEPENTROG
33280
5/19/21

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Seal / Signature

Project Name GONDOLA PLAZA

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

Description

Civil Notes

Scale

SEE GRAPHICAL SCALE

1A-C.002

LEGEND

BUILDING
ROOF LINE/OVERHANG
DECK
WALL
FENCE
MAJOR CONTOUR
MINOR CONTOUR
ASPHALT
CONCRETE
GRAVEL
WOOD DECKING
SIGN
SANITARY SEWER LINE MARKER MANHOLE AND CLEANOUT
SEPTIC TANK LID AND VENT PIPE
WATER LINE MAKER, FIRE HYDRANT GATE VALVE, CURB STOP & BLOWOFF
FIRE DEPT. CONNECTION, YARD HYDRANT, VENT PIPE, WATER MANHOLE AND WELL
GAS LINE MARKER, VALVE, MANHILE/VAULT AND METER
CABLE LINE MARKER, VAULT AND PEDESTAL
FIBER OPTIC LINE MARKER, VAULT & PEDESTAL
SATELLITE DISH
TELEPHONE LINE MARKER, VAULT, PEDESTAL AND MANHOLE
ELECTRIC LINE MARKER, TRANSFORMER, METER AND SECONDARY PEDESTAL
SNOW MELT DISTRIBUTION LINE AND VAULT
SNOW MAKING WATER MAIN
ELECTRIC MANHOLE, OUTLET, GENERATOR AND JUNCTION BOX
LIGHT POLE AND LIGHT POLE W/ MAST
PROPOSED DITCH / SWALE
UTILITY POLE, GUY POLE & GUY WIRE
DITCH/SWALE
CULVERT W/ END SECTIONS
STORM MANHOLE, AREA DRAIN, GRATE INLET AND CURB INLET
AIR CONDITIONER, MAILBOX NEWSTAND AND TRASH CAN
BOLLARD, AREA LIGHT AND FLAG POLE
CONIFEROUS AND DECIDUOUS TREE (SCALED TO APPROX. DRIPLINE)
CONIFEROUS AND DECIDUOUS SHRUB (SCALED TO APPROX. DRIPLINE)
FINISHED FLOOR ELEVATION (SEE NOTE 10) x 6900.0'

NOTES

1. THIS EXISTING CONDITIONS PLAN DOES NOT REPRESENT A MONUMENTED LAND SURVEY OR IMPROVEMENT SURVEY PLAT. IT IS INTENDED ONLY TO DEPICT THAT INFORMATION REQUESTED BY OUR CLIENT.
2. PARCEL AND RIGHT OF WAY BOUNDARIES ARE SHOWN HEREON BASED UPON THE APPLICABLE SUBDIVISION PLATS AND AVAILABLE PROPERTY CORNER MONUMENTS.
3. BASIS OF HORIZONTAL CONTROL: COLORADO NORTH ZONE, STATE PLANE COORDINATE SYSTEM, NAD83(2011).
4. UNITS SHOWN HEREON ARE IN US SURVEY FEET AND THE STANDARD OF DISTANCE ACCURACY FOR THIS MAP HAS BEEN DETERMINED TO BE GREATER THAN 1:10,000.
5. SITE BENCHMARK: A RECOVERED 3" BRASS CAP MONUMENTING THE NORTHEAST CORNER OF SECTION 26, TOWNSHIP 6 NORTH, RANGE 84 WEST OF THE 6TH P.M. SAID BRASS CAP ALSO BEING CITY OF STEAMBOAT SPRINGS GIS CONTROL POINT NUMBER 344, HAVING AN ELEVATION OF 6935.31 BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). AS SHOWN HEREON.
6. CONTOUR INTERVAL = 1 FOOT
7. BURIED UTILITIES AND/OR PIPE LINES ARE SHOWN PER VISIBLE SURFACE EVIDENCE, AS-BUILT DRAWINGS OF THE CONSTRUCTED UTILITY LINES AND MARKINGS PROVIDED BY A UTILITY LOCATING SERVICE. LOCATIONS SHOWN ARE APPROXIMATE. IF ANY UNDERGROUND UTILITY LOCATIONS ARE REQUIRED, THEY WILL HAVE TO BE VERIFIED BY FIELD POTHOLING THE UTILITIES. LANDMARK CONSULTANTS, INC. AND THE SURVEYOR OF RECORD SHALL NOT BE LIABLE FOR THE LOCATION OF OR THE FAILURE TO NOTE THE LOCATION OF NON-VISIBLE UTILITIES.
8. THE LAST FIELD INSPECTION OF THE SITE WAS ON JANUARY 5, 2021.
9. ALL SYMBOLS ARE ONLY GRAPHICALLY REPRESENTED AND ARE NOT TO SCALE.
10. FINISH FLOOR ELEVATIONS WERE OBTAINED BY MEASUREMENTS MADE ON LANDINGS OR DOOR SILLS OUTSIDE THE BUILDING. INTERIOR FLOOR ELEVATIONS SHOULD BE VERIFIED WHERE APPROPRIATE.
11. WHERE 'MD' IS NOTED FOR STORM/AREA DRAIN INVERTS, THE DRAINS WERE MEASURED DOWN BUT IT WAS UNKNOWN WHETHER THE MEASUREMENT WAS TO A WYE, BEND OR INVERT DUE TO LACK OF VISIBILITY. THE 'MD' IS INTENDED TO REPRESENT 'MEASURED DEPTH'. SOME DISCREPANCIES MAY EXIST.

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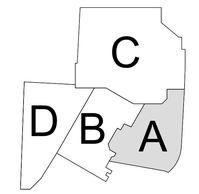
KEY PLAN



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COLORADO LICENSED
ERIC J. GRIEPENTROG
32280
PROFESSIONAL ENGINEER

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Project Name GONDOLA PLAZA

SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
Existing Conditions Plan

Scale
SEE GRAPHICAL SCALE

1A-C.003

NORTH

20 0 20 40 60 Feet

(IN FEET)
1 inch = 20 ft.

EASEMENT LEGEND

1	RECEPTION NO. 693016: 20' ACCESS EASEMENT EAST HOTEL ACROSS OSP
2	BOOK 729, PAGE 339, RECEPTION NO. 746875: BUDDY'S RUN DECK ENCROACHMENT EASEMENT
3	RECEPTION NO. 693287: INTERFACE EASEMENT
4	RECEPTION NO. 693287: INTERFACE EASEMENT, REVOCABLE PORTION
5	BOOK 532, PAGE 820: 10' SANITARY SEWER EASEMENT
6	RECEPTION NO. 693286: PARKING, ACCESS & MAINTENANCE EASEMENT
7	BOOK 729, PAGE 338, RECEPTION NO. 687253, RECEPTION NO. 705974: EAST HOTEL ACCESS EASEMENT AS AMENDED BY RECEPTION NO. ________________
8	BOOK 634, PAGE 49: 10' PEDESTRIAN AND BICYCLE PATH EASEMENT
9	RECEPTION NO. 307130, FILE NO 8823: 12' PEDESTRIAN EASEMENT
10	BOOK 374, PAGE 345, BOOK 376, PAGE 318, RECEPTION NO. 770696 : 20' WATER LINE EASEMENT
11	BOOK 337, PAGE 337: PERPETUAL VISUAL EASEMENT
12	BOOK 393, PAGE 509 & BOOK 395, PAGE 376: ROAD EASEMENT
13	BOOK 412, PAGE 341: ENTRYWAY EASEMENT
14	BOOK 412, PAGE 343: ACCESS EASEMENT
15	BOOK 580, PAGE 70, RECEPTION NO. 727257, RECEPTION NO. 727903: LANDSCAPING AND ACCESS EASEMENT (BEAR CLAW II)
16	BOOK 745, PAGE 286: 20' SEWER EASEMENT
17	RECEPTION NO. 673610, RECEPTION NO. 705975, RECEPTION NO. 789275: SEWER EASEMENT
18	RECEPTION NO.s 673610 & 705975: SEWER EASEMENT RELOCATION AREA
19	RECEPTION NO. 789275: SEWER ENCROACHMENT AREA
20	RECEPTION NO. 678035: FIRE SEPARATION EASEMENT
21	RECEPTION NO. 692162: SKI EASEMENT
22	RECEPTION NO. 693153: WATER MAINS EASEMENT
23	RECEPTION NO. 699297, RECEPTION NO. 749729, RECEPTION NO. 702319, RECEPTION NO. 713742: PUBLIC IMPROVEMENTS EASEMENT (HATCHED)
24	RECEPTION NO. 699297, RECEPTION NO. 713742: PUBLIC IMPROVEMENTS EASEMENT (BOILER HOUSE)
25	RECEPTION NO. 699720: SEWER MAINS EASEMENT
26	RECEPTION NO. 699721: WATER MAINS EASEMENT
27	RECEPTION NO. 718939, RECEPTION NO. 733617: PUBLIC IMPROVEMENTS EASEMENT (LITTLE P EASEMENT)
28	RECEPTION NO. 728342: ACCESS AND LANDSCAPE EASEMENT
29	BOOK 583, PAGE 238 & RECEPTION NO. 693278: ACCESS EASEMENT (1ST AMENDMENT EAST HOTEL ACCESS)
30	RECEPTION NO. 699296: STORM SEWER & ACCESS AND MAINTENANCE EASEMENT
31	RECEPTION NO. 693152: SANITARY SEWER EASEMENT
32	RECEPTION NO. ______: ELECTRIC EASEMENT
33	RECEPTION NO. ______: GAS EASEMENT
34	BOOK 532, PAGE 756: TELEPHONE EASEMENT
35	BOOK 601, PAGE 648: 10' BICYCLE AND PEDESTRIAN EASEMENT
36	RECEPTION NO. 789276: DECK EASEMENT AGREEMENT
37	BOOK 629, PAGE 832: PEDESTRIAN ACCESS EASEMENT
38	BOOK 532, PAGE 820, BOOK 532, PAGE 774: 10' SANITARY SEWER EASEMENT
39	BOOK 760, PAGE 976: BUILDING ENCROACHMENT EASEMENT
40	RECEPTION NO. 513746 (FILE NO. 12770); RECEPTION NO. 307130 (FILE NO. 8823): STORM SEWER EASEMENT
41	BOOK 532, PAGE 758: 16' TELEPHONE EASEMENT
42	BOOK 596, PAGE 1611: EXCLUSIVE PARKING SPACES; ENTRANCE FROM ACCESS ROUTE NO. 1; ENTRANCE FROM ACCESS ROUTE NO.2; VEHICULAR AND PEDESTRIAN INGRESS AND EGRESS ACCESS EASEMENT (ACCESS ROUTE 2); STORAGE, CLOSET, ELEVATOR & STAIRWAY
43	BOOK 532, PAGE 774: 10' ELECTRIC EASEMENT
44	BOOK 729, PAGE 342: HOTEL ACCESS EASEMENT
45	RECEPTION NO. 307130: ACCESS EASEMENT SKI HILL SUBDIVISION
46	BOOK 559, PAGE 98: TRUCK TURNAROUND LICENSE AGREEMENT
47	RECEPTION NO. 693288: INTERFACE EASEMENT
48	RECEPTION NO. 693289: NO BUILD EASEMENT
49	BOOK 596, PAGE 1487, EX A: BUILDING IMPROVEMENT EASEMENT
50	RECEPTION NO. 600980: AERIAL TRAMWAY EASEMENT
51	RECEPTION NO. 680175: SHORING EASEMENT AGREEMENT
52	RECEPTION NO. 596269: GONDOLA EXPANSION EASEMENT (MULTIPLE EXHIBITS), GONDOLA SQUARE ACCESS EASEMENT, WEST SIDE DRAINAGE EASEMENT, ETC.
53	RECEPTION NO. 693283: PEDESTRIAN ACCESS EASEMENT OSP
54	BOOK 532, PAGE 802: 10' WATERLINE EASEMENT
55	RECEPTION NO. 693285: PATIO EASEMENT, DOORWAY EASEMENT, ENTRY EASEMENTS
56	RECEPTION NO. 693280: SANITARY SEWER EASEMENT
57	RECEPTION NO. 693283: EMERGENCY ACCESS EASEMENT OSP
58	RECEPTION NO. 693290: SKI AREA EASEMENT, STORM SEWER & DRAINAGE EASEMENT, RECIPROCAL UTILITY EASEMENT, GONDOLA SQUARE ACCESS EASEMENT
59	RECEPTION NO. 693016, BOOK 729, PAGE 338: AGREEMENT (ACCESS TO EASTERN SIDE OF HOTEL
60	RECEPTION NO. 693278: DECLARATION OF EASEMENT
61	RECEPTION NO. 600979: ACCESS EASEMENT
62	BOOK 596, PAGE 1487, EX C-7: WALKWAY EASEMENT
63	RECEPTION NO. 596269, BOOK 596, PAGE 1487, EX C-8 AND C-9: STORM SEWER LINE EASEMENT AND STORM LINE EASEMENT
64	BOOK 358, PAGE 473: PRIVATE RIGHT-OF-WAY
65	RECEPTION NO. 661066: OSP EASEMENT AREA
66	RECEPTION NO. 693018: RIGHT OF WAY EASEMENT (ELECTRIC)
67	RECEPTION NO. 693279: SNOWMAKING LINE EASEMENT
68	BOOK 583, PAGE 238: 30' ACCESS EASEMENT
69	BOOK 519, PAGE 577: 10' TELEPHONE EASEMENT
70	BOOK 729, PAGE 343: HOTEL BRIDGE ACCESS, PEDESTRIAN AND EMERGENCY AND MAINTENANCE VEHICLE ACCESS
71	BOOK 532, PAGE 782: ELECTRIC EASEMENT

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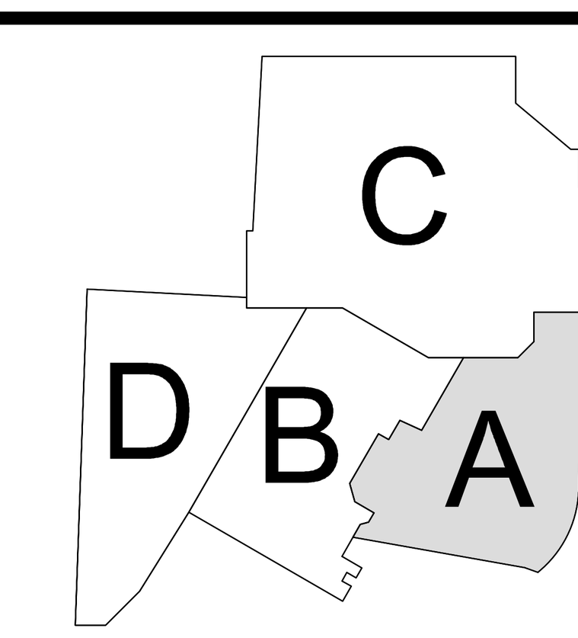
KEY PLAN



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COLORADO LICENSED PROFESSIONAL ENGINEER ERIK J. GRIEPENTROG 38280

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Project Name GONDOLA PLAZA

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

Description

Existing Property Easement Exhibit

Scale

SEE GRAPHICAL SCALE

1A-C.004

NORTH

30 0 30 60 90 Feet

(IN FEET)
1 inch = 30 ft.

LEGEND

- PROPERTY BOUNDARY
- TIE
- CONTROL POINT
- BENCHMARK
- GRID LINE (BY OTHERS)

NOTES

1. ALL REFERENCES HEREON TO BOOKS, PAGES, FILES, RECEPTION NUMBERS AND FILE NUMBERS ARE TO PUBLIC DOCUMENTS FILED IN THE RECORDS OF ROUTT COUNTY, COLORADO.
2. COORDINATES AND BEARINGS SHOWN HEREON ARE COLORADO COORDINATE SYSTEM, NORTH ZONE 0501, US SURVEY FEET, NAD83(2011)
3. BASIS OF BEARINGS: A GRID BEARING OF 73°07'36" BETWEEN THE PROJECT BENCHMARKS AS MONUMENTED AND SHOWN HEREON.
4. THE POSITION AND ALIGNMENT OF THE GRIDLINES SHOWN HEREON **MUST** BE COORDINATED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS.

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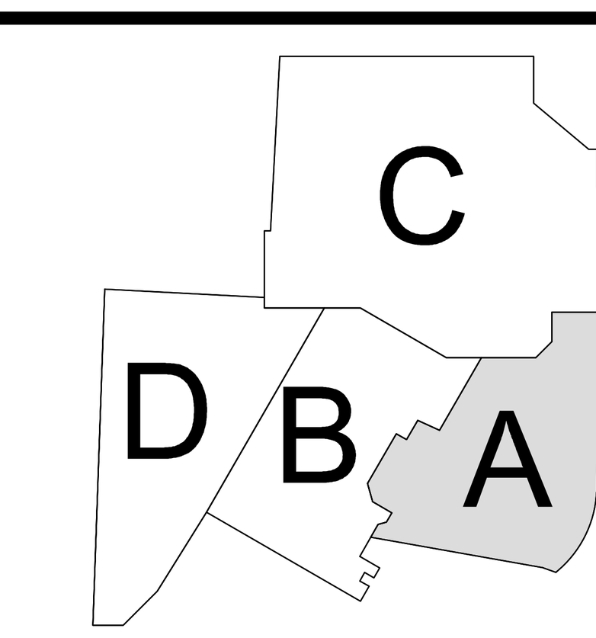

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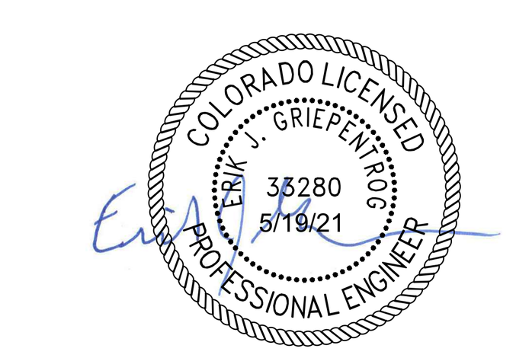

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Project Name GONDOLA PLAZA

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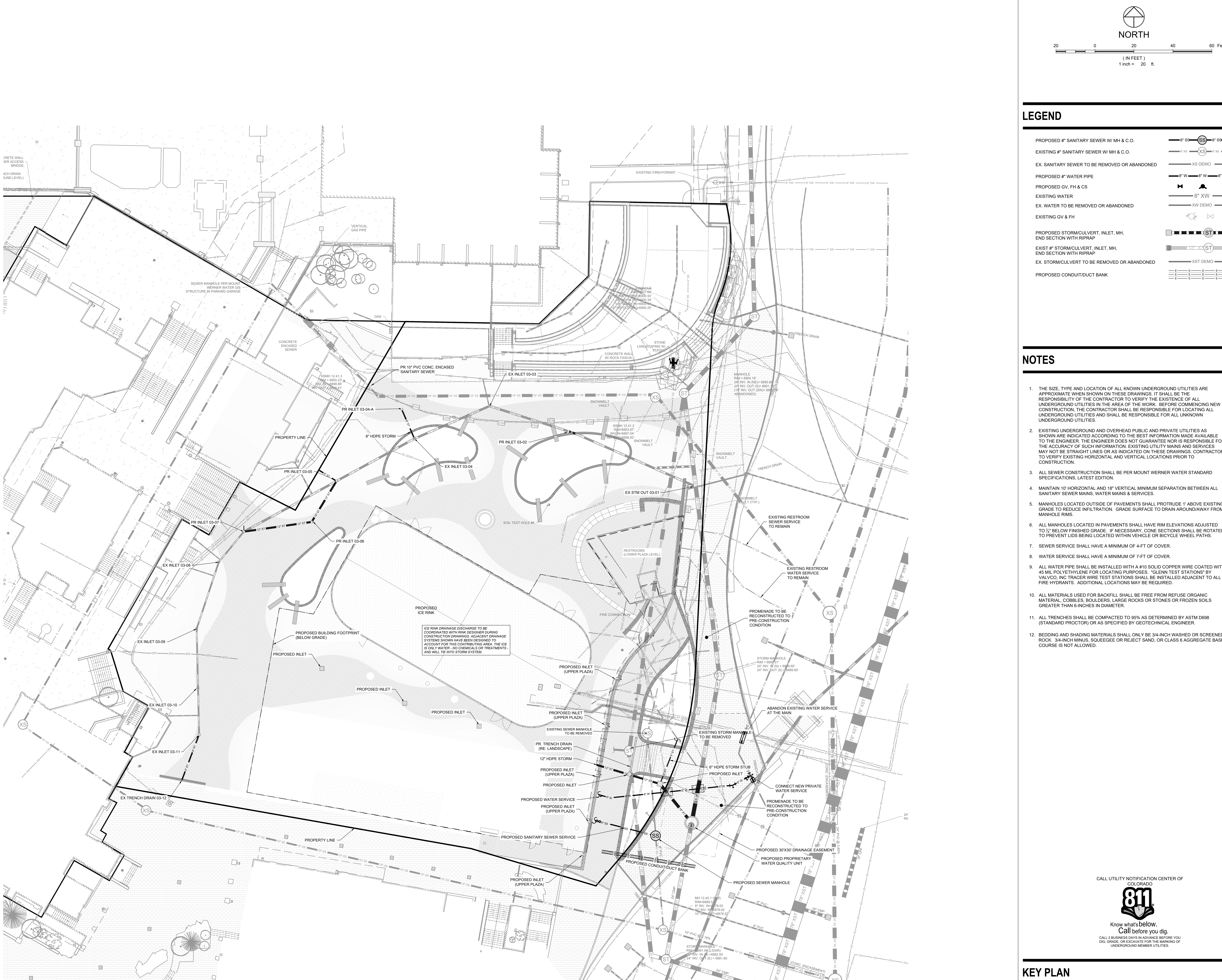
Description

HORIZONTAL CONTROL PLAN

Scale

SEE GRAPHICAL SCALE

1A-C.090



LEGEND

PROPOSED #" SANITARY SEWER W/ MH & C.O.	8" SS (SS) 8" SS (C)
EXISTING #" SANITARY SEWER W/ MH & C.O.	8" XS (XS) 8" XS (C)
EX. SANITARY SEWER TO BE REMOVED OR ABANDONED	XS DEMO
PROPOSED #" WATER PIPE	8" W 8" W 8" W
PROPOSED GV, FH & CS	
EXISTING WATER	8" XW
EX. WATER TO BE REMOVED OR ABANDONED	XW DEMO
EXISTING GV & FH	
PROPOSED STORM/CULVERT, INLET, MH, END SECTION WITH RIPRAP	(ST)
EXIST #" STORM/CULVERT, INLET, MH, END SECTION WITH RIPRAP	18" XS (ST)
EX. STORM/CULVERT TO BE REMOVED OR ABANDONED	XST DEMO
PROPOSED CONDUIT/DUCT BANK	E E E E E

NOTES

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2. EXISTING UNDERGROUND AND OVERHEAD PUBLIC AND PRIVATE UTILITIES AS SHOWN ARE INDICATED ACCORDING TO THE BEST INFORMATION MADE AVAILABLE TO THE ENGINEER. THE ENGINEER DOES NOT GUARANTEE NOR IS RESPONSIBLE FOR THE ACCURACY OF SUCH INFORMATION. EXISTING UTILITY MAINS AND SERVICES MAY NOT BE STRAIGHT LINES OR AS INDICATED ON THESE DRAWINGS. CONTRACTOR TO VERIFY EXISTING HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO CONSTRUCTION.
3. ALL SEWER CONSTRUCTION SHALL BE PER MOUNT WERNER WATER STANDARD SPECIFICATIONS, LATEST EDITION.
4. MAINTAIN 10' HORIZONTAL AND 18" VERTICAL MINIMUM SEPARATION BETWEEN ALL SANITARY SEWER MAINS, WATER MAINS & SERVICES.
5. MANHOLES LOCATED OUTSIDE OF PAVEMENTS SHALL PROTRUDE 1' ABOVE EXISTING GRADE TO REDUCE INFILTRATION. GRADE SURFACE TO DRAIN AROUND/AWAY FROM MANHOLE RIMS.
6. ALL MANHOLES LOCATED IN PAVEMENTS SHALL HAVE RIM ELEVATIONS ADJUSTED TO ¼" BELOW FINISHED GRADE. IF NECESSARY, CONE SECTIONS SHALL BE ROTATED TO PREVENT LIDS BEING LOCATED WITHIN VEHICLE OR BICYCLE WHEEL PATHS.
7. SEWER SERVICE SHALL HAVE A MINIMUM OF 4-FT OF COVER.
8. WATER SERVICE SHALL HAVE A MINIMUM OF 7-FT OF COVER.
9. ALL WATER PIPE SHALL BE INSTALLED WITH A #10 SOLID COPPER WIRE COATED WITH 45 MIL POLYETHYLENE FOR LOCATING PURPOSES. "GLENN TEST STATIONS" BY VALVCO, INC TRACER WIRE TEST STATIONS SHALL BE INSTALLED ADJACENT TO ALL FIRE HYDRANTS. ADDITIONAL LOCATIONS MAY BE REQUIRED.
10. ALL MATERIALS USED FOR BACKFILL SHALL BE FREE FROM REFUSE ORGANIC MATERIAL, COBBLES, BOULDERS, LARGE ROCKS OR STONES OR FROZEN SOILS GREATER THAN 6-INCHES IN DIAMETER.
11. ALL TRENCHES SHALL BE COMPACTED TO 95% AS DETERMINED BY ASTM D698 (STANDARD PROCTOR) OR AS SPECIFIED BY GEOTECHNICAL ENGINEER.
12. BEDDING AND SHADING MATERIALS SHALL ONLY BE 3/4-INCH WASHED OR SCREENED ROCK. 3/4-INCH MINUS, SQUEEGEE OR REJECT SAND, OR CLASS 6 AGGREGATE BASE COURSE IS NOT ALLOWED.

CALL UTILITY NOTIFICATION CENTER OF COLORADO

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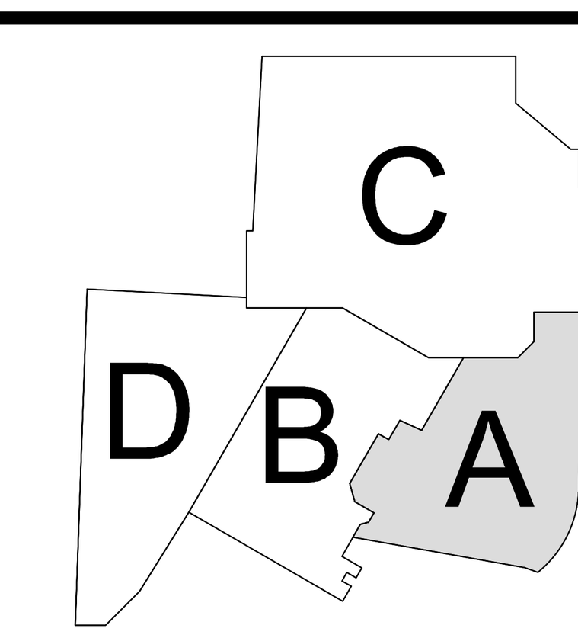
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

KEY PLAN



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△	Date	Description
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COLORADO LICENSED PROFESSIONAL ENGINEER 38280

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Seal / Signature

Project Name GONDOLA PLAZA

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

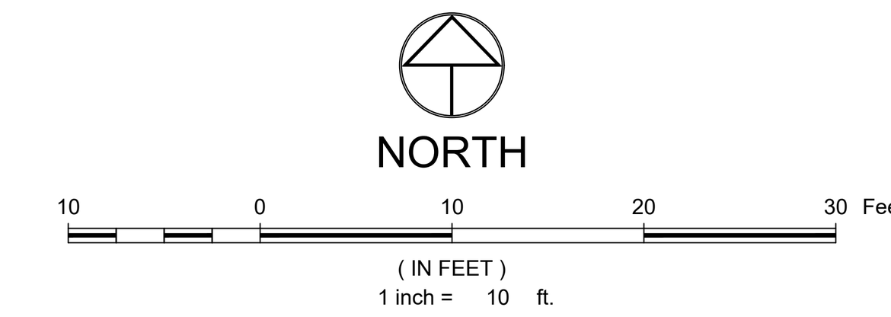
Description

OVERALL UTILITY PLAN

Scale

SEE GRAPHICAL SCALE

1A-C.200



LEGEND

PROPOSED #" SANITARY SEWER W/ MH & C.O.	8" SS — SS — 8" SS
EXISTING #" SANITARY SEWER W/ MH & C.O.	XS
EX. SANITARY SEWER TO BE REMOVED OR ABANDONED	XS DEMO
PROPOSED #" WATER PIPE	8" W — 8" W — 8" W
PROPOSED GV, FH & CS	
EXISTING WATER	8" XW
EX. WATER TO BE REMOVED OR ABANDONED	XW DEMO
EXISTING GV & FH	
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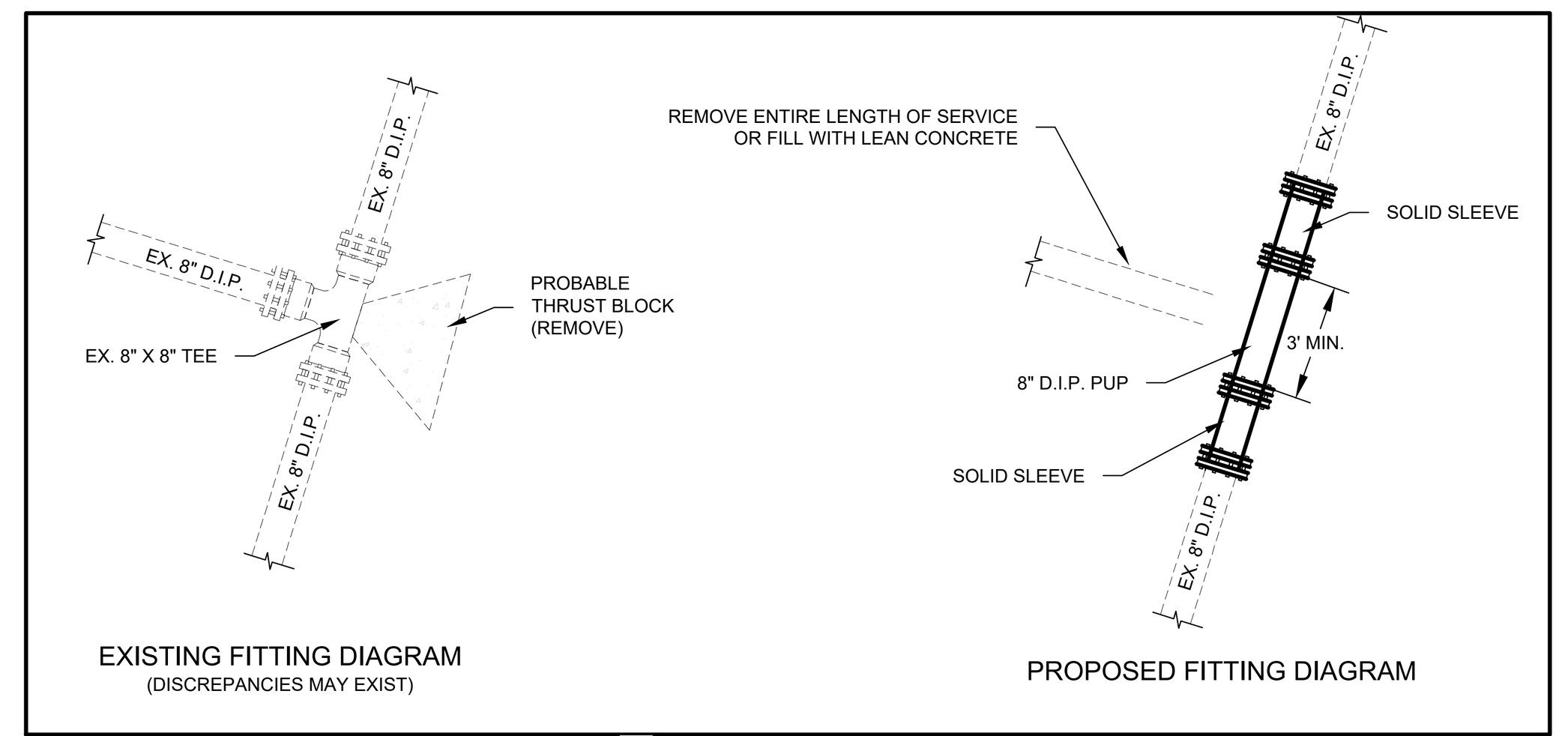

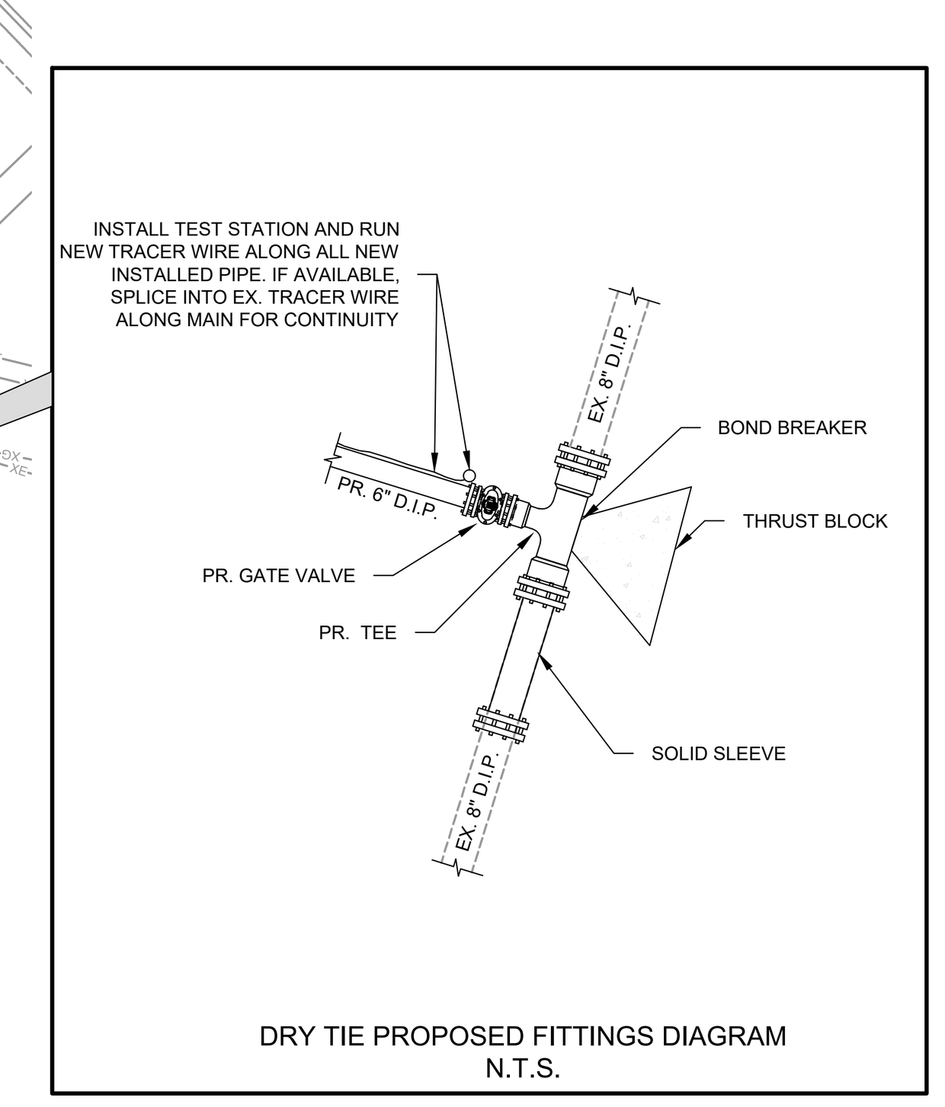

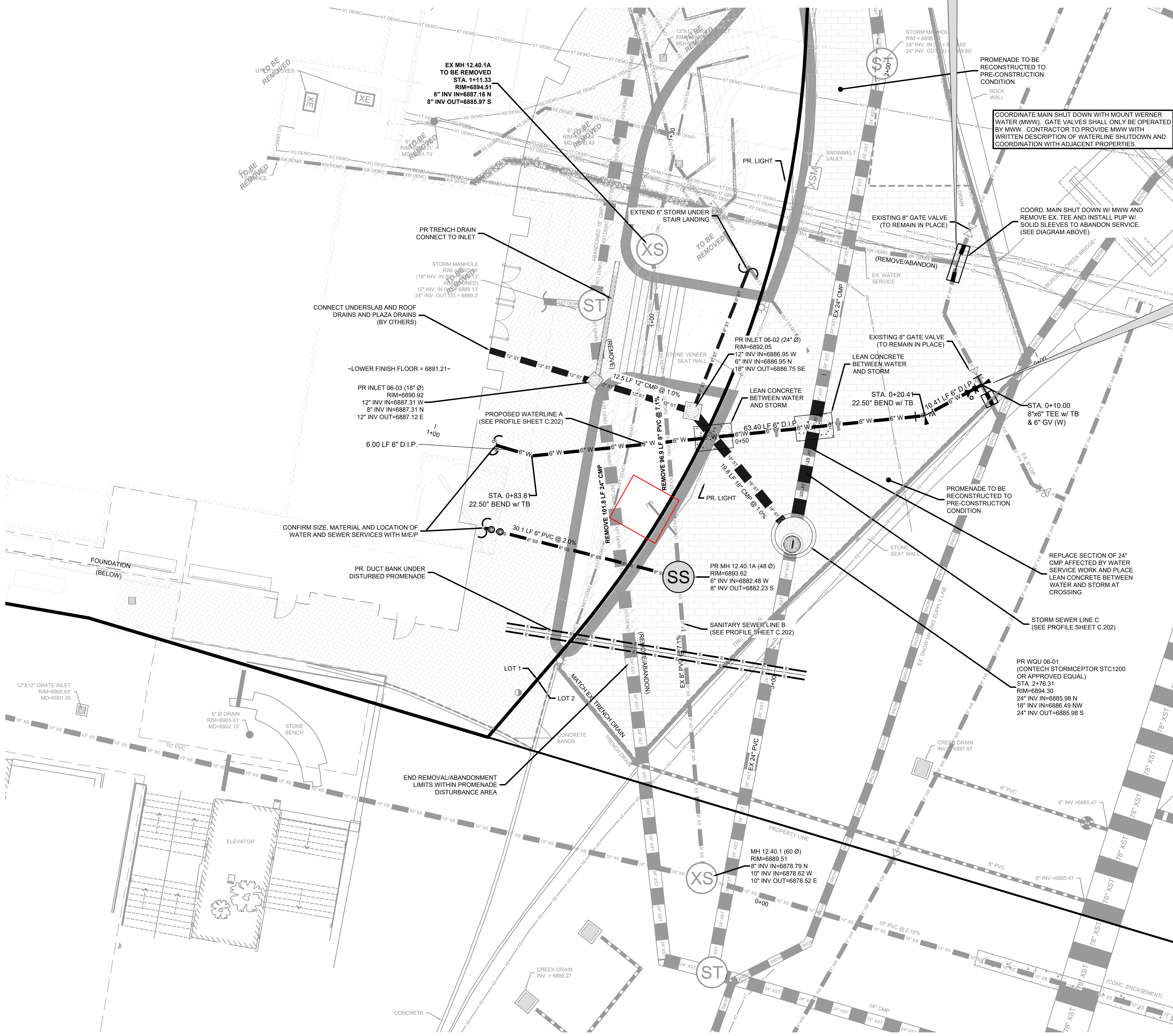

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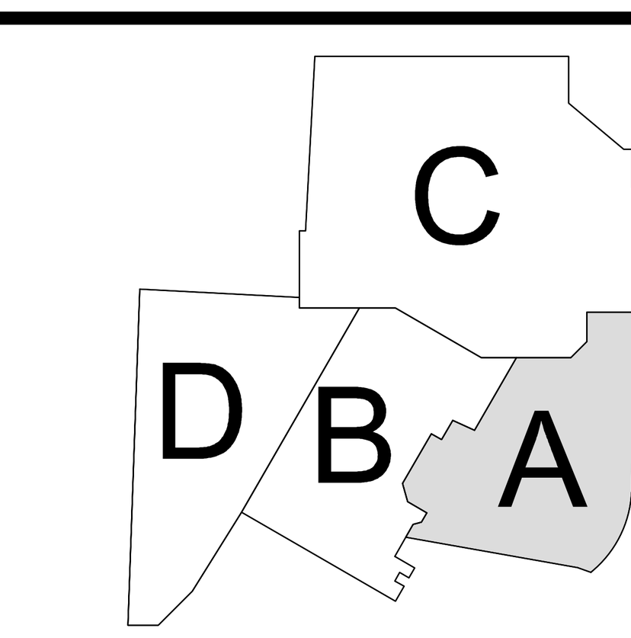
KEY PLAN



Project Name GONDOLA PLAZA

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

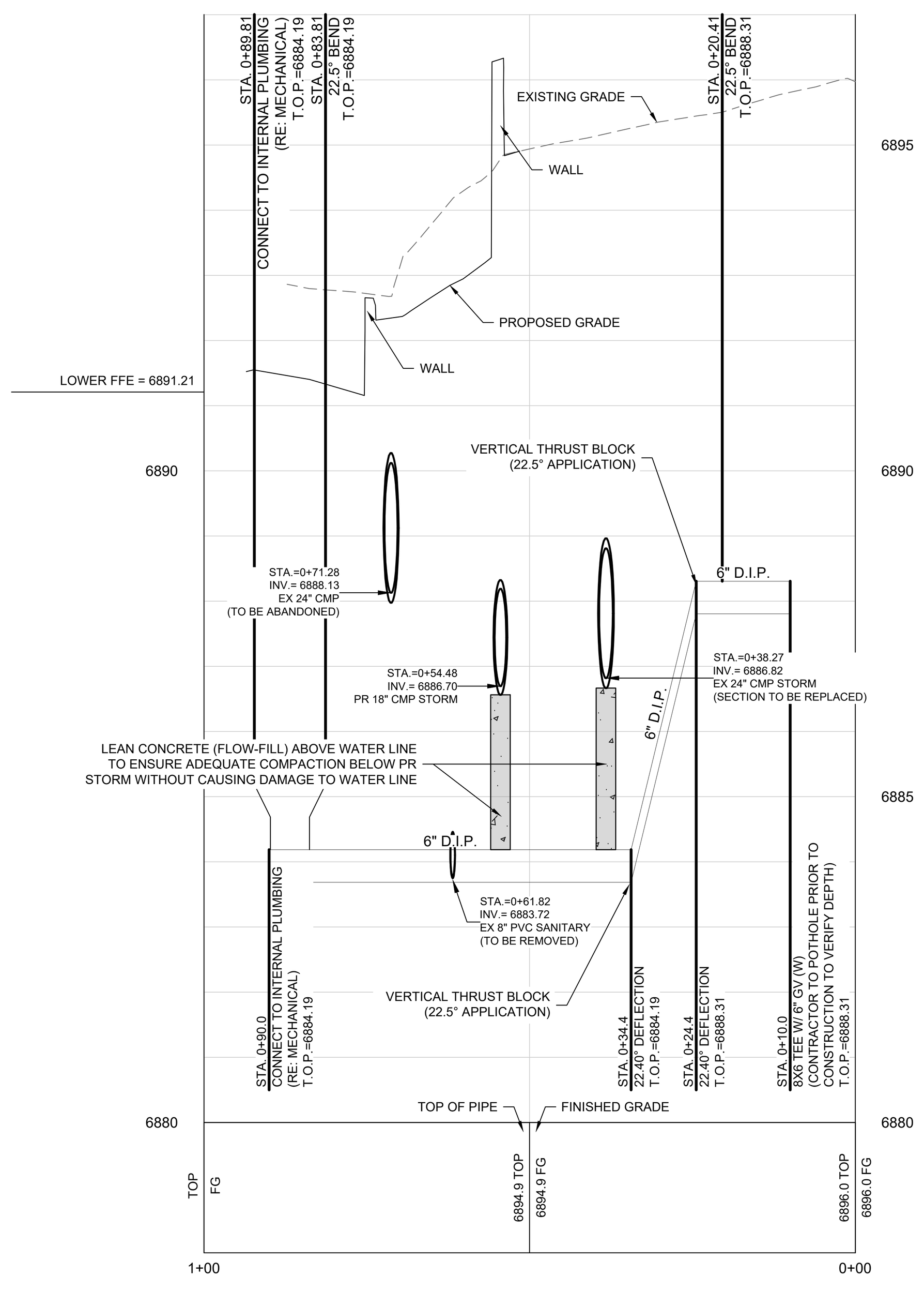
Description

DETAILED UTILITY PLAN

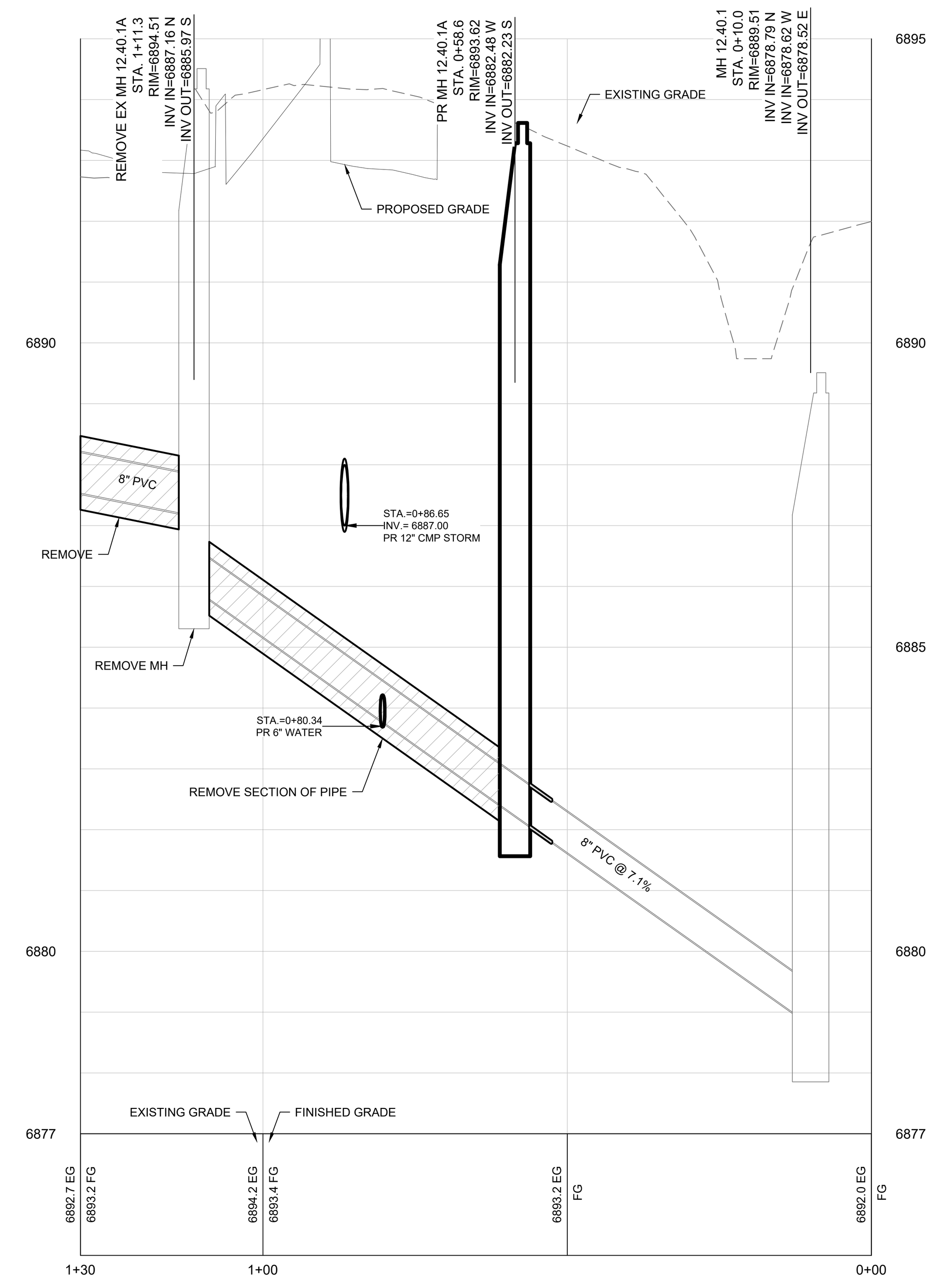
Scale

SEE GRAPHICAL SCALE

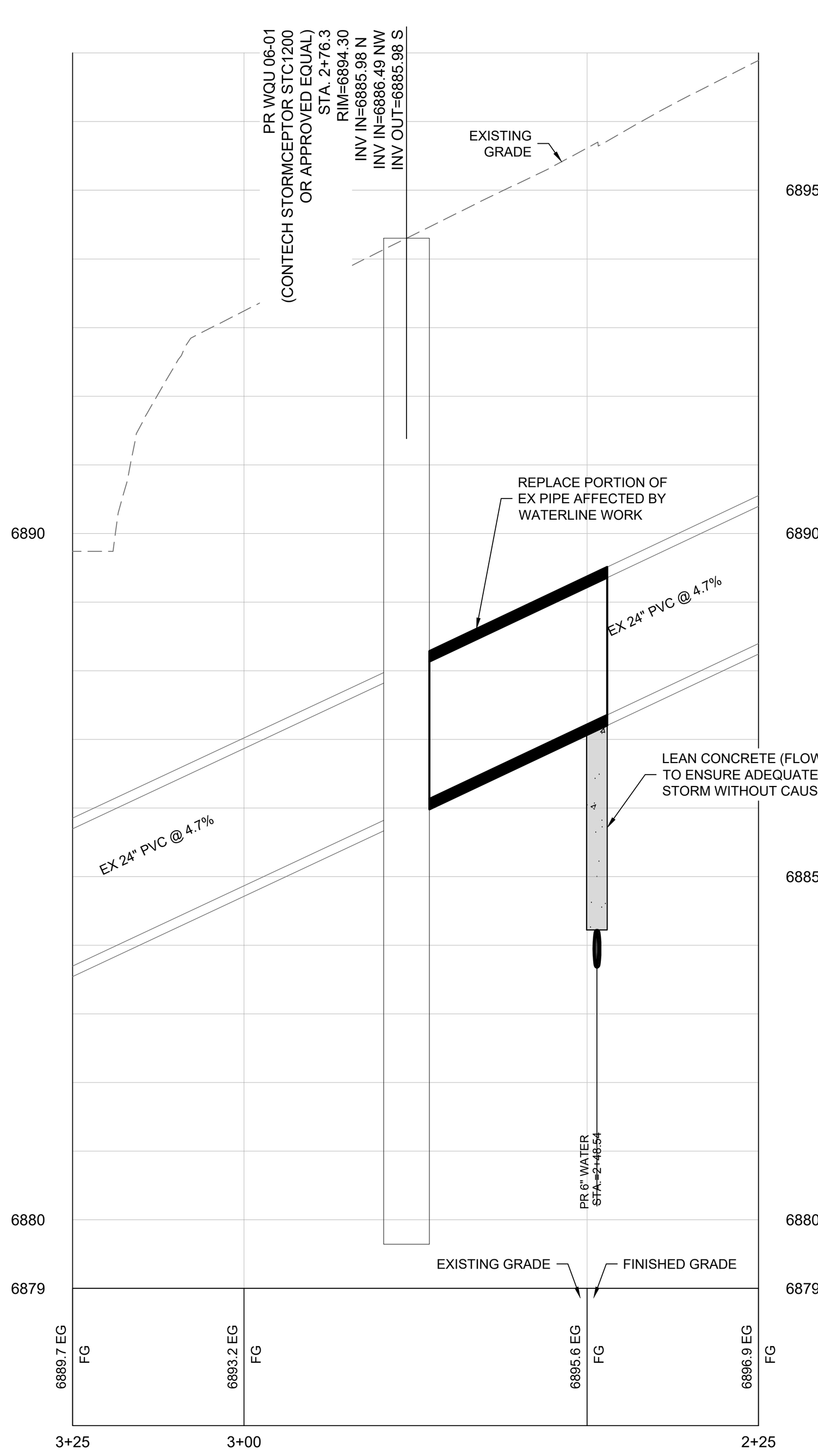
1A-C.201



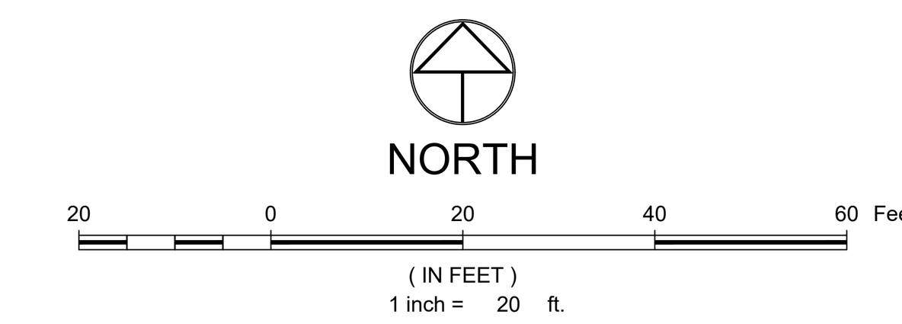
WATERLINE A
SCALE: 1" = 20' (H) 1" = 2' (V)



SANITARY SEWER LINE B
SCALE: 1" = 20' (H) 1" = 2' (V)



STORM SEWER LINE C
SCALE: 1" = 20' (H) 1" = 2' (V)



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- PROPOSED #" SANITARY SEWER W/ MH & C.O.
- EXISTING #" SANITARY SEWER W/ MH & C.O.
- EX. SANITARY SEWER TO BE REMOVED OR ABANDONED
- PROPOSED #" WATER PIPE
- PROPOSED GV, FH & CS
- EXISTING WATER
- EX. WATER TO BE REMOVED OR ABANDONED
- EXISTING GV & FH
- PROPOSED STORM/CULVERT, INLET, MH, END SECTION WITH RIPRAP
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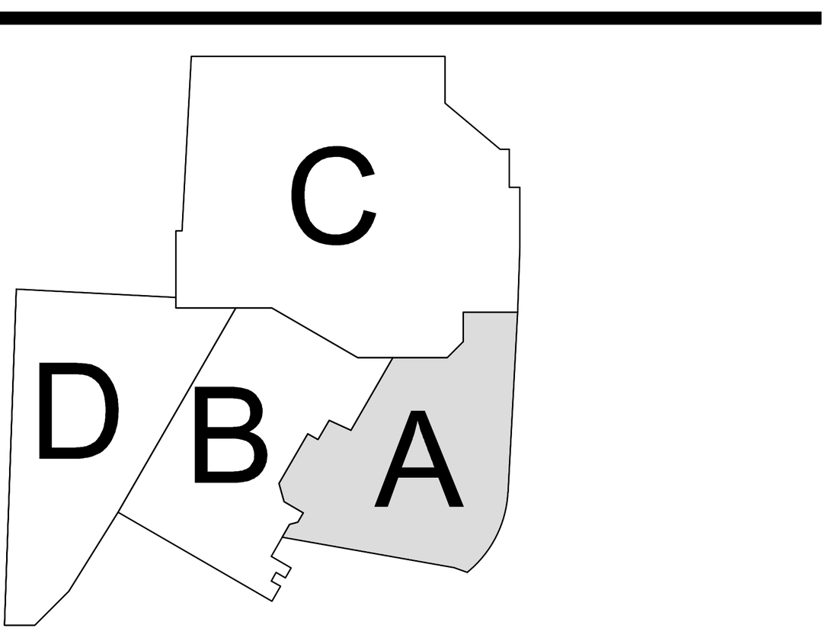
KEY PLAN



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Project Name GONDOLA PLAZA

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

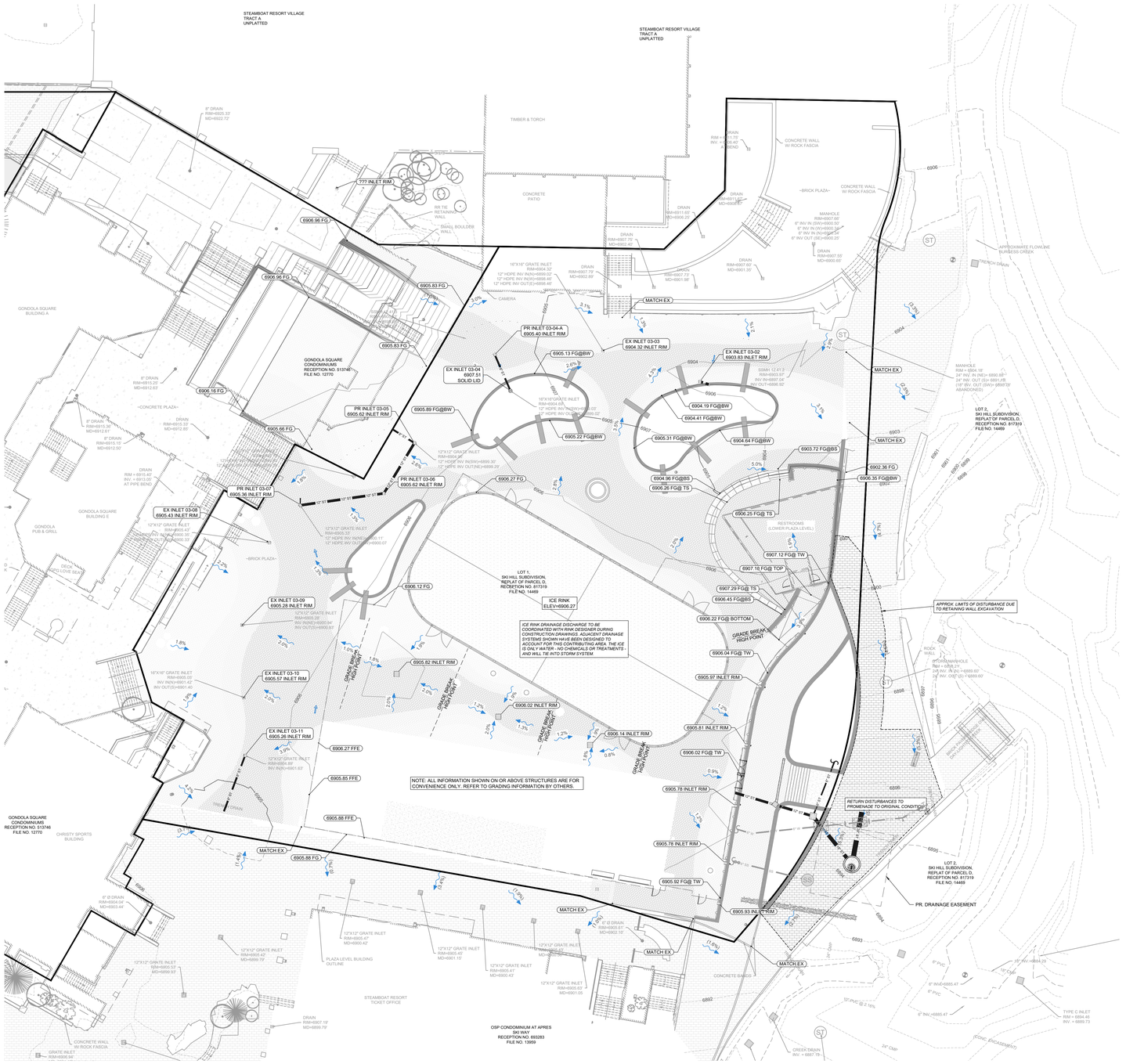
Description

UTILITY PLAN AND PROFILES

Scale

SEE GRAPHICAL SCALE

1A-C.202



LEGEND

EXISTING STORM SEWER	12" XST
PROPOSED STORM SEWER	12" ST
PROPOSED STORM INLET (CURB & AREA)	
PROPOSED MAJOR CONTOUR	6805
PROPOSED MINOR CONTOUR	
EXISTING MAJOR CONTOUR	6805
EXISTING MINOR CONTOUR	
PROPOSED SWALE	
PROPOSED CURB & GUTTER	
PROPERTY BOUNDARY	
PROPOSED LOT LINE	
EXISTING RIGHT OF WAY	
FLOOD HAZARD LIMITS	
PROPOSED SPOT ELEVATION	00.10
EXISTING SPOT ELEVATION	00.10 X
PROPOSED OVERLAND FLOW DIRECTION W/SLOPE	2.0%
EXISTING OVERLAND FLOW DIRECTION W/SLOPE	(2.0%)
PROPOSED CHANNELIZED FLOW DIRECTION W/ SLOPE	2.0%
EXISTING CHANNELIZED FLOW DIRECTION	⇐

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ERIK J. GRIEPENTROG
33280

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Project Name GONDOLA PLAZA

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

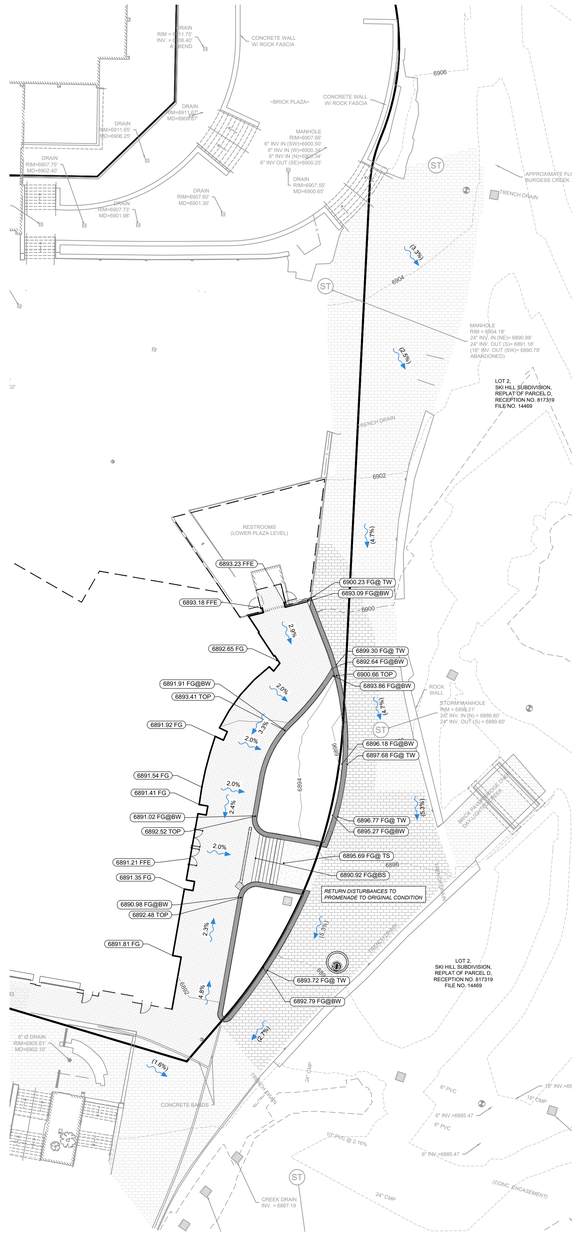
Description

Overall Grading Plan

Scale

SEE GRAPHICAL SCALE

1A-C.300



NOTE: ALL INFORMATION SHOWN ON OR ABOVE
STRUCTURES ARE FOR CONVENIENCE ONLY.
REFER TO GRADING INFORMATION BY OTHERS.

ICE RINK DRAINAGE DISCHARGE TO BE COORDINATED WITH RINK DESIGNER DURING CONSTRUCTION DRAWINGS. ADJACENT DRAINAGE SYSTEMS SHOWN HAVE BEEN DESIGNED TO ACCOUNT FOR THIS CONTRIBUTING AREA. THE ICE IS ONLY WATER - NO CHEMICALS OR TREATMENTS - AND WILL TIE INTO STORM SYSTEM.

UPPER PLAZA GRADING

RETURN DISTURBANCES TO PROMENADE TO ORIGINAL CONDITION

LOWER PLAZA GRADING

NORTH

20 0 20 40 60 Feet
(IN FEET)
1 inch = 20 ft.

LEGEND

EXISTING STORM SEWER	12" XST
PROPOSED STORM SEWER	12" ST
PROPOSED STORM INLET (CURB & AREA)	· ▦
PROPOSED MAJOR CONTOUR	6805
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United States
Tel 303.421.6655

△	Date	Description
--	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

ERIK J. GRIEPENTROG
38280
Erik J Gr

NOT VALID WITHOUT ORIGINAL SIGNATURE AND DATE

Seal / Signature

Project Name GONDOLA PLAZA

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

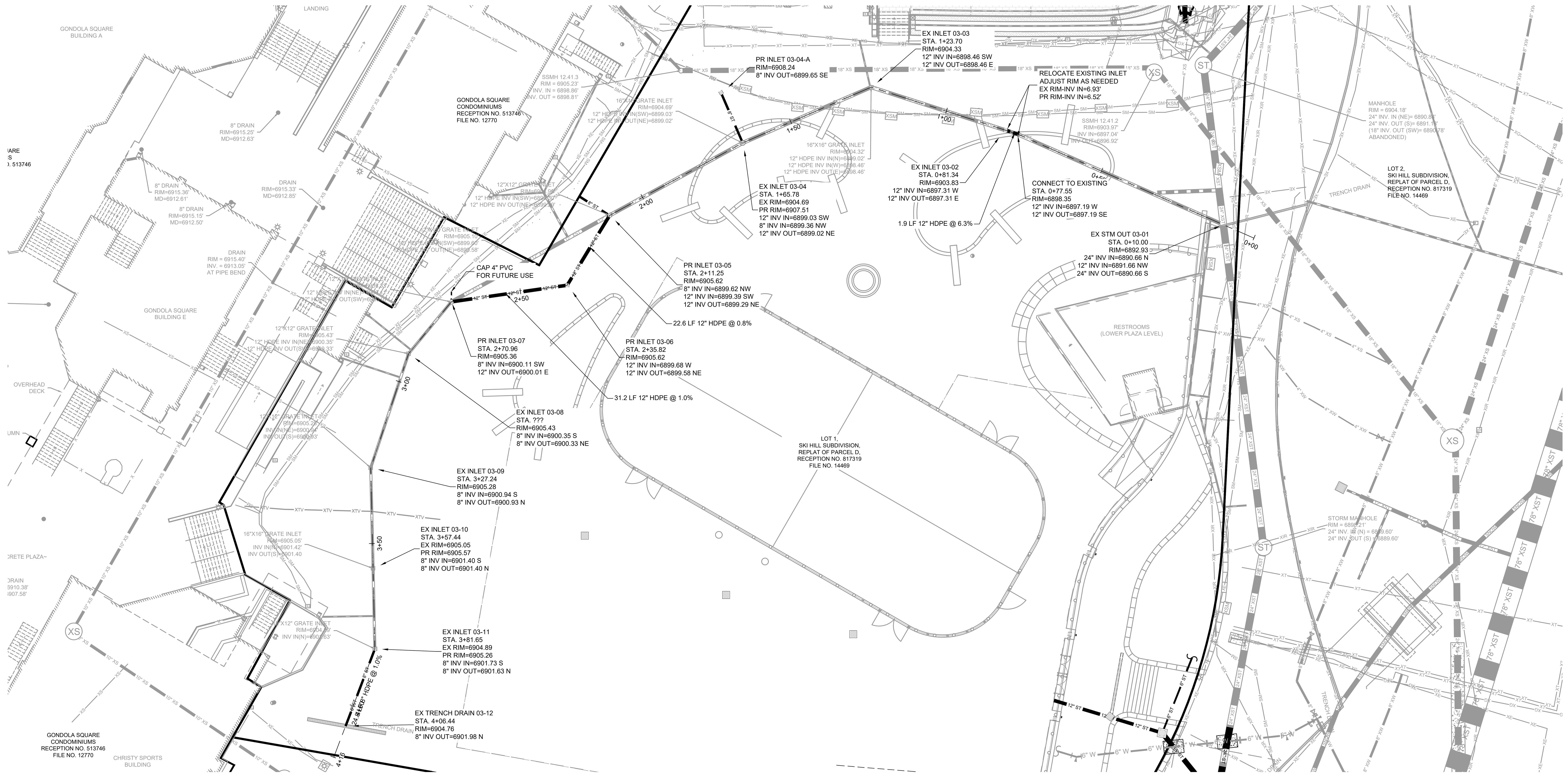
Description

Segregated Civil Grading Plan

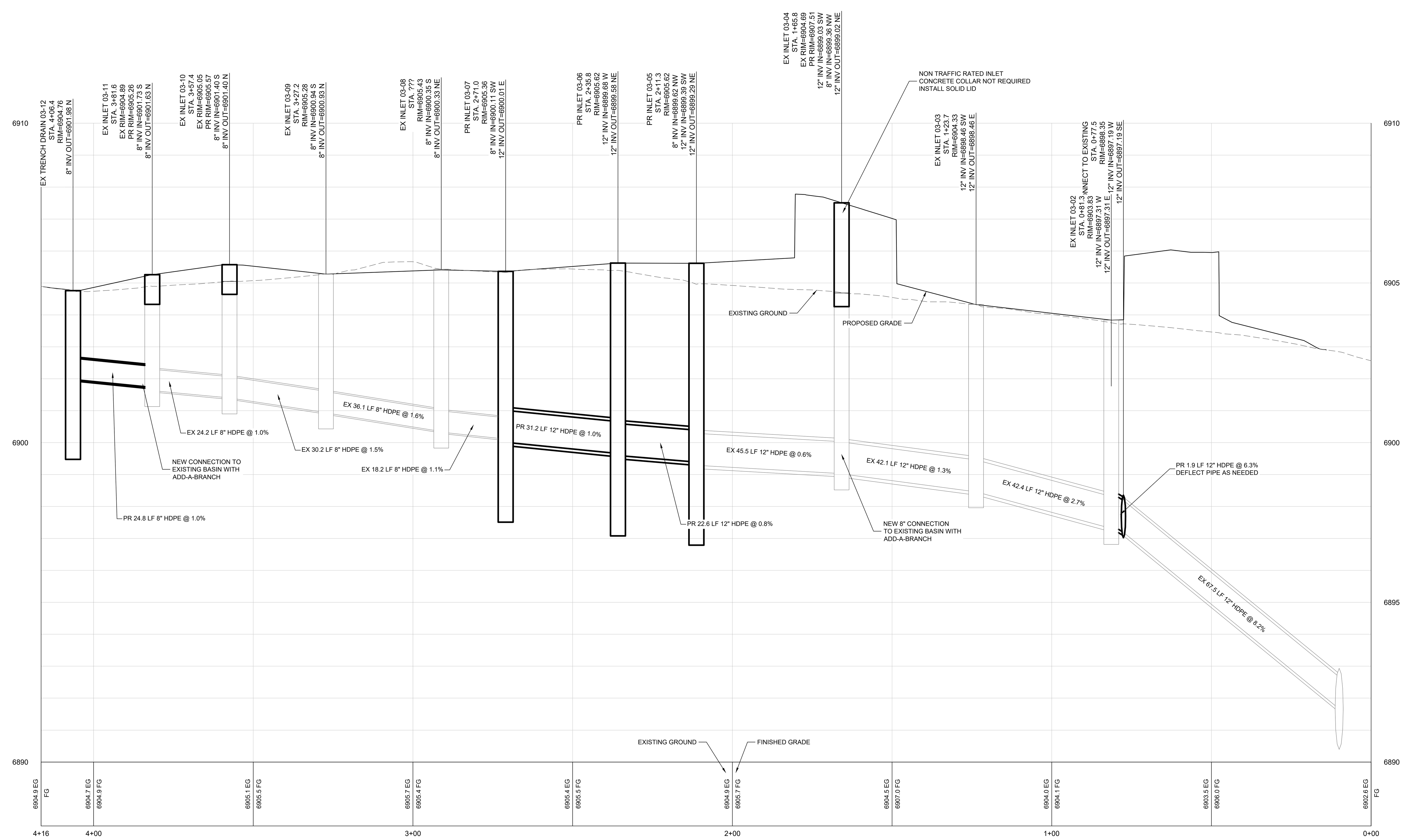
Scale

SEE GRAPHICAL SCALE

1A-C.301



STORM SEWER PLAN & PROFILE
SCALE: 1" = 20' (H) 1" = 2' (V)



NORTH

20 0 20 40 60 Feet
(IN FEET)
1 inch = 20 ft.

LEGEND

- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED STORM INLET (CURB & AREA)
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED SWALE
- PROPOSED CURB & GUTTER
- PROPERTY BOUNDARY
- PROPOSED LOT LINE
- EXISTING RIGHT OF WAY
- FLOOD HAZARD LIMITS
- PROPOSED SPOT ELEVATION (00.10)
- EXISTING SPOT ELEVATION (00.10 X)
- PROPOSED OVERLAND FLOW DIRECTION W/SLOPE (2.0%)
- EXISTING OVERLAND FLOW DIRECTION W/SLOPE ((2.0%))
- PROPOSED CHANNELIZED FLOW DIRECTION W/ SLOPE (2.0%)
- EXISTING CHANNELIZED FLOW DIRECTION

NOTES

1. THE SIZE, TYPE AND LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO VERIFY THE EXISTENCE OF ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK. BEFORE COMMENCING NEW CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR FOR ALL UNKNOWN UNDERGROUND UTILITIES.
2. ALL PROJECT DATA IS ON VERTICAL DATUM; NAVD 88. SEE NOTES SHEET FOR BENCHMARK REFERENCES.
3. ELEVATIONS FOR IMPROVEMENTS THAT ARE CONTROLLED BY ADJACENT EXISTING FACILITIES (SUCH AS PROPOSED GUTTERS ALONG EXISTING ASPHALT) MAY REQUIRE ADJUSTMENT BASED ON ACTUAL CONDITIONS. COORDINATE WITH ENGINEER TO ENSURE A CONSISTENT SECTION WITH SMOOTH TRANSITIONS WHERE NECESSARY.
4. SEE SOILS REPORT FOR PAVEMENT, SUBGRADE AND MATERIAL PREPARATION, DESIGN AND RECOMMENDATIONS.
5. ALL CURB SPOTS SHOWN ARE FLOWLINE ELEVATIONS, UNLESS NOTED OTHERWISE. ALL OTHER SPOTS ARE FINISHED GRADE ELEVATIONS.

INLET SCHEDULE

STRUCTURE	SIZE	MODEL	GRATE
03-05	15"	NYLOPLAST	12"X12" STANDARD*
03-06	15"	NYLOPLAST	12"X12" STANDARD*
03-07	15"	NYLOPLAST	12"X12" STANDARD*

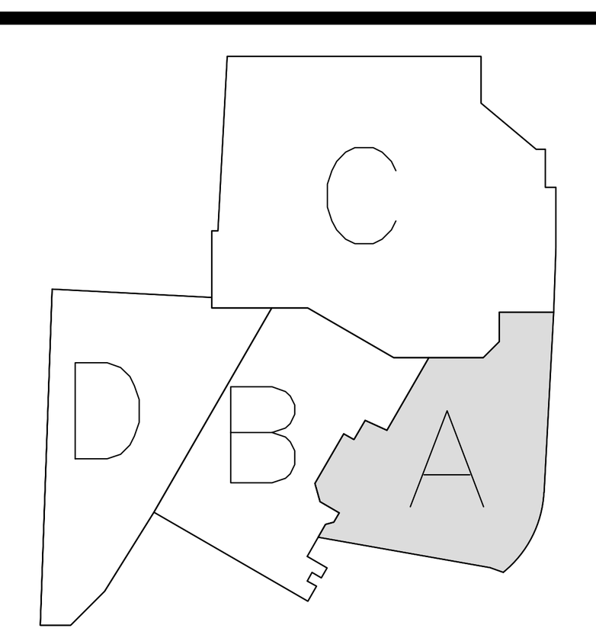
* - REDUCER REQUIRED. SEE DETAIL

CALL UTILITY NOTIFICATION CENTER OF COLORADO

811 Know what's below. Call before you dig.

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

KEY PLAN



Steamboat
ALTERRA MOUNTAIN COMPANY
east west partners

2305 Mount Werner Circle
Steamboat Springs, CO 80487

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1225 17th Street
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United States
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Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

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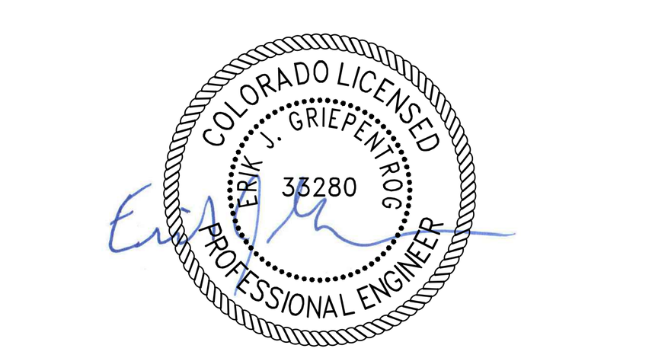

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Seal / Signature

Project Name GONDOLA PLAZA

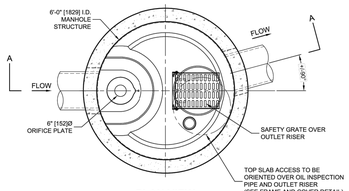
SSRC | BASE AREA IMPROVEMENTS

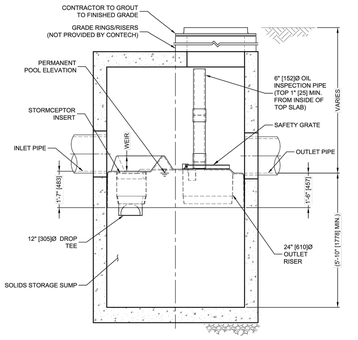
Project Number
003.7835.000

Description
Storm Sewer Plan & Profile

Scale
SEE GRAPHICAL SCALE

1A-C.310





PLAN VIEW
TOP SLAB NOT SHOWN

SECTION A-A

Stormceptor®
FOR PATENT INFORMATION, GO TO www.ContechES.com/IP

I:\COMMON\CAD\TREATMENT\23 STORMCEPTOR\40 STANDARD DRAWINGS\IN PROCESS\STC1200-DTL.DWG 2/1/2019 3:49 PM

STORMCEPTOR DESIGN NOTES

THE STANDARD STC1200 CONFIGURATION IS SHOWN.

FRAME AND COVER
(MAY VARY)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RETURN PERIOD OF PEAK FLOW (yrs)	
RIM ELEVATION	

PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			

NOTES / SPECIAL REQUIREMENTS:

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STORMCEPTOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. STORMCEPTOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMCEPTOR MANHOLE STRUCTURE.
- C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

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STC1200
STORMCEPTOR
STANDARD DETAIL

1. EXECUTION

4.1. CONCRETE INSTALLATION: THE INSTALLATION OF THE CONCRETE HDS DEVICE SHOULD CONFORM TO STATE HIGHWAY, PROVINCIAL, OR LOCAL SPECIFICATIONS FOR THE CONSTRUCTION OF MANHOLES. SELECTED SECTIONS OF A GENERAL SPECIFICATION THAT ARE APPLICABLE ARE SUMMARIZED BELOW.

4.2. EXCAVATION

4.2.1. EXCAVATION FOR THE INSTALLATION OF THE STORMWATER QUALITY TREATMENT DEVICE SHOULD CONFORM TO STATE HIGHWAY, MUNICIPAL OR LOCAL SPECIFICATIONS. TOPSOIL THAT IS REMOVED DURING THE EXCAVATION FOR THE STORMWATER QUALITY TREATMENT DEVICE SHOULD BE STOCKPILED IN DESIGNATED AREAS AND SHOULD NOT BE MIXED WITH SUBSOIL OR OTHER MATERIALS. TOPSOIL STOCKPILES AND THE GENERAL SITE PREPARATION FOR THE INSTALLATION OF THE WATER QUALITY DEVICE SHOULD CONFORM TO STATE HIGHWAY, PROVINCIAL OR LOCAL SPECIFICATIONS.

4.2.2. THE HDS DEVICE SHOULD NOT BE INSTALLED ON FROZEN GROUND. EXCAVATION SHOULD EXTEND A MINIMUM OF 12 INCH (300 MM) FROM THE PRECAST CONCRETE SURFACES PLUS AN ALLOWANCE FOR SHORING AND BRACING WHERE REQUIRED. IF THE BOTTOM OF THE EXCAVATION PROVIDES AN UNSUITABLE FOUNDATION ADDITIONAL EXCAVATION MAY BE REQUIRED.

4.2.3. IN AREAS WITH A HIGH WATER TABLE, CONTINUOUS DEWATERING SHOULD BE PROVIDED TO ENSURE THAT THE EXCAVATION IS STABLE AND FREE OF WATER.

4.3. BACKFILLING: BACKFILL MATERIAL SHOULD CONFORM TO STATE HIGHWAY, MUNICIPAL OR LOCAL SPECIFICATIONS. BACKFILL MATERIAL SHOULD BE PLACED IN UNIFORM LAYERS NOT EXCEEDING 12 INCHES (300 MM) IN DEPTH AND COMPACTED TO STATE HIGHWAY, PROVINCIAL OR LOCAL SPECIFICATIONS.

4.4. WATER QUALITY DEVICE CONSTRUCTION SEQUENCE

4.4.1. THE CONCRETE WATER QUALITY DEVICE IS INSTALLED IN SECTIONS IN THE FOLLOWING SEQUENCE:
- AGGREGATE BASE
- BASE SLAB
- TREATMENT CHAMBER SECTION(S); SHALL INCLUDE THE INTERNALS BOLTED/SECURED TO THE PRECAST WALLS AND WATER TIGHT SEALED PRIOR TO ARRIVAL TO THE PROJECT SITE TO ENSURE QUALITY CONTROL
- TRANSITION SLAB (IF REQUIRED)
- BYPASS SECTION
- CONNECT INLET AND OUTLET PIPES
- RISER SECTION AND/OR TRANSITION SLAB (IF REQUIRED)
- MAINTENANCE RISER SECTION(S) (IF REQUIRED)
- FRAME AND ACCESS COVER

4.0.1. THE PRECAST BASE SHOULD BE PLACED LEVEL AT THE SPECIFIED GRADE. THE ENTIRE BASE SHOULD BE IN CONTACT WITH THE UNDERLYING COMPACTED GRANULAR MATERIAL. SUBSEQUENT SECTIONS, COMPLETE WITH JOINT SEALS, SHOULD BE INSTALLED IN ACCORDANCE WITH THE PRECAST CONCRETE MANUFACTURER'S RECOMMENDATIONS.

4.0.2. ADJUSTMENT OF THE STORMWATER QUALITY TREATMENT DEVICE CAN BE PERFORMED BY LIFTING THE UPPER SECTIONS FREE OF THE EXCAVATED AREA, RE-LEVELING THE BASE, AND RE-INSTALLING THE SECTIONS. DAMAGED SECTIONS AND GASKETS SHOULD BE REPAIRED OR REPLACED AS NECESSARY. ONCE THE STORMWATER QUALITY TREATMENT (HDS) DEVICE HAS BEEN CONSTRUCTED, ANY LIFT HOLES MUST BE PLUGGED WITH MORTAR.

4.1. DROP PIPE, RISER PIPE, AND OIL PORT: ONCE THE UPPER CHAMBER HAS BEEN ATTACHED TO THE LOWER CHAMBER, THE INLET DROP TEE, AND RISER PIPE MUST BE ATTACHED. IF AN OIL PORT IS INCLUDED, THIS MUST BE ATTACHED AS WELL. PIPE INSTALLATION INSTRUCTIONS AND REQUIRED MATERIALS SHALL BE PROVIDED WITH THE INSERT.

4.2. INLET AND OUTLET PIPES: INLET AND OUTLET PIPES SHOULD BE SECURELY SET INTO THE UPPER CHAMBER USING GROUT OR APPROVED PIPE SEALS (FLEXIBLE BOOT CONNECTIONS, WHERE APPLICABLE) SO THAT THE STRUCTURE IS WATERTIGHT. NON-SECURE INLETS AND OUTLETS WILL RESULT IN IMPROPER PERFORMANCE.

4.3. FRAME AND COVER OR FRAME AND GRATE INSTALLATION: PRECAST CONCRETE ADJUSTMENT UNITS SHOULD BE INSTALLED TO SET THE FRAME AND COVER AT THE REQUIRED ELEVATION. THE ADJUSTMENT UNITS SHOULD BE LAID IN A FULL BED OF MORTAR WITH SUCCESSIVE UNITS BEING JOINED USING SEALANT RECOMMENDED BY THE MANUFACTURER. FRAMES FOR THE COVER SHOULD BE SET IN A FULL BED OF MORTAR AT THE ELEVATION SPECIFIED.

DIAMETER	MIN. COVER	CORR. PROFILE
6"-10"	12"	1½"X¼"
12"-48"	12"	2⅔"X½"
54"-96"	12"	3"X1", 5"X1"
102"-144"	D/8	3"X1", 5"X1"

- **BACKFILL REQUIREMENTS FOLLOW THE GUIDELINES OF AASHTO LRFD BRIDGE DESIGN (SEC 12) and CONSTRUCTION (SEC 26).**

① MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE.
THE MINIMUM TRENCH WIDTH (12.6.6.1):
PIPE ≤ 12": D + 16"
PIPE > 12": 1.5D + 12"

(1a) MINIMUM EMBANKMENT WIDTH (in feet) FOR INITIAL FILL ENVELOPE (12.6.6.2):
PIPE < 24": 3.0D
PIPE 24" - 144": D + 4'0"
PIPE > 144": D + 10'0"

② THE FOUNDATION UNDER THE PIPE AND SIDE BACKFILL SHALL BE ADEQUATE TO SUPPORT THE LOADS ACTING UPON IT (26.5.2).

③ BEDDING MATERIAL SHALL BE A RELATIVELY LOOSE MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, AND A MINIMUM OF TWICE THE CORRUGATION DEPTH IN THICKNESS, WITH THE MAXIMUM PARTICLE SIZE OF ONE-HALF OF THE CORRUGATION DEPTH (26.3.8.1, 26.5.3).

④ CORRUGATED STEEL PIPE (CSP) [HEL-COR].

⑤ HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION (26.5.4).

(5a) INITIAL BACKFILL FOR PIPE EMBEDMENT TO MEET AASHTO A-1, A-2 OR A-3 CLASSIFICATION OR APPROVED EQUAL, COMPACTED TO 90% STANDARD PROCTOR (T-99). MAXIMUM PARTICLE SIZE NOT TO EXCEED 3" (12.4.1.2). ALL LIFTS PLACED IN A CONTROLLED MANNER. IT IS RECOMMENDED THAT LIFTS NOT EXCEED AN 8" UNCOMPACTED LIFT HEIGHT TO PREVENT UNEVEN LOADING, AND THE LESSER OF 1/3 THE DIAMETER OR 24" AS THE MAXIMUM DIFFERENTIAL SIDE-TO-SIDE (26.5.4).

⑥ INITIAL BACKFILL ABOVE PIPE MAY INCLUDE ROAD BASE MATERIAL (AND RIGID PAVEMENT IF APPLICABLE). SEE TABLE ABOVE.

(6a) TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT (12.6.6.3).

⑦ FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD (26.5.4.1).

NOTES:
- GEOTEXTILE SHOULD BE CONSIDERED FOR USE TO PREVENT SOIL MIGRATION INTO VARYING SOIL TYPES (PROJECT ENGINEER).
- FOR MULTIPLE BARREL INSTALLATIONS THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE PIPE DIA./2 BUT NO LESS THAN 12", OR 36" FOR PIPE DIAMETERS 72" AND LARGER. CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING (TABLE C12.6.7-1).

H:\DRAINAGE SOLUTIONS\ACAD DATA\DRAINAGE DETAILS\CURRENT STANDARD DETAILS\CMP\200-STANDARD-BACKFILL DETAILS\230-CSP-STANDARD BACKFILL-ROUND-AASHTO.DWG 2/11/2016 10:45 AM

230-CSP-STANDARD BACKFILL-ROUND-AASHTO

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CONTECH® PIPE SOLUTIONS

230 - CSP ROUND
STANDARD BACKFILL DETAIL
AASHTO

DATE DRAWN: 11/15/15 | REV #: ---- | REV DATE: ---- | SCALE: N.T.S. | DRAWING TYPE: ----

DETAIL EXTRACTED FROM NWCC'S "SUBSOIL AND FOUNDATION INVESTIGATION, STEAMBOAT BASE AREA REDEVELOPMENT, STEAMBOAT SPRINGS, COLORADO" DATED DECEMBER 30, 2020.

REFER TO THEIR REPORT FOR ADDITIONAL INFORMATION.

SNOWMELT SYSTEM AND PAVER SPECIFICS BY OTHERS.

Title: BRICK PAVER CROSS SECTION
Job Name: Steamboat Base Area Redevelopment
Location: Steamboat Ski Area, Steamboat Springs, Colorado
Date: 12/18/2020
Job No. 20-12000
Figure #14

NWCC
North West Colorado Consultants Inc.
Geotechnical / Environmental Engineering · Materials Testing
(970)879-7888 · Fax (970)879-7891
2580 Copper Ridge Drive
Steamboat Springs, Colorado 80487

DRAIN BASIN WITH CONE STYLE REDUCER
N.T.S.

EXISTING CONDITION NOTES

1. THE DEPICTED ILLUSTRATION IS BASED ON DRAFT PLANS FROM THE ORIGINAL CONSTRUCTION. ACTUAL CONDITIONS MAY, AND LIKELY WILL, VARY.
2. REPLACE ALL MODIFIED FRAMES AND GRATES - DO NOT REUSE WITHOUT SPECIFIC APPROVAL AFTER INSPECTION.
3. PERFORM DEMOLITION WITH CARE TO PROTECT EXISTING BASIN AS PRACTICABLE.

INTERIM CONDITION NOTES
1. THE DEPICTED ILLUSTRATION IS BASED ON DRAFT PLANS FROM THE ORIGINAL CONSTRUCTION. ACTUAL CONDITIONS MAY, AND LIKELY WILL, VARY.
2. REPLACE ALL MODIFIED FRAMES AND GRATES - DO NOT REUSE WITHOUT SPECIFIC APPROVAL AFTER INSPECTION.
3. PERFORM DEMOLITION WITH CARE TO PROTECT EXISTING BASIN AS PRACTICABLE.
4. PER NWCC'S REFERENCE GEOTECHNICAL RECOMMENDATIONS, "THE FINISHED SUBGRADE SURFACE SHOULD BE PROOF ROLLED WITH A LOADED TANDEM DUMP TRUCK OR LOADED WATER TRUCK PRIOR TO PLACING THE SUBBASE AGGREGATES. PROTECT INLET ACCORDINGLY.

FINAL CONDITION NOTES
1. ALL NEW MATERIALS AND INSTALLATION SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
2. VERIFY FRAME/GRATE ELEVATION PRIOR TO INSTALLING CONCRETE COLLAR.
3. PERFORM SURFACE FLOW TEST TO ENSURE ADEQUATE DRAINAGE AND NO STANDING WATER UPON COMPLETION.
4. PROTECT DURING CONSTRUCTION ACTIVITY AND REPAIR/REPLACE DAMAGE AT NO ADDITIONAL COST TO OWNER.
5. JET AND CLEAN STORM SEWER SYSTEM AT PROJECT COMPLETION. ENSURE THAT DEBRIS IS COLLECTED AT DOWNSTREAM LOCATION PRIOR TO DISCHARGE INTO EXISTING STORM SYSTEM.

PROBABLE EXISTING CONDITION
N.T.S.

INTERIM CONDITION
N.T.S.

FINAL CONDITION
N.T.S.

ADJUSTING EX. NYLOPLAST BASINS TO PR. GRADE
N.T.S.

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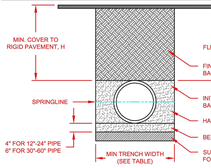
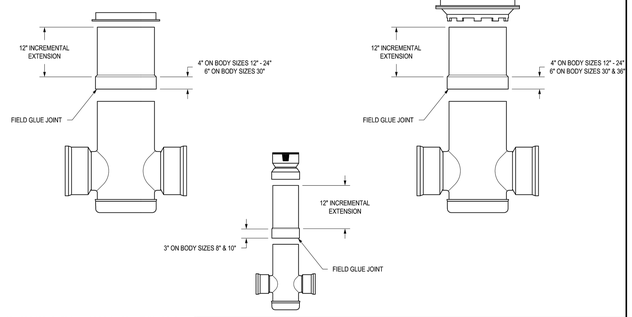
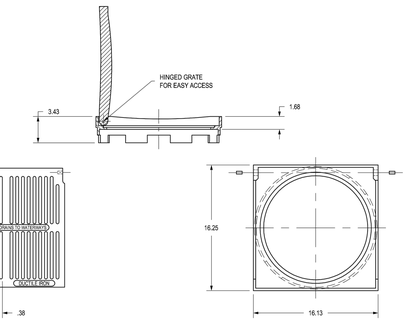
Description
Civil Construction Details

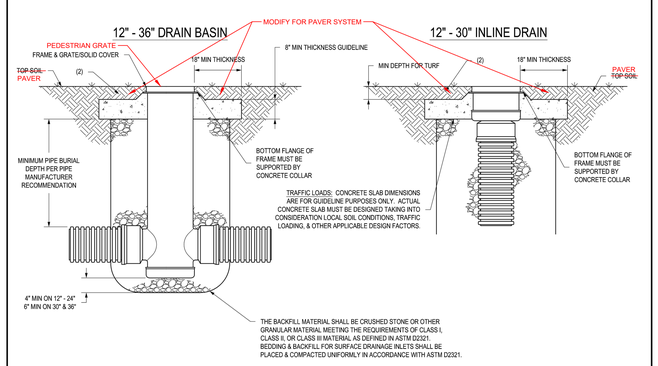
Scale
SEE GRAPHICAL SCALE

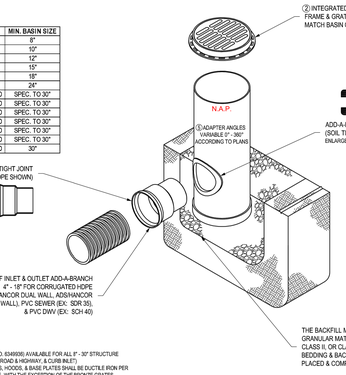
1A-C.500

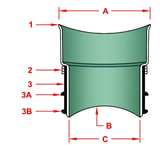


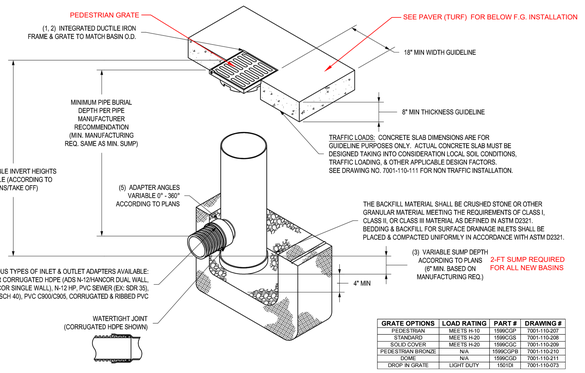


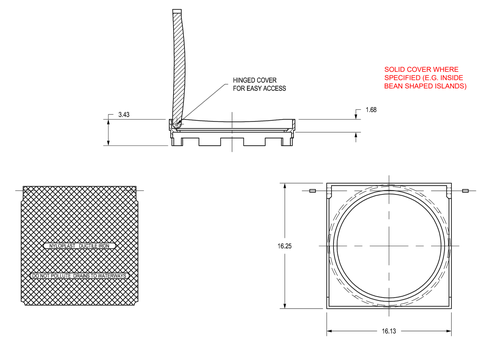


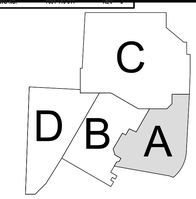












HP STORM TRENCH INSTALLATION DETAIL

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION, WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IVB MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE; 6" (150mm) FOR 30"-60" (750mm-1500mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS; CLASS I OR II MATERIAL COMPACTED TO 90% SPD AND CLASS III COMPACTED TO 95% SPD IS REQUIRED. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
7. FOR ADDITIONAL INFORMATION SEE TECHNICAL NOTE 2.04.

TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
12" (300mm)	30" (762mm)
15" (375mm)	34" (864mm)
18" (450mm)	39" (991mm)
24" (600mm)	48" (1219mm)
30" (750mm)	56" (1422mm)
36" (900mm)	64" (1626mm)
42" (1050mm)	72" (1829mm)
48" (1200mm)	80" (2032mm)
60" (1500mm)	96" (2438mm)

TABLE 2, MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48" (300mm - 1200mm)	12" (305mm)	48" (1219mm)
60" (1500mm)	24" (610mm)	60" (1524mm)

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

TABLE 3, MAXIMUM COVER FOR ADS HP STORM PIPE, ft

	CLASS I	CLASS II			CLASS III		CLASS IV
PIPE DIA	COMPACTED	95%	90%	85%	95%	90%	95%
12" (300mm)	41 (12.5m)	28 (8.5m)	21 (6.4m)	16 (4.9m)	20 (6.1m)	16 (4.9m)	16 (4.9m)
15" (375mm)	42 (12.8m)	29 (8.8m)	21 (6.4m)	16 (4.9m)	21 (6.4m)	16 (4.9m)	16 (4.9m)
18" (450mm)	44 (13.4m)	30 (9.1m)	21 (6.4m)	16 (4.9m)	22 (6.7m)	17 (5.2m)	16 (4.9m)
24" (600mm)	37 (11.3m)	26 (7.9m)	18 (5.5m)	14 (4.3m)	19 (5.8m)	14 (4.3m)	14 (4.3m)
30" (750mm)	39 (11.9m)	27 (8.2m)	19 (5.8m)	14 (4.3m)	19 (5.8m)	15 (4.6m)	14 (4.3m)
36" (900mm)	28 (8.5m)	20 (6.1m)	14 (4.3m)	10 (3.0m)	14 (4.3m)	11 (3.4m)	10 (3.0m)
42" (1050mm)	30 (9.1m)	21 (6.4m)	14 (4.3m)	10 (3.0m)	15 (4.6m)	11 (3.4m)	10 (3.0m)
48" (1200mm)	29 (8.8m)	20 (6.1m)	14 (4.3m)	9 (2.7m)	14 (4.3m)	10 (3.0m)	10 (3.0m)
60" (1500mm)	29 (8.8m)	20 (6.1m)	14 (4.3m)	9 (2.7m)	14 (4.3m)	10 (3.0m)	9 (2.7m)

FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS:
NO HYDROSTATIC PRESSURE
UNIT WEIGHT OF SOIL (γ_s) = 120 PCF

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
6	REV. MAXIMUM COVER HEIGHTS	RWD	01/11/17	

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

TRENCH INSTALLATION DETAIL (HP STORM)
DRAWING NUMBER: STD-101D
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OHIO 43026
DRAWN BY: JAB
DATE: 01/29/09
CHK'D BY:
SCALE: NTS
SHEET: 1 OF 1

NYLOPLAST RISER EXTENSION: 29 _ _ AG

1. NYLOPLAST RISER JOINTS SHALL BE FIELD INSTALLED USING THE GUIDELINES OUTLINED IN ASTM D2855.
2. PVC CEMENT USED SHALL MEET THE REQUIREMENTS OF ASTM D2564.
3. PVC PRIMER USED SHALL MEET THE REQUIREMENTS OF ASTM F656.

DRAWN BY CJA · DATE 9-18-00 · REVISED BY NMH · DATE 3-22-18 · MATERIAL · PROJECT NO./NAME
Nyloplast · 3130 VERONA AVE · BUFORD, GA 30518 · PHN (770) 932-2443 · FAX (770) 932-2490 · www.nyloplast-us.com
TITLE: 8 IN - 36 IN RISER EXTENSION
DWG SIZE A · SCALE 1:20 · SHEET 1 OF 1 · DWG NO. 7001-110-065 · REV E

1599CGP

APPROX. DRAIN AREA = 81.25 SQ IN
APPROX. WEIGHT WITH FRAME = 53.70 LBS

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-10 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
SIZE OF OPENING MEETS REQUIREMENTS OF AMERICAN DISABILITY ACT AS STATED IN FEDERAL REGISTER PART III, DEPARTMENT OF JUSTICE, 28 CFR PART 36.
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-031

DRAWN BY EBC · DATE 3-7-06 · REVISED BY EBC · DATE 3-13-10 · MATERIAL DUCTILE IRON · PROJECT NO./NAME
Nyloplast · 3130 VERONA AVE · BUFORD, GA 30518 · PHN (770) 932-2443 · FAX (770) 932-2490 · www.nyloplast-us.com
TITLE: 15 IN PEDESTRIAN GRATE ASSEMBLY
DWG SIZE A · SCALE 1:8 · SHEET 1 OF 1 · DWG NO. 7001-110-207 · REV C

PAVER

NYLOPLAST ~~TURF~~ TRAFFIC INSTALLATION

TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS.

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

1. GRATES/SOLID COVERS SHALL MEET H-20 LOAD RATING FOR 30" PEDESTRIAN & 12" - 30" STANDARD & SOLID
2. DESIGN SHOULD ACCOUNT FOR ROOT DEPTH TO ALLOW TURF TO GROW AND PREVENT EROSION AROUND GRATE SO THAT HAZARDS DO NOT FORM.

DRAWN BY EBC · DATE 01-05-09 · REVISED BY NMH · DATE 06-12-18 · MATERIAL · PROJECT NO./NAME
Nyloplast · 3130 VERONA AVE · BUFORD, GA 30518 · PHN (770) 932-2443 · FAX (770) 932-2490 · www.nyloplast-us.com
TITLE: DRAIN BASIN & INLINE DRAIN TURF TRAFFIC INSTALLATION
DWG SIZE A · SCALE 1:25 · SHEET 1 OF 1 · DWG NO. 7001-110-340 · REV G

NYLOPLAST DRAIN BASIN WITH ADD-A-BRANCH

THIS DETAIL IS APPLICABLE ONLY FOR THE NEW CONNECTION TO THE EXISTING BASINS.

PIPE SIZE	PART #	MIN. BASIN SIZE
4"	6004AG _	8"
6"	6006AG _	10"
8"	6008AG _	12"
10"	6010AG _	15"
12"	6012AG _	18"
15"	6015AG _	24"
4"	6004AG _ 30	SPEC. TO 30"
6"	6006AG _ 30	SPEC. TO 30"
8"	6008AG _ 30	SPEC. TO 30"
10"	6010AG _ 30	SPEC. TO 30"
12"	6012AG _ 30	SPEC. TO 30"
15"	6015AG _ 30	SPEC. TO 30"
18"	6018AG _ 30	30"

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

1 - ADD-A-BRANCH (PATENT NO. 6349936) AVAILABLE FOR ALL 8" - 30" STRUCTURE OPTIONS (CUSTOM BASIN, ROAD & HIGHWAY, & CURB INLET)
② - FRAMES, GRATES, COVERS, HOODS, & BASE PLATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATES
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS SEE DRAWING NO. 7001-110-065
④ - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL) & PVC SEWER (4" - 24")
⑤ - ADD-A-BRANCH ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADD-A-BRANCH ADAPTERS SEE DRAWING NO. 0110-110-005

DRAWN BY EBC · DATE 5-9-06 · REVISED BY NMH · DATE 03-15-16 · MATERIAL · PROJECT NO./NAME
Nyloplast · 3130 VERONA AVE · BUFORD, GA 30518 · PHN (770) 932-2443 · FAX (770) 932-2490 · www.nyloplast-us.com
TITLE: DRAIN BASIN WITH ADD-A-BRANCH QUICK SPEC INSTALLATION DETAIL
DWG SIZE A · SCALE 1:25 · SHEET 1 OF 1 · DWG NO. 0110-110-009 · REV E

CORRUGATED HDPE/PP BELL GRAVITY APPLICATIONS

A. BELL END ACCEPTS CORRUGATED HDPE/PP DUAL WALL PIPE--ADS/HANCOR INC. SPECIFICATIONS IN 4", 6", 8", 10", 12", 15", 18", 21", 24", AND 30" SIZES.

B. CURVATURE VARIES WITH MAINLINE DIAMETERS.

C. SPIGOT END PVC SDR 35, ASTM D3034
DIAMETERS: 4", 6", 8", 10", 12", 15", 18", 21", 24" AND 30"

PART	PART NAME	MATERIALS
1	HUB ADAPTOR	PVC SDR 26 ASTM D3034
2	SECURING CLAMP*	BAND SS #301 SCREW SS #305 HOUSING SS #301
3	RUBBER SLEEVE (AVAILABLE IN NITRILE AND EPDM BY SPECIAL ORDER)	ASTM F477
3A	UPPER SEGMENT**	
3B	LOWER SEGMENT***	
4	(NOT SHOWN) ADS/HANCOR INC. SUPPLIES VALLEY GASKET	

* OPTIONAL: #316 STAINLESS STEEL BAND, SCREW AND HOUSING
** DISTANCE BETWEEN 4A AND 4B WILL VARY BY PRODUCT TYPE
*** WILL NOT APPEAR ON RUBBER SLEEVES FOR CONCRETE OR CLAY PIPE

INSERTA TEE SIZE	HOLE DIAMETER
4" (100 mm)	4 ½" (114 mm)
6" (150 mm)	6 ½" (165 mm)
8" (200 mm)	8 ¾" (222 mm)
10" (250 mm)	10 ⅞" (276 mm)
12" (300 mm)	12 ⅞" (327 mm)
15" (375 mm)	15 13⁄16" (402 mm)
18" (450 mm)	19 3⁄16" (503 mm)
21" (525 mm)	22 9⁄16" (573 mm)
24" (600 mm)	25 5⁄16" (643 mm)
30" (750 mm)	32 17⁄32" (826 mm)

NOTE: RECOMMENDED METHOD OF CUTTING HOLE IS WITH HOLE SAW FOR PVC AND OTHER PLASTICS, AND DIAMOND BIT FOR CONCRETES, CLAY, FRP AND D.I. (SEE INSTALLATION INSTRUCTIONS. HOLE SAWS ARE AVAILABLE FOR PURCHASE OR RENT.)

INSERTA TEE | PO BOX 714
CORNELIUS, OR 97116
PH:(503) 357-2110 FAX:(503) 359-5417
SALES@INSERTATEE.COM

CORRUGATED HDPE/PP BELL GRAVITY APPLICATION SPECIFICATIONS
SCALE: NTS
DATE: 9/12/2013
DRAWN BY: KLJ

NYLOPLAST 15" DRAIN BASIN: 2815AG _ _ X

TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1599CGP	7001-110-207
STANDARD	MEETS H-20	1599CGS	7001-110-208
SOLID COVER	MEETS H-20	1599CGC	7001-110-209
PEDESTRIAN BRONZE	N/A	1599CGPB	7001-110-210
DOME	N/A	1599CGD	7001-110-211
DROP IN GRATE	LIGHT DUTY	1501DI	7001-110-073

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

DRAWN BY EBC · DATE 03-30-06 · REVISED BY NMH · DATE 03-14-16 · MATERIAL · PROJECT NO./NAME
Nyloplast · 3130 VERONA AVE · BUFORD, GA 30518 · PHN (770) 932-2443 · FAX (770) 932-2490 · www.nyloplast-us.com
TITLE: 15 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
DWG SIZE A · SCALE 1:25 · SHEET 1 OF 1 · DWG NO. 7001-110-190 · REV E

1599CGC

APPROX. WEIGHT WITH FRAME = 59.00 LBS

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-030

DRAWN BY EBC · DATE 3-7-06 · REVISED BY EBC · DATE 3-16-10 · MATERIAL DUCTILE IRON · PROJECT NO./NAME
Nyloplast · 3130 VERONA AVE · BUFORD, GA 30518 · PHN (770) 932-2443 · FAX (770) 932-2490 · www.nyloplast-us.com
TITLE: 15 IN SOLID COVER ASSEMBLY
DWG SIZE A · SCALE 1:8 · SHEET 1 OF 1 · DWG NO. 7001-110-209 · REV C

Section 2721

Engineered Surface Drainage Products

GENERAL
PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.

MATERIALS
The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermoforming process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

The grates and frames furnished for all surface drainage inlets shall be ductile iron for structure sizes 8”, 10”, 12”, 15”, 18”, 24”, 30” and 36” and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates for drain basins shall be capable of supporting various wheel loads as specified by Nyloplast. 12” and 15” square grates will be hinged to the frame using pins. Ductile iron used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05. Grates and covers shall be provided painted black.

INSTALLATION
The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1, class 2, or class 3 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For load rated installations, a concrete slab shall be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.

DRAWN BY CJA · DATE 3-10-00 · REVISED BY NMH · DATE 02-21-18 · MATERIAL · PROJECT NO./NAME
Nyloplast · 3130 VERONA AVE · BUFORD, GA 30518 · PHN (770) 932-2443 · www.nyloplast-us.com
TITLE: 8 IN - 36 IN DRAIN BASIN SPECIFICATIONS
DWG SIZE A · SCALE 1:1

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below.
Call before you dig.
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

KEY PLAN

Steamboat
ALTERRA MOUNTAIN COMPANY
east west partners

2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler

1225 17th Street
Suite 150
Denver, CO 80202
United States
Tel 303.595.8585
Fax 303.825.6823

LANDMARK CONSULTANTS, INC.
141 9th Street
PO Box 774943
Steamboat Springs, CO
80477
Tel 970.871.9494

DESIGNWORKSHOP
1390 Lawrence Street
Suite 100
Denver, CO 80204
Tel 303.623.5186

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

△	Date	Description
--	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

COLORADO LICENSED PROFESSIONAL ENGINEER
ERIK J. GRIEPENTROG
33280
5/19/21

NOT VALID WITHOUT ORIGINAL SIGNATURE AND DATE

Seal / Signature

Project Name GONDOLA PLAZA

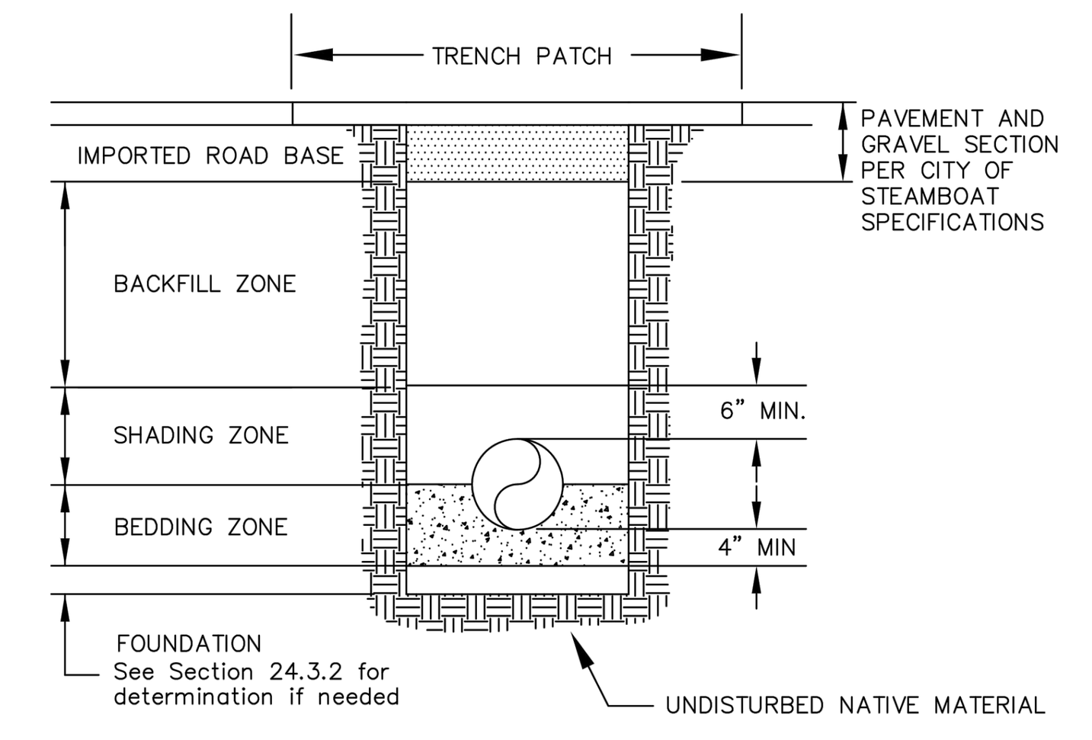
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
Drainage Structure Details

Scale
SEE GRAPHICAL SCALE

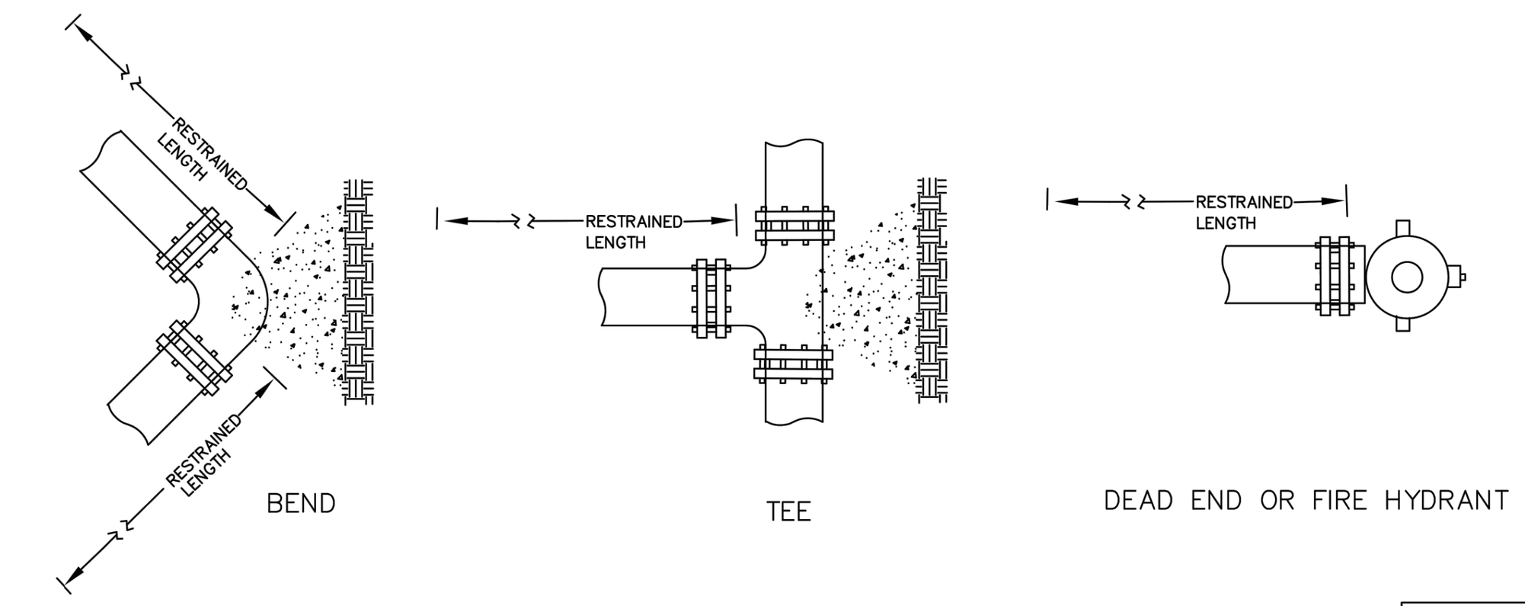
1A-C.510



2. Added Pvmt. Sect. Note: 11/08
1. Changed Company Name 1/00
REVISION HISTORY:
Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

TRENCH CROSS SECTION AND PIPE EMBEDMENT DETAIL

DRAWN BY: RBS | DATE: 2/2003
SCALE: NONE
SHEET: 1



REQUIRED RESTRAINT LENGTH (FT)

MAIN SIZE (INCHES)

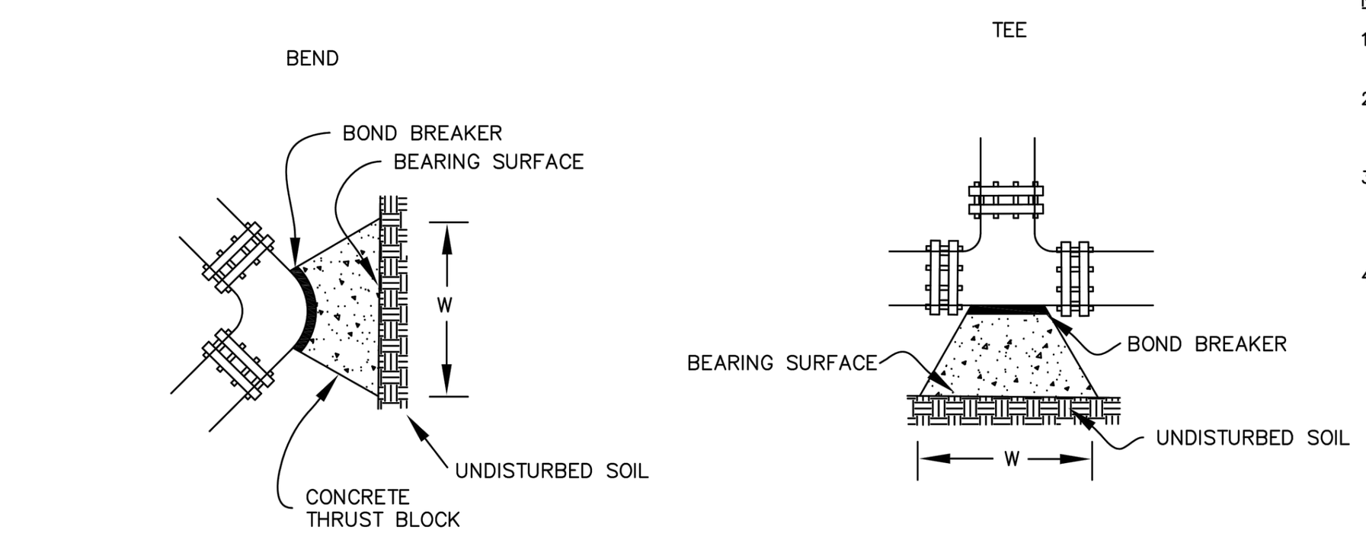
FITTING TYPE	4"	6"	8"	10"	12"
90° BEND, BRANCH OF TEE OR DEAD END	30'	45'	60'	73'	86'
45° BEND	18'	18'	18'	21'	25'
22 1/2° BEND	18'	18'	18'	18'	18'
11 1/4° BEND	18'	18'	18'	18'	18'

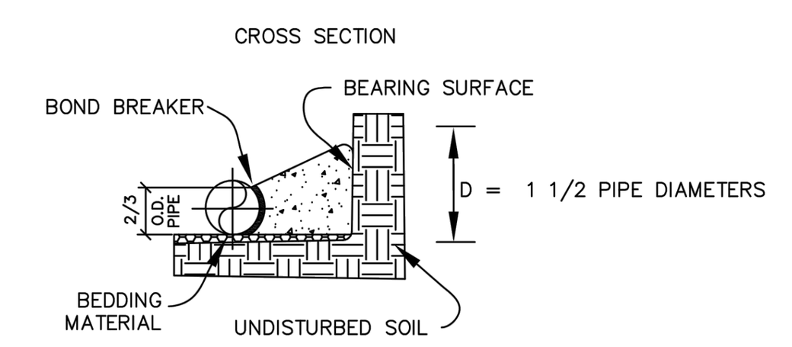
NOTE: THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINT.

2. Changed Restraint Lengths: 11/08
1. Changed Company Name 1/00
REVISION HISTORY:
Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

PIPE RESTRAINT DETAIL

DRAWN BY: RBS | DATE: 2/2003
SCALE: NONE
SHEET: 3





NOTES:

1. THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINTS.
2. ALL THRUST BLOCKS TO BE SUITABLY FORMED. EARTH EXCAVATED FORMS WILL NOT BE ACCEPTED.
3. WRAP FITTINGS WITH POLYETHYLENE PRIOR TO POURING THRUST BLOCKS SO THAT CONCRETE DOES NOT COME IN CONTACT WITH JOINT BOLTS.
4. THRUST BLOCKS SHALL BE INSTALLED SO THAT ALL JOINTS ARE ACCESSIBLE.

MINIMUM BEARING SURFACE AREA
(IN SQUARE FEET)
(AREA = W X D)

MAIN SIZE (INCHES)

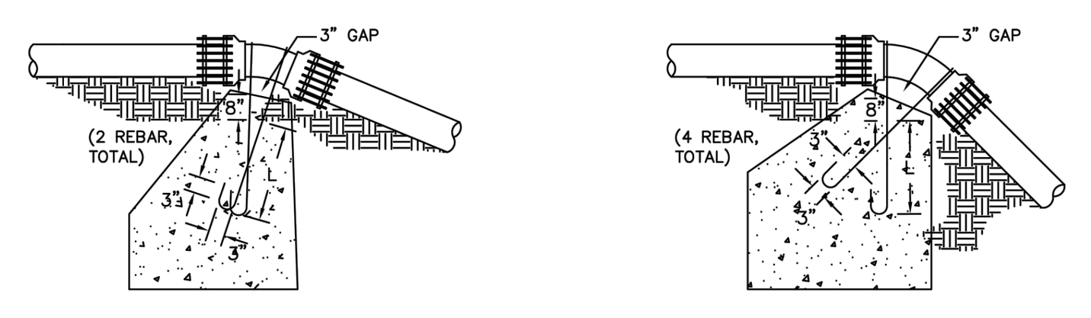
FITTING TYPE	<6"	8"	10"	12"
45° OR LESS BEND	3	3	3	5
90° BEND	3	4	6	9
TEE OR PLUG	3	3	4	6

NOTE: THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINT.

2. Added Notes: 11/08
1. Changed Company Name 1/00
REVISION HISTORY:
Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

THRUST BLOCK DETAIL

DRAWN BY: RBS | DATE: 2/2003
SCALE: NONE
SHEET: 4



TYPE A RESTRAINT
11-1/4° & 22-1/2° VERTICAL OVER-BENDS

TABLE OF DIMENSIONS

PIPE SIZE NOMINAL DIAMETER - INCH	VERTICAL BEND DEGREES	NO. OF CU. FT. OF CONC. BLOCKING	DIAMETER OF REBAR, "d" INCH	DEPTH OF RODS IN CONCRETE, "L" FT.
4"	11-1/4°	5	5/8"	1.5
	22-1/2°	10	5/8"	2.0
6"	11-1/4°	11	5/8"	2.0
	22-1/2°	22	5/8"	2.0
8"	11-1/4°	20	5/8"	2.0
	22-1/2°	39	5/8"	2.0
12"	11-1/4°	45	3/4"	2.0
	22-1/2°	88	3/4"	3.0
16"	11-1/4°	79	3/4"	3.0
	22-1/2°	156	3/4"	4.0
20"	11-1/4°	123	3/4"	3.5
	22-1/2°	243	1"	4.0
24"	11-1/4°	177	3/4"	4.0
	22-1/2°	350	1"	4.0
30"	11-1/4°	277	1"	4.0
	22-1/2°	546	1-1/4"	4.0

TYPE B RESTRAINT
45° VERTICAL OVER-BENDS

TABLE OF DIMENSIONS

PIPE SIZE NOMINAL DIAMETER - INCH	VERTICAL BEND DEGREES	NO. OF CU. YD. OF CONC. BLOCKING	DIAMETER OF REBAR, "d" INCH	DEPTH OF RODS IN CONCRETE, "L" FT.
4"	45°	0.7	5/8"	2.0
6"	45°	1.5	5/8"	2.5
8"	45°	2.7	5/8"	3.0
12"	45°	6.1	3/4"	4.0
16"	45°	10.9	3/4"	4.0
20"	45°	17.1	1"	4.0
24"	45°	24.6	1"	4.0
30"	45°	38.4	1-1/4"	4.0

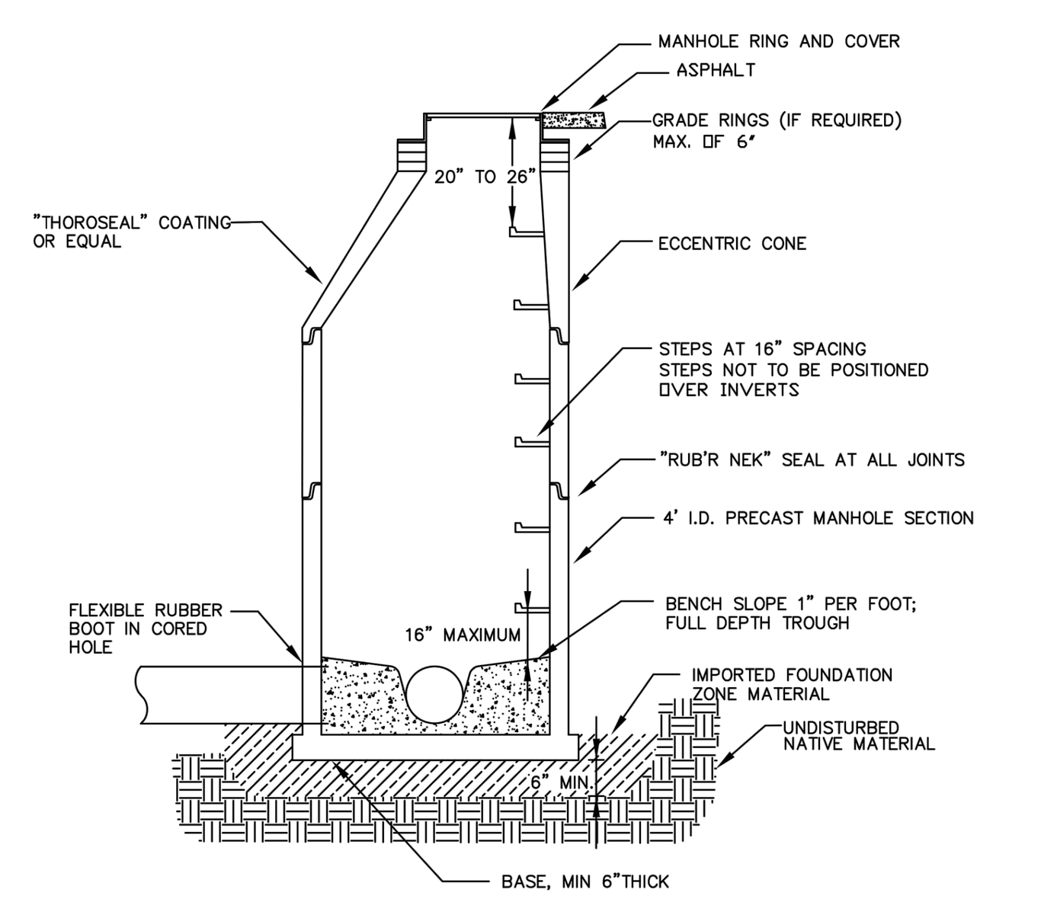
NOTES:

1. THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINT.
2. SPECIAL REQUIREMENTS:
   a. THRUST BLOCKS FOR PIPE SIZES OR CONFIGURATIONS NOT SHOWN REQUIRE SPECIAL DESIGN.
   b. BEARING AREAS, VOLUMES, AND SPECIAL THRUST BLOCKING DETAILS SHOWN ON DRAWINGS TAKE PRECEDENCE OVER THIS TYPICAL DETAIL.
   c. REINFORCING STEEL BARS TO BE EPOXY COATED, AT LEAST 15 MILS THICK. MINIMUM YIELD STRENGTH OF REBAR IS 60,000 PSI.
   d. RESTRAINT SIZING IS BASED UPON A MAXIMUM OPERATING PRESSURE OF 150 PSI, A TEST PRESSURE OF 200 PSI, AND A MINIMUM SOIL BEARING STRENGTH OF 2000 PSF. OPERATING PRESSURES IN EXCESS OF 150 PSI OR SOILS WITH LESS THAN 2000 PSF BEARING STRENGTH WILL REQUIRE SPECIAL DESIGN.
3. FOR VERTICAL UNDER-BEND FOLLOW HORIZONTAL THRUST BLOCK DETAIL

1. Initial Release 3/07
REVISION HISTORY:
Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

VERTICAL THRUST BLOCK DETAIL

DRAWN BY: CL, RM | DATE: 2/2003
SCALE: NONE
SHEET: 5

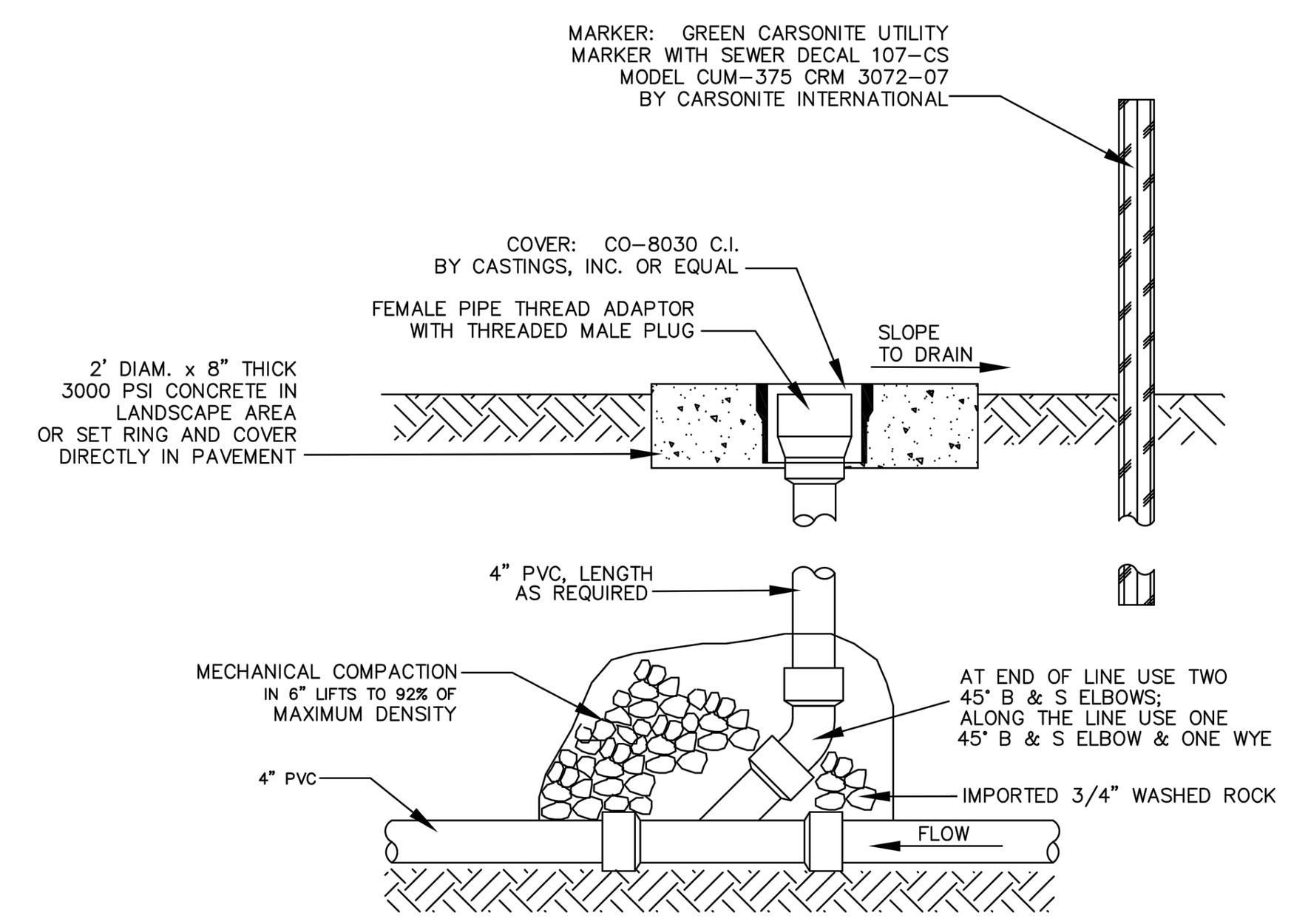


NOTE:
RUB'R NECK SEALS AT ALL JOINTS; INCLUDING CASTING TO GRADE RING, BETWEEN ALL GRADE RINGS AND AT ALL PRECAST JOINTS.

2. Added Note: 11/08
1. Revised MH Trough: 5/07
REVISION HISTORY:
Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

STANDARD MANHOLE CROSS SECTION DETAIL

DRAWN BY: RBS | DATE: 2/2003
SCALE: NONE
SHEET: 8



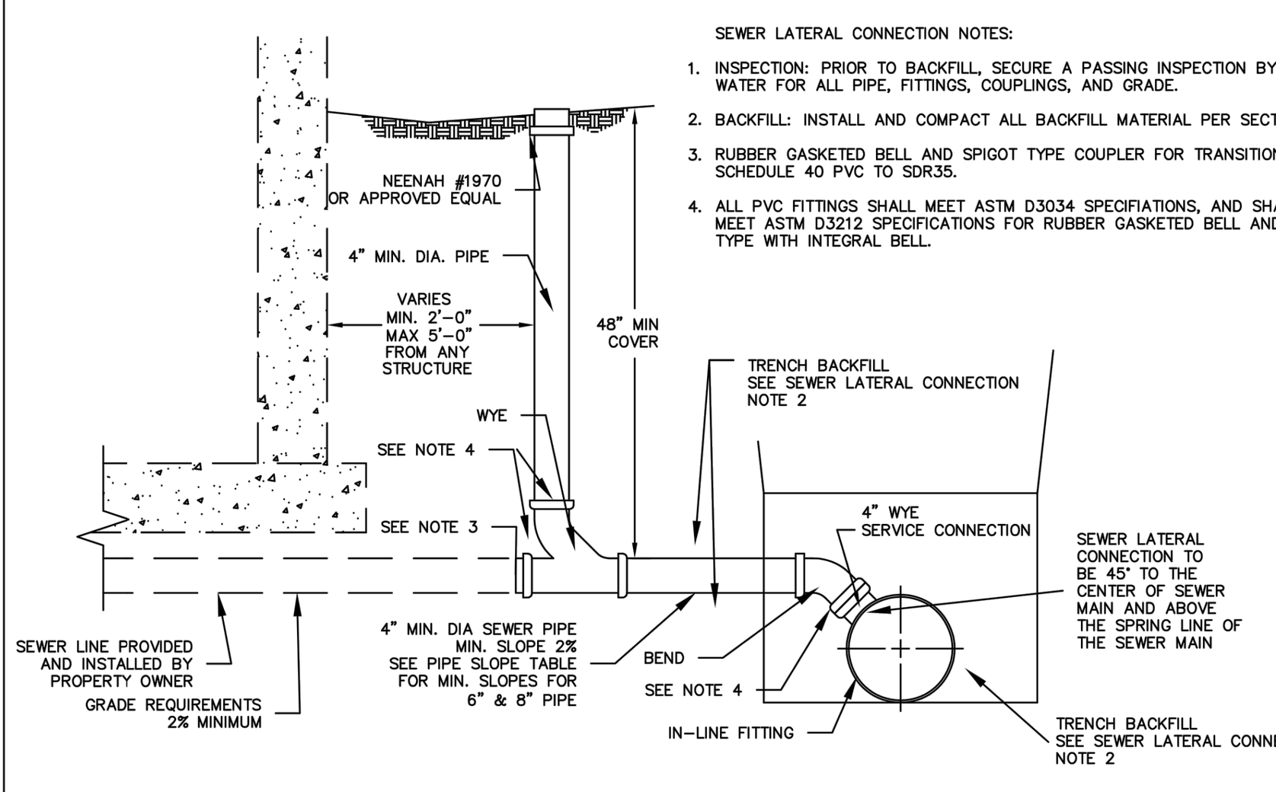
1. Original Release 7/01
REVISION HISTORY:
Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

SEWER CLEANOUT DETAIL

DRAWN BY: RBS | DATE: 2/2003
SCALE: NONE
SHEET: 12

SEWER LATERAL CONNECTION NOTES:

1. INSPECTION: PRIOR TO BACKFILL, SECURE A PASSING INSPECTION BY MT. WERNER WATER FOR ALL PIPE, FITTINGS, COUPLINGS, AND GRADE.
2. BACKFILL: INSTALL AND COMPACT ALL BACKFILL MATERIAL PER SECTION 24.
3. RUBBER GASKETED BELL AND SPIGOT TYPE COUPLER FOR TRANSITION FROM SCHEDULE 40 PVC TO SDR35.
4. ALL PVC FITTINGS SHALL MEET ASTM D3034 SPECIFIATIONS, AND SHALL ALSO MEET ASTM D3212 SPECIFICATIONS FOR RUBBER GASKETED BELL AND SPIGOT TYPE WITH INTEGRAL BELL.



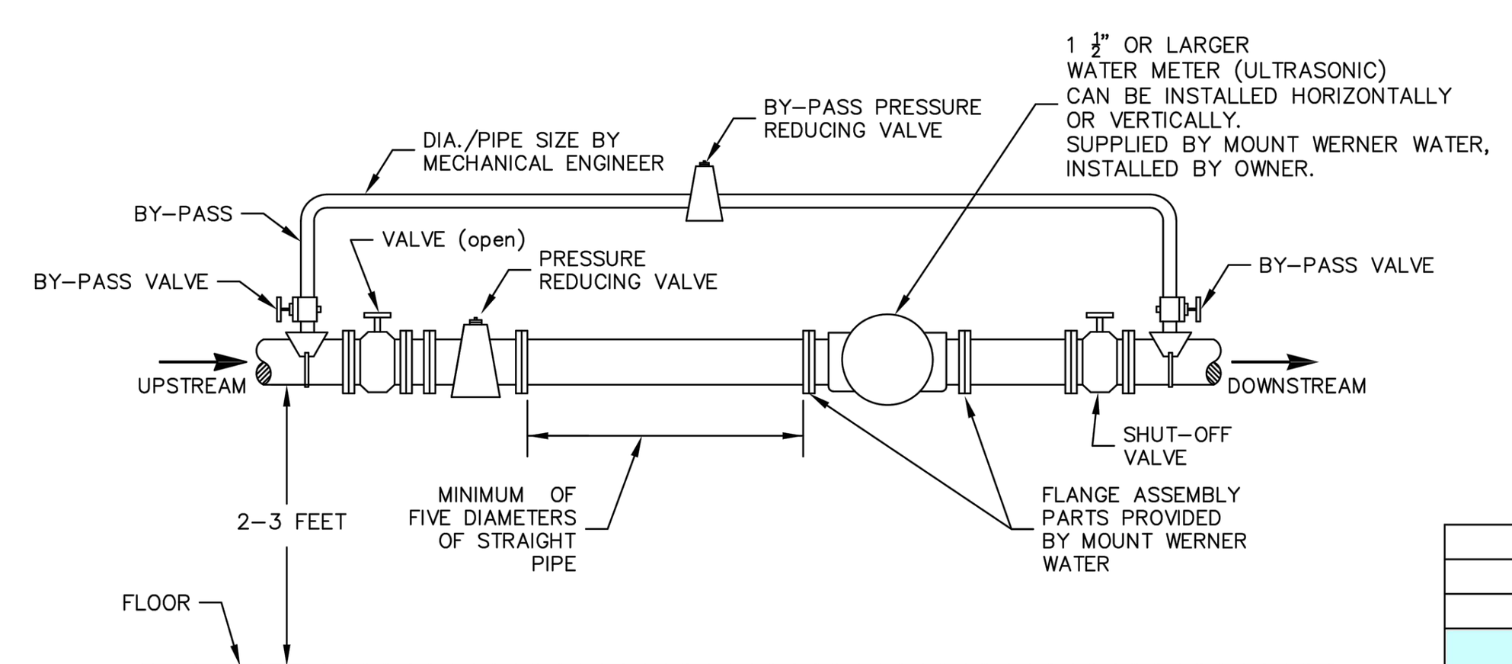
SECTION

MINIMUM PIPE SLOPES FOR SEWER SERVICES		
4"	1/4" PER FOOT	2%
6"	1/8" PER FOOT	1%
8"	1/16" PER FOOT	0.5%

1. Original Release 11/08
REVISION HISTORY:
Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

SERVICE LATERAL CONNECTION DETAIL

DRAWN BY: RF | DATE: 11/2008
SCALE: NONE
SHEET: 13



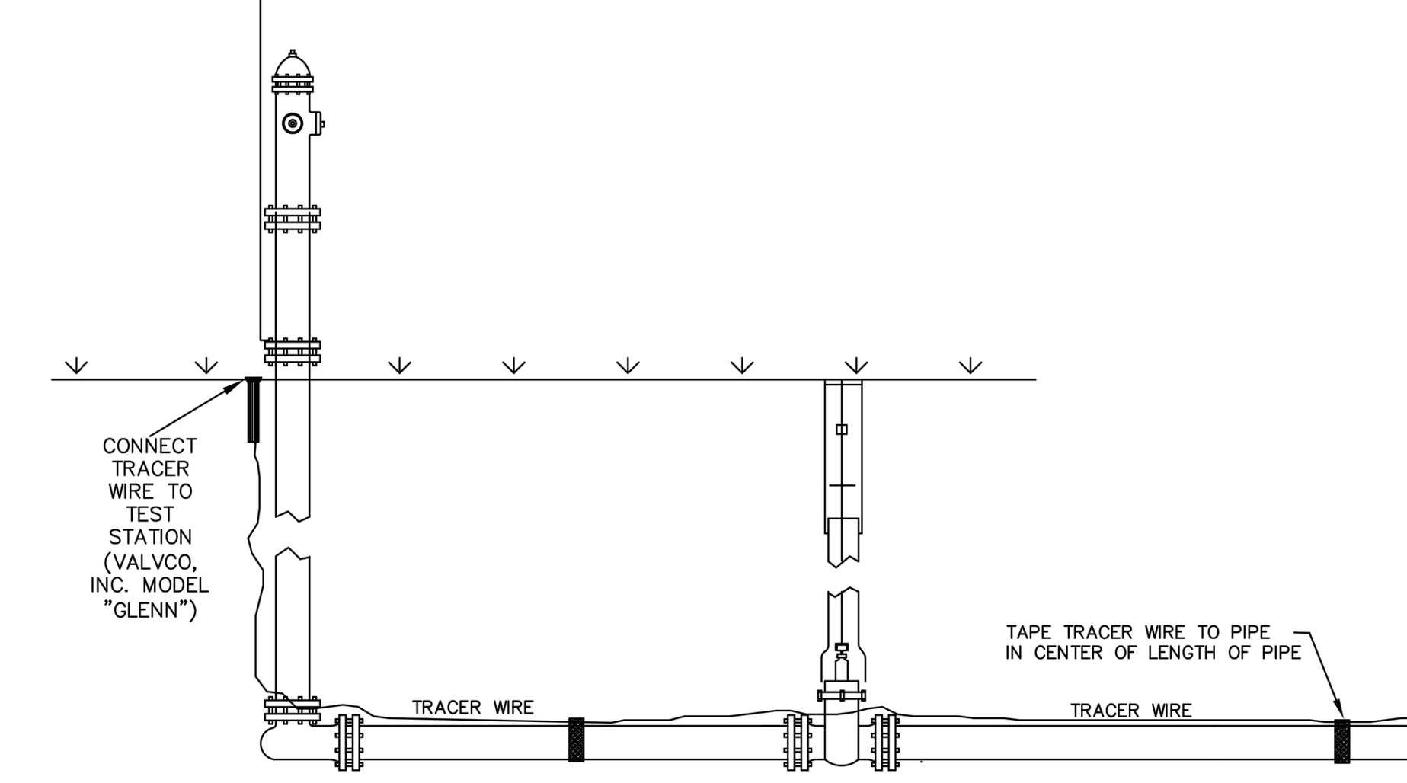
GENERAL NOTES:

1. THE METER (SUPPLIED BY MOUNT WERNER WATER, PAID FOR BY OWNER) CAN BE INSTALLED IN A HORIZONTAL OR VERTICAL ORIENTATION FOR ULTRASONIC METERS.
2. AVOID LOCATING THE METER IN CLOSE QUARTERS. ALLOW SUFFICIENT SPACE TO PERMIT ACCESS FOR METER READING, TESTING AND MAINTENANCE.
3. ALL PARTS AND PIPING SUPPLIED AND INSTALLED BY OWNER.
4. AFTER PIPING AND METER INSTALLATION, MOUNT WERNER WATER WILL INSPECT AND INSTALL MTU AND WIRING.

Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

1 1/2" AND LARGER METER INSTALLATION DETAIL

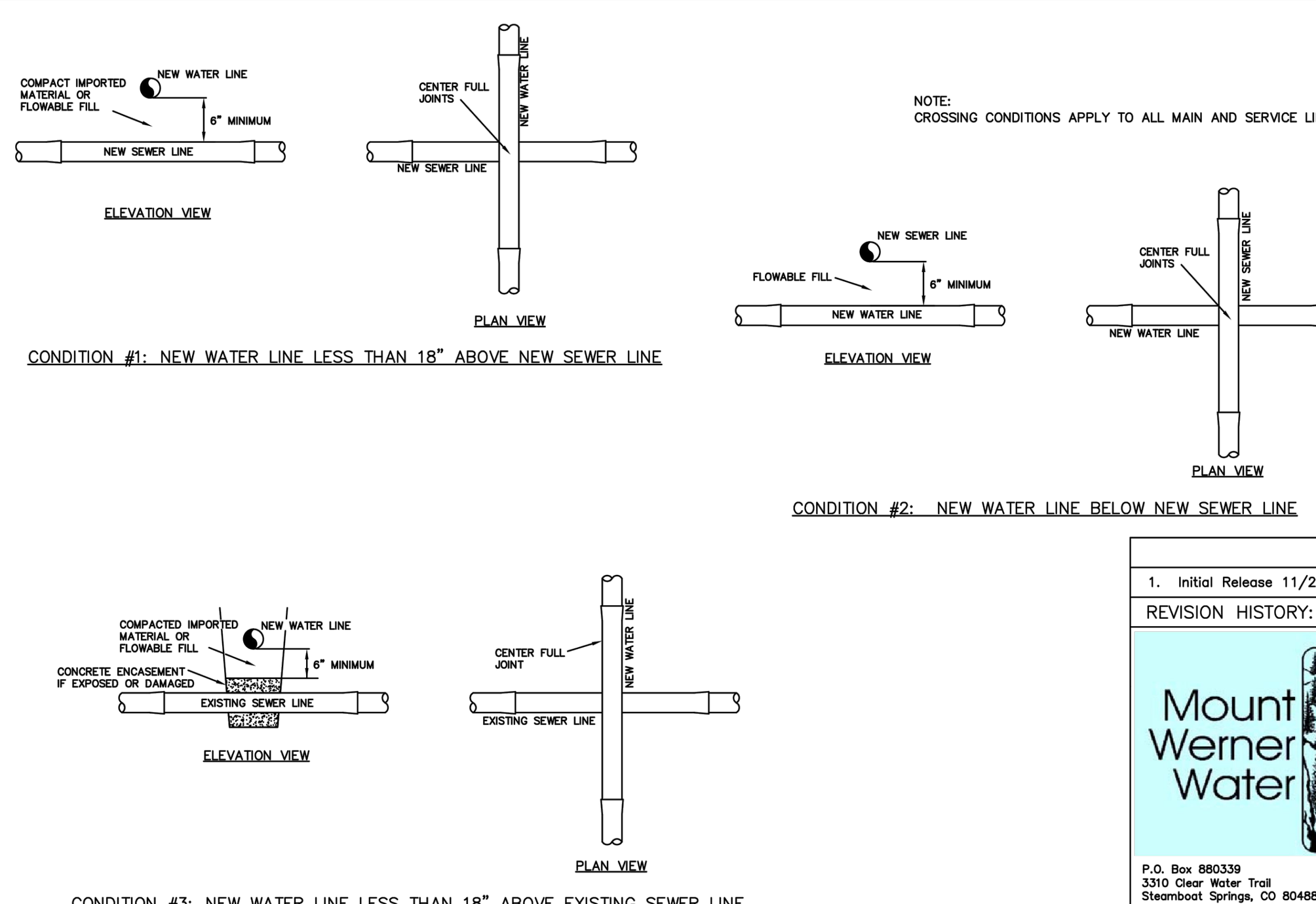
DRAWN BY: RB | DATE: 2/2018
SCALE: NONE
SHEET: 14



1. Initial release 2/04
REVISION HISTORY:
Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

TRACER WIRE INSTALLATION DETAIL

DRAWN BY: RBS | DATE: 2/2004
SCALE: NONE
SHEET: 17



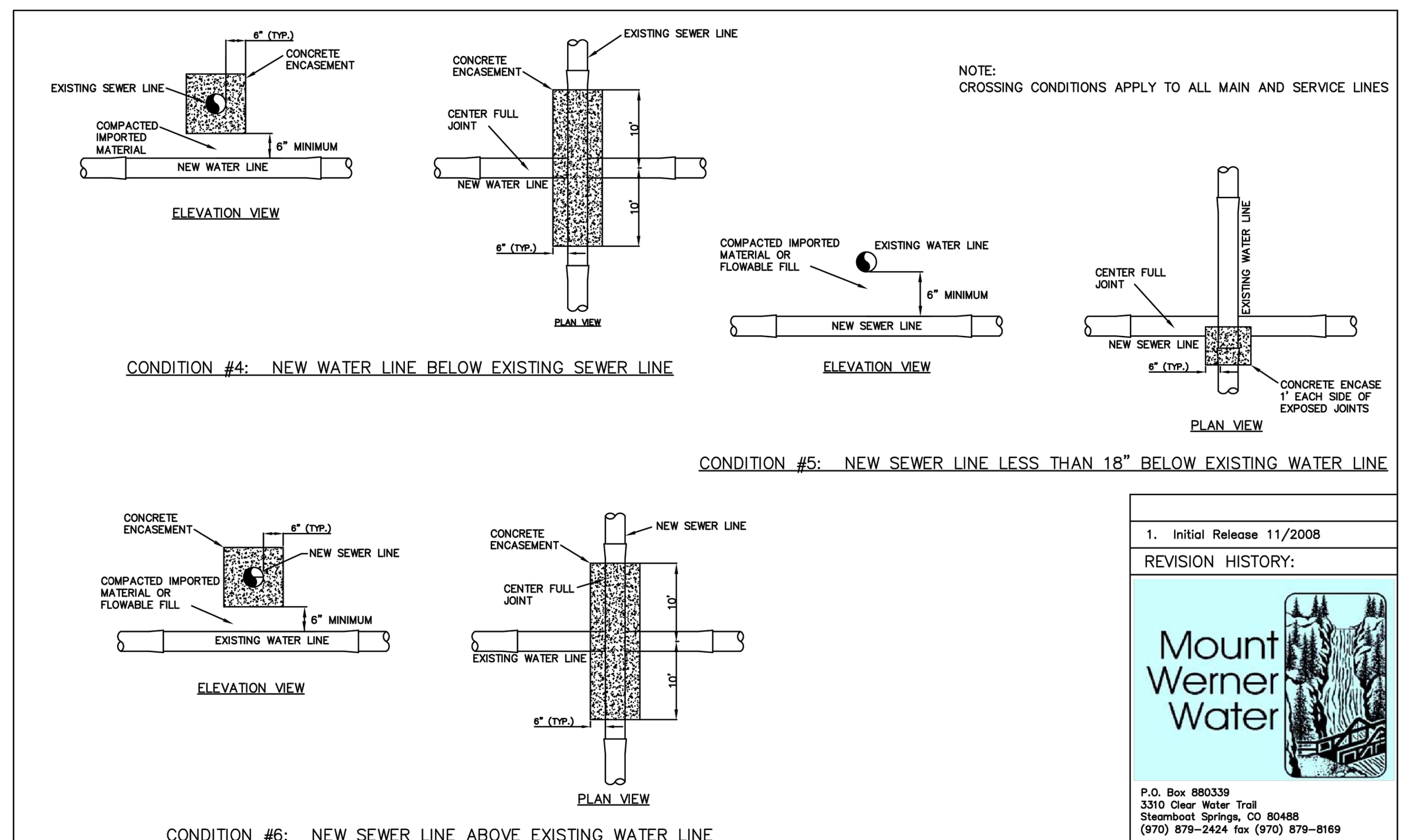
NOTE:
CROSSING CONDITIONS APPLY TO ALL MAIN AND SERVICE LINES

CONDITIONS 1,2,& 3 (SHEET 1 OF 2)
NTS

1. Initial Release 11/2008
REVISION HISTORY:
Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

WATER & SEWER CROSSINGS DETAIL

DRAWN BY: GLB | DATE: 11/2008
SCALE: NONE
SHEET: 20



NOTE:
CROSSING CONDITIONS APPLY TO ALL MAIN AND SERVICE LINES

CONDITIONS 4,5,& 6 (SHEET 2 OF 2)
NTS

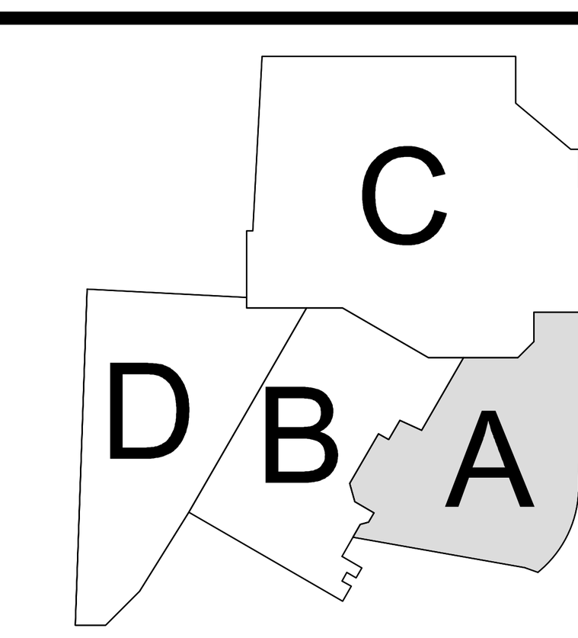
1. Initial Release 11/2008
REVISION HISTORY:
Mount Werner Water
P.O. Box 880339
3310 Clear Water Trail
Steamboat Springs, CO 80488
(970) 879-2424 fax (970) 879-8169

WATER & SEWER CROSSINGS DETAIL

DRAWN BY: GLB | DATE: 11/2008
SCALE: NONE
SHEET: 21

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below. Call before you dig.
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

KEY PLAN



Steamboat
ALTERRA MOUNTAIN COMPANY
east west partners
2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler
1225 17th Street
Suite 150
Denver, CO 80202
United States
Tel 303.595.8585
Fax 303.825.6823

LANDMARK CONSULTANTS, INC.
141 9th Street
PO Box 774943
Steamboat Springs, CO 80477
Tel 970.871.9494

DESIGNWORKSHOP
1390 Lawrence Street
Suite 100
Denver, CO 80204
Tel 303.623.5186

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

NOT VALID WITHOUT ORIGINAL SIGNATURE AND DATE

Seal / Signature

Project Name GONDOLA PLAZA
SSRC | BASE AREA IMPROVEMENTS
Project Number
003.7835.000
Description
MWW Details
Scale
SEE GRAPHICAL SCALE

1A-C.520

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
-	GRID LINES
X / XX	SECTION OR DETAIL CUT; SHEET NUMBER
X / XX	ELEVATION CUT; SHEET NUMBER
XXX'-XX"	ELEVATION CALLOUT
X	DRAWING REVISION NUMBER
	CURRENT REVISION CLOUD
	WELDED-WIRE REINFORCEMENT
	ROUGHENED SURFACE, INTENTIONALLY ROUGHEN TO 1/4" AMPLITUDE, UNO
	SERVICE LOAD PROVIDED FOR SPECIALTY DESIGNER
	STEP
	SLOPE
1	KEY NOTE
	SUBGRADE
	FORM SAVER
[XX.Xk] / X"	MECH UNIT (XX.Xk = MECH UNIT OPERATING WEIGHT IN KIPS INCLUDING INERTIA BASE); EXTENT OF CONCRETE PAD; PAD THICKNESS
	STRUCTURAL MAS WALL CONTROL JOINT
	CAST-IN-PLACE CONCRETE
	OVERFRAMING
SOGXXA	SLAB TYPE; SLAB THICKNESS; TYPE
F1 / XX'-X"	FTG MARK (SF = STRIP FTG); T/FTG EL
CXX	COLUMN SIZE OR MARK
XXk BEAM SIZE [XX] c=X" XXk (XXX'-XX")	STEEL BEAM; SHEAR STUD QUANTITY; ULTIMATE BM REACTION USING LRFD LOAD COMBINATIONS (KIPS); CAMBER (INCHES); EL OF T/STEEL
	FULL HEIGHT SHEAR CONNECTION, SEE 11/1A-S5.02
	MOMENT CONNECTION, SEE 7/1A-S5.02
2VLIX.XXA	DECK TYPE; ABOVE DECK CONCRETE THICKNESS; TYPE; DECK SPAN DIRECTION
	BRACING ABOVE LEVEL; BRACING BELOW LEVEL

NOTES:

1. ITEMS NOT DESIGNED BY M/M ARE SHOWN HALFTONED,
2. ITEMS INCLUDE:
   - EXISTING CONSTRUCTION
   - PERFORMANCE SPECIFIED ITEMS (STAIRS, RAILINGS, ETC.)

ABBREVIATIONS

(E) or EXIST	Existing
(S)	Salvaged
/	Per
@	At
AB	Anchor Bolt
ACI	American Concrete Institute
ADDNL	Additional
AESS	Architecturally Exposed Structural Steel
AFF	Above Finish Floor
ALT	Alternate
ALUM	Aluminum
APA	American Plywood Association
APPROX	Approximate
ARCH	Architect or Architectural
B/ or BO	Bottom of
BAL	Balance
BD	Board
BF	Braced Frame
BG	Backgouge
BL	Brick Ledge
BLDG	Building
BLKG	Blocking
BM	Beam
BN	Boundary Nail
BOS	Bottom of Steel
BOT or B	Bottom
BRG	Bearing
BSMT	Basement
BTWN	Between
CC	Center to Center
CF	Cold Formed
CG	Center of Gravity
CIP	Cast-In-Place
CJ	Control Joint
CJP	Complete Joint Penetration
CL	Centerline
CLG	Ceiling
CLMS	Ceiling/Light/Mechanical/ Superimposed Load
CLR	Clear
CMU	Concrete Masonry Unit
COL	Column
CONC	Concrete
CONN	Connection
CONST	Construction
CONT	Continue or Continuous
CONTR	Contractor
COORD	Coordinate
CSJ	Construction Joint
CTR(D)	Center(ed)
d	Penny
D or DL	Dead Load
DAS	Deformed Anchor Stud
DBL	Double
DCW	Demand Critical Weld
DFS	Deferred Submittal
Di	Gravity Ice Load
DIA OR Ø	Diameter
DIAG	Diagonal
DIM	Dimension
DN	Down
DO	Ditto
DP	Drilled Pier or Deep
DT	Precast Double Tee
DTL(s)	Detail(s)
DWG(s)	Drawing(s)
DWL(s)	Dowels(s)
E	Earthquake Load
E-W	East-West
EA	Each
EC	Epoxy Coated
EE	Each End
EF	Each Face
EJ	Expansion Joint
EL	Elevation
ELEV	Elevator
EMBED	Embedded
EN	Edge Nail
ENGR	Engineer
EOR	Engineer-of-Record
EQ	Equal
EQ SP	Equally Spaced
EQUIP	Equipment
ES	Each Side
EW	Each Way
EXP	Expansion
EXP ANCH	Expansion Anchor
EXT	Exterior
F	Fluid Load
Fa	Flood Load
FAB	Fabricate
FD	Footing Dowel
FF	Finished Floor
FIN	Finish(ed)
FLG	Flange
FLR	Floor
FND	Foundation
FO	Face of
FP	Full Penetration or Fire Proofing
FRAM	Framing
FS	Far Side
FT	Foot or Feet
FTG	Footing
FV	Field Verify
GA	Gage or Gauge
GALV	Galvanized
GC	General Contractor
GL	Glu-lam
GR	Grade or Grind
GR MB	Grade Beam
H	Soil Lateral Load
HAS or HDAS	Headed Anchor Stud
HD	Headed or Holddown
HDAR	Headed Anchor Rod
HDG	Hot Dipped Galvanized
HK	Hook
HORIZ	Horizontal
HT	Height
HVAC	Heating-Ventalating and A/C
I.F.	Inside Face
IN	Inch
INT	Interior
IS	Inside Diameter
IT	Precast Inverted Tee Beam
JST	Joist
JT	Joint
k	Kip
L	Length or Live Load
LB	Precast L-Shaped Beam
LB(S)	Pound(s)
LCE	Compression Embedment
LCS	Compression Lap Splice
LDH	Hook Development Length
LG	Length
LL	Live Load
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
LOC(s)	Location(s) or Locate
LONG	Longitudinal
Lr	Roof Live Load
LSL	Laminated Strand Lumber
LT	Light
LTE	Tension Embedment
LTS	Tension Lap Splice Length
LTWT	Lightweight
LVL	Level or Laminated Veneer Lumber
LWC	Light Weight Concrete
MACH	Machine
MACH RM	Machine Room
MAS	Masonry
MATL	Material
MAX	Maximum
MBS	Metal Building Supplier
MCJ	Masonry Control Joint
MECH	Mechanical
MEP	Mech/Elect/Plumb
MIL	Micro-Lam
MIN	Minimum
MISC	Miscellaneous
MLS	Masonry Lap Splace
mm	Millimeter
MNFR	Manufacturer
MO	Masonry Opening
MTL	Metal
N	North
N-S	North-South
NIC	Not in Contract
NM	Non-Metalic
NO OR #	Number
NOM	Nominal
NS	Non-Shrink or Near Side
NTS	Not to Scale
NWC	Normal Weight Concrete
O.F.	Outside Face
OAE	Or Approved Equivalent
OC	On Center
OD	Outside Diameter
OH	Opposite Hand
OPNG	Opening
OPP	Opposite
OVS	Oversized
OWS	One-Way Slab
PAF	Powder Actuated Fastener
PC	Precast
PCA	Portland Cement Association
PD	Pier Dowel
PEMB	Pre-Engineered Metal Building
PEN	Penetration
PERP	Perpendicular
PL	Plate (Steel)
PLF	Pounds Per Lineal Foot
PREFAB	Prefabricated
PRELIM	Preliminary
PS	Prestressed
PSF	Pounds Per Square Foot
PSI	Pounds Per Square Inch
PT	Point or Post-Tension or Pretensioned
QTY	Quantity
R	Radius or Rain Load
RAD	Radius
RB	Precast Rectangular Beam
RC	Reinforced Concrete
RE: or REF	Refer to (Reference)
REINF	Reinforce(ing)(d)(ment)
REQD	Required
REQT(s)	Requirement(s)
RET	Return
RO	Rough Opening
ROF	Random Oriented Fiber
S	South
SC	Slip Critical
SCHED	Schedule
SECT	Section
SIM	Similar
SL	Snow Load
SLH	Short Leg Horizontal
SLRS	Seismic Load Resisting System
SLV	Short Leg Vertical
SOG	Slab on Grade
SP	Space(s)
SP @	Space at
SPECS	Specifications
SPRT	Support
SS	Stainless Steel
STD	Standard
STIFF	Stiffener
STL	Steel
STR	Structural
SW	Shearwall
SYM	Symmetrical
T	Top or Thermal Load
T&B	Top and Bottom
T/ or T.O.	Top of
THK	Thick or Thickness
TL	Total Load
TOC	Top of Concrete
TOF	Top of Footing
TOM	Top of Masonry
TOP	Topping
TOS	Top of Steel
TOW	Top of Wall
TRANS	Transverse
TWS	Two-Way Slab
TYP	Typical
ULT	Ultimate
UNO	Unless Noted Otherwise
Vasd	Service Level/Nominal Design Wind Speed
VERT	Vertical
VIF	Verify in Field
Vult	Ultimate Design Wind Speed
W	Wind Load
W/	With
W/O	Without
WD	Width or Wood
WF	Wide Flange
Wi	Wind-on-Ice Load
WP	Working Point or Waterproofing
WPS	Welding Procedure Specification
WT	Weight
WWR	Welded Wire Reinforcing
WxH	Width x Height

DEFERRED SUBMITTALS

1) GENERAL:

1A) THE FOLLOWING PORTIONS OF THE STRUCTURAL DESIGN WILL NOT BE SUBMITTED AT THE TIME OF PERMIT APPLICATION. WHEN RECEIVED AND REVIEWED, THESE DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL BY THE CONTRACTOR:
- EXCAVATION SHORING
- METAL STAIRS
- ARCHITECTURAL/METAL CLADDING PANEL
- LIGHT GAGE METAL STUDS
- METAL RAILINGS
- ANCHORAGE, BRACING AND ATTACHMENT OF REQUIRED ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE SPRINKLER, AND OTHER EQUIPMENT AND SYSTEMS.
- PERMANENT EARTH SHORING SYSTEMS

1B) CONNECTION OF DEFERRED SUBMITTAL ITEMS TO PRIMARY STRUCTURE BY DEFERRED SUBMITTAL SUPPLIER. DEFERRED SUBMITTAL SUPPLIER TO PROVIDE CONNECTIONS AND FRAMING ARRANGEMENT TO AVOID LOADING WHICH EXCEEDS THE CAPACITY OF THE ELEMENT BEING ATTACHED TO. REFERENCE LOAD MAPS FOR MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SPRINKLER LOAD ALLOWANCES.

1C) ALL DEFERRED SUBMITTALS TO BE ATTACHED TO PRIMARY STRUCTURE WITH A PINNED CONNECTION. MOMENT CONNECTIONS TO PRIMARY STRUCTURE NOT PERMITTED UNLESS NOTED ON DRAWINGS OR APPROVED BY ENGINEER IN WRITING PRIOR TO SUBMITTAL OF DRAWINGS OR CALCULATIONS.

1D) LOADING AND LOCATION FOR ATTACHMENT OF DEFERRED SUBMITTAL ITEMS ARE NOTED ON DRAWINGS AND ARE NOT TO BE RE-LOCATED OR INCREASED WITHOUT WRITTEN APPROVAL.

1E) GC / METAL STUD FRAMING DESIGNER / CLADDING DESIGNER COORDINATION:
- METAL STUD FRAMING AND FRAMING ATTACHMENT IS DESIGNED FOR THE TRIBUTARY WIND AND GRAVITY LOAD OF THE STUD SPACING. CLADDING SUPPLIER TO DESIGN CLADDING TO ATTACH AT EACH STUD. CLADDING ATTACHMENT SPACING WHICH EXCEEDS THE STUD SPACING IS NOT ACCEPTABLE WITHOUT APPROVAL FROM THE METAL STUD SUPPLIER/DESIGNER AND THE PROJECT EOR.
- IF THE CLADDING SUPPLIER DOES NOT WANT OR CANNOT ATTACH TO EACH STUD THE LOADS FROM THE CLADDING SUPPLIER MUST BE PROVIDED TO THE METAL STUD FRAMING SUPPLIER. THE METAL STUD FRAMING SUPPLIER WILL NEED TO INCORPORATE THESE LOADS INTO THE METAL STUD FRAMING DESIGN.
- GC TO COORDINATE BETWEEN METAL STUD FRAMING SUPPLIER AND CLADDING SUPPLIER AS REQUIRED.

1F) FLOOR FRAMING AND EDGE ANGLE ARE DESIGNED TO SUPPORT ONE LEVEL OF CURTAIN WALL OR METAL STUD WALL FRAMING. SUPPORTING MULTIPLE LEVELS OF CURTAIN WALL OR METAL STUD WALL FROM ONE FLOOR LEVEL IS NOT PERMITTED.

1G) WALLS, GRADE BEAMS AND THE UNDERSIDE OF CONCRETE ON METAL DECK SHALL BE CONSIDERED CRACKED FOR THE PURPOSE OF DESIGNING ANCHORS FOR ATTACHMENT OF DEFERRED SUBMITTAL ITEMS.

1H) SUBMIT STAMPED STRUCTURAL CALCULATIONS FOR ALL DEFERRED SUBMITTAL ITEMS PRIOR TO OR CONCURRENTLY WITH DRAWINGS OR PRODUCT DATA. INCLUDE ANALYSIS OF ATTACHMENT TO PRIMARY STRUCTURE. INCLUDE CURRENT ICC REPORT WITH ALL PROPRIETARY STRUCTURAL ELEMENTS AND ANCHORS/FASTENERS.

1I) POWDER ACTUATED FASTENERS (PAF) INTO CONCRETE OR CMU SHALL NOT BE USED TO RESIST TENSION LOADS. POWDER ACTUATED FASTENERS SHALL NOT BE USED TO RESIST GRAVITY LOADS WHICH INCLUDE BRICK VENEER.

1J) REFERENCE COLD-FORMED STEEL FRAMING NOTES FOR ADDITIONAL DEFERRED SUBMITTAL DESIGN CRITERIA.

ATMOS ENERGY CORPORATION
2# Systems will not be allowed unless proof of an appliance requiring a MINUMUM of over 7" W.C. is provided to Atmos Energy Corporation personnel for review.
Meter location must be approved by an Atmos Energy Corporation employee during a mandatory site visit to be scheduled after foundation is in place.
Meters will not be allowed under a shedding roofline or where overhanging snow is a danger to the meter set.

DESIGN CRITERIA

1) CODES AND STANDARDS:

1A) GENERAL DESIGN
- INTERNATIONAL BUILDING CODE 2018

2) SEISMIC LOADS
- SEISMIC DESIGN CATEGORY = C
- RISK CATEGORY = II
- EARTHQUAKE IMPORTANCE FACTOR, Ie = 1.00
- DESIGN SPECTRAL RESPONSE COEFFICIENT, SDs = 0.333
- DESIGN SPECTRAL RESPONSE COEFFICIENT, SD1 = 0.133
- SOIL SITE CLASS = C
- BASIC STRUCTURAL SYSTEM: CONCRETE SLAB ON METAL DECK ON COMPOSITE STEEL FRAMING WITH ORDINARY REINFORCED CONCRETE SHEAR WALLS UP TO LEVEL 1.
- STRUCTURAL SEISMIC LATERAL SYSTEM: ORDINARY REINFORCED CONCRETE SHEAR WALLS
- FUTURE PLAZA BUILDING ABOVE LEVEL 1: STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
  - RESPONSE MODIFICATION FACTOR, R = 3
  - SEISMIC RESPONSE COEFFICIENT, Cs = 0.111
  - SYSTEM OVERSTRENGTH FACTOR, OMEGA = 3
  - DESIGN BASE SHEAR EAST-WEST DIRECTION = 200 K
  - DESIGN BASE SHEAR NORTH-SOUTH DIRECTION = 200 K
- SEISMIC ANALYSIS PROCEDURE: EQUIVALENT LATERAL-FORCE ANALYSIS

3) WIND LOADS
- RISK CATEGORY = II
- BASIC ULTIMATE WIND SPEED, Vult = 115 MPH
- BASIC NOMINAL WIND SPEED, Vasd = 89.1 MPH
- EXPOSURE CATEGORY = C
- INTERNAL PRESSURE COEFFICIENT, Gcpi = +/-0.18

4) DESIGN WIND PRESSURE FOR COMPONENTS AND CLADDING AND ELEMENTS DESIGNED BY THE CONTRACTOR

4A) LISTED COMPONENT AND CLADDING WIND PRESSURES ARE INCLUDED FOR REFERENCE ONLY. FINAL CALCULATIONS SHALL BE COMPLETED BY CONTRACTOR
4B) PRESSURES LISTED BELOW ARE ULTIMATE
4C) SEE 'WALL CORNER AND SPECIAL ROOF ZONES DIAGRAM'
4D) COMPONENT AND CLADDING SURFACE PRESSURES (PSF)

- **WALLS PRESSURES**

WALLS AREA	10 SF	100 SF	200 SF	500 SF
WALLS INTERIOR NEG (ZONE 4)	-24.5	-21.8	-20.6	-19.0
WALLS CORNER NEG (ZONE 5)	-49.0	-38.1	-33.4	-27.2
WALLS POSITIVE ZONE 4 & 5	24.5	20.4	18.6	16.3

- **ROOF PRESSURES**

ROOF AREA	10 SF	100 SF	500 SF
ROOF INTERIOR NEG (ZONE 1)	-46.2	-35	-54.4
- USE THESE FOR JOIST UPLIFT WIND DESIGN FORCES UNO			
ROOF INTERIOR NEG (ZONE 1')	-24.5	-24.5	-16.0
ROOF NEGATIVE (ZONE 2)	-62.6	-48.2	-76.2
- EAVES, RAKES, RIDGES			
ROOF CORNERS NEG (ZONE 3)	-62.6	-48.2	-76.2
ROOF POSITIVE ALL ZONES	-16	-16	-16.0
ROOF NEGATIVE OVERHANG ZONE 1 & 1'	-46.2	-43.5	-54.4
ROOF NEGATIVE OVERHANG ZONE 2	-62.6	-43.4	-59.8
ROOF NEGATIVE OVERHANG ZONE 3'	-62.6	-43.4	-59.8

- **PARAPET PRESSURES**

PARAPET QP = 27.2 psf

SOLID PARAPET PRESSURE	10 SF	100 SF	500 SF
PARAPET CASE A: ZONE 2:	87.0	68.6	54.4
ZONE 3:	87.0	68.6	54.4
PARAPET CASE B: INTERIOR ZONE:	-49.0	-42.2	-35.4
CORNER ZONE:	-73.4	-58.5	-43.5

PARAPET CASE A = PRESSURE TOWARDS BUILDING (POS)
PARAPET CASE B = PRESSURE AWAY FROM BLDG (NEG)

PARAPET CAP UPLIFT PRESSURES
ZONE 2: -68.0 PSF
ZONE 3: -68.0 PSF

5) LATERAL LOAD RESISTING SYSTEM DESCRIPTION:

PROMENADE: CONCRETE SLAB ON METAL DECK ON COMPOSITE STEEL FRAMING WITH ORDINARY REINFORCED CONCRETE SHEAR WALLS
FUTURE PLAZA BUILDING ABOVE LEVEL 1: STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE WITH X STEEL BRACES ALONG EXTERIOR WALLS.

6) GRAVITY LOADS

6A)
- LOWER LEVEL 1 SLAB ON GRADE = 100 PSF LIVE LOAD
- LEVEL 1 = SEE LOAD PLAN ON 1/1A-S0.02

6B) DRIFTING, SLIDING AND UNBALANCED SNOW
- GROUND SNOW LOAD = 132.0 PSF
- SNOW EXPOSURE FACTOR, Ce = 1.0
- SNOW LOAD IMPORTANCE FACTOR, Is = 1.0
- THERMAL FACTOR, Ct = 1.20
- UNIFORM ROOF SNOW LOAD = 110.9 PSF
- FLAT ROOF SNOW LOAD = 110.9 PSF

7) RAIN LOADS:

7A) DESIGN RAIN INTENSITY = 2.5 INCHES PER HOUR
7B) DESIGN RAIN ROOF PRESSURE = 21 PSF

STRUCTURAL DRAWING LIST

SHEET NUMBER	SHEET TITLE
1A-S0.01	NOTES
1A-S0.02	NOTES
1A-S0.03	NOTES
1A-S0.10	QUALITY ASSURANCE
1A-S0.11	QUALITY ASSURANCE
1A-S1.00	PROMENADE BUILDING - LOWER LEVEL 1
1A-S1.01	PROMENADE BUILDING - LEVEL 1
1A-S1.02	PROMENADE BUILDING - LEVEL 2 AND ROOF FRAMING PLAN
1A-S3.00	TYPICAL CONCRETE DETAILS
1A-S3.01	TYPICAL FOUNDATION DETAILS
1A-S3.02	CONCRETE DETAILS
1A-S3.10	TYPICAL SOG DETAILS
1A-S3.11	CONCRETE DETAILS
1A-S3.50	CONCRETE SUPPORTING STEEL DETAILS
1A-S3.51	CONCRETE SUPPORTING METAL DECK
1A-S4.00	MASONRY DETAILS
1A-S5.00	TYP STEEL BEAM CONNS - LRFD
1A-S5.01	TYP STEEL BEAM CONNS - LRFD
1A-S5.02	STEEL DETAILS
1A-S5.03	STEEL DETAILS
1A-S5.30	TYPICAL COMPOSITE SLAB DETAILS
1A-S5.31	TYPICAL SLAB ON METAL DECK DETAILS
1A-S5.40	PERFORMANCE SPECIFIED FRAMING

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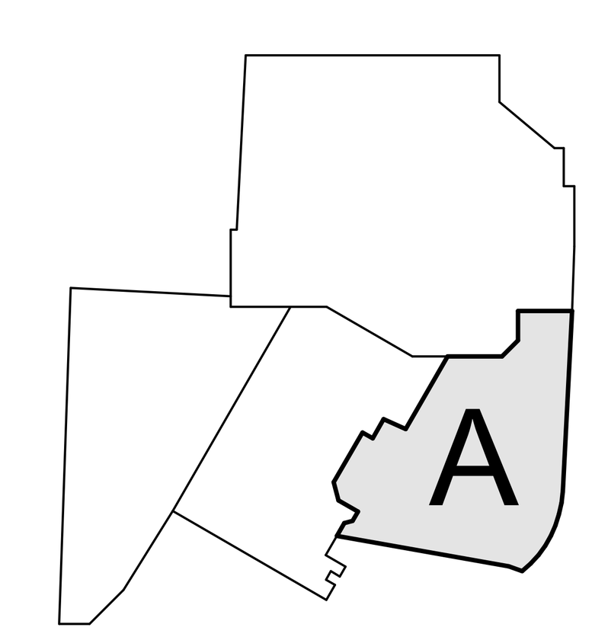
COLORADO REGISTERED PROFESSIONAL ENGINEER KELLY G. KNOWLES 38107
May 19, 2021
Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

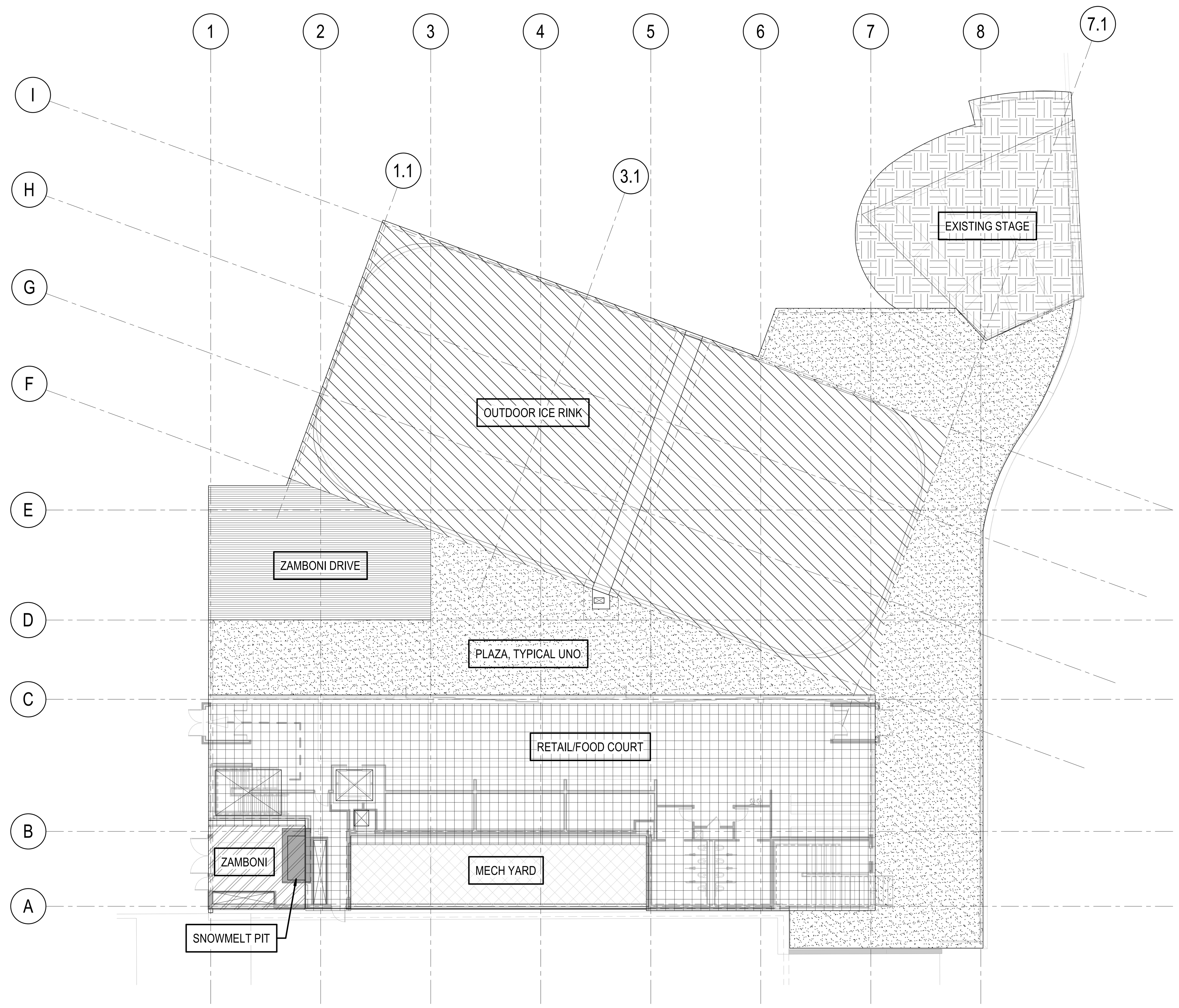
Project Name
SSRC | BASE AREA IMPROVEMENTS
Project Number
20.1411.S.01
Description
NOTES



Scale
12" = 1'-0"

1A-S0.01

DESIGNERS: NIC MARTIN
LEAD REVIT TECH:COLIN MONNES
DATE PRINTED:5/19/2021 12:05:58 PM
FILE PATH: BIM 360://003.7835.000 - Steamboat Redev/03.7835.000_Structural_SBR_Promenade Building 2021_V2021.rvt
MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN



1 PLAZA LOADING PLAN

1/16" = 1'-0"

GRAVITY LOADS				
LOCATION	**SUPERIMPOSED DEAD LOAD (PSF)**	**LIVE LOAD (PSF)**	**LIVE LOAD REDUCTION**	**POINT LOAD (LB)**
OUTDOOR ICE RINK	107	250	NO	2,000
PLAZA	75	250	NO	2,000 LBS PER WHEEL LOADS, 8,000 LBS TOTAL VEHICLE WEIGHT
RETAIL/FOOD COURT	55	100	NO	2,000
MECH YARD	75	75 + EQUIP BUT NOT LESS THAN 150	NO	--
EXISTING STAGE, PER EXISTING DRAWING DATED 2013	50	100 PER EXISTING DRAWING	YES	2,000
ZAMBONI	150	100	NO	4,800 LBS = MAX ZAMBONI AXLE LOAD, 7,700 = LBS MAX ZAMBONI TOTAL WEIGHT NON-CONCURRENT WITH 100 PSF UNIFORM LOAD
SNOWMELT PIT	75	300	NO	--
ZAMBONI DRIVE	75	250	NO	4,800 LBS = MAX ZAMBONI AXLE LOAD, 7,700 LBS = MAX ZAMBONI TOTAL WEIGHT NON-CONCURRENT WITH UNIFORM LOAD

NOTE:

LOADS ARE SERVICE LEVEL.

FOUNDATION NOTES

1) DESIGN CRITERIA:

THE GEOTECHNICAL REPORT PREPARED BY NORTHWEST COLORADO CONSULTANTS, INC., NUMBER 20-12000, DATED 12/30/2020 PROVIDED CRITERIA FOR THE FOUNDATION DESIGN FOR THE PROJECT.

2) FOOTINGS:

2A) FOOTINGS ARE DESIGNED BASED ON IMPROVED SOILS USING AGGREGATE PIERS AT COLUMN FOOTINGS AND SHEAR WALL FOOTINGS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

2B) FOOTING DESIGN CRITERIA:

- MAXIMUM TOTAL LOAD BEARING PRESSURE = 7000 PSF
- MINIMUM CONTINUOUS FOOTING WIDTH = 12 FT
- MINIMUM SPREAD FOOTING WIDTH = 12 FT
- ULTIMATE COEFFICIENT OF FRICTION TO RESIST LATERAL LOADS = 0.4
- FROST DEPTH TO BOTTOM OF FOUNDATION = 48 IN

3) FOUNDATION WALLS:

2A) EQUIVALENT FLUID PRESSURES USED FOR WALL DESIGN:

- "ACTIVE" CONDITION = 45 PCF
- "AT REST" CONDITION = 55 PCF
- "PASSIVE" CONDITION = 275 PCF
- LATERAL PRESSURE DUE TO SURCHARGE = 250 PSF
- ULTIMATE COEFFICIENT OF FRICTION TO RESIST LATERAL LOADS = 0.4

3B) WALL DESIGN BASED ON IN-SITU SOILS ADJACENT TO FOUNDATION WALLS. SEE EARTHWORK SPECIFICATION FOR REQUIREMENTS.

4) SITE RETAINING WALLS:

4A) EQUIVALENT FLUID PRESSURES USED FOR WALL DESIGN:

- "ACTIVE" CONDITION = 45 PCF
- "AT REST" CONDITION = 55 PCF
- "PASSIVE" CONDITION = 275 PCF
- LATERAL PRESSURE DUE TO SURCHARGE = 250 PSF
- LATERAL PRESSURE DUE TO SURCHARGE AT THE PLANTER WALL AND EXISTING STAGE = 100 PSF
- ULTIMATE COEFFICIENT OF FRICTION TO RESIST LATERAL LOADS = 0.4

4B) WALL DESIGN BASED ON IN-SITU SOILS ADJACENT TO FOUNDATION WALLS. SEE EARTHWORK SPECIFICATION FOR REQUIREMENTS.

GENERAL NOTES

1) GENERAL:

1A) ENGINEER: REFERENCES ON THE STRUCTURAL DRAWINGS TO 'ENGINEER' MEAN THE STRUCTURAL ENGINEER OF RECORD. OTHER ENTITIES ARE SPECIFICALLY NOTED AS "CONTRACTOR'S ENGINEER", "MECHANICAL ENGINEER", ETC.

1B) THESE NOTES SUPPLEMENT THE SPECIFICATIONS, WHICH SHALL BE REFERENCED FOR ADDITIONAL REQUIREMENTS.

1C) UNDERGROUND UTILITIES: LOCATE EXISTING UTILITIES AND NOTIFY ARCHITECT OF EXISTING UTILITIES OR SUBGRADE CONDITIONS WHICH INTERFERE WITH WORK.

1D) STRUCTURAL ELEMENTS ARE CENTERED ON GRID LINES AND GRID LINE INTERSECTIONS UNLESS DIMENSIONED OTHERWISE.

2) USE OF DRAWINGS:

2A) DO NOT SCALE DRAWINGS.

2B) DETAILS ON DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

2C) DETAILS NOTED TYPICAL APPLY TO ALL SIMILAR CONDITIONS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ELSEWHERE ON THE PROJECT.

2D) WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES AND SPECIFICATIONS:

- CONTACT THE ARCHITECT PRIOR TO PROCEEDING WITH CONSTRUCTION
- THE MORE STRINGENT REQUIREMENTS SHALL GOVERN FOR BIDDING / PRICING

3) EXISTING STRUCTURES:

3A) CONTRACT DOCUMENTS HAVE BEEN PREPARED USING AVAILABLE DRAWINGS AND SITE OBSERVATION AS PERMITTED BY ACCESS RESTRICTIONS DURING DESIGN.

3B) DURING CONSTRUCTION, THE CONTRACTOR MAY ENCOUNTER EXISTING CONDITIONS WHICH ARE NOT KNOWN OR ARE AT VARIANCE WITH PROJECT DOCUMENTATION. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ALL CONDITIONS NOT PER THE CONTRACT DOCUMENTS. EXAMPLES INCLUDE:

- SIZES OR DIMENSIONS OTHER THAN THOSE SHOWN
- DAMAGE OR DETERIORATION TO MATERIALS AND COMPONENTS
- CONDITIONS OF INSTABILITY OR LACK OF SUPPORT
- ITEMS NOTED AS EXISTING ON THE DRAWINGS BUT NOT FOUND IN THE FIELD

3C) PREPARE DIMENSIONAL DRAWINGS OF ALL DISCOVERED ITEMS.

3D) CONTRACTOR SHALL FIELD VERIFY ALL EXISTING STRUCTURAL CONDITIONS PRIOR TO SUBMITTING SHOP DRAWINGS.

3E) CONTRACTOR SHALL MAKE ALLOWANCE FOR THE RESOLUTION OF SUCH DISCOVERIES IN THE CONSTRUCTION SCHEDULE.

3F) SUBMIT A DIMENSIONED DRAWING OF ALL NEW OPENINGS THROUGH EXISTING STRUCTURE AND SECURE APPROVAL PRIOR TO CUTTING. NEW OPENING MAY BE EITHER SHOWN ON THE CONTRACT DOCUMENTS OR PROPOSED BY THE CONTRACTOR. DRAWING SHALL SHOW:

- VERTICAL & HORIZONTAL LOCATION AND SIZE OF NEW OPENING(S)
- ALL EXISTING OPENINGS IN THE VICINITY OF THE NEW OPENING(S)
- ALL EXISTING STRUCTURE (BEAMS, COLUMNS, SLABS, WALLS, ETC) IN THE VICINITY OF THE NEW OPENING(S)
- ALL REINFORCING BAR SIZES AND POSITIONS (LAYOUT LOCATION AND DEPTH) CONFLICTING WITH OR IN THE VICINITY OF THE NEW OPENING(S).

4) COORDINATION:

4A) STRUCTURAL DRAWINGS ARE NOT STAND-ALONE DOCUMENTS AND ARE INTENDED TO BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND DRAWINGS FROM OTHER DISCIPLINES. THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS INTO SHOP DRAWINGS AND WORK.

4B) COORDINATE DIMENSIONS OF ALL OPENINGS, BLOCKOUTS, DEPRESSIONS, ETC., WITH ARCHITECTURAL DRAWINGS, DRAWINGS FROM OTHER DISCIPLINES, AND FIELD CONDITIONS PRIOR TO SHOP DRAWING SUBMITTAL.

4C) SEE ARCHITECTURAL PLANS FOR INTERIOR PARTITIONS. PARTITION FRAMING SHALL BE CONNECTED TO THE PRIMARY STRUCTURE IN SUCH A WAY SO AS TO ALLOW FOR VERTICAL LIVE LOAD DEFLECTIONS OF SPAN/360 AT FLOOR FRAMING OR SPAN/240 AT ROOF FRAMING. DO NOT MAKE RIGID VERTICAL AND HORIZONTAL CONNECTIONS TO THE PRIMARY STRUCTURE IN THE PLANE OF THE PARTITION.

5) SUBMITTALS AND SUBSTITUTIONS:

5A) SUBMITTALS: REFER TO SPECIFICATIONS FOR DETAILED REQUIREMENTS.

- IF THE CONTRACTOR REQUESTS A CHANGE FROM THE STRUCTURAL DRAWINGS, IT SHALL BE APPROVED BY THE ARCHITECT AND DESIGNED BY MARTIN/MARTIN, INC. PRIOR TO SUBMITTING SHOP DRAWINGS. VARIATION SHALL BE INDICATED ON THE SHOP DRAWINGS. CONTRACTOR SHALL COMPENSATE MARTIN/MARTIN, INC. FOR MAKING THE CHANGE.
- CONSTRUCTION DOCUMENTS SHALL NOT BE REPRODUCED FOR USE IN SUBMITTALS
- ALL SHOP DRAWINGS SHALL REFERENCE THE STRUCTURAL DRAWING NUMBER AND DETAIL USED TO PREPARE THE SUBMITTAL
- SUBMIT A STATEMENT OF RESPONSIBILITY FOR CONSTRUCTION OF THE LATERAL LOAD RESISTING SYSTEM IDENTIFIED IN THE DESIGN CRITERIA IN ACCORDANCE WITH IBC 2018 SECTION 1704

5B) SUBSTITUTIONS: ARCHITECT'S APPROVAL SHALL BE SECURED FOR ALL SUBSTITUTIONS

5C) NONCONFORMANCE: NOTIFY ARCHITECT OF CONDITIONS NOT CONSTRUCTED PER THE CONTRACT DOCUMENTS PRIOR TO PROCEEDING WITH CORRECTIVE WORK. SUBMIT PROPOSED REPAIR TO THE ARCHITECT FOR ACCEPTANCE. CONTRACTOR SHALL COMPENSATE MARTIN/MARTIN, INC. FOR DESIGNING THE REPAIR.

6) TEMPORARY CONDITIONS, CONSTRUCTION ENGINEERING, AND OSHA STANDARDS:

6A) THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION AND ONLY FOR LOADS ANTICIPATED DURING THE STRUCTURE'S SERVICE LIFE.

6B) THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES. REFER TO "LATERAL LOAD RESISTING SYSTEM DESCRIPTION" IN DESIGN CRITERIA FOR ADDITIONAL INFORMATION. CONTRACTOR SHALL PROVIDE ALL REQUIRED ENGINEERING AND OTHER MEASURES TO ACHIEVE THE MEANS, METHODS, AND SEQUENCES OF WORK WHICH MAY INCLUDE, BUT IS NOT LIMITED TO:

- LAYOUT
- DESIGN FOR FORMWORK, SHORING, AND RESHORING
- DESIGN OF CONCRETE MIXES
- ERECTION PROCEDURES WHICH ADDRESS STABILITY OF THE FRAME DURING CONSTRUCTION
- WELD PROCEDURES
- DESIGN OF TEMPORARY BRACING OF WALLS FOR WIND, SEISMIC, OR SOIL LOADS
- SURVEYING TO VERIFY CONSTRUCTION TOLERANCES
- EVALUATION OF TEMPORARY CONSTRUCTION LOADS ON STRUCTURE DUE TO EQUIPMENT AND MATERIALS
- STRUCTURAL ENGINEERING TO RESIST ANY OTHER LOADS NOT IDENTIFIED ON DESIGN DRAWINGS

6C) FOUNDATION WALLS SHALL NOT BE BACKFILLED UNTIL THE SLABS-ON-GRADE AND UPPER SLABS ARE IN-PLACE AND REACH FULL STRENGTH UNLESS ADEQUATE BRACING IS PROVIDED. USE ONLY HAND OPERATED TOOLS FOR COMPACTION ADJACENT TO FOUNDATION WALLS AND GRADE BEAMS. GRADE BEAMS SHALL BE BACKFILLED EVENLY ON BOTH SIDES.

6D) NOTHING SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE CONSTRUED AS ELIMINATING THE NEED FOR THE CONTRACTOR TO COMPLY WITH ALL OSHA REQUIREMENTS. WHERE THE STRUCTURAL DRAWINGS APPEAR TO CONFLICT WITH OSHA REQUIREMENTS, THE STRUCTURAL DRAWINGS REPRESENT FINAL CONDITIONS ONLY.

- THE CONTRACTOR SHALL ADD ALL ERECTION FRAMING NECESSARY TO COMPLY WITH OSHA.
- THE CONTRACTOR SHALL ADD ALL NECESSARY BOLTS, ANCHOR BOLTS, PLATES, STIFFENER PLATES, STABILIZER PLATES, BRIDGING, BRACING, BEARING SEATS, COLUMN SPLICES, ETC., AS WELL AS CLOSURES FOR OPENINGS. IN ADDITION, FIELD WELD ANYTHING THAT MAY BE CONSIDERED A TRIP HAZARD, SUCH AS SHEAR STUDS, AFTER PROTECTIVE DECKING IS INSTALLED.
- WASHERS OR RINGS MAY BE WELDED TO COLUMNS TO PROVIDE FOR SAFETY CABLES. HOLES IN COLUMNS FOR SAFETY CABLES SHALL BE SHOP INSTALLED AND SHALL BE INDICATED ON SHOP DRAWINGS. ADJUST COLUMN SPLICE LOCATIONS OR ADD COLUMN SPLICES AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS. SUBMIT PROPOSED LOCATIONS.
- HOLES IN CONCRETE COLUMNS FOR SAFETY CABLES SHALL BE INDICATED ON THE SHOP DRAWINGS, SHALL BE LIMITED TO 1"Ø MAXIMUM, LOCATED WITHIN THE MIDDLE THIRD OF THE COLUMN AND SHALL BE CREATED USING SLEEVES. DO NOT DRILL OR CORE COLUMNS TO INSTALL SAFETY CABLES.
- ALL METAL JOISTS REQUIRED BY OSHA TO BE BOLTED SHALL HAVE ERECTION BOLTS INSTALLED REGARDLESS OF FINAL CONNECTION SHOWN ON THE STRUCTURAL DRAWINGS.

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38107
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
20.1411.S.01

Description
NOTES

Scale
As indicated

1A-S0.02

STEEL NOTES

1) CONNECTIONS:
1A) PROVIDE CONNECTIONS AS SHOWN IN THE 'STEEL BEAM CONNECTION SCHEDULES' AND DETAILS HEREIN. REFER TO SPECIFICATION FOR ALTERNATIVES AND CONNECTIONS NOT SHOWN.

2) STEEL MATERIALS:
2A) SEE 'STEEL MATERIAL TABLE'

3) WELDING REQUIREMENTS:
3A) WELDERS: HAVE IN POSSESSION CURRENT EVIDENCE OF PASSING THE APPROPRIATE AWS. QUALIFICATION TESTS.

3B) MINIMUM WELDS: AISC SPECIFICATION, NOT LESS THAN 3/16" FILLET, CONTINUOUS UNLESS OTHERWISE NOTED.

3C) WELD SIZES AND LENGTHS CALLED FOR ON THE DRAWINGS ARE THE NET EFFECTIVE REQUIRED. INCREASE WELD SIZE IF GAPS EXIST AT THE FAYING SURFACE.

3D) WELD SIZES SHALL BE AS SHOWN UNLESS A GREATER SIZE IS REQUIRED BY ANSI/AISC 360-05 TABLES J2.3 AND J2.4.

3E) ALL GROOVE WELDS SHALL BE COMPLETE PENETRATION UNLESS NOTED.

3F) FIELD WELDING SYMBOLS INDICATE SEQUENCE CONSIDERED DURING DESIGN. THE CONTRACTOR SHALL REQUEST APPROVAL FROM THE ENGINEER TO MODIFY WELD INSTALLATION LOCATION INDICATED ON THE DOCUMENTS:
- FROM SHOP TO FIELD
- FROM FIELD TO SHOP

3G) DEFORMED ANCHOR STUDS (DAS) AND HEADED ANCHOR STUDS (HAS / HDAS) SHALL BE SHOP OR FIELD WELDED AT CONTRACTOR'S OPTION UNLESS NOTED OTHERWISE

4) COMPOSITE GRAVITY FRAMING:
4A) COMPOSITE BEAMS ARE DESIGNED ASSUMING STUDS ARE INSTALLED IN THE WEAK POSITION (Rp = 0.6). SEE TYPICAL METAL DECK DETAILS FOR PLACEMENT REQUIREMENTS.

4B) COMPOSITE GIRDERS ARE DESIGNED ASSUMING STUDS ARE WELDED THROUGH THE METAL DECK AND/OR METAL DECKING/SHEET STEEL COVERS MORE THAN HALF OF THE TOP FLANGE (Rp = 0.75). SEE TYPICAL METAL DECK DETAILS FOR PLACEMENT REQUIREMENTS.

5) CAMBER:
5A) FABRICATE BEAMS SUCH THAT ROLLING OR FABRICATION INDUCED CAMBER IS UP AFTER ERECTION.

5B) CAMBER SHOWN IS BASED ON THE COMPUTED DEFLECTION OF THE BEAM DUE TO SELF WEIGHT OF CONCRETE PLACED. DESIGN IS BASED ON THE THEORETICAL CONCRETE THICKNESS PLUS 1/2" THICKNESS FOR DECK LEVELING AND 1/2" THICKNESS FOR BEAM LEVELING. INCLUDE QUANTITY OF ADDED CONCRETE DUE TO DECK AND BEAM DEFLECTION IN BID.

6) STRUCTURAL STEEL INSTALLATION:
6A) UNLESS INDICATED OTHERWISE, SNUG TIGHTEN ALL JOINTS AS DEFINED BY AISC
CONNECTIONS AS INDICATED BELOW SHALL BE PRETENSIONED PER TABLE J3.1 OF ANSI/ AISC 360-16
6B) CONNECTIONS NOTED ON THE DRAWINGS AS "SC" SHALL MEET THE FOLLOWING REQUIREMENTS:
- FAYING SURFACES SHALL BE: CLASS A PER AISC UNLESS NOTED OTHERWISE
BOLTS SHALL BE PRETENSIONED PER TABLE J3.1 OF ANSI/AISC 360-16

7) METAL DECK:
7A) SEE 'METAL DECK SCHEDULE' FOR MATERIALS, PROFILE, AND CONNECTIONS TO STRUCTURE.

7B) QUALITY CONTROL AND QUALITY ASSURANCE FOR STEEL DECK INSTALLATION SHALL BE IN ACCORDANCE WITH SDI QA/QC-2011, "STANDARD FOR QUALITY CONTROL AND QUALITY ASSURANCE FOR THE INSTALLATION OF STEEL DECK" AS MODIFIED BY TABLE C-1 CONTAINED IN THE COMMENTARY TO THAT STANDARD.

7C) DECK DESIGN IS IN ACCORDANCE WITH STEEL DECK INSTITUTE (SDI) FLOOR DECK DESIGN MANUAL (2014), SDI ROOF DECK DESIGN MANUAL (2013), AND SDI DIAPHRAGM DESIGN MANUAL, 4TH EDITION (2015)

7D) PLACE CONCRETE ON METAL DECK IN ACCORDANCE WITH SDI FLOOR DECK DESIGN MANUAL (2014) TO LIMIT CONSTRUCTION LOADS TO ALLOWABLE MAGNITUDES.
7E) SCREED CONCRETE TO PROVIDE CONSTANT THICKNESS.

7F) REINFORCE OPENINGS IN METAL ROOF DECK AND FLOOR DECK SUPPORTING CONCRETE FILL IN ACCORDANCE WITH TYPICAL DECK OPENING DETAILS.

7G) INSTALL DECK OVER 4 SUPPORTS (3 SPAN CONTINUOUS) UNLESS NOTED OTHERWISE. DO NOT INSTALL DECK AS SINGLE SPAN UNLESS SPECIFICALLY SHOWN ON DRAWINGS.

7H) PROVIDE DECK ATTACHMENTS AS NOTED ON DRAWINGS.
7I) HANGERS: SEE TYPICAL METAL DECK DETAILS FOR ALLOWABLE HANGER LOADS, SPACING AND ATTACHMENT.

8) STRUCTURAL COLD FORMED METAL FRAMING:
8A) COLD FORMED METAL FRAMING IS A PERFORMANCE SPECIFIED ITEM DESIGNED BY THE CONTRACTOR. PROVIDE STUD DEPTH INDICATED ON THE DRAWINGS. DO NOT EXCEED MAXIMUM SPACING INDICATED. VARY FLANGE WIDTH, GAGE, YIELD STRENGTH, BRACING, STUD SPACING, ETC. AS REQUIRED TO SATISFY PERFORMANCE CRITERIA IN THE CONTRACT DOCUMENTS. MINIMUM STUD GAGE SPECIFIED IS REQUIRED FOR ATTACHMENT OF OTHER MATERIALS TO STUDS. DO NOT BASE BIDS ON MINIMUM GAGE OR MAXIMUM SPACING SPECIFIED.

8B) REFER TO DETAILS FOR MINIMUM CONNECTIONS AND OTHER REQUIREMENTS. DEVELOP FORCES NOTED. DO NOT IMPOSE FORCES ON THE BUILDING STRUCTURE IN DIRECTIONS OR AT LOCATIONS OTHER THAN THAT SHOWN ON THE STRUCTURAL DRAWINGS. DO NOT IMPOSE FORCES LARGER THAN SPECIFIED. CONNECTIONS TO CONCRETE SHALL NOT USE PAFs TO RESIST TENSION LOADS.

8C) LOAD BEARING METAL FRAMING:
- MAXIMUM GAP BETWEEN WALL STUDS AND TRACK SHALL BE 1/8". SHIM AS REQUIRED TO ACHIEVE THIS CRITERIA.
- ALL BRACING, BRIDGING, AND CONNECTIONS SHALL BE COMPLETE PRIOR TO PLACING CONCRETE SLABS OR INSTALLING ROOF FRAMING ABOVE.

STEEL MATERIAL TABLE

STEEL ELEMENT	ASTM/TYPE	Fy (KSI)	Fu (KSI)	COMMENTS
ANCHOR RODS	F1554 GR 55	55	75	WELDABLE, HEAVY HEX HEADED
ANCHOR RODS IN MASONRY	F1554 GR 36, F1554 GR 55, OR A307 GRADE A/C	36	58	WELDABLE, STD HEX HEAD
BOLTS	F3125 - TYPE A325 OR F1852	--	120	BOLTS ARE 3/4"Ø UNO, USE TENSION-CONTROLLED WHERE POSSIBLE
COLD-FORMED STUDS/PLATE, 33 AND 43 MIL	A1003	33	--	--
COLD-FORMED STUDS/PLATE, 54 MIL AND HEAVIER	A1003	50	--	--
COLD-FORMED TRACK, ALL THICKNESSES	A1003	33	--	--
DAS	A1064	70	80	--
HAS	A108	51	65	STUDS ARE 3/4"Ø UNO
OTHER SHAPES	A36	36	58	--
PIPE	A53 GR B	35	60	--
PLATES	A36	36	58	--
RECT HSS	A500 GR C	50	62	--
ROUND HSS	A500 GR C	46	62	--
STEEL GRATING				PER NAAMM MBG 531, "METAL BAR GRATING MANUAL"
WELDING ELECTRODES, THICKNESS OF THINNER PART > 0.1 INCHES (12 GA)	E70			PER AWS
WELDING ELECTRODES, THICKNESS OF THINNER PART ≤ 0.1 INCHES (12 GA)	E60 OR E70	--	--	PER AWS
WF, WT	A992	50	65	--

MASONRY NOTES

1) DEFINITIONS:
1A) STRUCTURAL MASONRY IS DEFINED AS BEING EITHER LOAD BEARING AND/OR SERVING AS PART OF THE LATERAL LOAD RESISTING SYSTEM. STRUCTURAL MASONRY IS SHOWN ON THE STRUCTURAL PLANS AND DEFINED IN SCHEDULES AND DETAILS ON THE STRUCTURAL DRAWINGS.

1B) SEE ARCHITECTURAL DRAWINGS FOR LOCATION, THICKNESS AND EXTENT OF MASONRY PARTITIONS. SEE DETAILS ON THE STRUCTURAL DRAWINGS FOR GENERAL MASONRY PARTITION REQUIREMENTS.

2) DESIGN STRENGTH:
2A) DEVELOP 2000 PSI COMPRESSIVE STRENGTH (f'm) IN 28 DAYS.

2B) STEEL REINFORCING:
- PRIMARY REINFORCING: ASTM A615, 60 KSI
- HORIZONTAL JOINT REINFORCING: ASTM A951, PREFABRICATED, LADDER TYPE

3) SPLICES:
3A) SEE MASONRY LAP SPLICE SCHEDULE FOR LAP LENGTHS.

4) INSTALLATION REQUIREMENTS:
4A) GROUT SOLID ALL CELLS CONTAINING REINFORCING, EMBEDDED ITEMS, AND ALL OTHER CELLS NOTED ON THE CONTRACT DOCUMENTS.

POST-INSTALLED ANCHOR NOTES

1) PERSONNEL REQUIREMENTS:
1A) THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. SUBMIT DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS HAVE PASSED THE TRAINING COURSE PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.

1B) PERSONNEL WHO WILL INSTALL HORIZONTAL OR UPWARDLY INCLINED ADHESIVE ANCHORS IN CONCRETE THAT SUPPORT SUSTAINED TENSION LOADS SHALL BE CERTIFIED BY THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM. THESE ANCHORS ARE DESIGNATED WITH A (CERT) AFTER THE ANCHOR CALL OUT. SUBMIT DOCUMENTED CONFIRMATION THAT PERSONNEL HAVE PASSED THE TRAINING COURSE PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.

2) INSTALLATION REQUIREMENTS:
2A) ALL POST-INSTALLED ANCHORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND PER MANUFACTURER'S ON-SITE TRAINING.

2B) ALL ADHESIVE ANCHORS AND ADHESIVE ANCHORED REINFORCEMENT DESIGNS ARE FOR INSTALLATION IN THE FOLLOWING CONDITIONS, UNLESS NOTED OTHERWISE. WRITTEN APPROVAL MUST BE RECEIVED FROM ENGINEER PRIOR TO INSTALLATION IN ALTERNATE CONDITIONS.
- DRY CONCRETE, UNLESS NOTED OTHERWISE.
- CONCRETE TEMPERATURE AT TIME OF INSTALLATION THROUGH CURE TIME MUST BE WITHIN THE TEMPERATURE RANGE SPECIFIED IN MANUFACTURER'S PRINTED INSTALLATION INSTRUCTION FOR ADHESIVE GEL AND CURE TIMES.
- ANCHOR HOLES TO BE HAMMER DRILLED AND CLEANED.
- CONCRETE MUST BE AT LEAST 21 DAYS OLD BEFORE INSTALLATION OF ANCHORS.
- HOLES TO BE CLEANED AND PREPARED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND EVALUATION REPORT PRIOR TO ADHESIVE INJECTION.

2C) THE POSITION OF EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE SHALL BE LOCATED PRIOR TO INSTALLING POST INSTALLED ANCHORS OR REINFORCEMENT. EXISTING REINFORCEMENT SHALL BE LOCATED USING A SCANNER, GPR, X-RAY, CHIPPING OR OTHER MEANS. DO NOT DAMAGE OR CUT EXISTING REINFORCEMENT.

3) SUBSTITUTION REQUESTS:
3A) SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS AND PRODUCT DATA DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS IN COMPLIANCE WITH THE RELEVANT BUILDING CODES, LOAD RESISTANCE, INSTALLATION CATEGORY, CREEP APPROVAL, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE OF THE SPECIFIED PRODUCT.

POST-INSTALLED ANCHOR TABLE

ANCHOR TYPE	PRODUCT	Fy (KSI)	Fu (KSI)	COMMENT
ADHESIVE (IN CONCRETE)	HILTI HIT-HY 200	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
ADHESIVE (IN CONCRETE W/>12" EMBEDMENT)	HILTI HIT-RE 500 V3	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
ADHESIVE (IN GROUTED OR HOLLOW MASONRY)	HILTI HIT-HY 270	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
ADHESIVE ANCHOR RODS	-	36 MIN	58 MIN	THREADED ROD, UNGREASED
EXPANSION ANCHORS (IN CONCRETE)	HILTI KWIK BOLT TZ	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
EXPANSION ANCHORS (IN GROUTED MASONRY)	HILTI KWIK BOLT 3	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
SCREW ANCHORS	HILTI KWIK HUS-EZ	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS

METAL GAUGE CONVERSION

GAUGE	MINIMUM THICKNESS (MILS*)
22	27
20	33
18	43
16	54
14	68
12	97

NOTES:
* 1 MIL = 1/1000"

CONCRETE NOTES

1) GENERAL:
1A) ALL WORK SHALL CONFORM WITH ACI 301-10, UNLESS NOTED OTHERWISE IN DRAWINGS OR PROJECT SPECIFICATIONS.

1B) DETAIL BARS IN ACCORDANCE WITH THE DRAWINGS, PROJECT SPECIFICATIONS, AND ACI PUBLICATION SP-66 (2004): "ACI DETAILING MANUAL"

2) REINFORCING MATERIALS:
2A) SEE 'REINFORCING MATERIAL TABLE'

3) REINFORCING FABRICATION:
3A) SPLICES:
- NO SPLICING OF REINFORCEMENT PERMITTED EXCEPT AS NOTED ON DRAWINGS. MAKE BARS CONTINUOUS AROUND CORNERS WHERE DETAIL NOT PROVIDED. WHERE PERMITTED, SPLICES MAY BE MADE BY CONTACT LAPS OR MECHANICAL CONNECTORS.
- SEE 'LAP SPLICE SCHEDULE' FOR LAP LENGTHS.
- SPLICE CONTINUOUS TOP AND BOTTOM BARS IN WALLS, BEAMS, AND GRADE BEAMS 'LTS' UNLESS NOTED OTHERWISE.
- SPLICE TOP BARS AT MIDSPAN AND BOTTOM BARS OVER SUPPORT UNLESS NOTED OTHERWISE.

3B) MISCELLANEOUS REINFORCING REQUIREMENTS:
- PROVIDE ADDITIONAL BARS OR STIRRUPS REQUIRED TO SECURE REINFORCING IN PLACE DURING CONCRETE PLACEMENT.
- MAKE ALL REINFORCING BAR BENDS IN THE FABRICATOR'S SHOP UNLESS NOTED.
- NO WELDING OF REINFORCING PERMITTED UNLESS NOTED ON DRAWINGS. WHERE PERMITTED, PERFORM WELDING IN ACCORDANCE WITH AWS D1.4-2011.
- PROVIDE ADDED REINFORCING TO TRIM ALL OPENINGS, NOTCHES, AND REENTRANT CORNERS AS NOTED IN TYPICAL DETAILS.

4) STRUCTURAL CONCRETE MIX REQUIREMENTS:
4A) SEE 'CONCRETE MIX TABLE'

5) SLAB-ON-GRADE:
5A) VERIFY ALKALINITY OF CONCRETE SURFACE, SLAB VAPOR TRANSMISSION, AND SLAB FLATNESS/LEVELNESS ARE COMPATIBLE WITH FLOORING SYSTEM AND ADHESIVES PRIOR TO INSTALLING FLOORING.

5B) TAKE PRECAUTIONS TO MINIMIZE SLAB CURLING. GRIND SLAB OR USE LEVELING COMPOUND IF FLOOR FLATNESS AND LEVELNESS VALUES ARE NOT ACCEPTABLE TO THE ARCHITECT.

6) NON-SHRINK GROUT:
6A) CONFORM TO ASTM C1107

6B) ACHIEVE 6000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

7) PLACING REINFORCEMENT:
7A) REINFORCEMENT PROTECTION:
- SEE 'REBAR COVER TABLE'
- SEE ACI 117-10 FOR REINFORCEMENT PLACING TOLERANCES

7B) PROVIDE ACCESSORIES NECESSARY TO PROPERLY SUPPORT REINFORCING AND WELDED WIRE REINFORCEMENT AT POSITIONS SHOWN ON PLANS. ALL REINFORCING, DOWELS, BOLTS, AND EMBEDDED PLATES SHALL BE SET AND TIED IN PLACE BEFORE THE CONCRETE IS POURED. "STABBING" INTO PREVIOUSLY PLACED CONCRETE IS NOT PERMITTED.

8) CONSTRUCTION/CONTROL JOINTS:
8A) SUBMIT DRAWINGS SHOWING CONSTRUCTION AND CONTROL JOINT LOCATIONS ALONG WITH THE SEQUENCE OF POURS. CONSTRUCTION JOINT LOCATIONS AND CASTING SEQUENCE SHALL BE ARRANGED TO MINIMIZE THE EFFECTS OF ELASTIC AND LONG-TERM SHORTENING/SHRINKAGE.

8B) CONSTRUCTION JOINTS IN SLABS-ON-DECK, SLABS-ON-GRADE, AND STRUCTURAL SLABS SHALL BE LOCATED TO ACCOMMODATE THE MAXIMUM LENGTH AND AREA THE CONTRACTOR CAN REASONABLY POUR, FINISH, AND JOINT IN THE SAME DAY, BUT SHALL NOT EXCEED 150 FEET WITH A MAXIMUM AREA OF 15,000 SQUARE FEET UNLESS APPROVED BY THE ENGINEER.

8C) CONCRETE CONSTRUCTION JOINT SURFACE SHALL BE CLEANED AND ALL LAITANCE AND LOOSE MATERIAL REMOVED PRIOR TO SECOND CONCRETE PLACEMENT.

8D) INTENTIONALLY ROUGHENED CONSTRUCTION JOINTS: WHERE CONSTRUCTION JOINTS ARE LABELED AS "ROUGHENED" ON THE DRAWINGS, THE ENTIRE JOINT SURFACE SHALL BE MECHANICALLY ROUGHENED TO A 1/4" AMPLITUDE AND THOROUGHLY CLEANED. EXPOSE THE COARSE AGGREGATE IN THE HARDENED CONCRETE AND REMOVE ALL LAITANCE AND LOOSE MATERIAL.

9) MODIFICATIONS TO HARDENED OR EXISTING CONCRETE
9A) UNLESS NOTED ON THE STRUCTURAL DOCUMENTS MODIFICATIONS AS LISTED BELOW SHALL NOT BE MADE TO HARDENED OR EXISTING CONCRETE WITHOUT APPROVAL OF THE ARCHITECT:
- SAW CUTTING
- CORING
- CHIPPING
9B) DO NOT CUT OR DAMAGE ANY REINFORCING WITHOUT APPROVAL OF THE ARCHITECT

10) SLEEVES, OPENINGS, AND EMBEDED PIPE/CONDUITS:
10A) GENERAL
- REFER TO TYPICAL DETAILS FOR REQUIREMENTS FOR CONDUIT AND PIPE EMBEDDED IN WALLS AND SLABS
- REFER TO TYPICAL DETAILS FOR SPACING AND LAYOUT LIMITATIONS FOR SLEEVES AND OPENINGS
- FORM OPENINGS AND PROVIDE SLEEVES BEFORE PLACING CONCRETE, CORING OF CONCRETE IS NOT PERMITTED
- AT COMPOSITE SLABS DO NOT CUT DECK FOR AT LEAST 7 DAYS AFTER CONCRETE PLACEMENT
10B) REINFORCING
- REFER TO TYPICAL DETAILS FOR REINFORCEMENT REQUIREMENTS AT SLEEVES, OPENINGS OR CONDUIT
- DO NOT CUT REINFORCING WHICH MAY CONFLICT

REINFORCING MATERIAL TABLE

REINF ELEMENT	ASTM	Fy (KSI)	Fu (KSI)	COMMENTS
TYP REINFORCING	A615	60	90	-
WELDED & FIELD BENT REINF	A706	60	80	-
WELDED WIRE REINFORCING, SMOOTH	A1064	65	75	-
WELDED WIRE REINFORCING, DEFORMED	A1064	70	80	-
EPOXY COATING OF REINFORCING	A775 OR A934	-	-	-

CONCRETE MIX TABLE

CONC MIX TYPE	INTENDED USE	28 DAY STRENGTH f'c (KSI)	CONC WEIGHT	MAX W/C RATIO, INCLUDING FLY ASH	MAX AGGREGATE SIZE (IN), NOTE a	TOTAL AIR CONTENT (%), NOTE b	OTHER REQTS, NOTE c
1	FOOTINGS	3.5	NWC	-	1	-	-
2	BSMT WALLS	4.5	NWC	-	3/4	-	-
3	BSMT WALLS EXPOSED TO MOISTURE	4.5	NWC	0.45	3/4	6	-
4	INT TOPPING SLABS, SLABS ON DECK	3.5	NWC	0.50	3/4	NP	FRC
5	ICE SHEET REFRIGERATED SLAB	4.5 MIN	NWC	0.45	3/8 TO 3/4	-	SEE SPEC 13.20.62
6	INT SLABS ON GRADE	3.5	NWC	-	1	NP	FRC
7	ALL CONC OTHERWISE NOT SPECIFIED	4	NWC	0.50	3/4	6	-

CONCRETE MIX TABLE NOTES:
PROPORTIONS OF MATERIALS IN CONCRETE MIX SHALL BE ESTABLISHED TO:
- PROVIDE THE MINIMUM COMPRESSIVE STRENGTH AS INDICATED IN THE MIX TABLE. DO NOT EXCEED THE MAXIMUM WATER-CEMENT RATIO NOTED.

- PROVIDE WORKABILITY AND CONSISTENCY TO PERMIT CONCRETE TO BE WORKED READILY INTO FORMS AND AROUND REINFORCEMENT UNDER CONDITIONS OF PLACEMENT TO BE EMPLOYED, WITHOUT SEGREGATION OR EXCESSIVE BLEEDING. CONTRACTOR SHALL SELECT APPROPRIATE SLUMP. USE ADMIXTURES AS REQUIRED TO OBTAIN DESIRED RESULTS.

USE TYPE II PORTLAND CEMENT UNLESS NOTED OTHERWISE. FOR CONCRETE MIXES USED ON FLOORS MINIMUM CEMENTITIOUS CONTENT SHALL BE 540 POUNDS PER CUBIC YARD.

IN ORDER TO ACHIEVE LEED POINT FOR RECYCLED CONTENT, CONTRACTOR SHALL CONSIDER USING UP TO 20% FLY ASH BY WEIGHT OF CEMENTITIOUS MATERIALS FOR CONCRETE MIXES USED IN SLABS, AND UP TO 40% FLY ASH BY WEIGHT OF CEMENTITIOUS MATERIALS FOR DRILLED PIERS, WALLS, GRADE BEAMS, AND COLUMNS. FOR FLY ASH CONTENT EXCEEDING 20% FLY ASH BY WEIGHT OF CEMENTITIOUS MATERIALS, CONCRETE SHALL ACHIEVE 500 PSI WITHIN 24 HOURS. SPECIFIED STRENGTH IN TABLE IS REQUIRED AT 56 DAYS.

FOR CONCRETE PLACED BY PUMPING PROVIDE CONCRETE MIX FLOWABILITY TO FACILITATE PUMPING. ENTRAINED AIR MAY BE USED TO FACILITATE PUMPING SUBJECT TO THE PROVISIONS OF NOTE b BELOW.

a. FOR THE MAXIMUM COARSE AGGREGATE SIZE INDICATED, USE THE FOLLOWING AGGREGATE SIZE NUMBERS PER ASTM C33:
3/4": #67 AGGREGATE
1": #57 AGGREGATE

b. WHERE AIR CONTENT IS INDICATED IN THE MIX TABLE, PROVIDE AIR ENTRAINING ADMIXTURE. TOTAL AIR CONTENT LIMITS INCLUDE BOTH ENTRAINED AND ENTRAPPED AIR +/- 1 1/2%. 'NP' IN COLUMN INDICATES ADDITION OF ENTRAINED AIR IS NOT PERMITTED EXCEPT WHERE CONTRACTOR CAN DEMONSTRATE THAT SLABS WITH ENTRAINED AIR WILL HAVE A FINISH ACCEPTABLE TO THE ARCHITECT WITHOUT BLISTERS. AIR CONTENT NOTED IS BASED ON 3/4" AGGREGATE. IF 3/8" AGGREGATE IS USED, INCREASE AIR CONTENT BY 1 1/2%.

c. ABBREVIATIONS FOR OTHER REQUIREMENTS AS FOLLOWS:
FRC = FIBER REINFORCED CONCRETE. 1 1/2 LB/YD

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
20.1411.S.01

Description
NOTES

Scale
12" = 1'-0"

1A-S0.03

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNES
DATE PRINTED: 5/19/2021 12:06:05 PM
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POST-INSTALLED ANCHORS/REINFORCING STEEL SPECIAL INSPECTIONS

ITEM	FREQUENCY	STANDARD	CRITERIA
EXPANSION ANCHORS, SLEEVE ANCHORS, SCREW ANCHORS			
- PRIOR TO START OF WORK	-	ICC-ES REPORT	REVIEW CONTRACTOR'S INSTALLATION PROCEDURE
- PRIOR TO INSTALLATION OF ANCHOR	EACH ANCHOR	ICC-ES REPORT	VERIFY TYPE, DIAMETER, LENGTH, FINISH, AND BASE MATERIAL. VERIFY SOLID GROUTED AREA AROUND ANCHORS IN GROUTED MASONRY. VERIFY MAXIMUM IMPACT WRENCH TORQUE RATING FOR SCREW ANCHORS
- DURING INSTALLATION OF ANCHOR	C	ICC-ES REPORT	CONTINUOUS INSPECTION REQUIRED REGARDLESS IF PERIODIC INSPECTION IS PERMITTED BY ICC-ES REPORT. VERIFY HOLE DIMENSIONS, HOLE CLEANING, ANCHOR EMBEDMENT, EDGE DISTANCES AND SPACING
- AFTER INSTALLATION OF ATTACHED ASSEMBLY	100% VISUAL	-	VERIFY NUMBER, EDGE DISTANCES, AND ANCHOR FLUSH WITH AND PERPENDICULAR TO THE RECEIVING SURFACE
ADHESIVE ANCHORS, REINFORCING STEEL ANCHORED INTO HARDENED CONCRETE			
- PRIOR TO START OF WORK	-	ICC-ES REPORT	REVIEW CONTRACTOR'S INSTALLATION PROCEDURE
- PRIOR TO INSTALLATION OF ANCHOR	EACH ANCHOR	ICC-ES REPORT	VERIFY TYPE, DIAMETER, LENGTH, FINISH, AND BASE MATERIAL. VERIFY SOLID GROUTED AREA AROUND ANCHORS IN GROUTED MASONRY
- DURING INSTALLATION OF ANCHOR	C	ICC-ES REPORT	CONTINUOUS INSPECTION REQUIRED REGARDLESS IF PERIODIC INSPECTION IS PERMITTED BY ICC-ES REPORT. VERIFY HOLE DIMENSIONS, HOLE CLEANING, ANCHOR EMBEDMENT, EDGE DISTANCES AND SPACING
- AFTER INSTALLATION OF ATTACHED ASSEMBLY	100% VISUAL	-	VERIFY NUMBER, EDGE DISTANCES, AND ANCHOR FLUSH WITH AND PERPENDICULAR TO THE RECEIVING SURFACE
- CURE TIME	100% VISUAL	-	VERIFY FULL CURE TIME HAS ELAPSED PRIOR TO APPLICATION OF TORQUE OR LOAD TO ANCHOR

POST-INSTALLED ANCHOR/REINFORCING STEEL TESTING

ITEM	FREQUENCY	STANDARD	CRITERIA
EXPANSION ANCHORS, SLEEVE ANCHORS, SCREW ANCHORS			
- TORQUE TEST	100%	-	TEST ANCHOR WITH CALIBRATED TORQUE WRENCH TO 100% OF THE INSTALLATION TORQUE NOTED IN ICC-ES REPORT. ATTAIN SPECIFIED TORQUE WITHIN 1/2 TURN OF THE NUT
ADHESIVE ANCHORS, REINFORCING STEEL ANCHORED INTO HARDENED CONCRETE			
- TENSION TEST	FIRST 3 AND 1% OF REMAINING	ASTM E488 STATIC TENSION	TEST THE INSTALLATION OF THE FIRST 3 OF EACH TYPE, BASE MATERIAL, AND POSITION (DOWN, HORIZONTAL, OVERHEAD). OBSERVE ASTM E488 MINIMUM EDGE DISTANCES FOR DETERMINING TEST LOCATIONS. SUBMIT PROPOSED TEST LOCATIONS AND REQUESTS FOR REQUIRED TENSION TEST LOAD VALUES TO ENGINEER

STRUCTURAL CONCRETE TESTING

ITEM	FREQUENCY	STANDARD	CRITERIA
REINFORCING STEEL, BOLTS AND EMBEDMENTS			
- WELDING	-	-	PER STRUCTURAL STEEL TESTING
CONCRETE			
- COMPOSITE SAMPLE		ASTM C172	OBTAIN AT POINT OF PLACEMENT. FOR DRILLED PIERS OBTAIN NEAR BEGINNING OF LOAD PRIOR TO PLACEMENT IN SHAFT. ADJUST FREQUENCY AS REQUIRED TO PROVIDE MINIMUM 5 TOTAL TESTS PER MIX BUT NOT MORE THAN ONE SAMPLE PER TRUCK LOAD
1. f'c < 5000 PSI	100 CY/MIX/DAY		
2. f'c ≥ 5000 PSI AND SHOTCRETE	50 CY/MIX/DAY		
- SLUMP/SLUMP FLOW	EACH COMPOSITE SAMPLE	ASTM C143 (SLUMP) OR ASTM C1611 (SLUMP FLOW)	SPECIFIED SLUMP SHALL BE AS SUBMITTED IN THE MIX DESIGN ± 1 1/2". PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE
- AIR CONTENT WHEN AIR ENTRAINMENT IS SPECIFIED AND LIGHTWEIGHT CONCRETE	EACH COMPOSITE SAMPLE	ASTM C231 PRESSURE METHOD (NWC) OR ASTM C173 VOLUMETRIC METHOD (LWC)	-
- TEMPERATURE	EACH COMPOSITE SAMPLE AND 60 MINUTE INTERVALS	ASTM C1064	REQUIRED WHEN AIR TEMPERATURE IS 40 °F AND BELOW OR 80°F AND ABOVE
- UNIT WEIGHT FOR STRUCTURAL LIGHTWEIGHT	EACH COMPOSITE SAMPLE	ASTM C138	-
- COLD WEATHER CURING	-	ASTM C1074	RECORD MAXIMUM AND MINIMUM CONCRETE TEMPERATURE DURING CURING PERIOD, WHEN DAILY AVERAGE AIR TEMPERATURE OF 40 °F OR BELOW IS EXPECTED FOR 3 SUCCESSIVE DAYS DURING CURING PERIOD
- COMPRESSIVE STRENGTH	EACH COMPOSITE SAMPLE	ASTM C31 ASTM C39 EITHER: (4)6x12 OR (6)4x8 CYLINDERS	TEST PER SCHEDULE BELOW: - 7 DAYS: (1) 6x12 OR (1) 4x8 - 28 DAYS: (2) 6x12 OR (3) 4x8 - 56 DAYS: (1) 6x12 OR (2) 4x8 (IF 28 DAY TESTS DO NOT ACHIEVE SPECIFIED 28 DAY STRENGTH) ACCEPTANCE CRITERIA PER ACI 318
SHOTCRETE (ADDITIONAL REQUIREMENTS)			
- COMPRESSIVE	-	IBC 2018 - 1908.10	-
- CURING	-	IBC 2018 - 1908.9	-
FLOOR FLATNESS REQUIREMENTS			
- MEASURE CONCRETE FLOOR FLATNESS (FF) AND FLOOR LEVELNESS (FL)	-	ASTM E1155	PERFORM MEASUREMENTS WITHIN 48 HOURS OF FINISHING OPERATIONS AND PRIOR TO REMOVAL OF SHORES OR FORMS. MEASURE AREAS INDICATED IN THE SPECIFICATIONS

STRUCTURAL CONCRETE TESTING NOTES:

1. NONDESTRUCTIVE TESTING MAY BE PERMITTED BY THE ARCHITECT, BUT WILL NOT BE USED AS SOLE BASIS FOR APPROVAL OR REJECTION OF DEFICIENT CONCRETE.
2. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE FOLLOWING INFORMATION: DATE OF CONCRETE PLACEMENT, LOCATION OF CONCRETE BATCH IN WORK, DESIGN 28-DAY COMPRESSIVE STRENGTH, SLUMP, CONCRETE SUPPLIER AND MIXTURE ID NUMBER, TIME OF BATCH AND PLACEMENT, AMBIENT AIR TEMPERATURE, SITE ADDED WATER AND ADMIXTURES, UNIT WEIGHT, AND AS REQUIRED BY ASTM C39.

STRUCTURAL CONCRETE SPECIAL INSPECTIONS

ITEM	FREQUENCY	STANDARD	CRITERIA
REINFORCING STEEL			
- DURING PLACEMENT	P	ACI 301-16 3.2-3.3	VERIFY GRADE, FINISH, SIZE, BAR QUANTITY, LOCATION, SPACING, COVER, HOOK LENGTHS, SPLICE LENGTH, SPLICE LOCATIONS, BEND DIAMETERS, COATING, SURFACE CONDITION, AND SUPPORT
- PRIOR TO PLACEMENT OF CONCRETE	100%		
- WELDING	C	AWS D1.4	VERIFY ASTM A706 REINFORCING STEEL
- FIELD BENDING	P	ACI 301-16 3.3.2.8	-
- COATED REINFORCING	P	ACI 301-16 3.2.1.2	-
- MECHANICAL CONNECTORS	C	ICC-ES REPORT	-
BOLTS AND EMBEDMENTS			
- PRIOR TO PLACEMENT OF CONCRETE	100%	-	VERIFY TYPE, FINISH, DIAMETER, LENGTH, QUANTITY, EMBEDMENT LENGTH, SPACING AND EDGE DISTANCES. VERIFY USE OF PLACING TEMPLATE WHERE SPECIFIED
- WELDING	-	-	INSPECT PER THE STRUCTURAL STEEL TABLE
CONCRETE			
- MIX DESIGN	EACH TRUCK	-	VERIFY USE OF APPROVED DESIGN MIXTURE FOR EACH TRUCK LOAD
- FORMWORK PRIOR TO PLACEMENT OF CONCRETE	P	ACI 301-16 2.2-2.3	INSPECT FIRST POUR OF EACH TYPE (GRADE BEAM, COLUMN, STRUCTURAL SLAB, SLAB-ON-DECK, ETC.)
- PLACEMENT OF CONCRETE	C	ACI 301-16 5.3.2	-
- CURING	P	ACI 301-16 5.3.6	-
- SHORE/FORM REMOVAL	P	ACI 301-16 2.3.2	FOR BEAMS AND STRUCTURAL SLABS

QUALITY ASSURANCE GENERAL NOTES
STATEMENT OF STRUCTURAL SPECIAL INSPECTIONS AND TESTING

1. **GENERAL:**
   A. SCOPE OF WORK
   - THE OWNER WILL ENGAGE A QUALIFIED INSPECTION AND TESTING AGENCY(S) TO PERFORM SPECIAL INSPECTIONS AND TESTING FOR ALL STRUCTURAL MEMBERS AND ASSEMBLIES AS NOTED HEREIN.
   - SPECIAL INSPECTIONS AND TESTING INCLUDE THE ADDITIONAL STRUCTURAL SPECIAL INSPECTION AND TESTING REQUIREMENTS FOR SEISMIC AND/OR WIND RESISTANCE.
   - SPECIAL INSPECTIONS ARE IN ADDITION TO INSPECTIONS BY THE AUTHORITY HAVING JURISDICTION REQUIRED BY IBC 2018 SECTION 110.
   - REFER TO THE SPECIFICATIONS FOR REPORTING AND PROCEDURAL REQUIREMENTS FOR QUALITY ASSURANCE AND QUALITY CONTROL.
   - REFER TO ARCH/MECH/ELEC/CIVIL SPECIFICATIONS AND DRAWINGS FOR ADDITIONAL SPECIAL INSPECTION AND TESTING THAT MAY BE REQUIRED.

   B. SPECIAL INSPECTIONS AND TESTING ARE APPLICABLE TO ALL REVISIONS AND/OR FUTURE WORK ADDED BY AMENDMENTS TO THESE DOCUMENTS.

   C. DEFINITIONS
   - SPECIAL INSPECTOR: THE AGENCY ENGAGED BY THE OWNER AND APPROVED BY THE AUTHORITY HAVING JURISDICTION TO ACT AS THE DESIGNATED REPRESENTATIVE TO PERFORM INSPECTIONS.
   - SPECIAL INSPECTION: INSPECTION PERFORMED BY THE SPECIAL INSPECTOR ACCORDING TO IBC 2018 SECTION 1704 TO ENSURE COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS.
   - (P) PERIODIC INSPECTION: THE PART-TIME OR INTERMITTENT OBSERVATION BY THE SPECIAL INSPECTOR OF WORK BEING PERFORMED. SPECIAL INSPECTOR SHALL BE PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. OBSERVATION OF ALL WORK (100% VISUAL) SHALL BE MADE AT THE COMPLETION OF THE WORK.
   - (C) CONTINUOUS INSPECTION: THE FULL-TIME OBSERVATION BY THE SPECIAL INSPECTOR OF WORK BEING PERFORMED. SPECIAL INSPECTOR SHALL BE PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. OBSERVATION OF ALL WORK (100% VISUAL) SHALL BE MADE AT THE COMPLETION OF THE WORK.

   D. DEFICIENCIES IN WORK
   - CORRECT DEFICIENCIES IN WORK THAT TESTS AND INSPECTIONS INDICATE DO NOT COMPLY WITH THE CONTRACT DOCUMENTS AND REFERENCED STANDARDS.
   - ALL COST OF ADDITIONAL TESTING AND/OR INSPECTIONS FOR CORRECTIVE WORK SHALL BE BORNE BY THE CONTRACTOR.

2. **SHOP FABRICATIONS:**
   A. GENERAL
   - PERFORM INSPECTIONS AND TESTING FOR ALL SHOP FABRICATED STRUCTURAL MEMBERS AND ASSEMBLIES AS NOTED HEREIN. SPECIAL INSPECTOR SHALL PERFORM SPECIAL INSPECTIONS AND TESTING UNLESS THE FABRICATOR IS REGISTERED AND APPROVED BY THE AUTHORITY HAVING JURISDICTION TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION OR FABRICATION HAS A CURRENT ICC-ES EVALUATION REPORT. THE AUTHORITY HAVING JURISDICTION HAS APPROVED FABRICATORS PARTICIPATING IN THE AISC CERTIFICATION PROGRAM AND DESIGNATED AS AN AISC CERTIFIED PLANT, CATEGORY STD.
   - SPECIAL INSPECTOR SHALL VERIFY THE FABRICATOR MAINTAINS AND FOLLOWS DETAILED SHOP FABRICATION AND QUALITY CONTROL PROCEDURES, UNLESS FABRICATOR IS REGISTERED AND APPROVED.
   - AT THE COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AUTHORITY HAVING JURISDICTION ACCORDING TO IBC 2018 SECTION 1704.2.5.1.
   - APPROVED FABRICATORS MAY PERFORM TESTING NOTED HEREIN EXCEPT THAT NONDESTRUCTIVE TESTING (NDT) SHALL ONLY BE PERFORMED BY PERSONNEL WITH QUALIFICATIONS THAT MEET OR EXCEED THE CRITERIA OF AWS D1.1 SUBCLAUSE 6.14.6 AND AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING (ASNT) SNT-TC-1A OR ASNT CP-189.

   B. SHOP FABRICATIONS INCLUDED
   - SHOP FABRICATED STRUCTURAL STEEL INCLUDING STAIRS AND RAILING ELEMENTS
   - SHOP FABRICATED COLD FORMED STEEL ELEMENTS

SOILS SPECIAL INSPECTIONS

ITEM	FREQUENCY	STANDARD	CRITERIA
SUBGRADE			
- EXCAVATION	P	-	VERIFY EXCAVATIONS ARE EXTENDED TO THE PROPER DEPTH AND HAVE REACHED THE PROPER BEARING MATERIAL
- BEARING MATERIAL	P	SOILS REPORT	VERIFY BEARING MATERIAL IS ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY
- RAMMED AGGREGATE PIERS	SPEC	SPEC	REFER TO THE SPECIFICATION FOR QUALITY ASSURANCE AND QUALITY CONTROL REQUIREMENTS FOR RAMMED AGGREGATE PIERS
CONTROLLED FILL			
- PRIOR TO PLACEMENT	P	-	VERIFY SUBGRADE HAS BEEN PROPERLY PREPARED
- PLACEMENT	C	-	VERIFY USE OF PROPER MATERIALS, DENSITIES, COMPACTION, AND LIFT THICKNESSES

SOILS SPECIAL INSPECTION NOTES:

1. SEE CIVIL DRAWINGS AND/OR SPECIFICATIONS FOR ADDITIONAL EARTHWORK AND UTILITY INSPECTION REQUIREMENTS.
2. SEE CIVIL DRAWINGS AND/OR SPECIFICATIONS FOR CLASSIFICATION AND TESTING REQUIREMENTS FOR COMPACTED FILL AND/OR CONTROLLED LOW-STRENGTH MATERIAL.

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COLORADO REGISTERED 38107 PROFESSIONAL ENGINEER

May 19, 2021

Seal / Signature

Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
20.1411.S.01

Description
QUALITY ASSURANCE

Scale
12" = 1'-0"

1A-S0.10

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
FOR KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MCINNES
DATE PRINTED: 5/19/2021 12:06:08 PM
FILE PATH: I:\BIM 360\1003.1835.000 - Steamboat Redev\03.7836.000_Structural_SSRC_Promenade Building 2021_V2021.rvt

STRUCTURAL COLD FORMED STEEL DECK SPECIAL INSPECTIONS

ITEM	FREQUENCY	STANDARD	CRITERIA
PRIOR TO DECK PLACEMENT			
- VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS	PERFORM	SDI QA/QC-2011	.
- DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	PERFORM	SDI QA/QC-2011	-
PRIOR TO WELDING			
- WELDING PROCEDURE SPECIFICATION (WPS) AVAILABLE	OBSERVE	SDI QA/QC-2011	-
- MANUFACTURER CERTIFICATIONS OF WELDING CONSUMABLES AVAILABLE	OBSERVE	SDI QA/QC-2011	-
- MATERIAL IDENTIFICATION (TYPE/GRADE)	OBSERVE	SDI QA/QC-2011	-
- CHECKING WELDING EQUIPMENT	OBSERVE	SDI QA/QC-2011	-
PRIOR TO MECHANICAL FASTENING (SCREWS AND PAFs)			
- MANUFACTURER INSTALLATION INSTRUCTIONS ARE AVAILABLE FOR MECHANICAL FASTENERS	OBSERVE	SDI QA/QC-2011	-
- PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATIONS	OBSERVE	SDI QA/QC-2011	-
- PROPER STORAGE FOR MECHANICAL FASTENERS	OBSERVE	SDI QA/QC-2011	-
DURING DECK INSTALLATION			
DURING WELDING DECK CONNECTION INSTALLATION			
- USE OF QUALIFIED WELDERS		SDI QA/QC-2011	-
- CONTROL AND HANDLING OF WELDING CONSUMABLES	OBSERVE	SDI QA/QC-2011	-
- ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	OBSERVE	SDI QA/QC-2011	-
- WPS FOLLOWED	OBSERVE	SDI QA/QC-2011	-
DURING MECHANICAL DECK CONNECTION INSTALLATION			
- FASTENING (SCREWS AND PAFs)	OBSERVE	SDI QA/QC-2011	-
- FASTENERS ARE POSITIONED AS REQUIRED	OBSERVE	SDI QA/QC-2011	-
- FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	OBSERVE	SDI QA/QC-2011	-
AFTER DECK PLACEMENT			
- VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION COMPLY WITH CONSTRUCTION DOCUMENTS	PERFORM	SDI QA/QC-2011	-
- VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	PERFORM	SDI QA/QC-2011	-
- DOCUMENT ACCEPTANCE OR REJECTION OF THE INSTALLATION OF DECK AND DECK ACCESSORIES	PERFORM	SDI QA/QC-2011	VERIFY CUTS OR NOTCHES THROUGH DECK ARE REPAIRED
AFTER WELDING			
- VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS	PERFORM	AWS D1.3, SDI C, SDI NC, SDI RD	-
- WELDS MEET VISUAL ACCEPTANCE CRITERIA	PERFORM	AWS D1.3, SDI C, SDI NC, SDI RD	-
- VERIFY REPAIR ACTIVITIES	PERFORM	AWS D1.3, SDI C, SDI NC, SDI RD	VERIFY WELDED AREAS ARE TREATED WITH APPROVED TREATMENT TO MATCH CORROSION RESISTANCE OF AFFECTED AREA
- DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	PERFORM	AWS D1.3, SDI C, SDI NC, SDI RD	-
AFTER MECHANICAL FASTENING (SCREWS AND PAFs)			
- CHECK SPACING, TYPE, DIAMETER, AND INSTALLATION OF SUPPORT, SIDELAP, AND PERFORM PERIMETER FASTENERS	PERFORM	SDI C, SDI NC, SDI RD, ICC-ES REPORTS	VERIFY SCREWS ADEQUATELY PENETRATE BASE MATERIAL (3 THREADS MIN). NO POPPED SCREW HEADS OR STRIPPED SCREWS ARE PERMITTED. ALL DAMAGE SCREWS SHALL BE REPLACED. VERIFY PAFs ARE FULLY DRIVEN
- VERIFY REPAIR ACTIVITIES	PERFORM	SDI C, SDI NC, SDI RD	-
- DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	PERFORM	SDI C, SDI NC, SDI RD	VERIFY MATERIALS HAVE BEEN DRAWN TOGETHER

STRUCTURAL STEEL TESTING

ITEM	FREQUENCY	STANDARD	CRITERIA/REMARKS
WELDING			
- COMPLETE JOINT PENETRATION GROOVE WELDS FOR MATERIAL 5/16" THICK AND GREATER	10%	UT	FREQUENCY SHALL BE INCREASED SHOULD THE REJECT RATE EXCEED 5% FOR AN INDIVIDUAL WELDER, IN ACCORDANCE WITH AISC 360, CHAPTER N.
- THERMALLY CUT SURFACES OF BEAM COPES AND ACCESS HOLES WHEN MATERIAL THICKNESS EXCEEDS 2 INCHES	100%	MT OR PT	-
- SHEAR CONNECTOR, HEADED ANCHOR STUDS, DEFORMED ANCHOR STUDS, THREADED STUDS	2 BEND TESTS AT START OF EACH SHIFT, 1% BEND TEST, 100% RING TEST	AWS D1.1 SECTION 7	BEND TEST: PER AWS D1.1 BENT STUD (TORQUE TEST FOR THREADED STUDS) ACCEPTANCE CRITERIA. RING TEST: STRIKE WITH HAMMER. IF THE STUD RINGS, STUD IS ACCEPTABLE. IF STUD DOES NOT RING, PERFORM BEND TEST
FRAMING			
- SHAPES EXCEEDING 1 1/2 INCHES THICK, LOADED IN TENSION IN THE THROUGH- THICKNESS	100%	ASTM A898 (LEVEL 1 CRITERIA)	NOT REQUIRED FOR STEEL PRODUCED IN USA. CRITERIA TO BE MET 6 INCHES ABOVE AND BELOW EACH WELD. REQUIRED WHERE NOTED AS 'TTT' IN DRAWINGS
- PLATES EXCEEDING 3/4 INCH, LOADED IN TENSION IN THE THROUGH-THICKNESS DIRECTION IN TEE AND CORNER JOINTS	100%	ASTM A435	NOT REQUIRED FOR STEEL PRODUCED IN USA. ANY DISCONTINUITY CAUSING A TOTAL LOSS OF BACK REFLECTION THAT CANNOT BE CONTAINED WITHIN A CIRCLE 3 INCHES IN DIAMETER SHALL BE REJECTED. REQUIRED WHERE NOTED AS 'TTT' IN DRAWINGS
EMBEDDED PLATE ASSEMBLIES WITH PLATES EXCEEDING 3/4 INCH	100%	UT	NOT REQUIRED FOR STEEL PRODUCED IN USA. TEST ALONG CENTERLINE OF PLATE WIDTH AFTER WELDING

UT - ULTRASONIC TESTING
MT - MAGNETIC PARTICLE TESTING
PT - PENETRANT TESTING
SFRS - SEISMIC FORCE RESISTING SYSTEM
TTT - TENSION THRU THICKNESS, SEE STR STEEL TESTING

STRUCTURAL STEEL INSPECTIONS

ITEM	INSPECTION TASK	STANDARD	CRITERIA/REMARKS
- PRIOR TO FABRICATION OR ERECTION	PERFORM	AISC 360, CHAPTER N	REVIEW MATERIAL TEST REPORTS AND CERTIFICATIONS FOR STRUCTURAL STEEL, FASTENERS, ANCHOR RODS, HEADED STUD ANCHORS
PRIOR TO WELDING			
- REVIEW MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AND WELDING PROCEDURE SPECIFICATIONS	PERFORM	AISC 360, CHAPTER N	-
- FIT UP OF WELDS, INCLUDING JOINT GEOMETRY, AND CONFIGURATIONS AND FINISH OF ACCESS HOLES	OBSERVE	AISC 360, CHAPTER N	-
- MATERIAL IDENTIFICATION	OBSERVE	AISC 360, CHAPTER N	-
- WELDER IDENTIFICATION SYSTEM	OBSERVE	AISC 360, CHAPTER N	-
DURING WELDING			
- USE OF QUALIFIED WELDERS	OBSERVE	AISC 360, CHAPTER N	-
- CONTROL AND HANDLING OF WELDING CONSUMABLES	OBSERVE	AISC 360, CHAPTER N	-
- NO WELDING OVER CRACKED TACK WELDS	OBSERVE	AISC 360, CHAPTER N	-
- ENVIRONMENTAL CONDITIONS, AND WPS FOLLOWED	OBSERVE	AISC 360, CHAPTER N	-
- WELDING TECHNIQUES - SINGLE PASS WELDS	OBSERVE	AISC 360, CHAPTER N	-
- WELDING TECHNIQUES - MULTI-PASS WELDS	OBSERVE	AISC 360, CHAPTER N	-
AFTER WELDING			
- WELDS CLEANED	OBSERVE	AISC 360, CHAPTER N	-
- SIZE, LENGTH, AND LOCATION OF WELDS	PERFORM	AISC 360, CHAPTER N	-
- WELDS MEET VISUAL ACCEPTANCE CRITERIA	PERFORM	AISC 360, CHAPTER N, AWS D1.1	WHERE INSPECTOR OBSERVES QUESTIONABLE WELDS, NON-DESTRUCTIVE TESTING SHALL BE PERFORMED
- ARC STRIKES	PERFORM	AISC 360, CHAPTER N	-
- K-AREA	PERFORM	AISC 360, CHAPTER N	-
- REPAIR ACTIVITIES	PERFORM	AISC 360, CHAPTER N	-
- PLACEMENT AND INSTALLATION OF HEADED STUD ANCHORS	PERFORM	AISC 360, CHAPTER N	-
- DOCUMENT ACCEPTANCE OR REJECTION OF WELDED MEMBER OR JOINT	PERFORM	AISC 360, CHAPTER N	-
PRIOR TO BOLTING			
- REVIEW MANUFACTURER CERTIFICATIONS FOR FASTENER MATERIALS	PERFORM	AISC 360, CHAPTER N	-
- FASTENERS MARKS IN ACCORDANCE WITH ASTM REQUIREMENTS	OBSERVE	AISC 360, CHAPTER N	-
- PROPER FASTENERS AND BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	OBSERVE	AISC 360, CHAPTER N	-
- CONNECTING ELEMENTS MEET REQUIREMENTS, INCLUDING HOLE REPAIR AND FAYING SURFACE	OBSERVE	AISC 360, CHAPTER N	-
- PRE-INSTALLATION VERIFICATION TESTING	OBSERVE	AISC 360, CHAPTER N	NOT APPLICABLE FOR SNUG TIGHT JOINTS
- PROPER STORAGE FOR FASTENER COMPONENTS	OBSERVE	AISC 360, CHAPTER N	-
DURING BOLTING			
- FASTENERS PLACED IN ALL HOLES AND POSITIONED AS REQUIRED	OBSERVE	AISC 360, CHAPTER N	-
- PRETENSIONED AND SLIP-CRITICAL JOINTS	OBSERVE	AISC 360, CHAPTER N AND RCSC SPECIFICATION	JOINT BROUGHT IN SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING, FASTENER PREVENTED FROM ROTATING, PRETENSIONED IN PROPER SEQUENCE
- PRETENSIONED AND SLIP-CRITICAL JOINTS USING CALIBRATED WRENCH OR TURN-OF-NUT METHOD WITHOUT MATCHMARKING	PERFORM	AISC 360, CHAPTER N AND RCSC SPECIFICATION	JOINT BROUGHT IN SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING, FASTENER PREVENTED FROM ROTATING, PRETENSIONED IN PROPER SEQUENCE. INSPECTOR SHALL BE RESENT DURING INSTALLATION OF FASTENERS
AFTER BOLTING			
- DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	PERFORM	DOCUMENT ACCEPTANCE OR REJECTION MEMBER OR JOINT	-

OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS
PERFORM - THESE INSPECTIONS SHALL BE PERFORMED FOR EACH WELDED CONNECTION, EACH BOLTED CONNECTION, AND EACH ITEM, PRIOR TO ACCEPTANCE

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May 19, 2021

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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

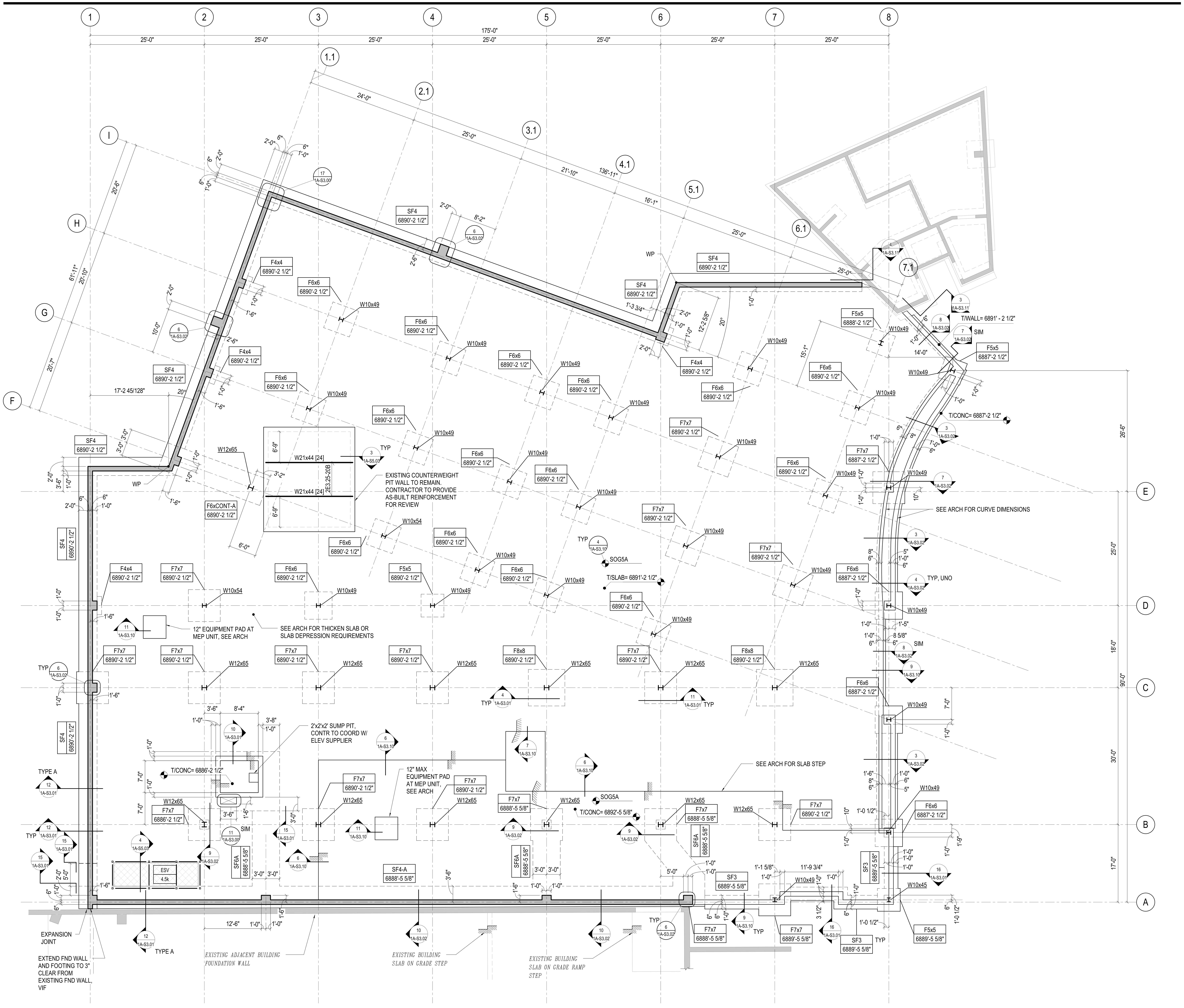
Project Number
20.1411.S.01

Description
QUALITY ASSURANCE

Scale

1A-S0.11

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN
LEAD REVIT TECH:COLIN MONNES
DATE PRINTED:5/19/2021 12:06:10 PM
FILE PATH: BIM 360://003.7835.000 - Steamboat Redev/03.7835.000_Structural_SBR_Promenade Building 2021_V2021.rvt



1 **PROMENADE BUILDING - FOUNDATION PLAN**
1/8" = 1'-0"

PLAN NOTES

GENERAL:
- SEE S0 SERIES SHEETS FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
- VERIFY ALL USGS ELEVATIONS IN FIELD AND WITH CIVIL AND ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
- SEE S3 SERIES SHEETS FOR TYPICAL CONCRETE DETAILS.

1) GRADE BEAMS / STEM WALLS:
1A) SEE PLAN FOR DIMENSIONED LOCATIONS OF STEM WALLS.
1B) SEE 19/S3.01 FOR LIMITS OF GRADE BEAM/WALL POUR LENGTHS.
1C) SEE 11/S3.00 FOR TYPICAL PENETRATIONS THROUGH GRADE BEAMS STEM WALLS
1D) REINFORCING
- SEE 17/S3.00 FOR FOUNDATION WALL HORIZONTAL CORNER AND INTERSECTION REINFORCING

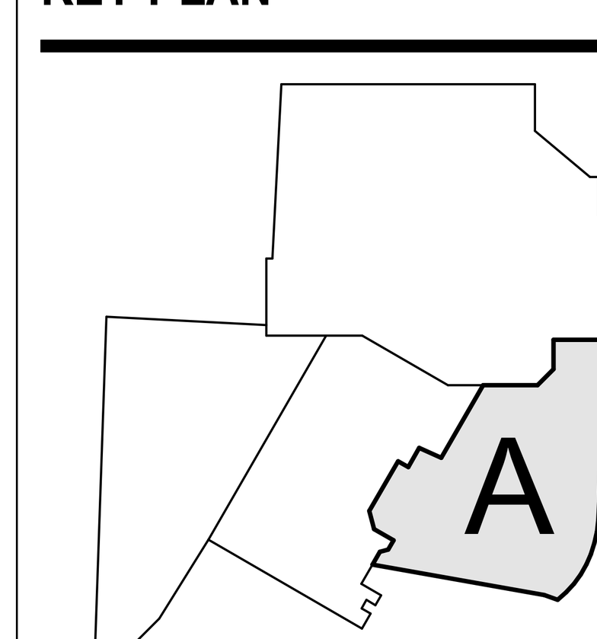
2) SLAB-ON-GRADE:
2A) SEE DETAIL 4/1A-S3.10 FOR TYPICAL SLAB-ON-GRADE DETAIL.
2B) SEE DETAIL 5/1A-S3.10 FOR TYPICAL SLAB-ON-GRADE LAYOUT/INFORMATION.
2C) SEE ARCH AND MECH DRAWINGS FOR SLAB SLOPES, DEPRESSIONS, FILL, PADS, AND CURBS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- SEE 11/1A-S3.10 FOR CURB AND MECHANICAL EQUIPMENT PAD DETAILS
2D) SEE ARCH DRAWINGS FOR VAPOR RETARDER LOCATIONS. INSTALL VAPOR RETARDER DIRECTLY UNDER SLAB PER RECOMMENDATIONS OF PCA AND ACI 302.1R-04. TAKE PRECAUTIONS TO MINIMIZE SLAB CURLING. GRIND SLAB TO ACHIEVE SPECIFIED FLOOR FLATNESS AND LEVELNESS VALUES.
2E) SLABS-ON-GRADE WITH EXTERIOR EXPOSURE, SHALL BE REINFORCED WITH EPOXY COATED (EC) REINFORCING.
2F) SEE "CONCRETE GENERAL NOTES " FOR JOINTING REQUIREMENTS AT SLAB-ON-GRADE.

3) COLUMNS/PILASTERS:
3A) ALL COLUMNS/PILASTERS ARE CENTERED ON THE INTERSECTION OF GRIDS BELOW THE SUPPORTED COLUMN UNLESS DIMENSIONED OTHERWISE ON PLAN.

4) MASONRY WALLS:
4A) MASONRY PARTITION WALLS ARE NOT SHOWN.
- SEE 1A-S4.00 FOR TYPICAL MASONRY PARTITION WALL DETAILS.
4B) SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF ALL MASONRY WALLS.

5) MISCELLANEOUS NOTES:
5A) SEE SHEET 1A-S3.00 FOR MISCELLANEOUS CONCRETE DETAILS AND INFORMATION INCLUDING CONCRETE LAP SPLICE SCHEDULE, TYPICAL HOOK DETAILS, AND CLEAR COVER REQUIREMENTS.
5B) SEE DETAIL 11/1A-S3.00 FOR TYPICAL REINFORCING AT WALL PENETRATIONS.
5C) SEE DETAIL 8/1A-S3.00 FOR TYPICAL WELD BETWEEN REINFORCING BARS AND EMBED PLATES. DETAIL APPLIES AT ALL LOCATIONS WHERE "DAS" IS INDICATED ON DRAWINGS.
5D) CONTRACTOR TO FIELD LOCATE ALL UTILITIES BELOW GRADE. CONTRACTOR SHALL NOTIFY ARCHITECT BY DIMENSIONED DRAWING OF LOCATIONS WHERE UTILITIES CONFLICT WITH FOUNDATION INSTALLATION. CONTRACTOR SHALL MAKE ALLOWANCE FOR THE RESOLUTION OF SUCH DISCOVERIES PRIOR TO PROCEEDING WITH AFFECTED FOUNDATIONS.

KEY PLAN



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May 19, 2021
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Date	Description
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RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS
Project Number
20.1411.S.01
Description
PROMENADE BUILDING - LOWER LEVEL 1
Scale
As indicated
Ref North

1A-S1.00

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

DESIGNERS: NIC MARTIN
LEAD: KEITH RUSSELL KNOWLES
DATE PRINTED: 5/19/2021 12:06:11 PM

1 LEVEL 01 FRAMING PLAN

1/8" = 1'-0"

PLAN NOTES

GENERAL:

- SEE S0 SERIES SHEETS FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

- SEE S5 SERIES SHEETS FOR TYPICAL STEEL DETAILS.

1) COLUMNS:
ALL COLUMNS ARE CENTERED ON THE INTERSECTION OF GRIDS UNLESS DIMENSIONED OTHERWISE ON PLAN.

2) STEEL BEAMS:
STEEL BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDLINES/COLUMNS/GIRDERS UNLESS DIMENSIONED OTHERWISE.

TOP OF STEEL BEAMS SHALL EQUAL BOTTOM OF METAL DECK ELEVATION. SEE PLAN FOR TOP OF CONCRETE ELEVATION AND SLAB THICKNESS TO DETERMINE BOTTOM OF METAL DECK ELEVATION.

REQUIRED BEAM END CONNECTION CAPACITY IN KIPS NOTED ON PLAN THUS: XXk. IF TWO SYMBOLS ARE SHOWN THEY DENOTE THE REQUIRED CONNECTION CAPCITY AT THE CORRESPONDING BEAM END. IF ONLY ONE SYBMOL IS SHOWN IT DENOTES THE REQUIRED CONNECTION CAPACITY AT EACH END OF THE BEAM. DETAIL CONNECTIONS FOR REQUIRED CONNECTION CAPACITY PER SHEET S5.60. ALL BEAM END DRAG CONNECTIONS NOTED ON PLAN HAVE BEEN FACTORED PER THE ASCE 7 STRENGTH DESIGN LOAD COMBINATIONS.

REQUIRED BEAM END DRAG CONNECTION CAPACITY IN KIPS NOTED ON PLAN THUS: XXk. SYMBOLS DENOTE THE REQUIRED CONNECTION CAPCITY AT THE CORRESPONDING BEAM END. DETAIL CONNECTIONS FOR REQUIRED CONNECTION CAPACITY PER SHEETS 1A-S5.00 AND 1A-S5.01. ALL BEAM END CONNECTIONS NOTED ON PLAN HAVE BEEN FACTORED PER THE ASCE 7 STRENGTH DESIGN LOAD COMBINATIONS.

PLACE NUMBER OF SHEAR STUDS INDICATED ON PLAN THUS: [XX] PER DETAIL 11/1A-S5.31. ALL SHEAR STUDS ARE 3/4"Ø. SEE DETAIL 11/1AS5.31 FOR NET IN-PLACE LENGTH OF SHEAR STUDS.

3) METAL DECK:
SEE SHEETS 1A-S5.31 AND FOR TYPICAL METAL DECK DETAILS.

SEE DETAIL 19/1A-S5.31 FOR DECK SUPPORT FRAMING REQUIRED AT DECK PENETRATIONS WITH ONE SIDE EXCEEDING 10".

4) STRUCTURAL SLAB-ON-DECK:
TOP OF CONCRETE SLAB NOTED ON PLAN THUS:

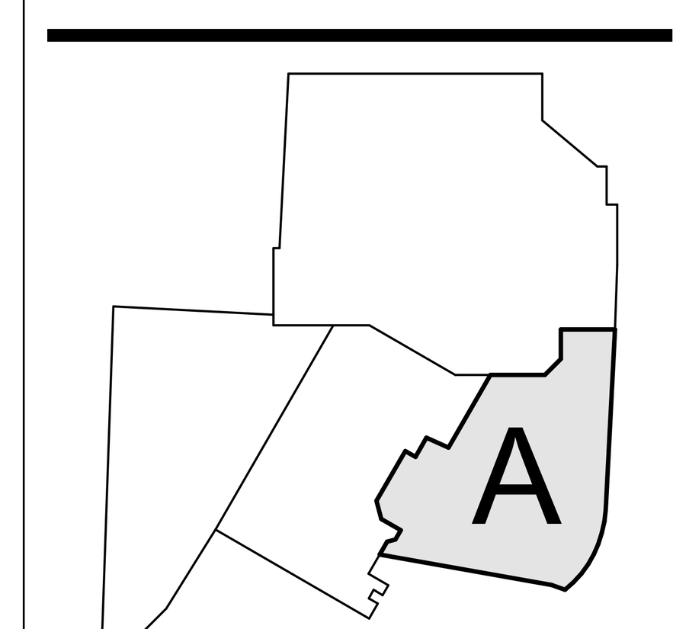
SUBMIT LOCATIONS OF SLAB CONSTRUCTION JOINTS FOR REVIEW 3 WEEKS (MINIMUM) PRIOR TO PLACEMENT OF CONCRETE. SPACE JOINTS AND POUR SEQUENCES TO MINIMIZE SHRINKAGE CRACKS. SEE "GENERAL NOTES- CONCRETE" FOR JOINTING REQUIREMENTS AT SLAB-ON-DECK.

REINFORCING DETAILS

SEE DETAIL 19/1A-S5.30 FOR ADDITIONAL REINFORCING REQUIRED AT SLAB PENETRATIONS/OPENINGS.

4) MECHANICAL AND ELECTRICAL EQUIPMENT
4A) SEE 20/1A-S5.31 FOR REQUIREMENTS AT MECHANICAL AND ELECTRICAL EQUIPMENT.
4B) CONTRACTOR TO VERIFY ALL EQUIPMENT WEIGHTS, SIZES, LOCATIONS, AND OPENINGS REQUIRED WITH MECHANICAL CONTRACTOR. CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY CHANGES IN THE WEIGHTS OR LOCATIONS SHOWN ON THE DRAWINGS. SUCH CHANGES IN CONDITIONS SHALL BE SUBJECT TO STRUCTURAL ENGINEER REVIEW. RE: MECHANICAL AND ARCHITECTURAL DRAWINGS FOR ADDITIONAL OPENINGS NOT SHOWN.
1C) MECHANICAL EQUIPMENT WEIGHTS, IN KIPS, NOTED ON PLAN THUS: XXk.
- MECHANICAL EQUIPMENT WEIGHT SHALL BE EVENLY DISTRIBUTED TO ALL SUPPORTING BEAMS / JOISTS.
- EQUIPMENT TO BE PLACED TO BEAR ON TWO BEAMS / JOISTS MINIMUM. EACH SUPPORTING JOIST AND/OR JOIST GIRDER SHALL BE DESIGNED TO SUPPORT A CONCENTRATED LOAD FROM THE MECHANICAL EQUIPMENT. THIS LOAD IS IN ADDITION TO THE JOIST UNIFORM LOADS OR JOIST GIRDER POINT LOADS INDICATED.

KEY PLAN



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May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
20.1411.S.01

Description
PROMENADE BUILDING - LEVEL 1

Scale
As indicated

Ref North

1A-S1.01

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNES
DATE PRINTED: 5/19/2021 12:06:12 PM
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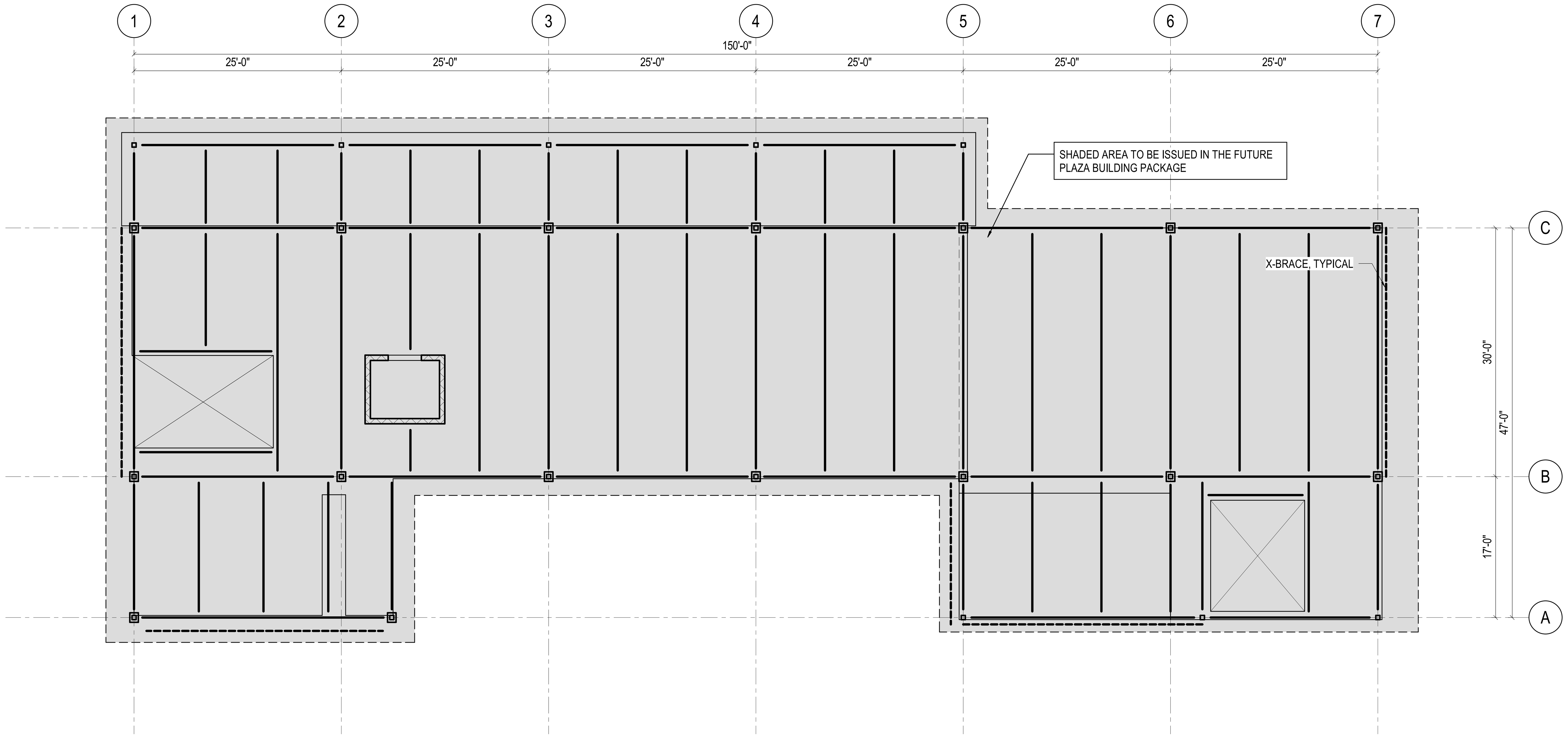
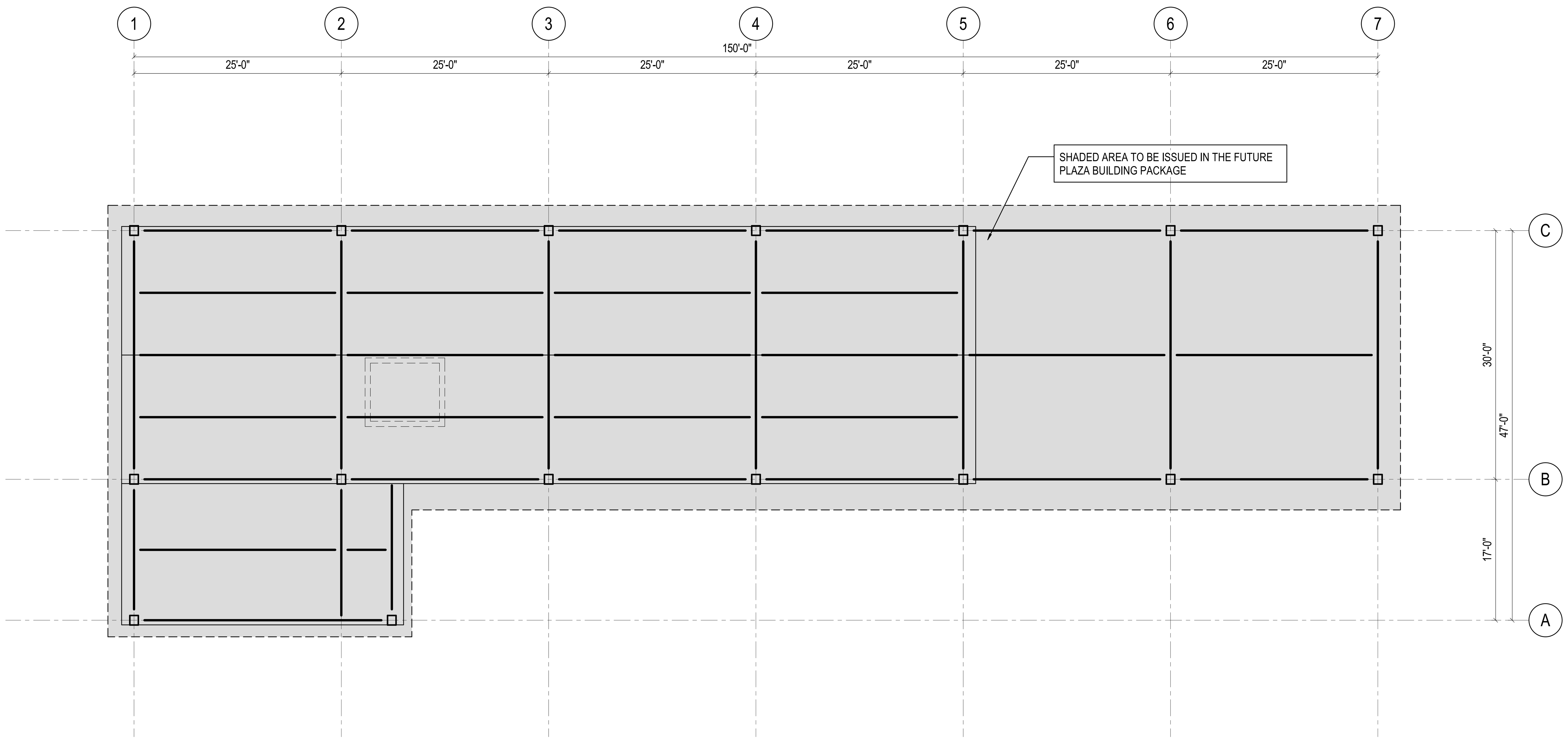


1 FUTURE PLAZA BUILDING - LEVEL 2 FRAMING

1/8" = 1'-0"



2 FUTURE PLAZA BUILDING - ROOF FRAMING

1/8" = 1'-0"

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

DESIGNERS: NIC MARTIN
LEAD REVIT TECH:COLIN MONNES
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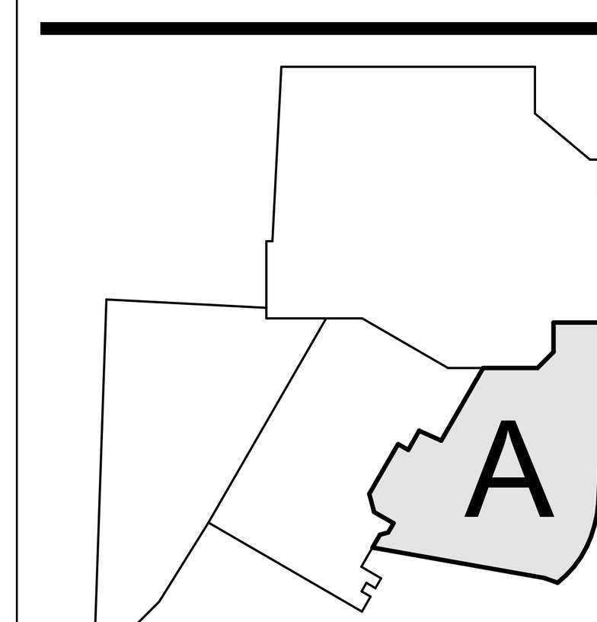
SHEET NOTES

GENERAL:

- FRAMING ARE FOR SHOWN FOR SCHEMATIC DESIGN PURPOSE.
- SHADED AREA TO BE CONSTRUCTED AS PART OF THE FUTURE PLAZA BUILDING PACKAGE.

KEY PLAN



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May 19, 2021

Seal / Signature

△	Date	Description
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RCRBD
Record Set
TC
07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

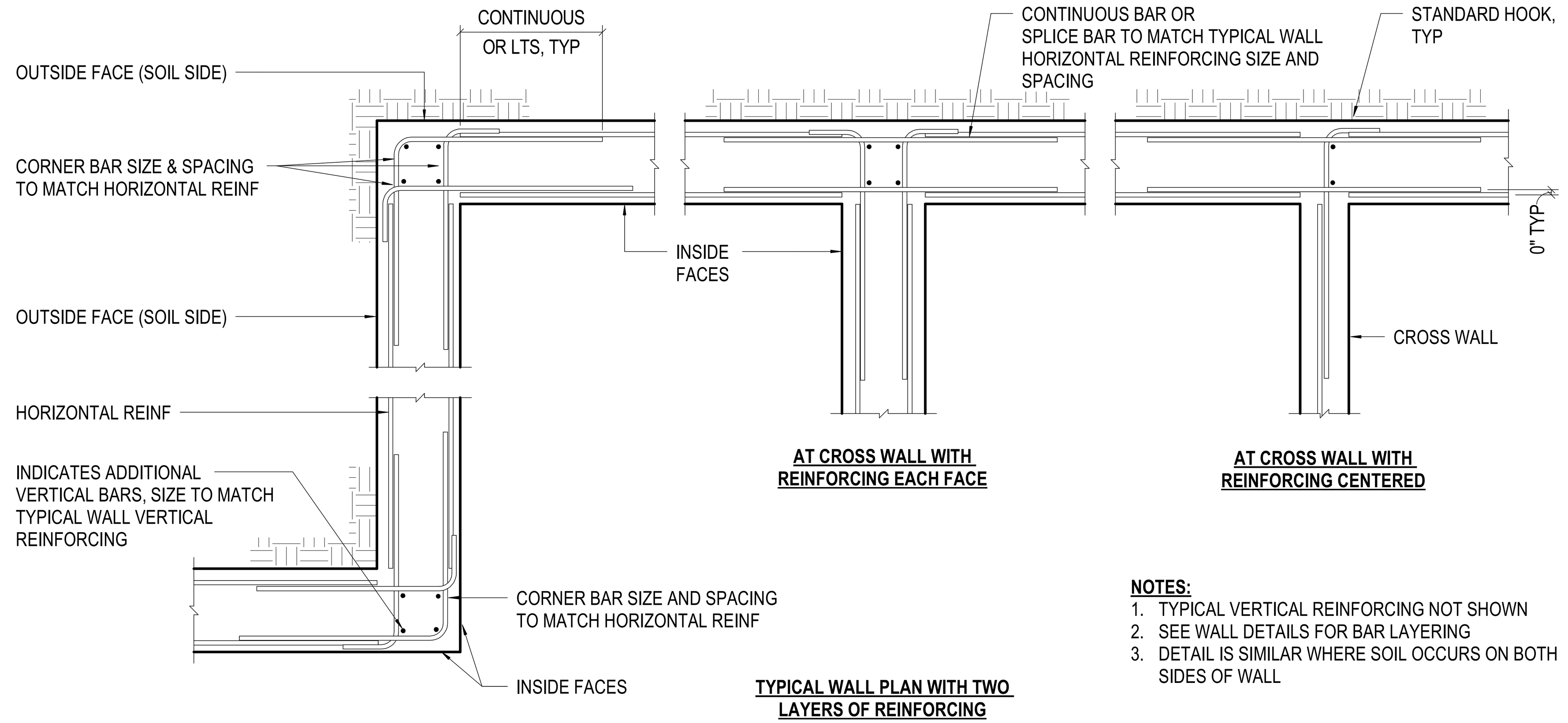
Project Number
20.1411.S.01

Description
PROMENADE BUILDING - LEVEL 2 AND ROOF FRAMING PLAN

Scale
As indicated

Ref North

1A-S1.02

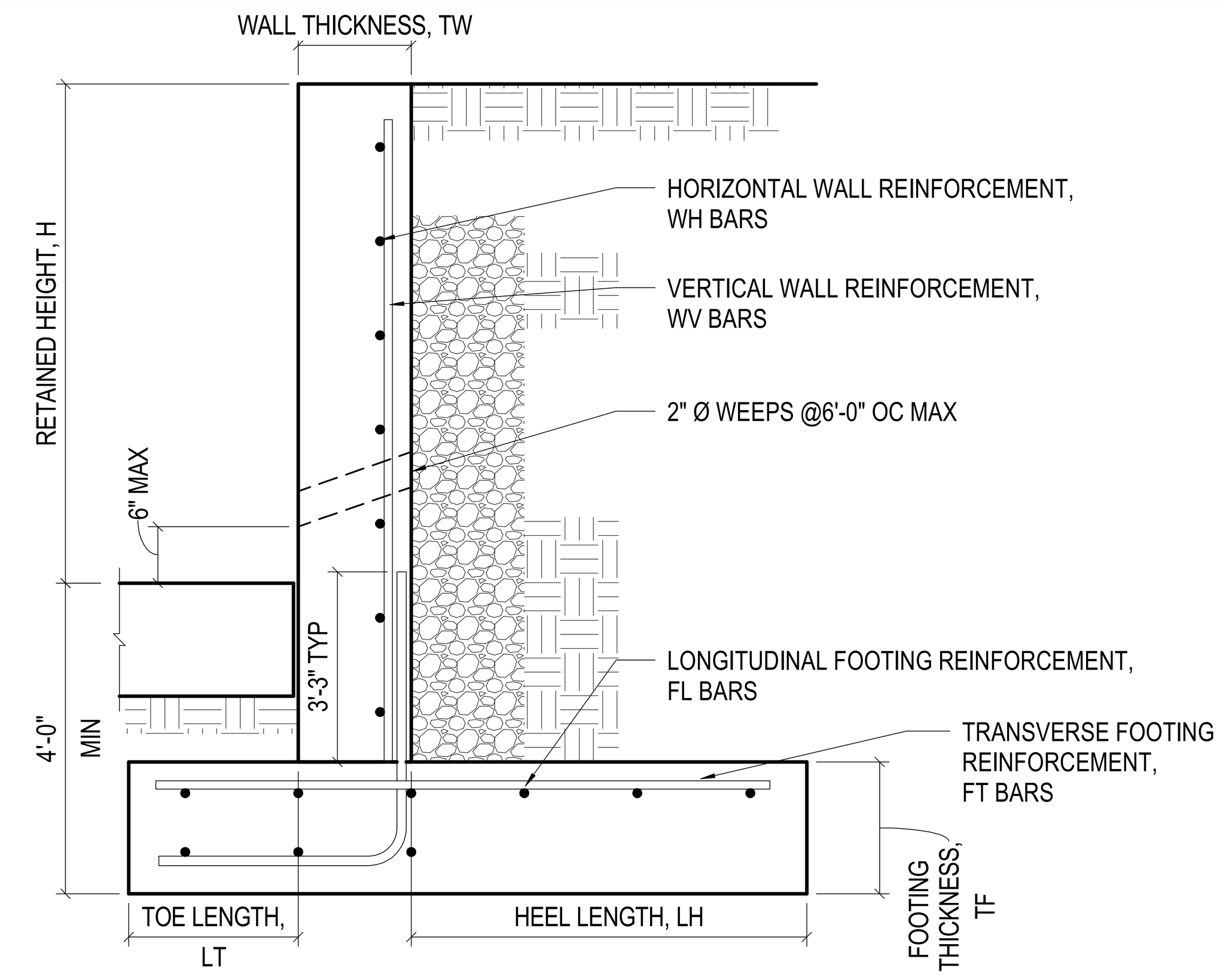


NOTES:
1. TYPICAL VERTICAL REINFORCING NOT SHOWN
2. SEE WALL DETAILS FOR BAR LAYERING
3. DETAIL IS SIMILAR WHERE SOIL OCCURS ON BOTH SIDES OF WALL

17 NO SCALE TYPICAL HORIZONTAL REINFORCING AT BASEMENT AND FOUNDATION WALLS

RETAINING WALL GEOMETRY

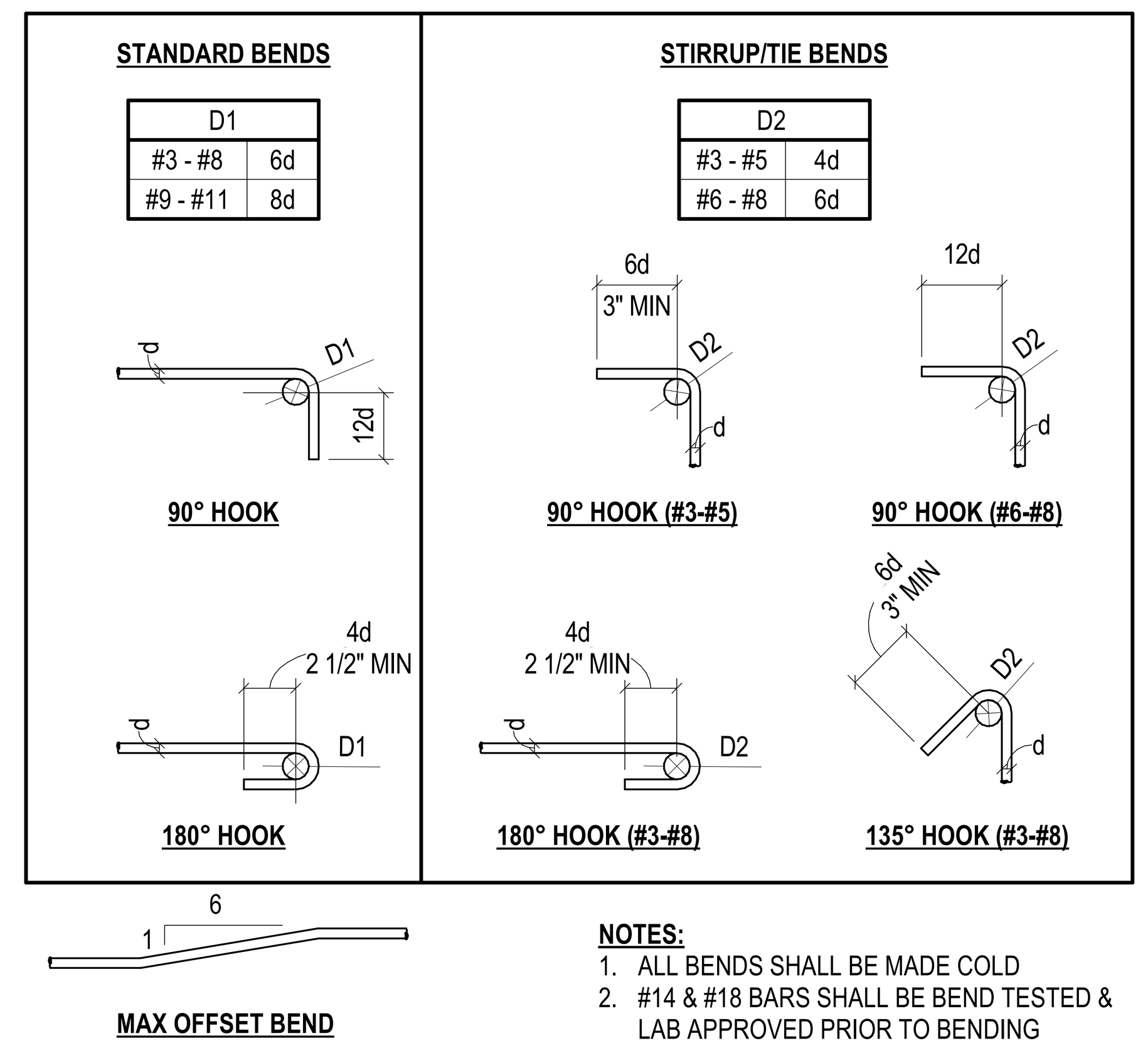
RETAINING WALL DIMENSIONS & REINFORCEMENT								
H (FT)	LH (IN)	LT(IN)	TW (IN)	TF (IN)	WH	WV	FT	FL
2'-6"	28	15	8	12	#4@12"	#4@9"	#4@9"	4#5
5'-0"	54	20	9	15	#4@10"	#7@10"	#5@10"	8#5



18 NO SCALE RETAINING WALL AT EXISTING STAGE

REBAR COVER TABLE

CASE	COVER (IN)
CONCRETE PLACED AGAINST EARTH	3
CONCRETE PLACED IN FORMS, EXPOSED TO WEATHER OR EARTH	2
CONCRETE PLACED ON VOID FORMS WITH MASONITE OR PLYWOOD COVERING	2
SLABS OR WALLS NOT EXPOSED TO EARTH OR WEATHER	1



NOTES:
1. ALL BENDS SHALL BE MADE COLD
2. #14 & #18 BARS SHALL BE BEND TESTED & LAB APPROVED PRIOR TO BENDING

TYPICAL REINFORCING BENDS

LAP SPLICE & DEVELOPMENT LENGTHS (INCHES) F'c=3,000 PSI, Fy=60,000 PSI												
CLEAR COVER				1"	1.5"	2"+	1"	1.5"	2"+	1"	1.5"	2"+
BAR SIZE	LDH	LCE	LCS	LTE			LTE TOP & LTS			LTS TOP		
#3	6	9	12	12			13			17		
#4	8	11	15	14			18			23		
#5	10	14	19	20	17		26	22		34	28	
#6	12	17	23	27	20		35	26		46	34	
#7	14	20	27	44	33	29	57	43	38	74	55	49
#8	16	22	30	55	42	33	72	54	43	93	70	56
#9	18	25	34	67	51	41	87	66	53	113	86	69
#10	20	28	38	79	61	49	103	79	64	134	103	83
#11	22	31	42	93	72	58	120	93	76	156	121	98

LAP SPLICE & DEVELOPMENT LENGTHS (INCHES) F'c=3,500 PSI, Fy=60,000 PSI												
CLEAR COVER				1"	1.5"	2"+	1"	1.5"	2"+	1"	1.5"	2"+
BAR SIZE	LDH	LCE	LCS	LTE			LTE TOP & LTS			LTS TOP		
#3	6	8	12	12			12			16		
#4	8	11	15	13			16			21		
#5	9	13	19	19	16		24	20		31	26	
#6	11	16	23	25	19		33	24		43	31	
#7	13	18	27	41	31	27	53	40	35	69	51	45
#8	15	21	30	51	39	31	66	50	40	86	65	52
#9	16	23	34	62	47	38	81	61	49	105	79	64
#10	18	26	38	74	56	46	96	73	59	124	95	77
#11	20	28	42	86	66	54	111	86	70	145	112	91

LAP SPLICE & DEVELOPMENT LENGTHS (INCHES) F'c=4,000 PSI, Fy=60,000 PSI												
CLEAR COVER				1"	1.5"	2"+	1"	1.5"	2"+	1"	1.5"	2"+
BAR SIZE	LDH	LCE	LCS	LTE			LTE TOP & LTS			LTS TOP		
#3	6	8	12	12			12			15		
#4	7	10	15	12			15			20		
#5	9	12	19	17	15		23	19		29	25	
#6	10	15	23	24	18		31	23		40	29	
#7	12	17	27	38	29	25	50	37	33	65	48	43
#8	14	19	30	48	36	29	62	47	37	81	61	49
#9	15	22	34	58	44	36	75	57	46	98	74	60
#10	17	24	38	69	53	43	89	69	56	116	89	72
#11	19	27	42	80	62	51	104	80	66	135	104	85

LAP SPLICE & DEVELOPMENT LENGTHS (INCHES) F'c=4,500 PSI, Fy=60,000 PSI												
CLEAR COVER				1"	1.5"	2"+	1"	1.5"	2"+	1"	1.5"	2"+
BAR SIZE	LDH	LCE	LCS	LTE			LTE TOP & LTS			LTS TOP		
#3	6	8	12	12			12			14		
#4	7	9	15	12			14			19		
#5	8	12	19	16	14		21	18		27	23	
#6	10	14	23	22	17		29	21		38	28	
#7	11	16	27	36	27	24	47	35	31	61	45	40
#8	13	18	30	45	34	27	59	44	35	76	57	46
#9	15	21	34	55	42	34	71	54	44	92	70	56
#10	16	23	38	65	50	40	84	65	52	110	84	68
#11	18	25	42	76	58	48	98	76	62	128	98	80

LAP SPLICE & DEVELOPMENT LENGTHS (INCHES) F'c=5,000 PSI, Fy=60,000 PSI												
CLEAR COVER				1"	1.5"	2"+	1"	1.5"	2"+	1"	1.5"	2"+
BAR SIZE	LDH	LCE	LCS	LTE			LTE TOP & LTS			LTS TOP		
#3	6	8	12	12			12			13		
#4	6	9	15	12			14			18		
#5	8	12	19	16	13		20	17		26	22	
#6	9	14	23	21	16		28	20		36	26	
#7	11	16	27	34	26	23	45	33	29	58	43	38
#8	12	18	30	43	32	26	56	42	34	72	54	44
#9	14	21	34	52	40	32	68	51	41	88	66	54
#10	15	23	38	62	47	38	80	61	50	104	80	65
#11	17	25	42	72	56	45	93	72	59	121	93	76

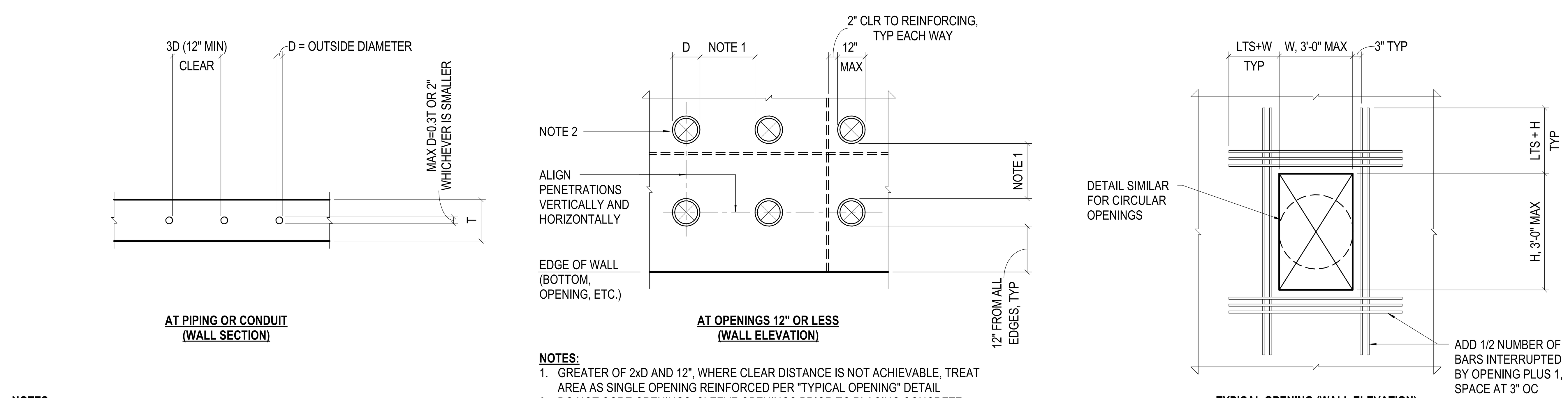
GENERAL NOTES:
1. LENGTHS SPECIFICALLY DETAILED ON DRAWINGS SHALL GOVERN IN LIEU OF LAP LENGTHS SCHEDULED
2. ABBREVIATIONS:
   A. 'LCE' = COMPRESSION EMBEDMENT LENGTH
   B. 'LCS' = COMPRESSION LAP SPLICE LENGTH
   C. 'LDH' = HOOK DEVELOPMENT LENGTH
   D. 'LTE' = TENSION EMBEDMENT LENGTH
   E. 'LTS' = TENSION LAP SPLICE LENGTH
3. 'TOP' BARS ARE HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 IN OF FRESH CONCRETE IS CAST BELOW THE BAR
4. CLEAR COVER IS DEFINED FROM THE NEAREST FACE OF CONCRETE TO THE BAR BEING DEVELOPED OR SPLICED
5. UNLESS NOTED OTHERWISE, ALL HOOK BARS SHALL EXTEND TO THE FAR FACE LESS 2" COVER
6. IF A NOTE OR DETAIL CALLS FOR A BAR TO BE EMBEDDED Ld (DEVELOPMENT LENGTH) INTO CONCRETE, THIS SHALL CORRESPOND TO A 'LTE' LENGTH
7. IF A NOTE OR DETAIL REQUIRES A BAR TO HAVE A DEVELOPMENT OR LAP LENGTH BUT INSUFFICIENT DIMENSION IS AVAILABLE FOR THE LENGTH SCHEDULED, EXTEND BAR TO FAR FACE OF CONCRETE LESS 2" COVER AND HOOK

ADJUSTMENTS TO GIVEN LENGTHS:
1. IF REINFORCING IS SPECIFIED AS EPOXY COATED, INCREASE SCHEDULED LENGTHS BY 50%
2. IF LIGHTWEIGHT AGGREGATE IS SPECIFIED, INCREASE SCHEDULED LAP BY LENGTHS 30%
3. SCHEDULED LENGTHS ASSUME:
   A. CLEAR COVER IS AS INDICATED IN SCHEDULE
   B. CLEAR SPACING BETWEEN BARS IS GREATER THAN 2xCLEAR COVER
   C. IF EITHER CONDITION A OR B IS NOT MET FOR A GIVEN BAR, INCREASE LENGTHS BY 50%
4. LENGTHS NOTED BASED ON Fy = 60,000 PSI.
   A. FOR OTHER YIELD STRENGTHS, MULTIPLY LENGTHS NOTED BY Fy/60,000

LAP SPLICE NOTES:
1. ALL SPLICES SHALL BE WIRED IN CONTACT
2. ALL SPLICES ARE 'LTS' UNLESS NOTED OTHERWISE
3. SMALLER BAR LAP LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZED BARS
   A. COMPRESSION LAP LENGTH SHALL NOT BE LESS THAN 'LCE' OF THE LARGER BAR
   B. TENSION LAP LENGTH SHALL NOT BE LESS THAN 'LTE' OF THE LARGER BAR
4. BUNDLED BAR SPLICES:
   A. INDIVIDUAL BAR SPLICES WITHIN THE BUNDLE SHALL BE STAGGERED
   B. INCREASE LAP LENGTH 20% FOR A 3 BAR BUNDLE
   C. INCREASE LAP LENGTH 33% FOR A 4 BAR BUNDLE
5. TOP AND BOTTOM BEAM SPLICES SHALL BE STACKED VERTICALLY

HOOK EMBEDMENT NOTES:
1. SCHEDULED HOOK EMBEDMENT LENGTHS ASSUME:
   A. SIDE COVER IS 2 1/2 INCHES OR GREATER
   B. COVER BEYOND IS 2 INCHES OR GREATER
2. IF REINFORCING IS SPECIFIED AS EPOXY COATED, INCREASE SCHEDULED LENGTHS BY 20%
3. IF LIGHTWEIGHT AGGREGATE IS SPECIFIED, INCREASE SCHEDULED LENGTHS BY 30%
4. IF SIDE COVER IS LESS THAN 2 1/2 INCHES, INCREASE LENGTHS BY 40%

10 NO SCALE REINFORCING DEVELOPMENT, PLACEMENT, AND BEND INFO

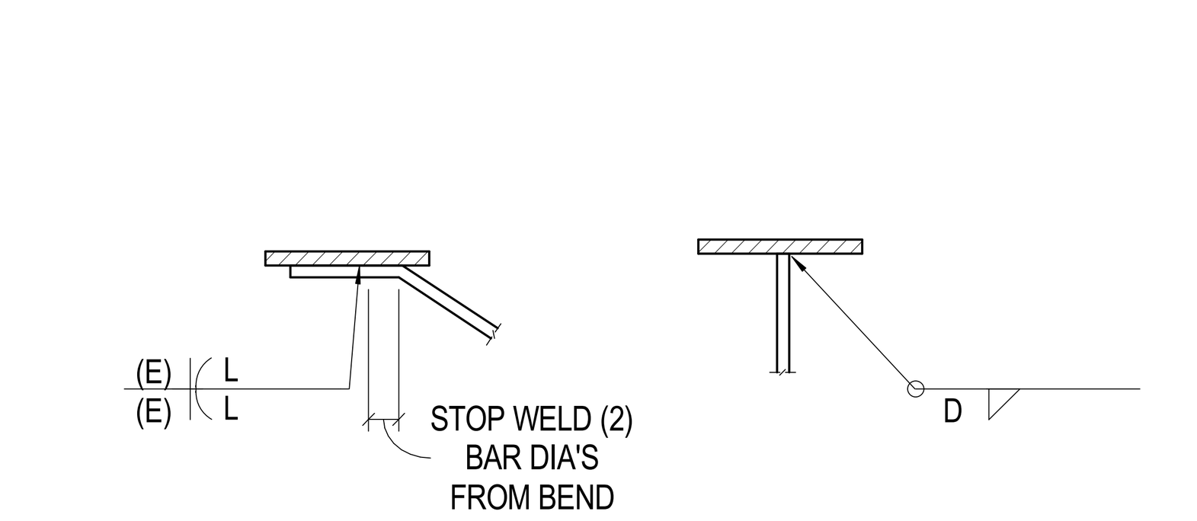


NOTES:
1. WHERE CLEAR DISTANCE BETWEEN PIPING/CONDUIT CAN NOT BE ACHIEVED AS SHOWN, STRUCTURAL ENGINEER OF RECORD SHALL BE NOTIFIED FOR REVIEW
2. IN WALL PIPING/CONDUITS GREATER THAN 0.3T SHALL BE SUBMITTED FOR REVIEW
3. LOCATE PIPING/CONDUITS WITHIN MIDDLE THIRD (T/3) OF WALL

NOTES:
1. GREATER OF 2xD AND 12", WHERE CLEAR DISTANCE IS NOT ACHIEVABLE, TREAT AREA AS SINGLE OPENING REINFORCED PER "TYPICAL OPENING" DETAIL
2. DO NOT CORE OPENINGS, SLEEVE OPENINGS PRIOR TO PLACING CONCRETE
3. DO NOT CUT REBAR AT PENETRATION LOCATIONS. REBAR MAY BE MOVED 8" MAX TO ACCOMMODATE PENETRATIONS
4. SCHEDULE 40 STEEL SLEEVES SHALL BE USED IN CRITICAL AREAS OF THE WALL AND SLABS AS DETERMINED BY STRUCTURAL ENGINEER OF RECORD

NOTES:
1. DETAIL APPLIES UNLESS REINFORCING IS SPECIFICALLY DETAILED ON THE DRAWINGS
2. HOOK BARS WITH STANDARD HOOK WHERE LTS CANNOT BE ACHIEVED

11 NO SCALE CAST IN PLACE WALL PENETRATIONS

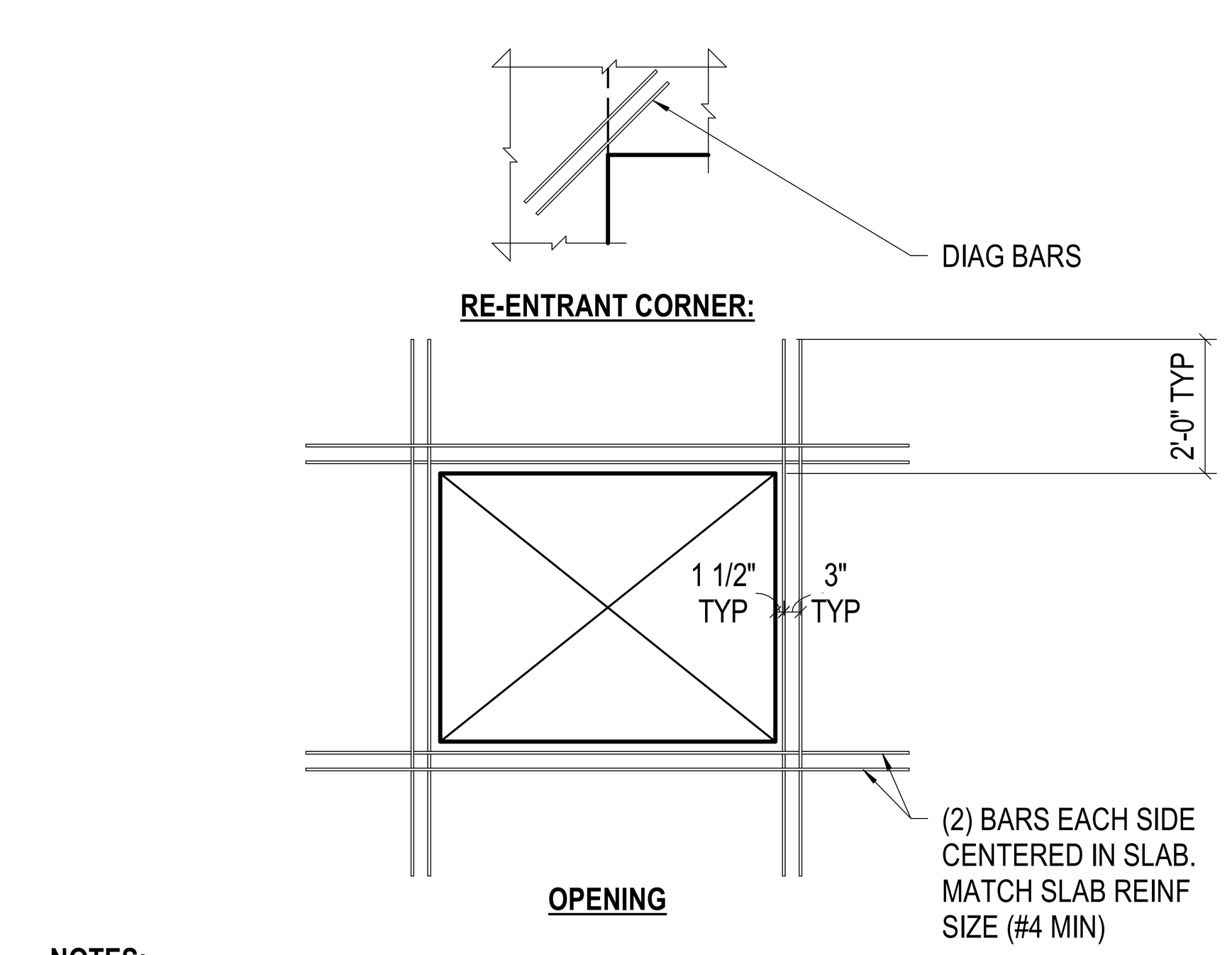


BAR SIZE	E	L
#3	3/16	2
#4	1/4	2 1/2
#5	5/16	3
#6	3/8	3 1/2
#7	7/16	4
#8	1/2	4 1/2

BAR SIZE	D
#3	1/4
#4	5/16
#5	3/8
#6	7/16
#7	1/2
#8	9/16

NOTES:
1. ALL WELDED REBAR SHALL BE A706

8 12" = 1'-0" TYPICAL REBAR WELD SCHEDULE



NOTES:
1. DETAIL APPLIES FOR ALL OPNGS IN SOG'S AND TOPPING SLABS
2. REINF NOT REQUIRED AT OPNGS SMALLER THAN 10"x10"
3. SEE OTHER DTLS FOR REINF AT OPNGS IN CONC WALLS, CONC STR SLABS, AND METAL DECK SLABS

4 3/8" = 1'-0" TYP TRIM REINF

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021

Seal / Signature

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Description
TYPICAL CONCRETE DETAILS
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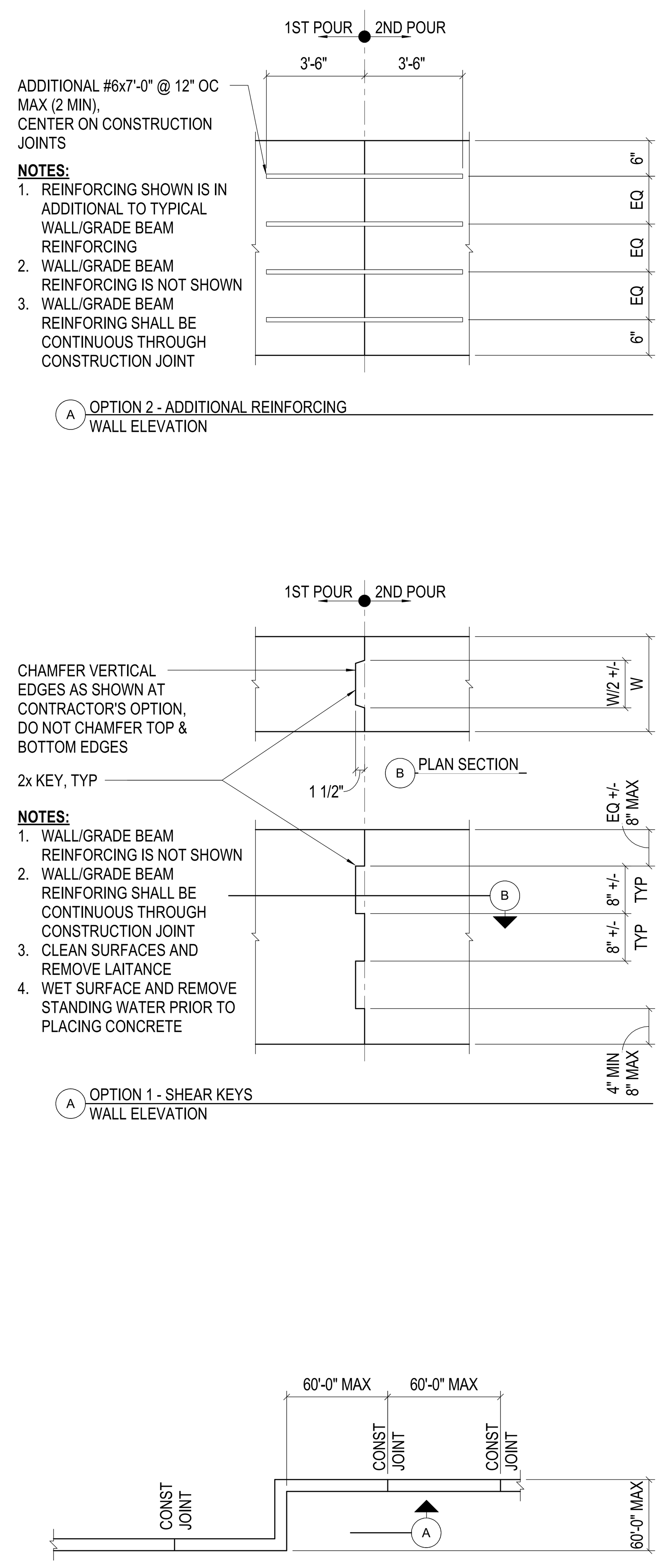
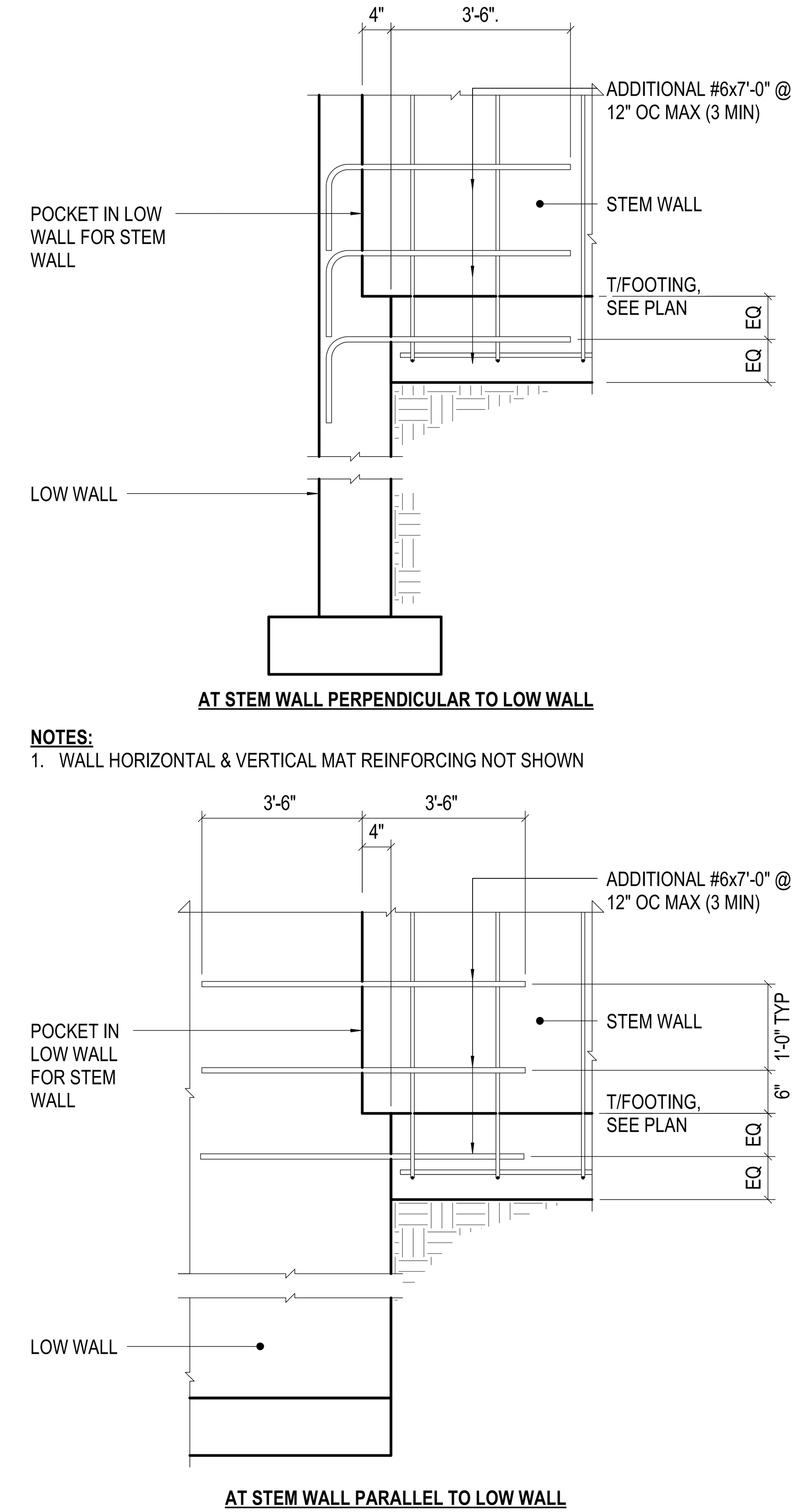


NOTES:
1. SUBMIT LOCATIONS OF CONSTRUCTION JOINTS FOR REVIEW PRIOR TO CONSTRUCTION
2. PLACE A MAXIMUM OF 60 FEET OF CONCRETE IN A STRAIGHT LENGTH OF WALL IN A SINGLE POUR

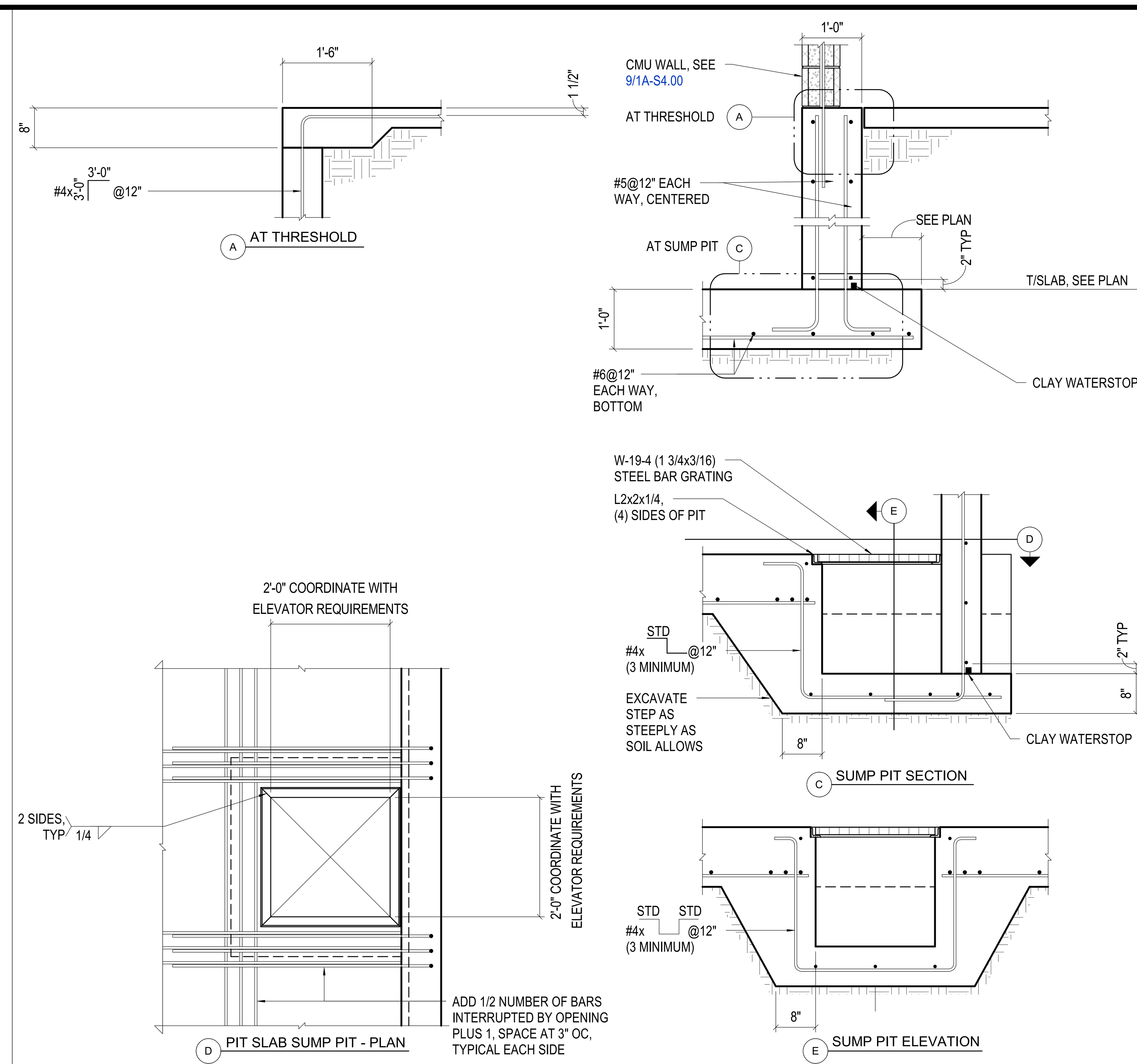
19 NO SCALE CONSTRUCTION JOINT IN WALL ON FOOTINGS



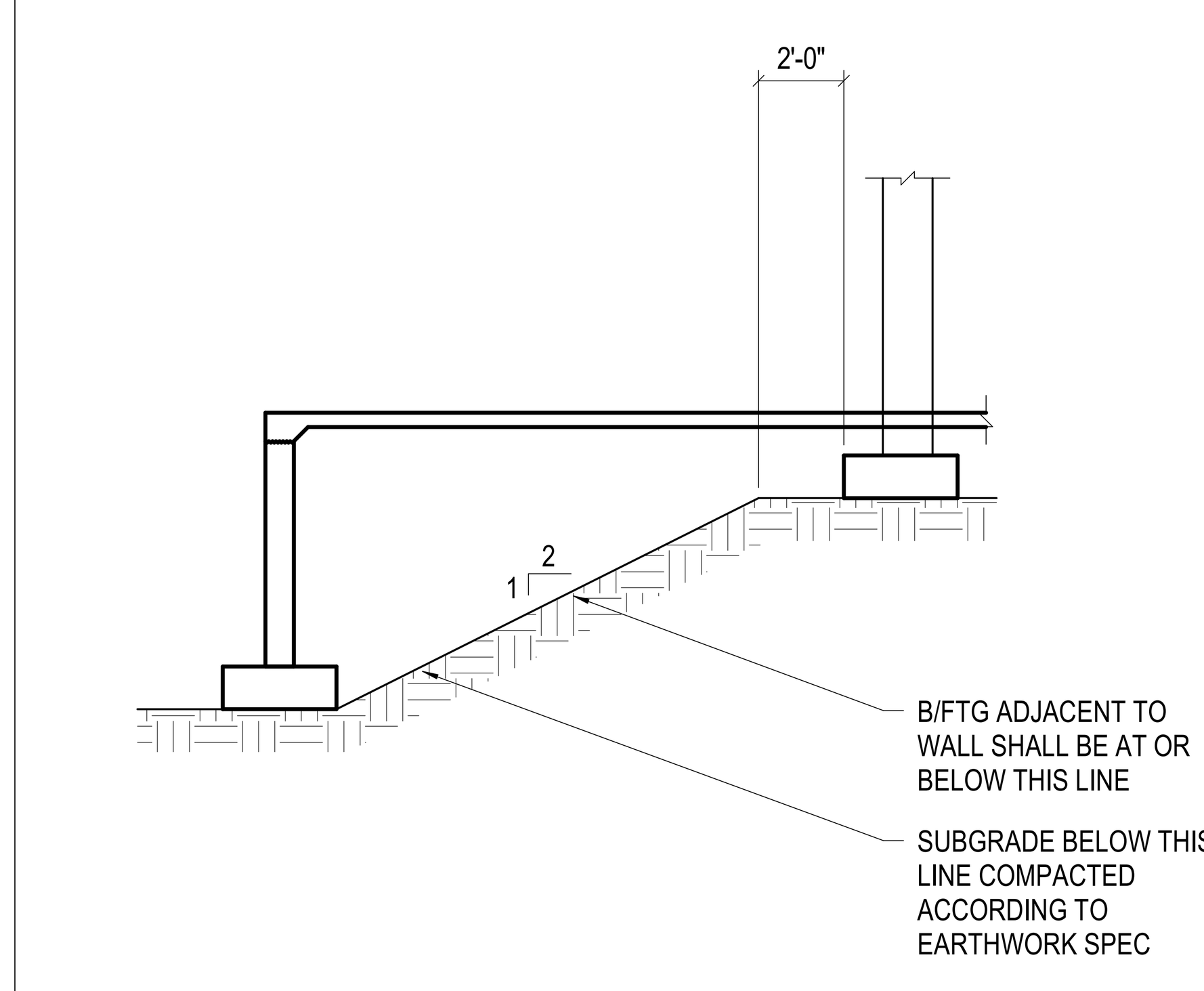
NOTES:
1. WALL HORIZONTAL & VERTICAL MAT REINFORCING NOT SHOWN

NOTES:
1. WALL HORIZONTAL & VERTICAL MAT REINFORCING NOT SHOWN TO BE CONTINUOUS THROUGH STEP

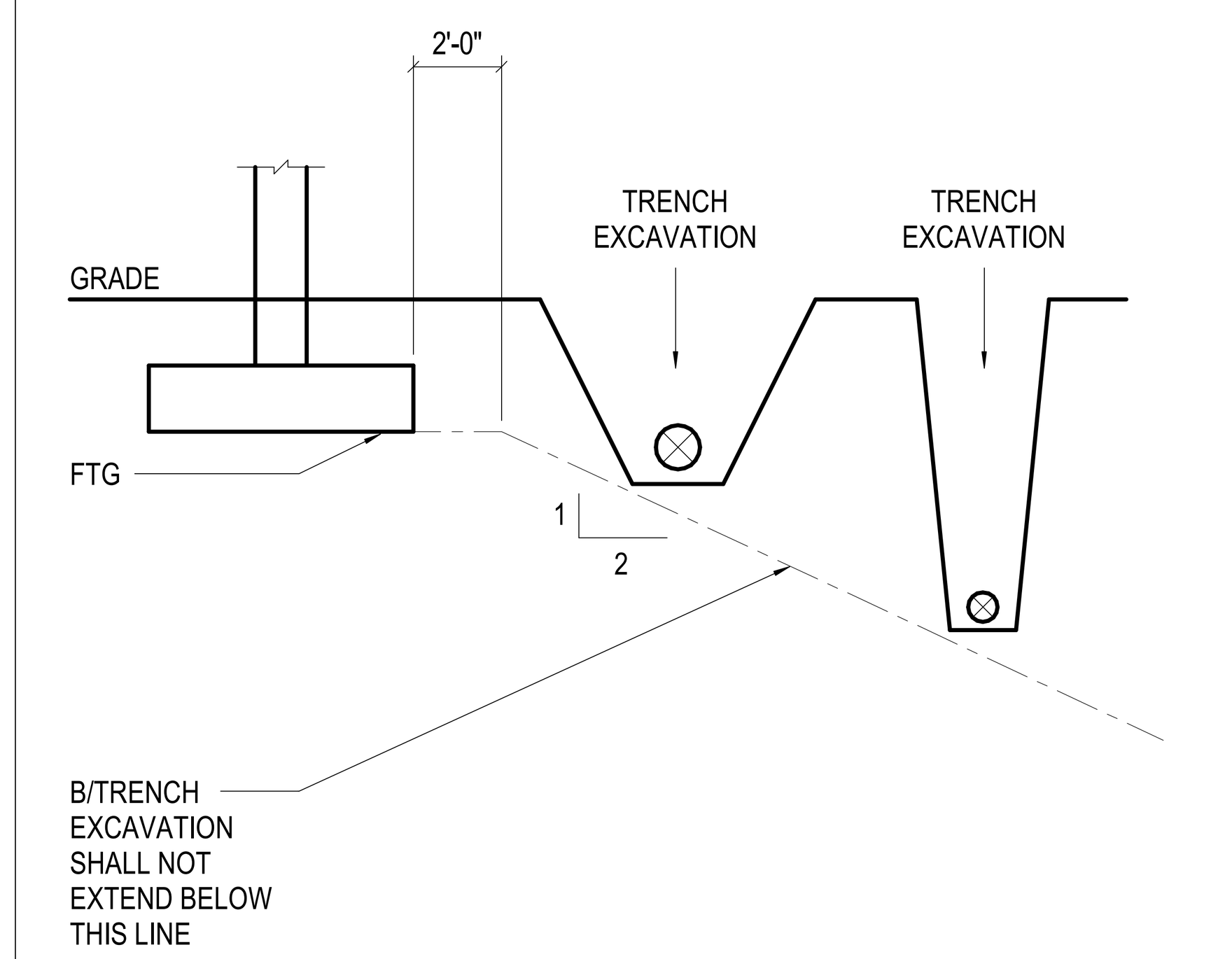
14 3/4" = 1'-0" STRIP FOOTING w/CIP STEM WALL STEP, GREATER THAN 3'-0"



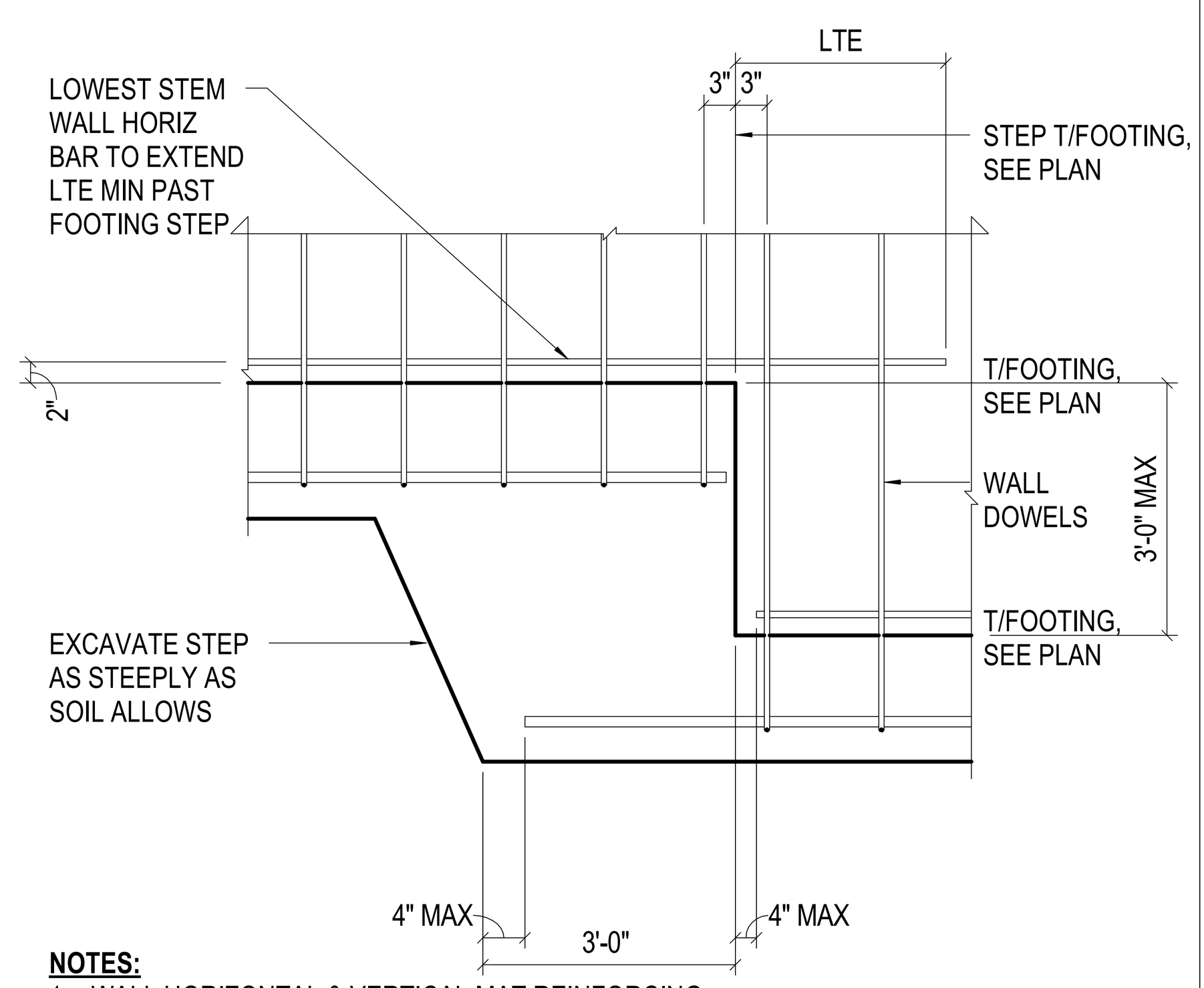
10 NO SCALE ELEVATOR PIT ON FOOTING



1 1/4" = 1'-0" TYP FTG ADJACENT TO WALL

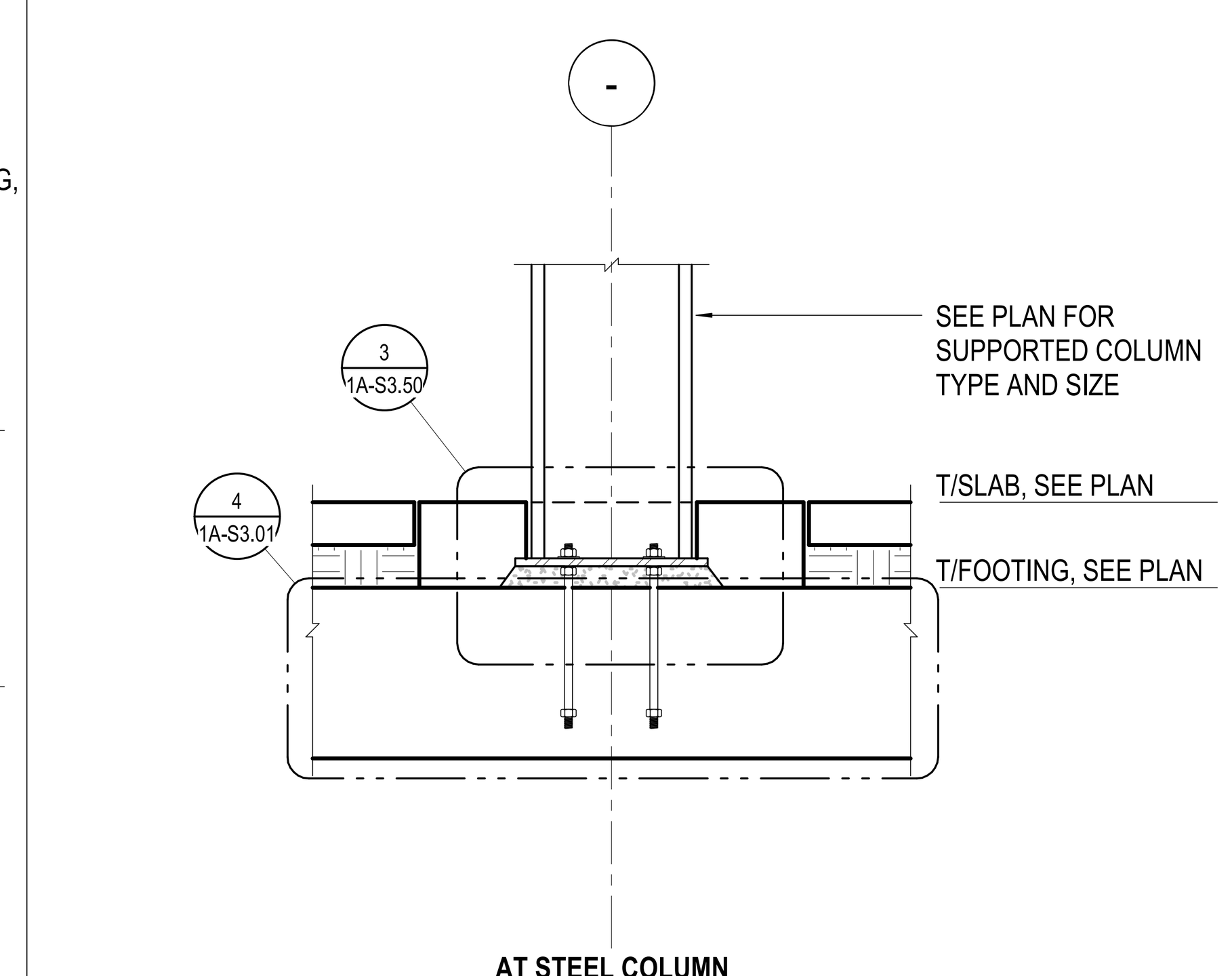


2 NO SCALE TYP EXCAVATION AT FTG



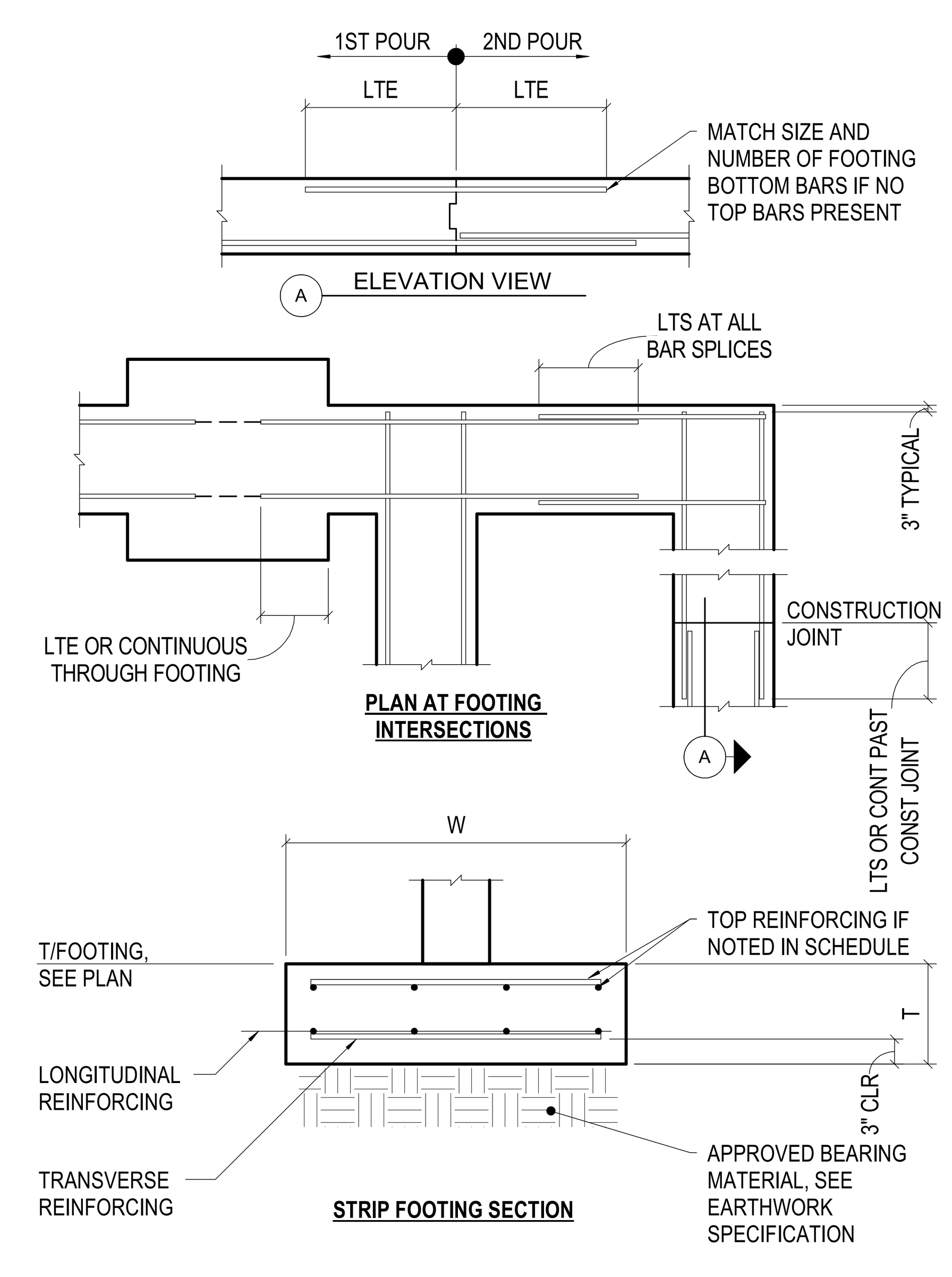
NOTES:
1. WALL HORIZONTAL & VERTICAL MAT REINFORCING NOT SHOWN TO BE CONTINUOUS THROUGH STEP

15 3/4" = 1'-0" STRIP FOOTING w/CIP STEM WALL STEP, 3'-0" AND LESS



11 3/4" = 1'-0" INTERIOR COLUMN AT SPREAD FOOTING

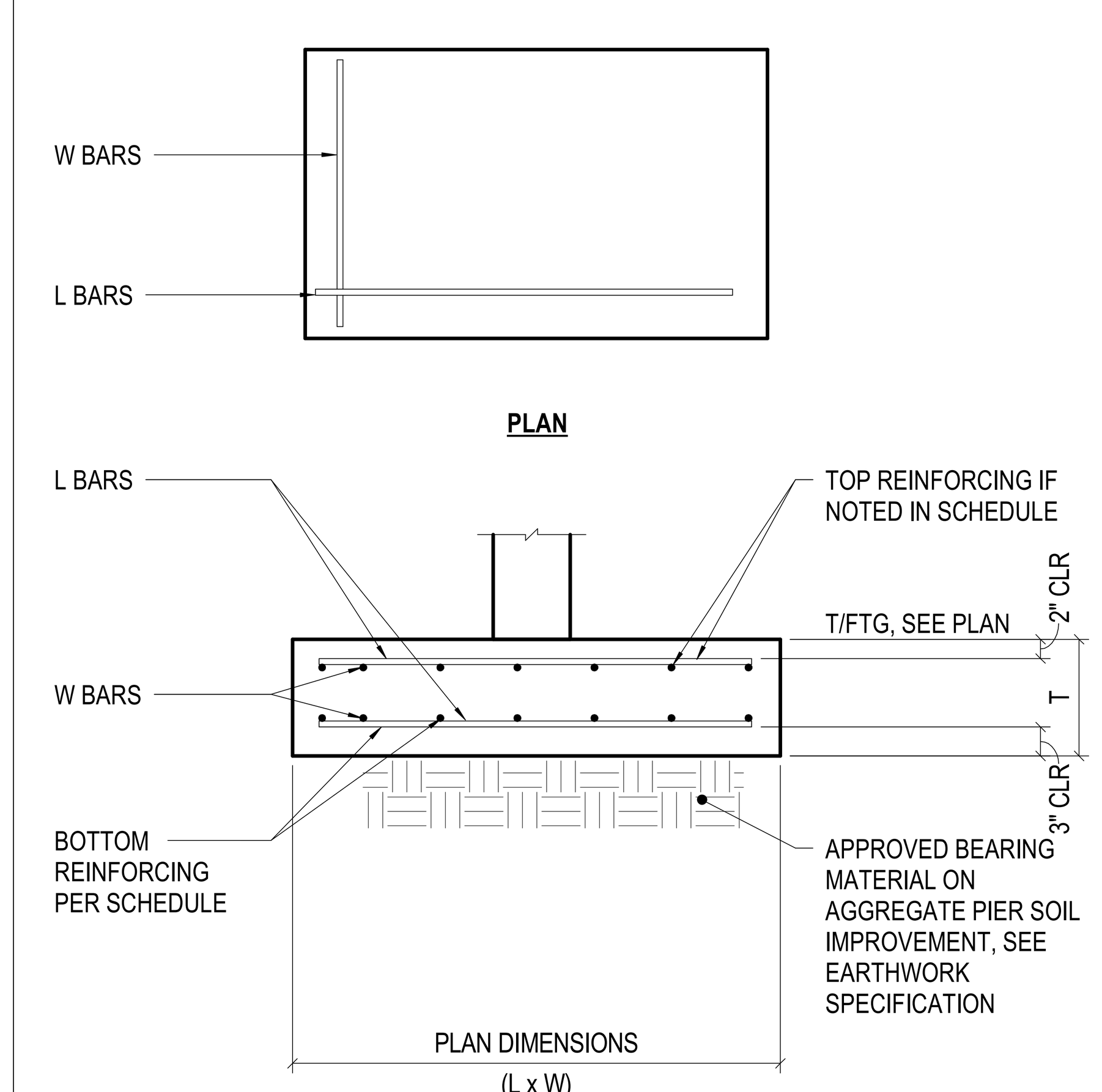
STRIP FOOTING SCHEDULE				
MARK	FOOTING SIZE W x T	LONG REINF	TRANS REINF	REMARKS
SF2	2'-0"x 1'-0"	(3) #5	#4@12" OC	BOT ONLY
SF3	3'-0"x1'-0"	(4) #5	#4@12" OC	BOT ONLY
SF4	4'-0"x1'-6"	(7) #6	#5@12" OC	BOT ONLY
SF4A	SEE PLANx2'-0"	(7) #6	#6@12" OC	TOP AND BOTTOM
SF6A	6'-0"x2'-0"	(9) #6	#6@12" OC	TOP AND BOTTOM



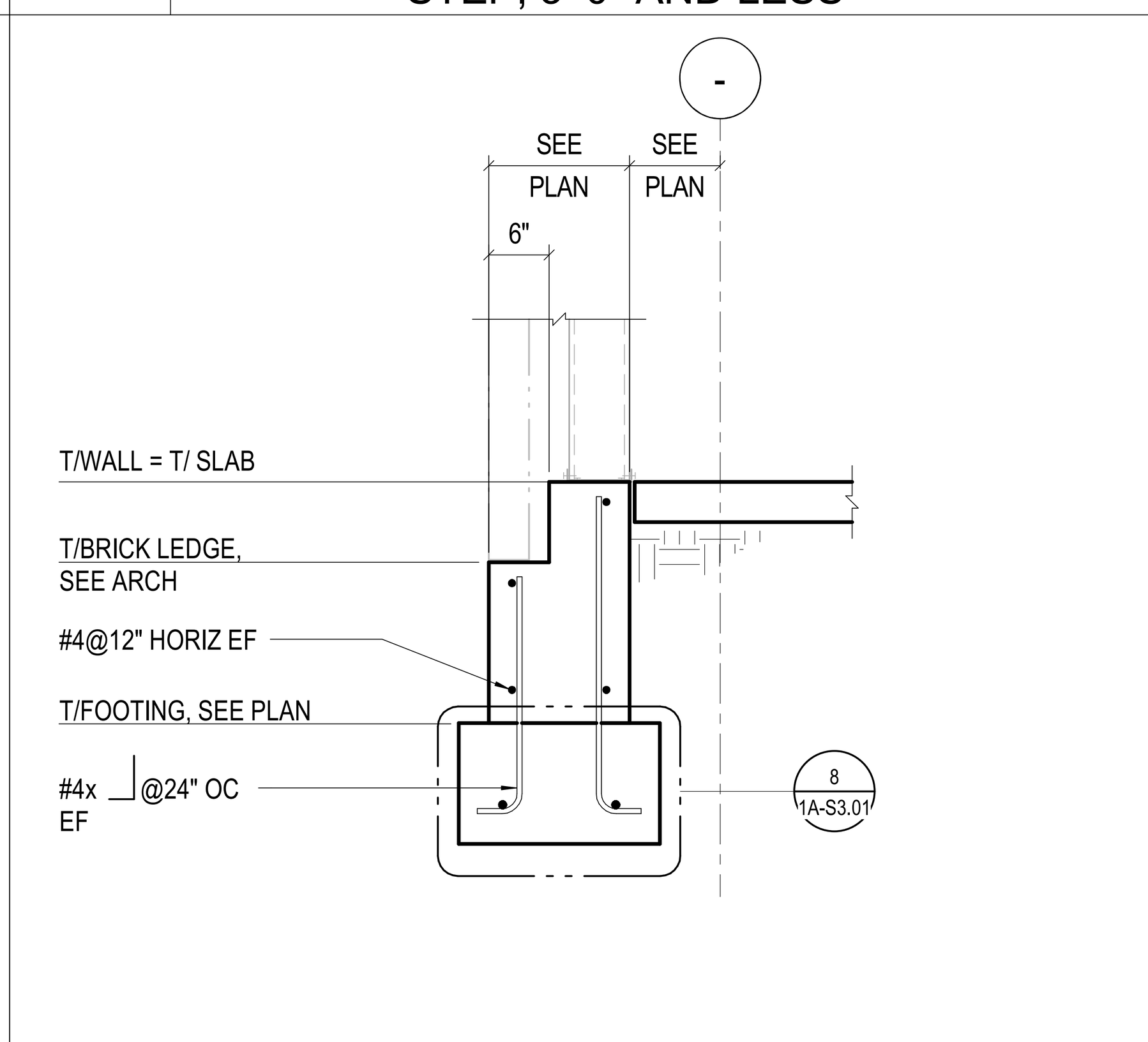
NOTES:
1. SEE 19/1A-S3.01 FOR POUR LENGTH LIMITS AND CONSTRUCTION JOINT DETAILS

8 NO SCALE TYP STRIP FOOTING

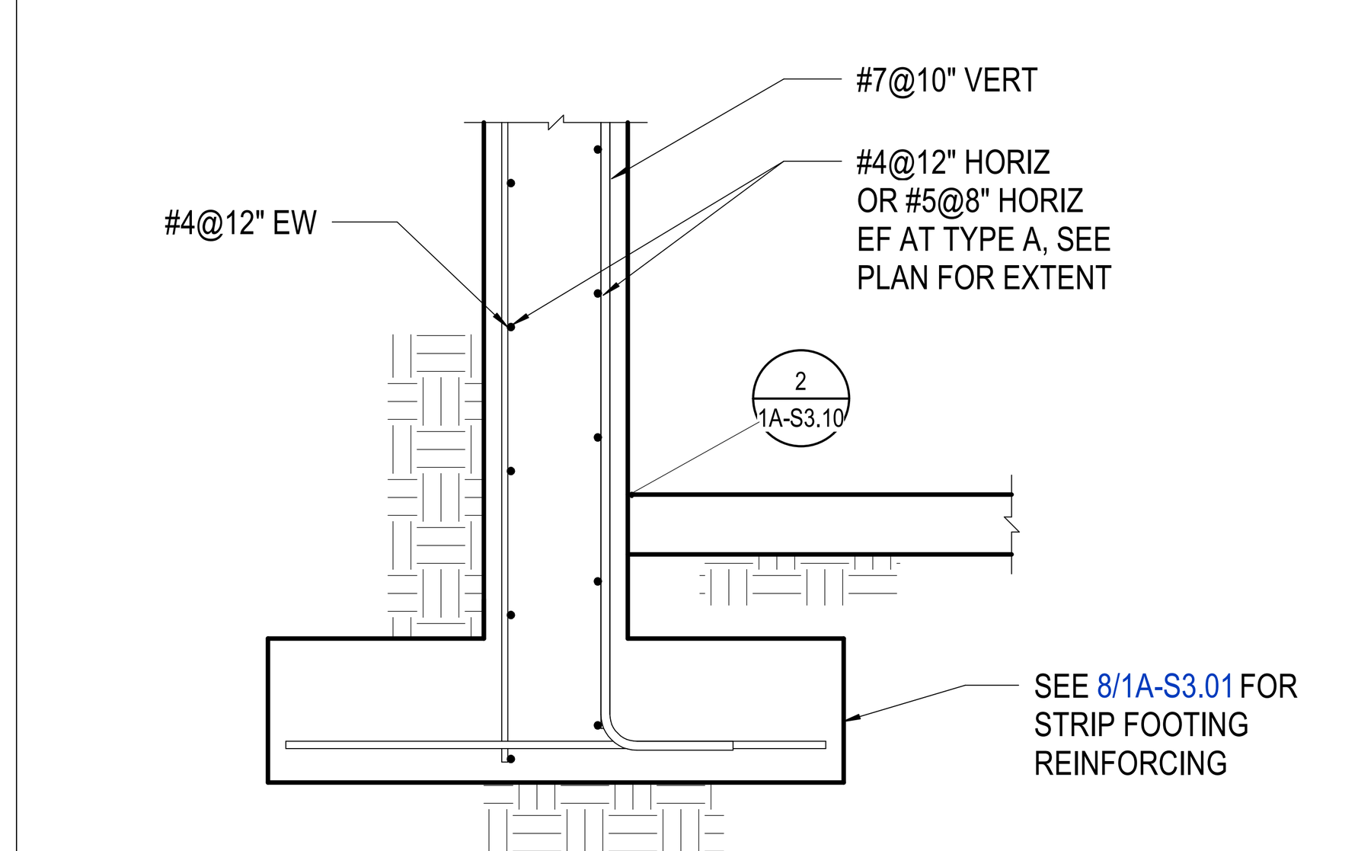
SPREAD FOOTING SCHEDULE SOIL ALLOWABLE PRESSURE = 7000 PSF				
MARK	FOOTING SIZE L x W x T	REINFORCING	SERVICE CAPACITY (KIPS)	REMARKS
F3x5	3'-0"x5'-0"x1'-8"	(6) #6 EW BOT	105	-
F4X4	4'-0"x4'-0"x1'-4"	(5) #5 EW BOT	112	-
F5X5	5'-0"x5'-0"x1'-8"	(6) #6 EW BOT	175	-
F6x6	6'-0"x6'-0"x2'-0"	(7) #7 EW BOT	252	-
F7x7	7'-0"x7'-0"x2'-4"	(8) #7 EW BOT	343	-
F8x8	8'-0"x8'-0"x2'-6"	(9) #7 EW BOT	448	-
F6xCONT-A	SEE PLANx3'-0"	#8@9" EW T&B	-	-



4 NO SCALE TYP SPREAD FOOTING



16 3/4" = 1'-0" WIDE STEM WALL AT PERIMETER WITH BRICK LEDGE



12 3/4" = 1'-0" TYPICAL FOUNDATION WALL

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38107
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
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SSRC | BASE AREA IMPROVEMENTS

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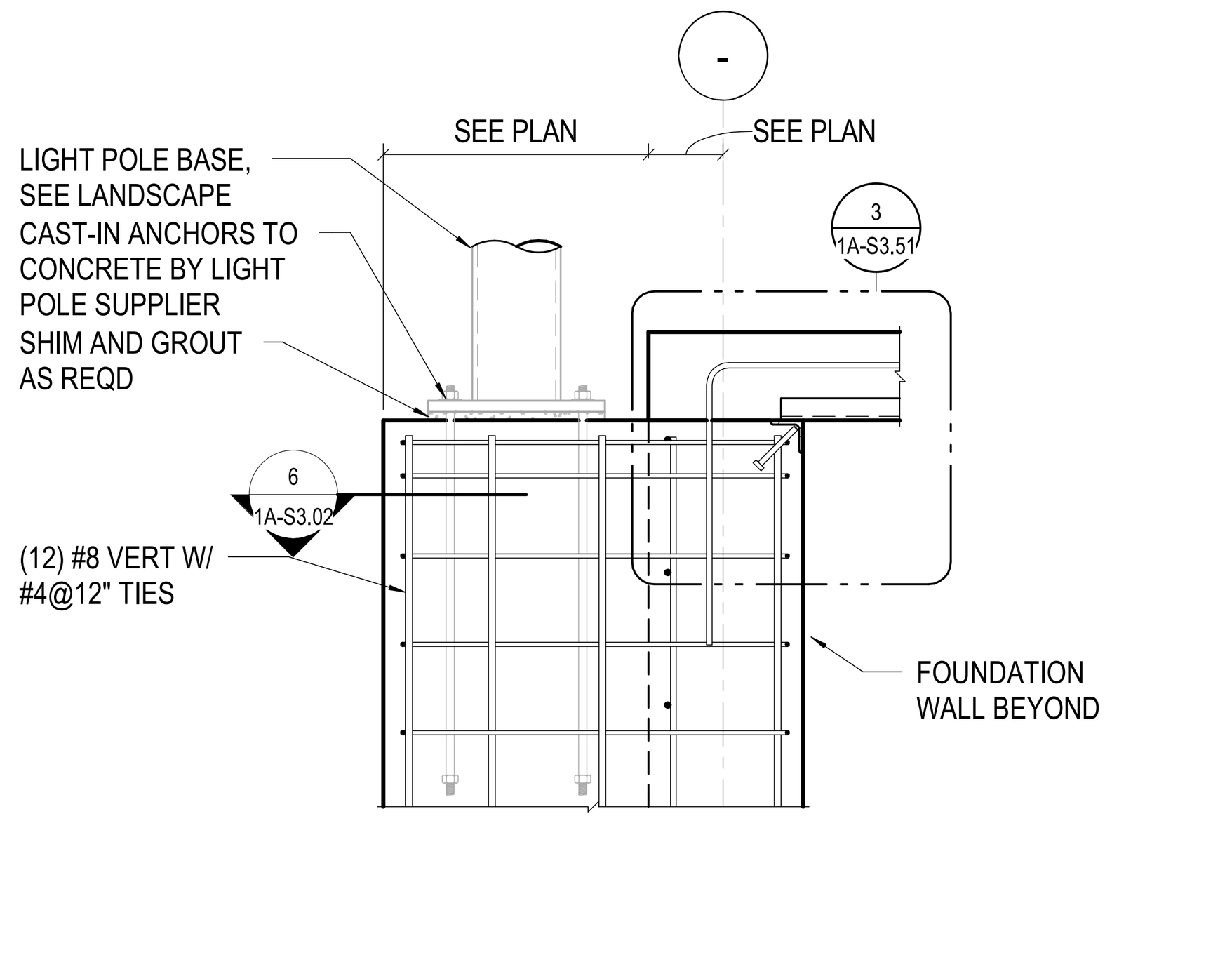
Description
TYPICAL FOUNDATION DETAILS

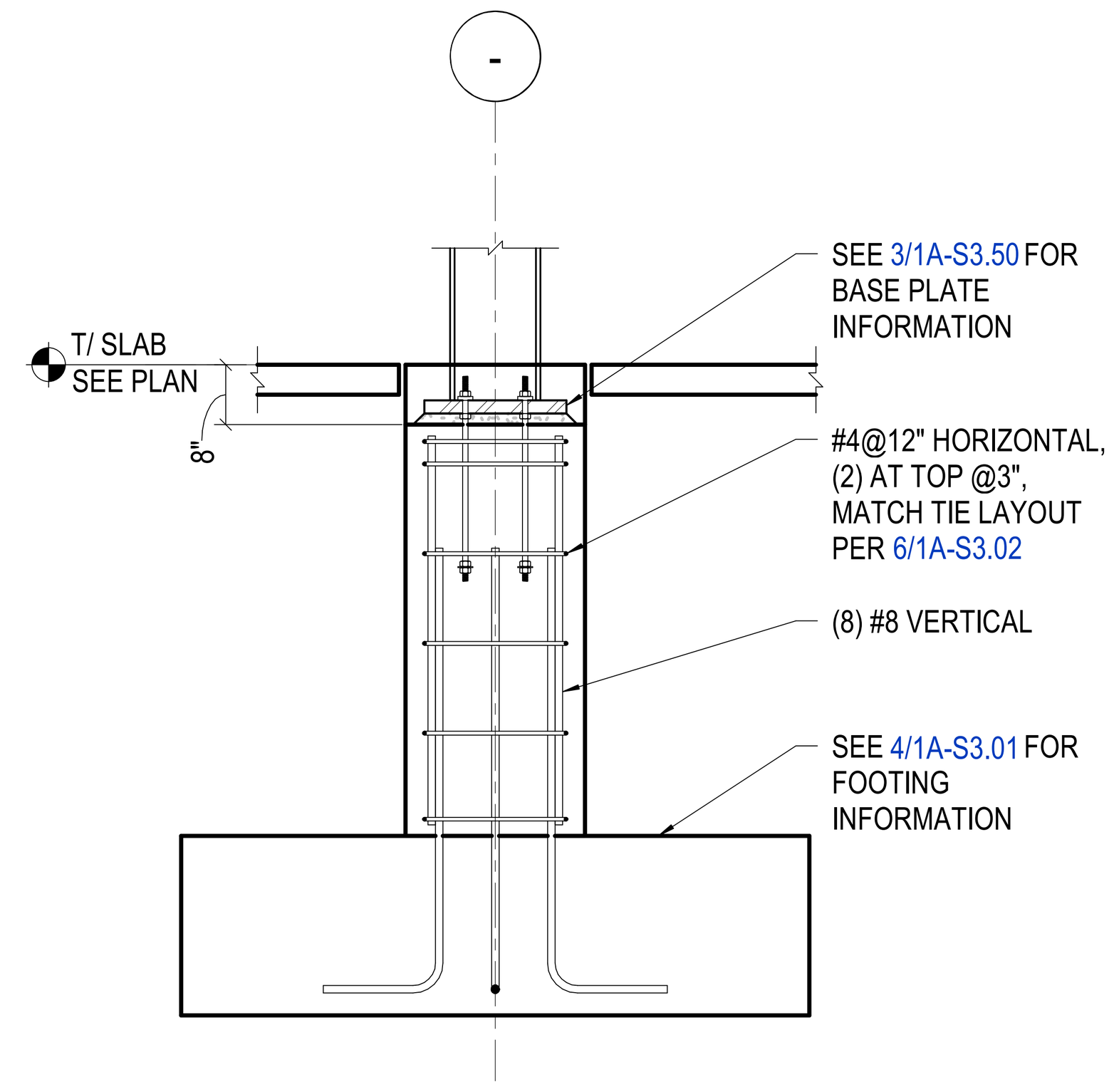
Scale
As indicated

1A-S3.01

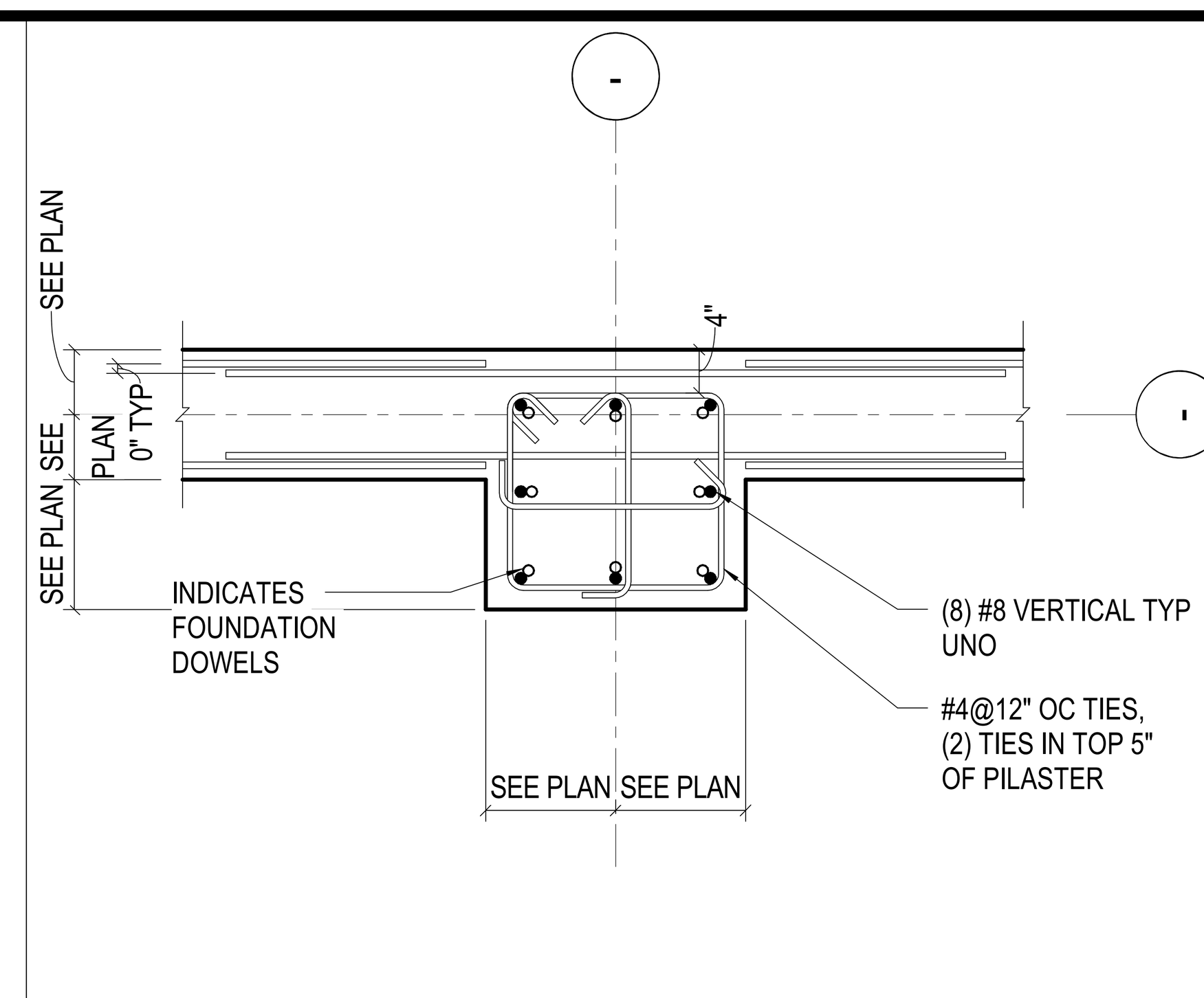
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN WADHOLES
DATE PRINTED: 5/19/2021 12:06:17 PM
FILE PATH: BIM 360://20.1411.S.01 - Steamboat Redev/20.7835.000_Structural_SSR_Promenade Building 2021_V2021.rvt

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

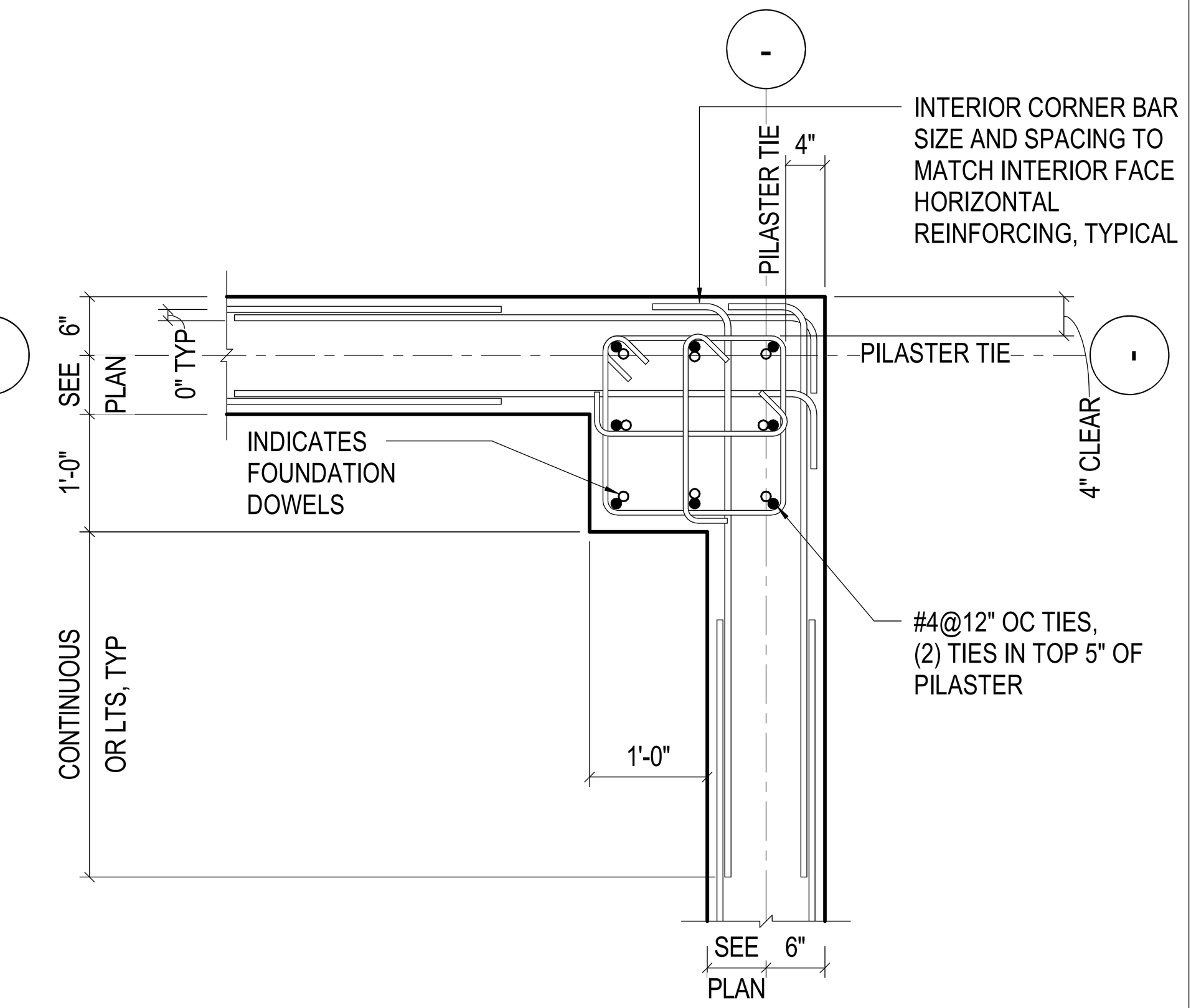




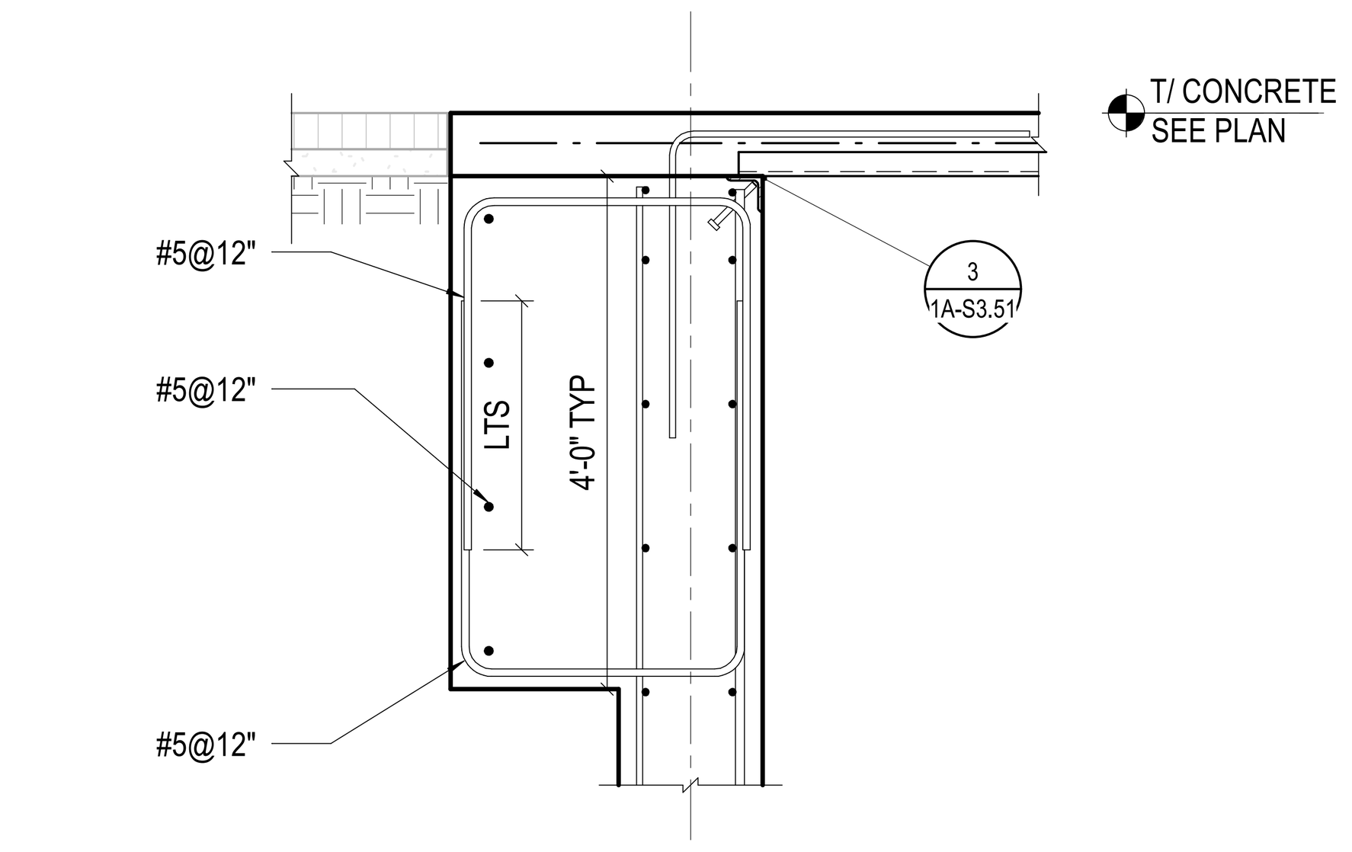
13	3/4" = 1'-0"	LIGHT POLE BASE IN CONCRETE	9	1/2" = 1'-0"	COLUMN DETAIL AT GRIDS 2 AND B

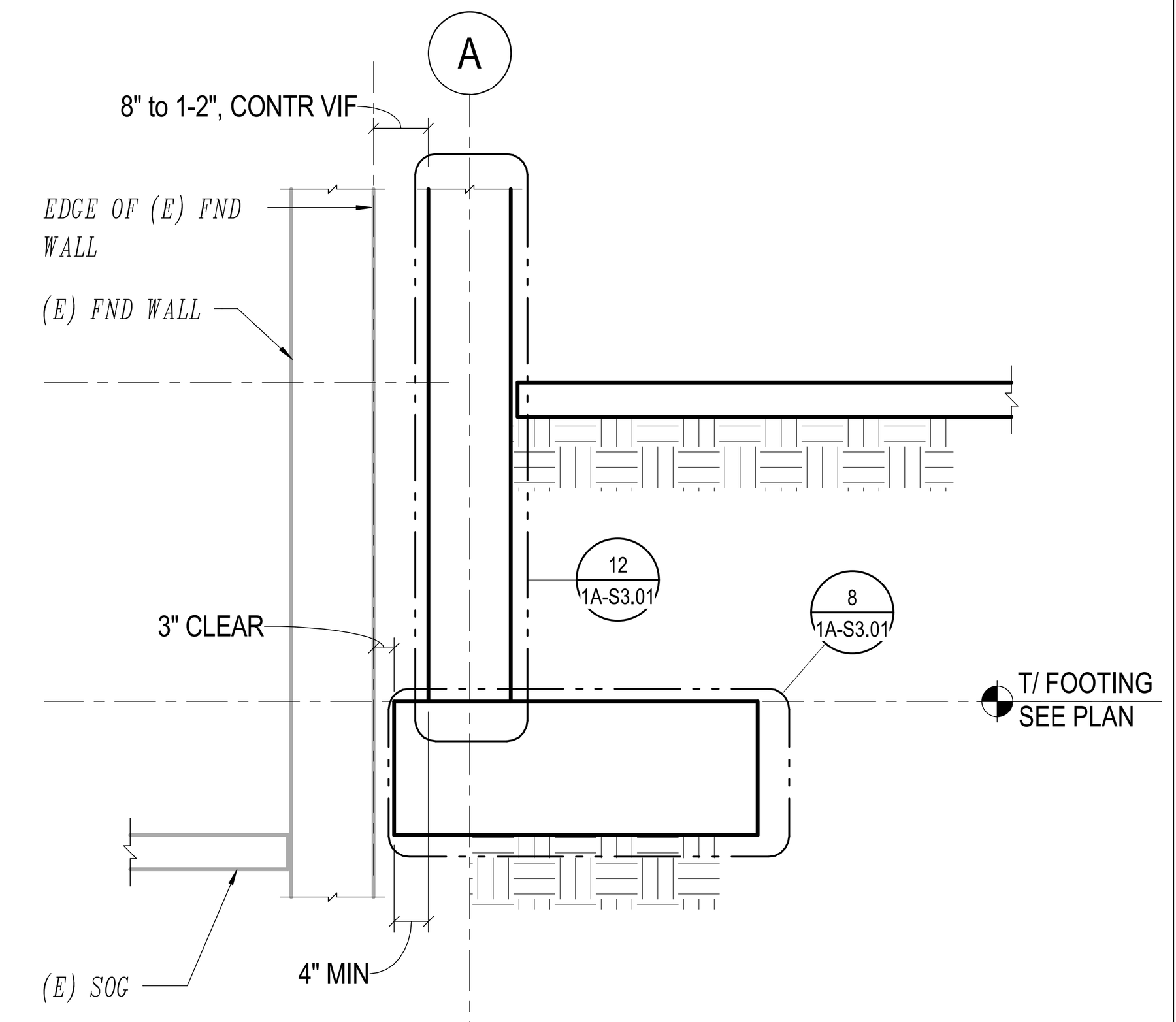


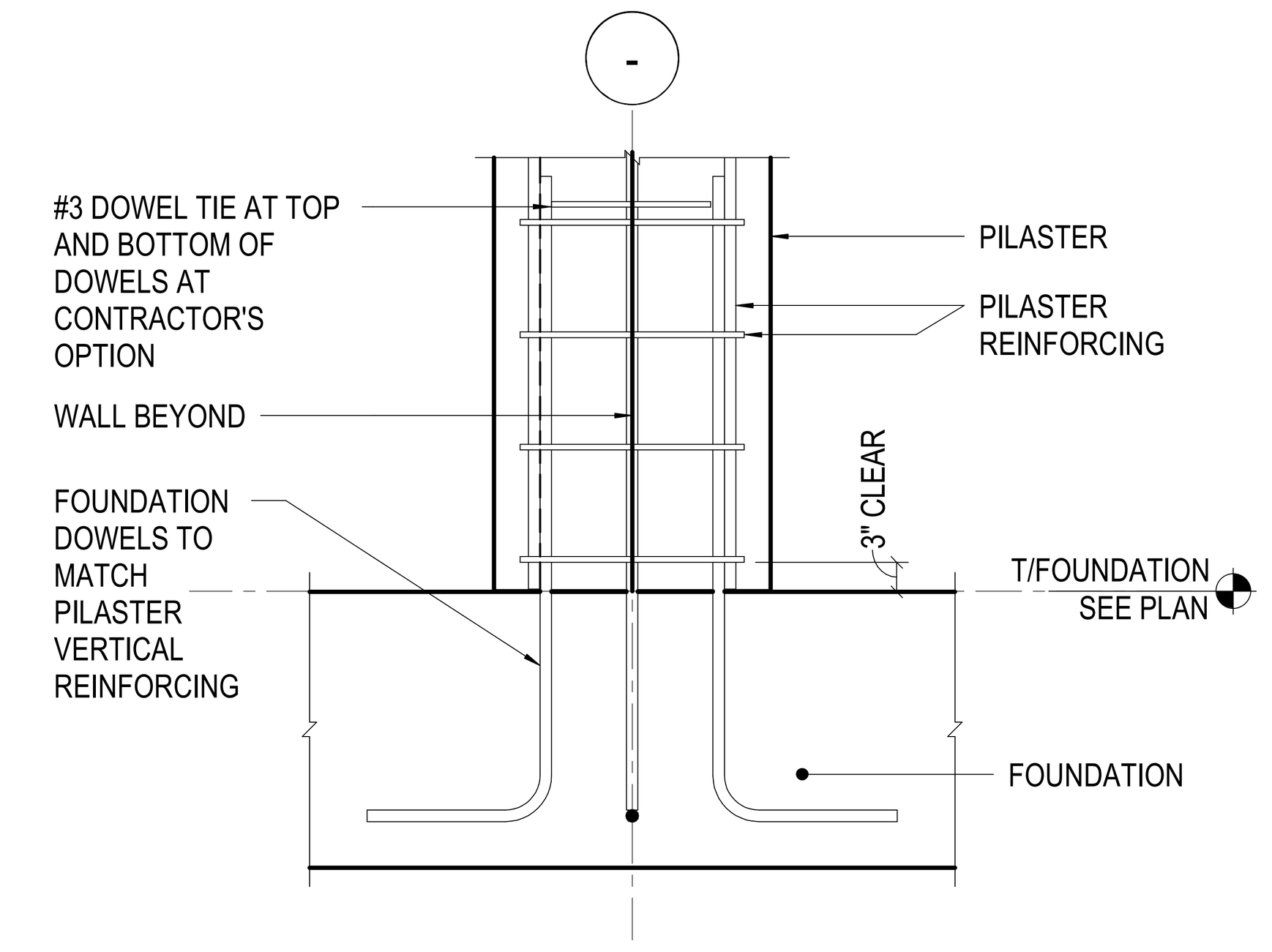
TYPICAL PILASTER IN WALL



CORNER PILASTER - 1

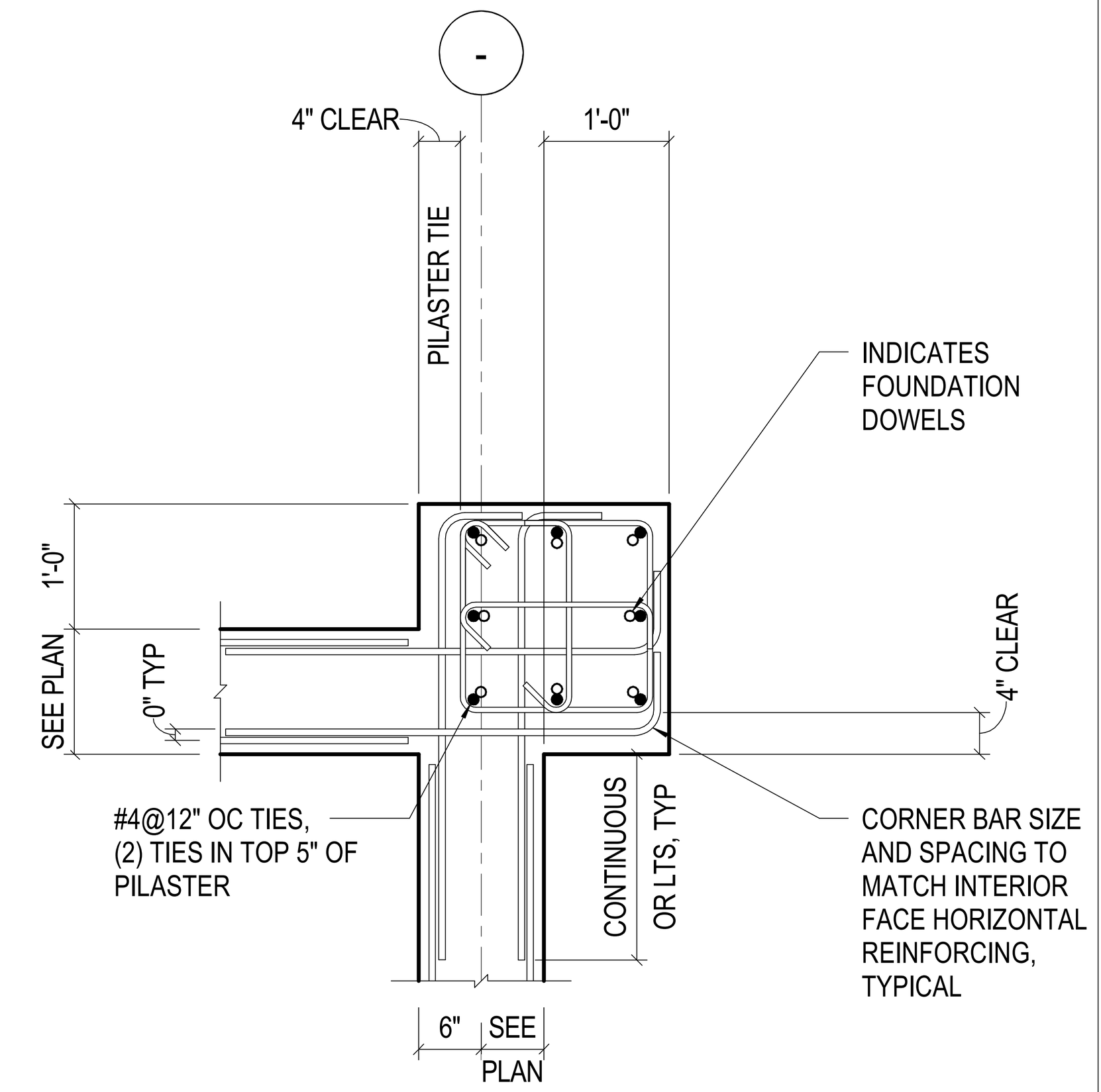






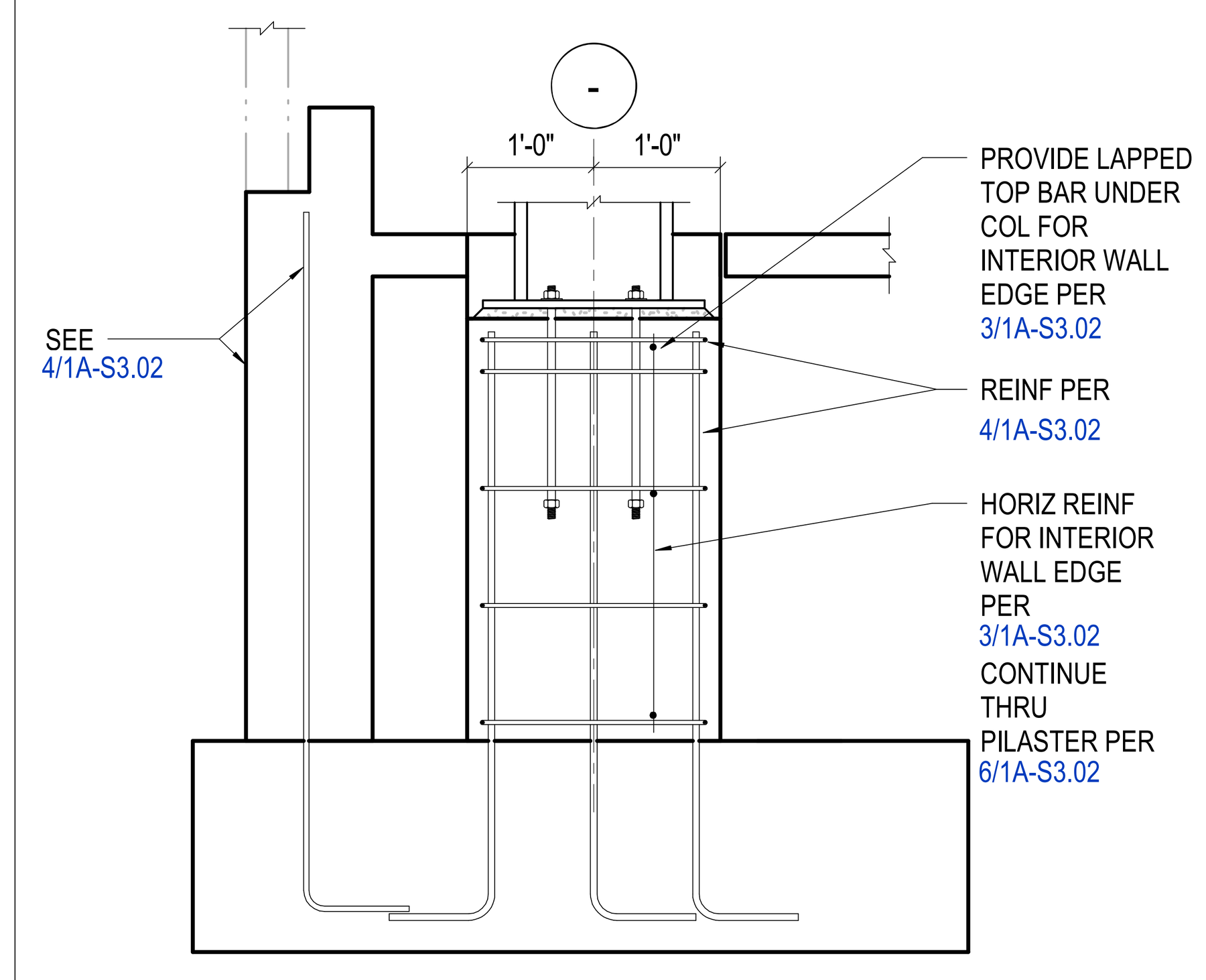
PILASTER SECTION / ELEVATION AT FOOTING

NOTES:
1. TYPICAL VERTICAL REINFORCING NOT SHOWN
2. SEE WALL DETAILS FOR BAR LAYERING

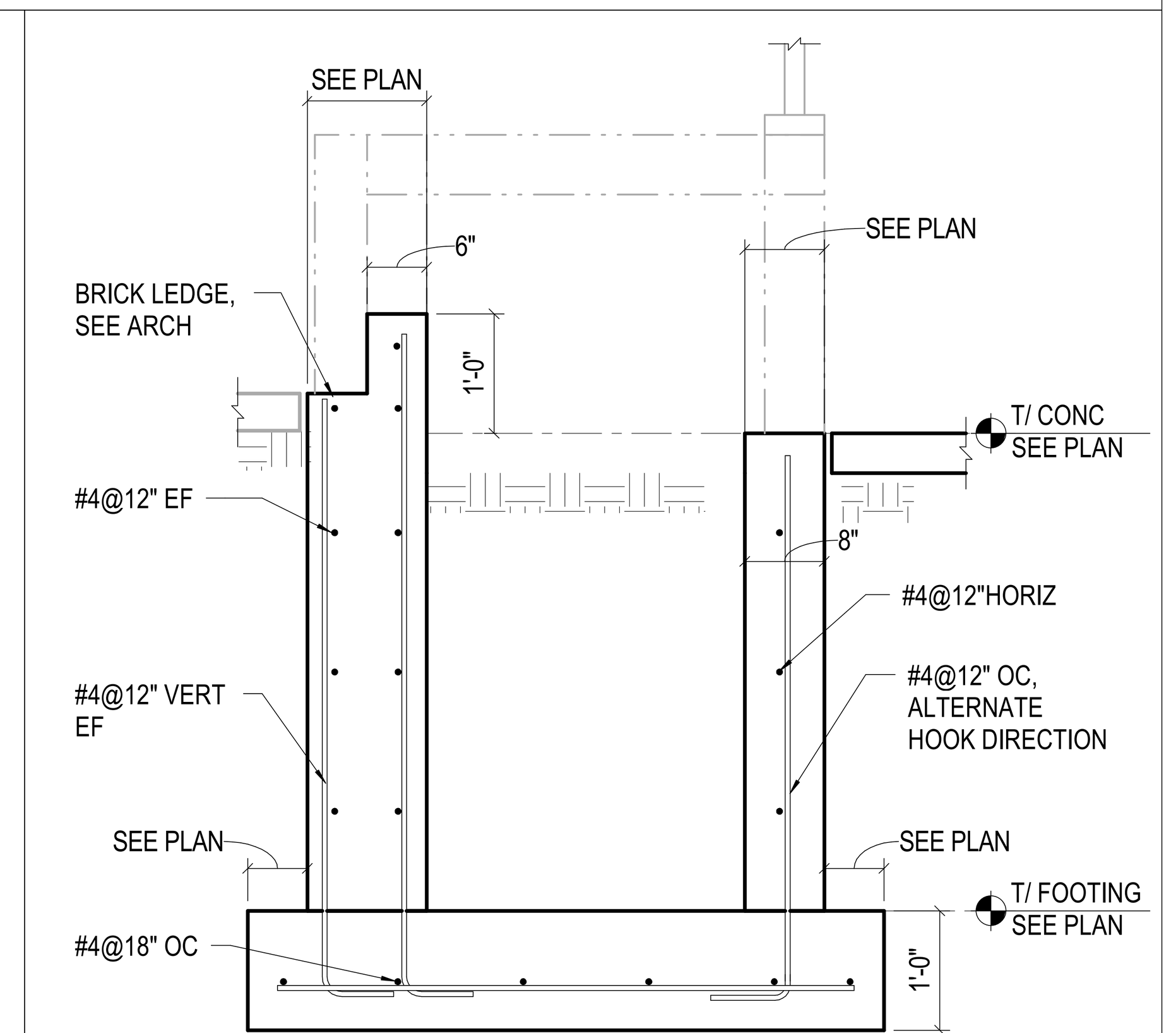


CORNER PILASTER - 2

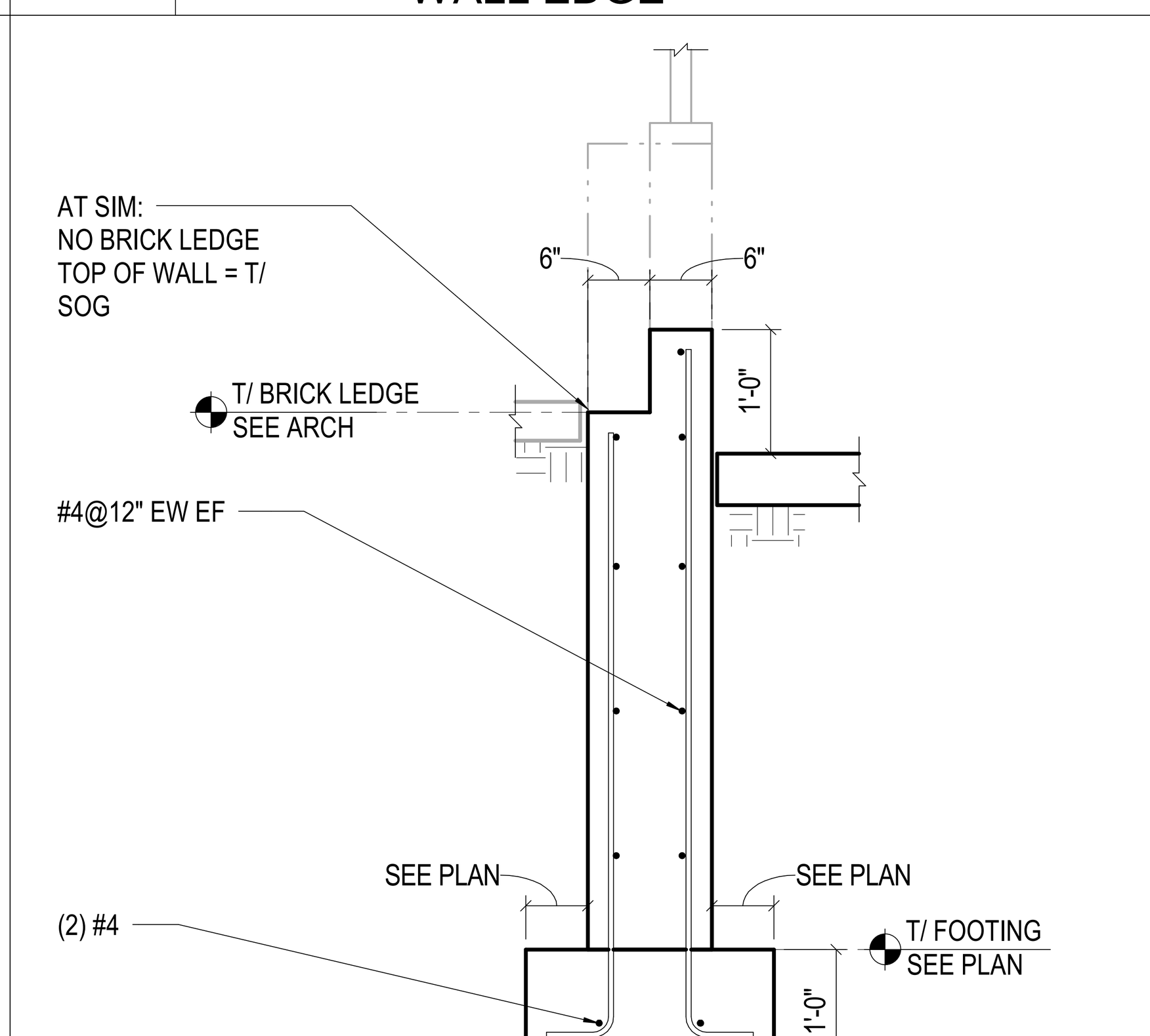
14	3/4" = 1'-0"	WEST ENTRY FOUNDATION	10	NO SCALE	SOUTH FOUNDATION WALL TO EXISTING FND WALL	6	NO SCALE	PILASTER DETAILS AT BASEMENT AND FOUNDATION WALLS AT SPREAD FOOTING

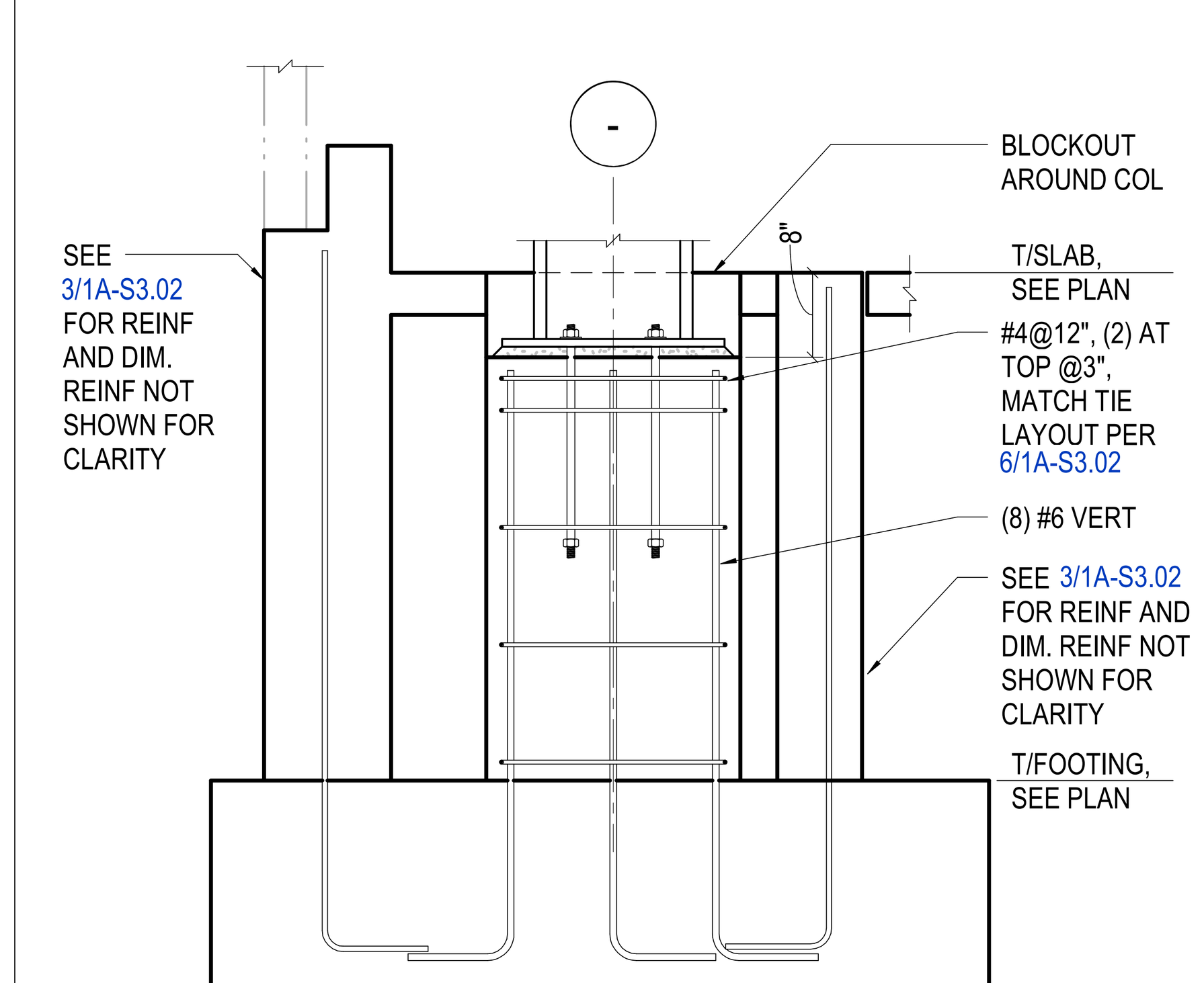


NOTE: SEE 4/1A-S3.02 FOR ADDNL INFORMATION



7	3/4" = 1'-0"	PILASTER ELEVATION AT CONT WALL EDGE	3	NO SCALE	EAST PERIMETER WALL EDGE





8	3/4" = 1'-0"	NORTHEAST PERIMETER WALL EDGE	4	3/4" = 1'-0"	PILASTER ELEVATION

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38107 PROFESSIONAL ENGINEER
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

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Description
CONCRETE DETAILS

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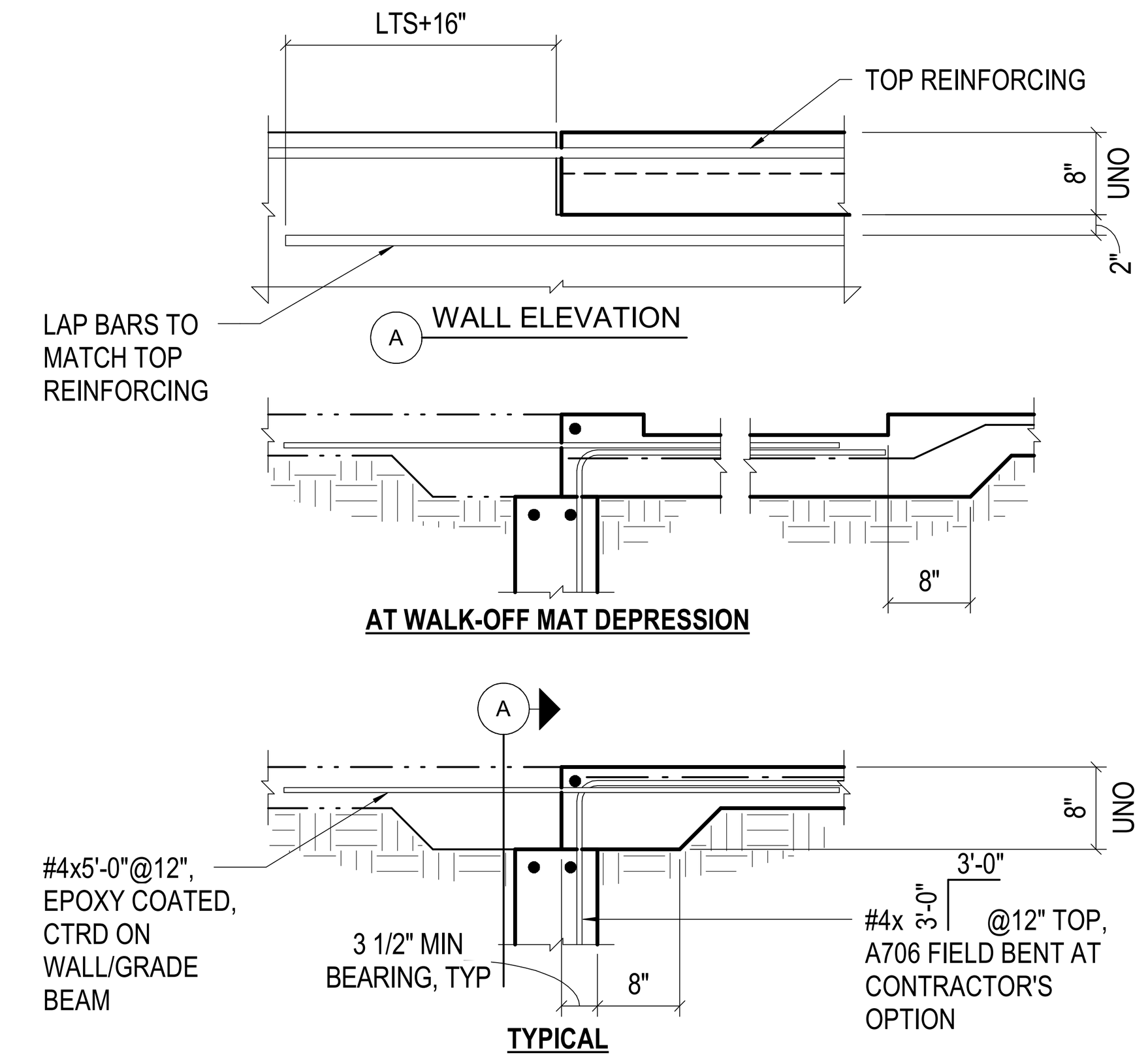
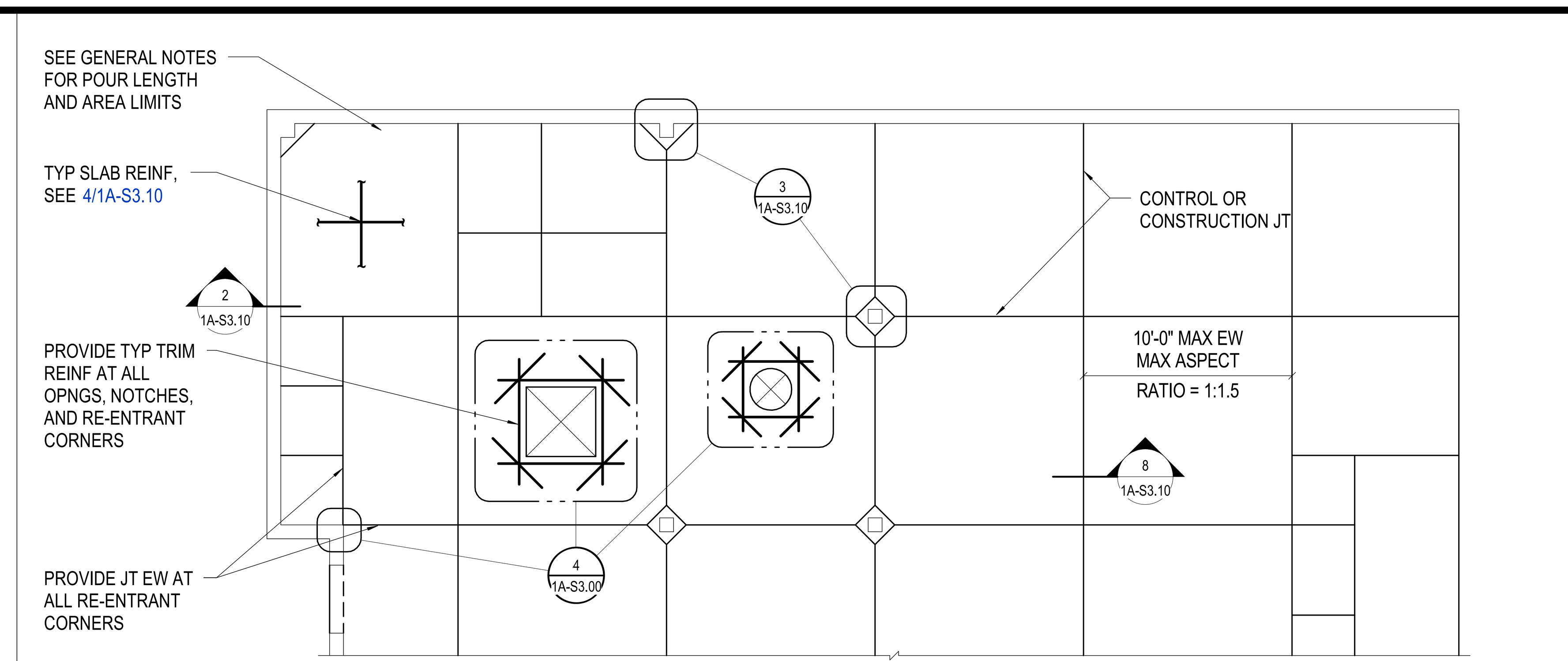
1A-S3.02

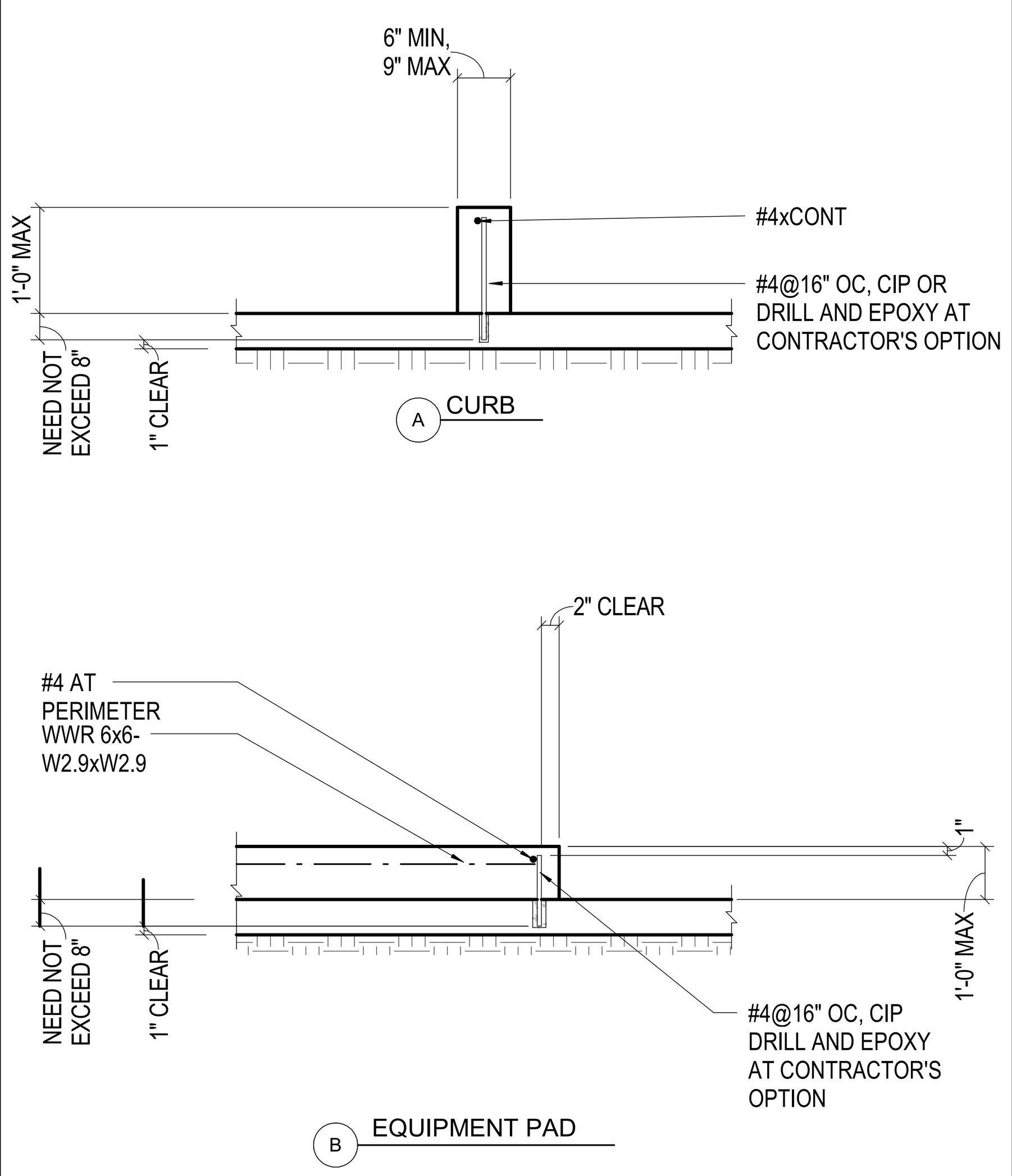


9 3/4" = 1'-0" TYP SOG EXT THRESHOLD



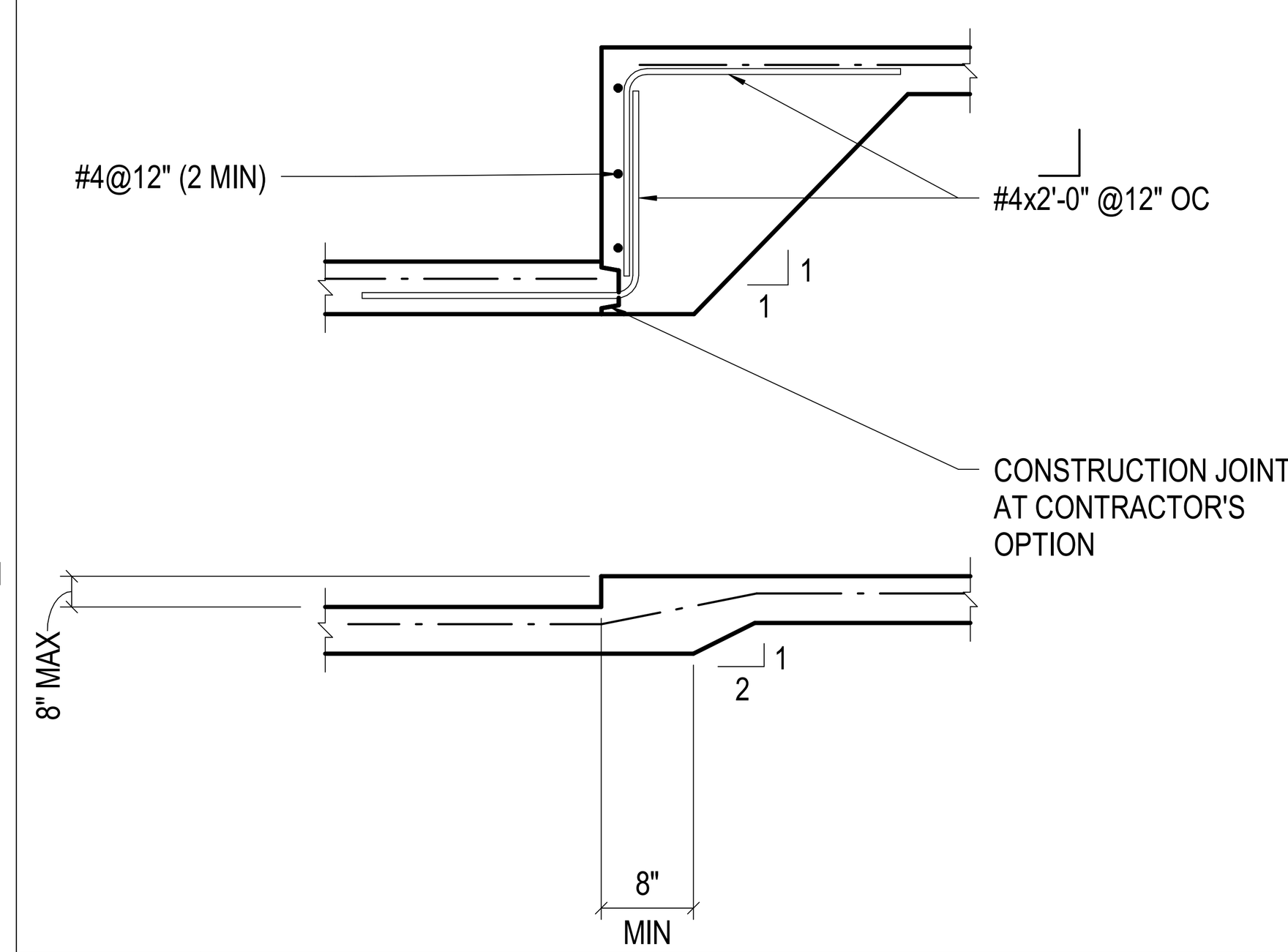
NOTES:
1. KEY PLAN ILLUSTRATES CONSTRUCTION CONCEPTS ONLY. SEE PLAN FOR ACTUAL DIMENSIONS AND ARRANGEMENT
2. PROVIDE ADDITIONAL CONTROL JOINTS AT ABRUPT CHANGES IN THICKNESS AND LOCATIONS PRONE TO CRACKING, COORD LOCS WITH FLOOR FINISHES AND INTERIOR WALLS

5 NO SCALE TYP SOG KEY PLAN

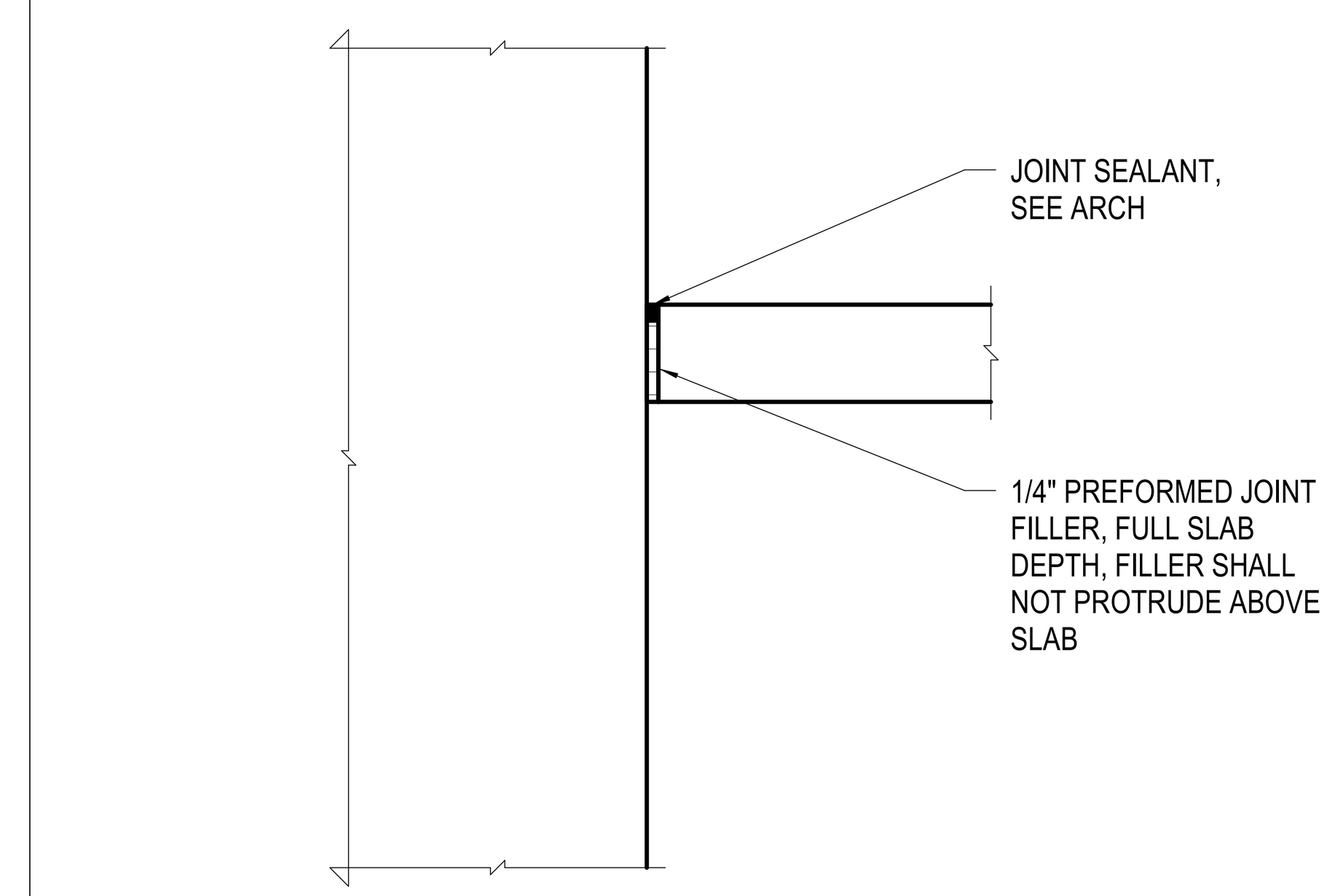


NOTES:
1. SEE ARCHITECT FOR SIZE, THICKNESS, AND LOCATIONS
2. WWR TO MATCH THAT OF SLAB OR 6x6-W2.9xW2.9 WHERE SLAB WWR NOT IDENTIFIED

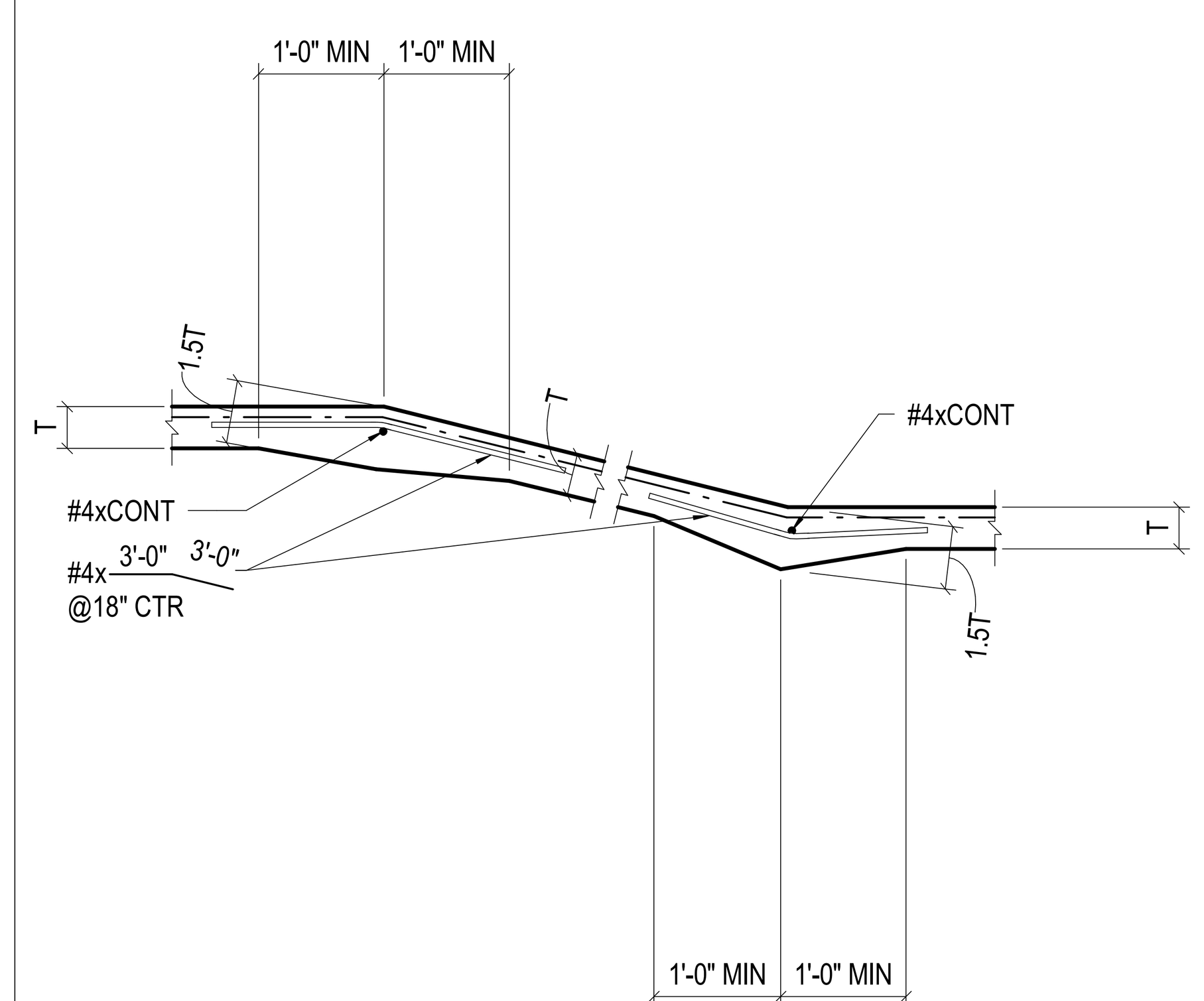
11 3/4" = 1'-0" SLAB-ON-GRADE CURB/EQUIPMENT PAD



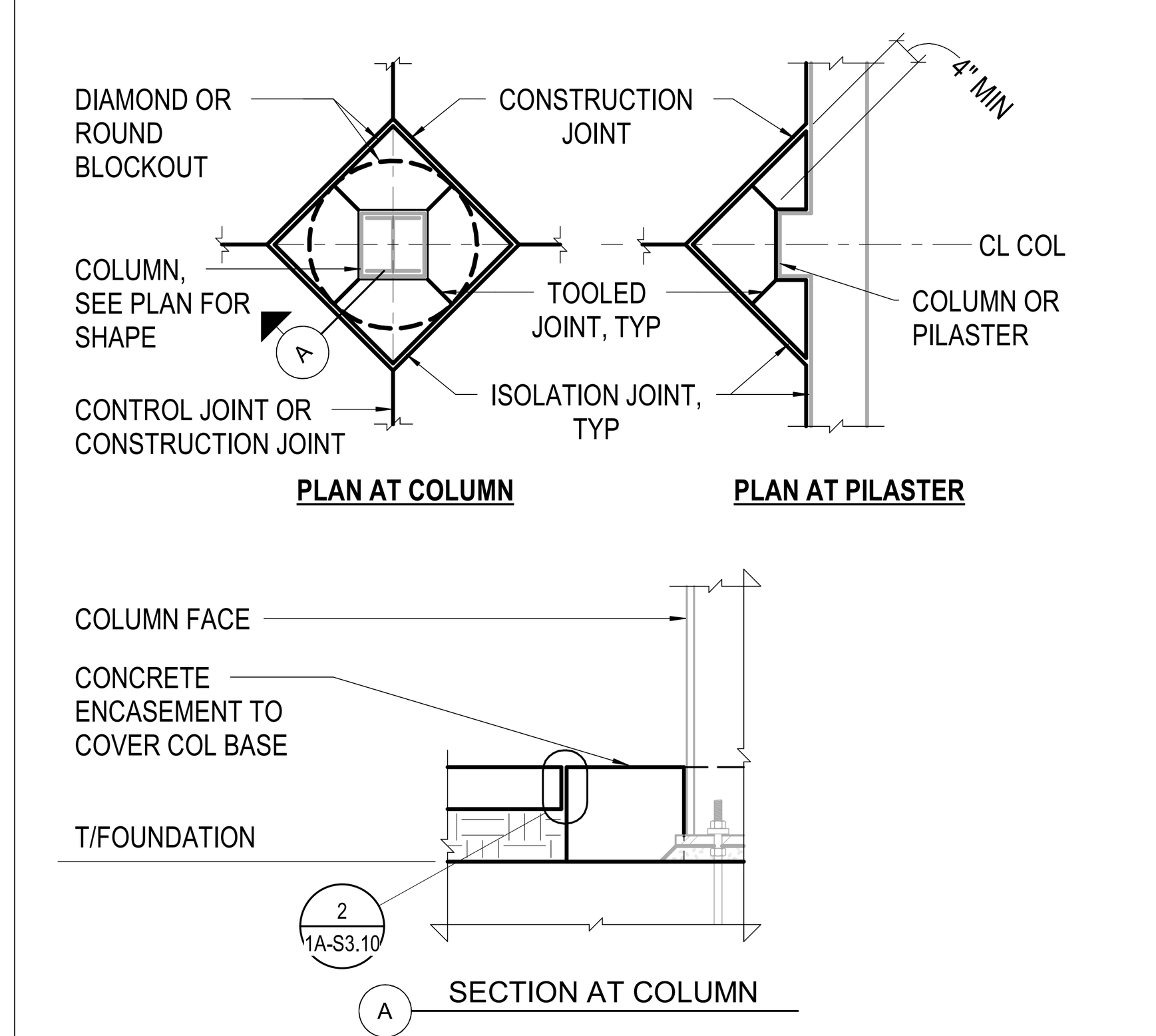
6 3/4" = 1'-0" TYPICAL SOG STEP



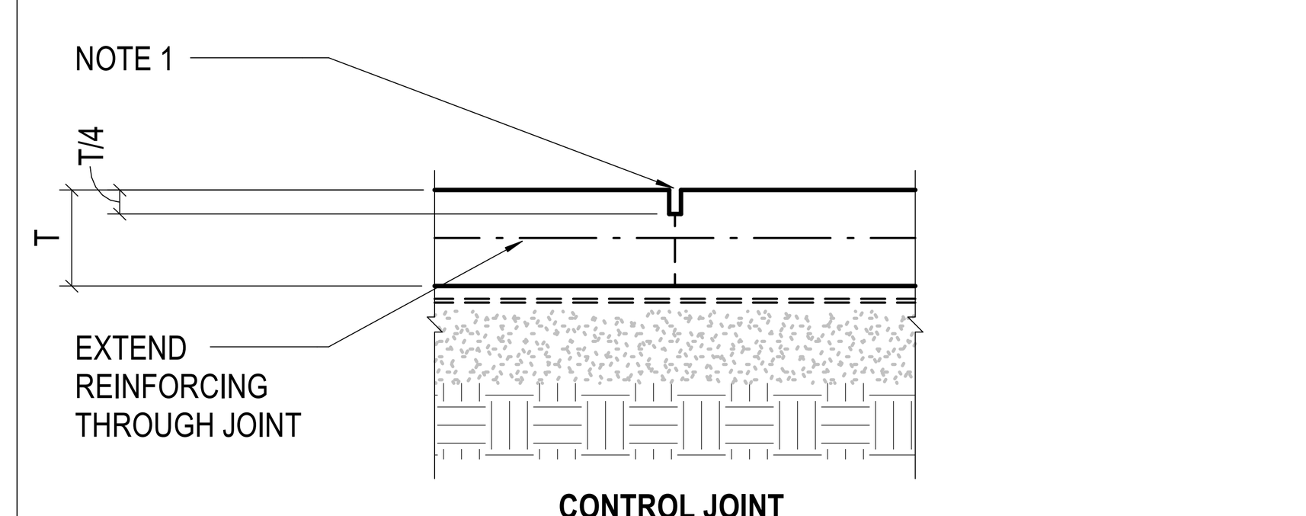
2 1 1/2" = 1'-0" TYP SOG ISOLATION JOINT



7 3/4" = 1'-0" TYPICAL SOG RAMP/SLOPE

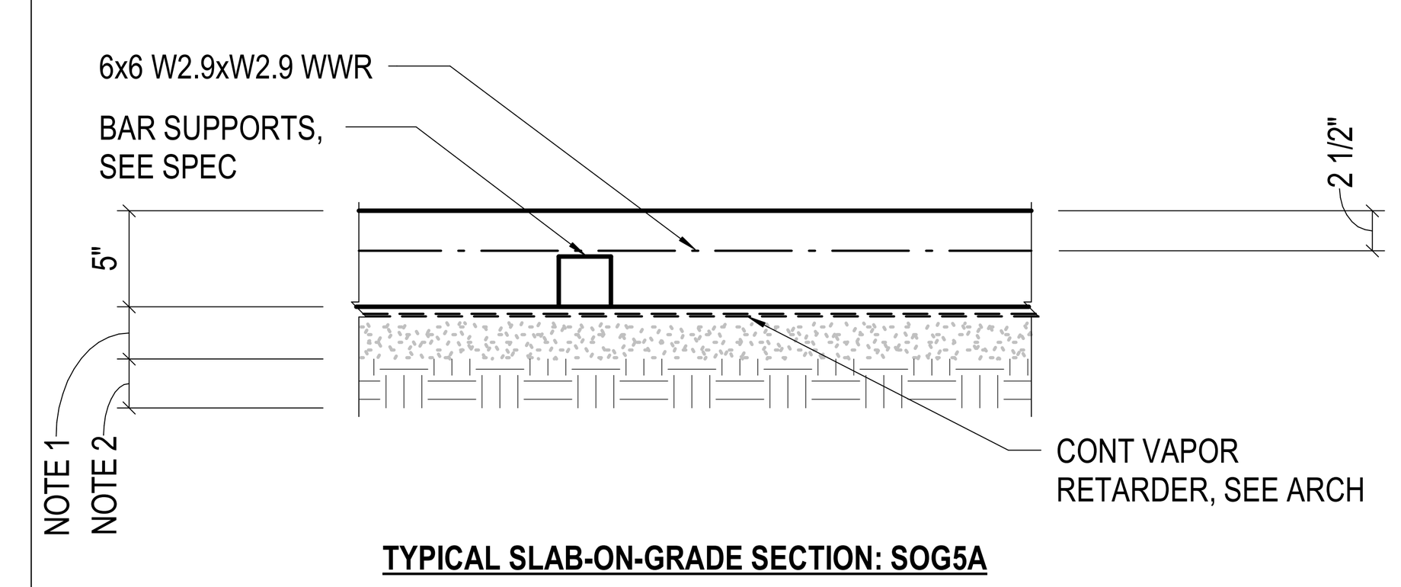


3 3/4" = 1'-0" SOG BLOCKOUT AT COLUMN/PILASTER



NOTES:
1. PROVIDE TOOLED JOINT OR SAW CUT AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT CUTTING WITHOUT CHIPPING, SPALLING, OR TEARING (BUT NOT MORE THAN 12 HOURS AFTER CASTING)

8 1 1/2" = 1'-0" SLAB-ON-GRADE JOINTS



NOTES:
1. GRANULAR COURSE: 6" MIN COMPACTED GRANULAR FILL, SEE EARTHWORK SPEC
2. PREPARED/COMPACTED SUBGRADE, SEE EARTHWORK SPEC

4 1" = 1'-0" TYP SLAB ON GRADE

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SSRC | BASE AREA IMPROVEMENTS

Project Number
20.1411.S.01

Description
TYPICAL SOG DETAILS

Scale
As indicated

1A-S3.10

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN NONNES
DATE PRINTED: 5/19/2021 12:06:22 PM
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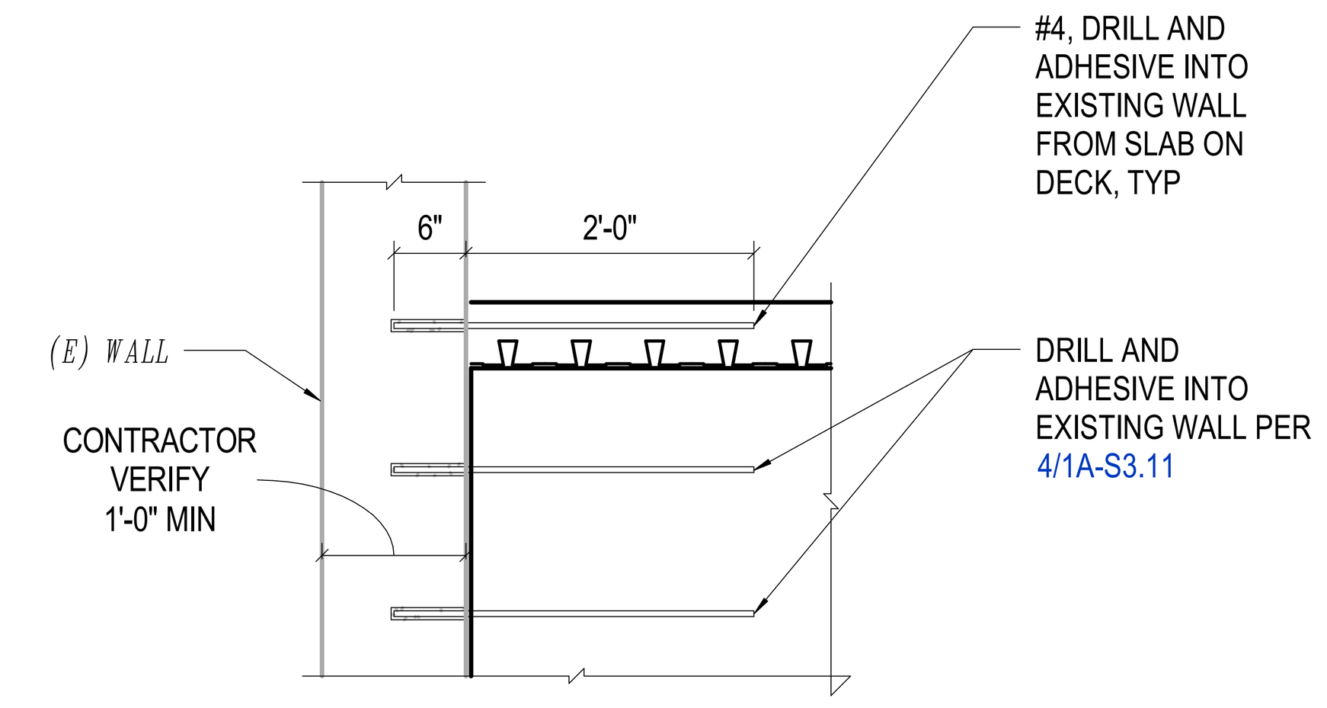
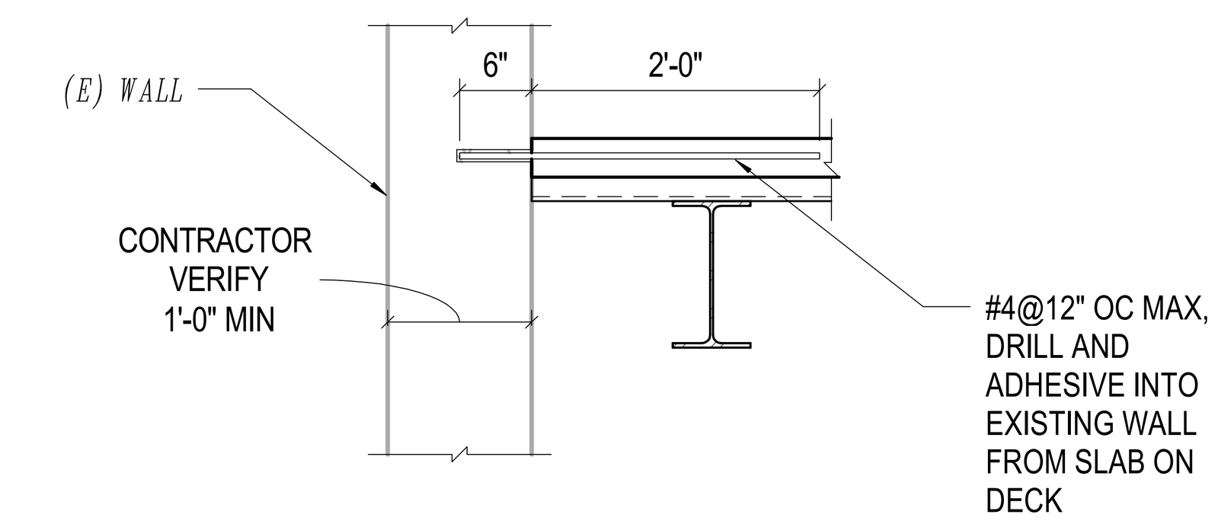


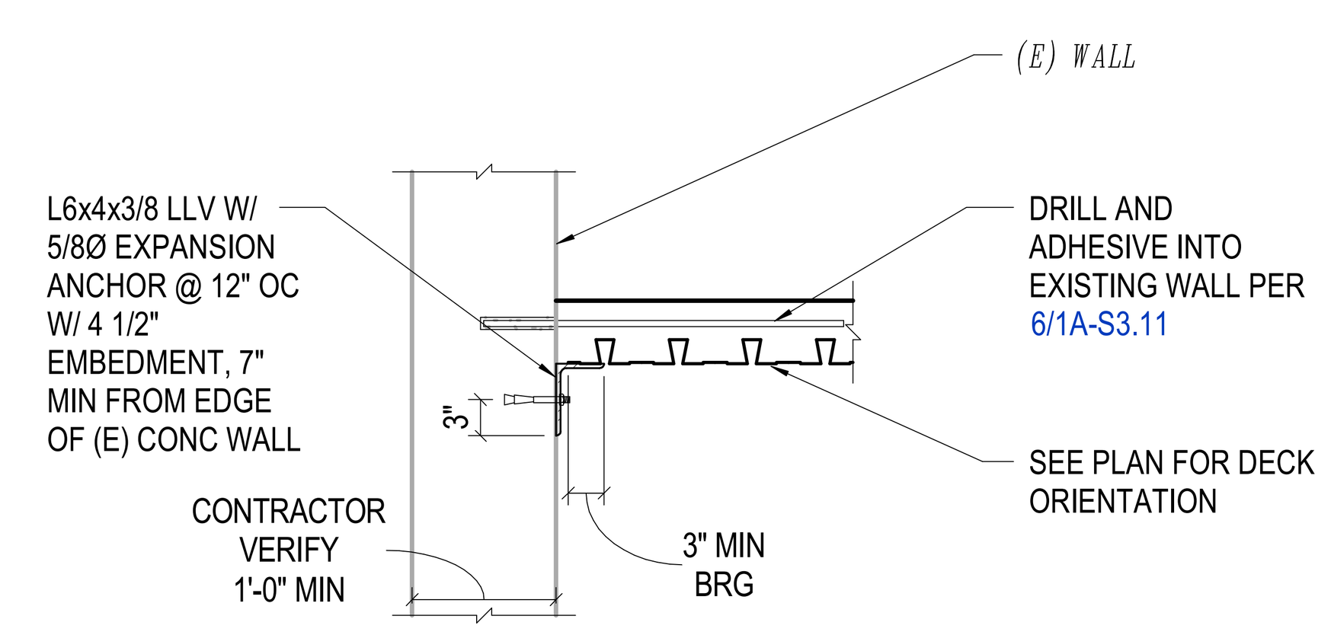
NOTES:
1. SCAN EXISTING CONCRETE AND AVOID EXISITING REINFORCEMENT
2. CONTRACTOR TO FIELD VERIFY EXISTING FOUNDATION WALL

5 3/4" = 1'-0" T/ FND WALL TO (E) WALL

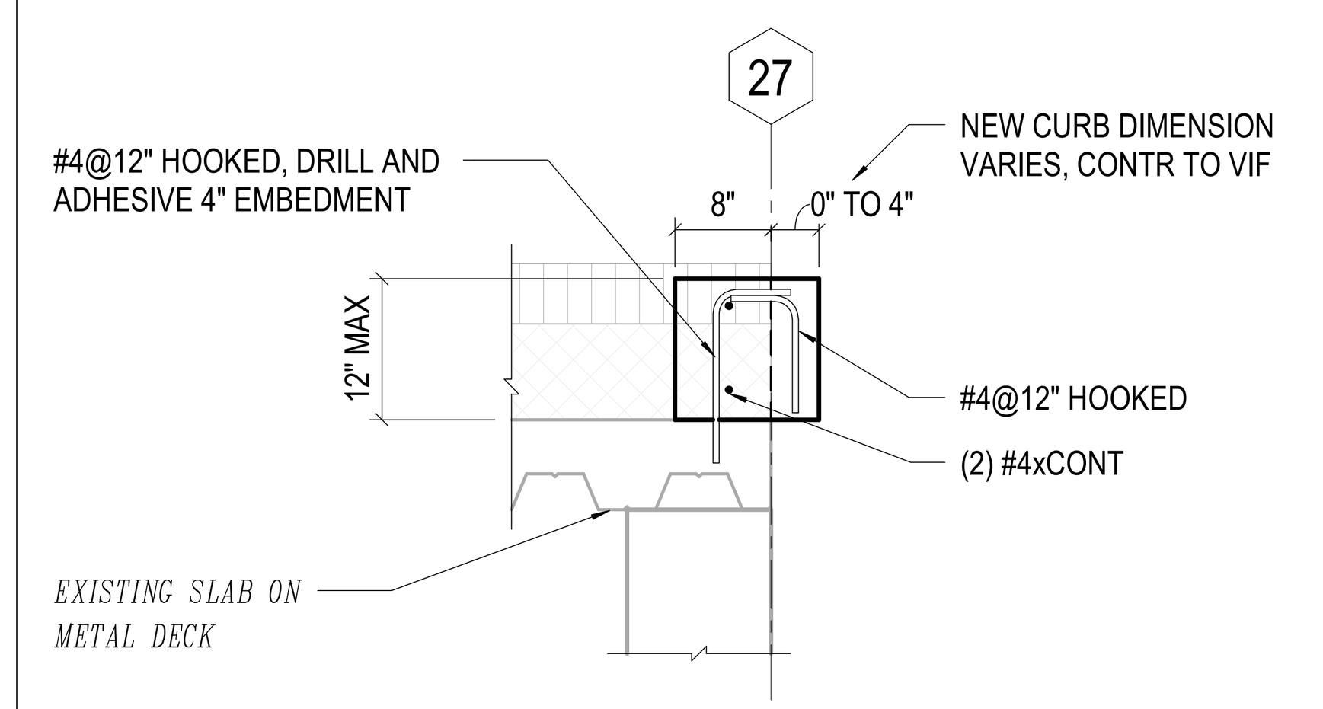


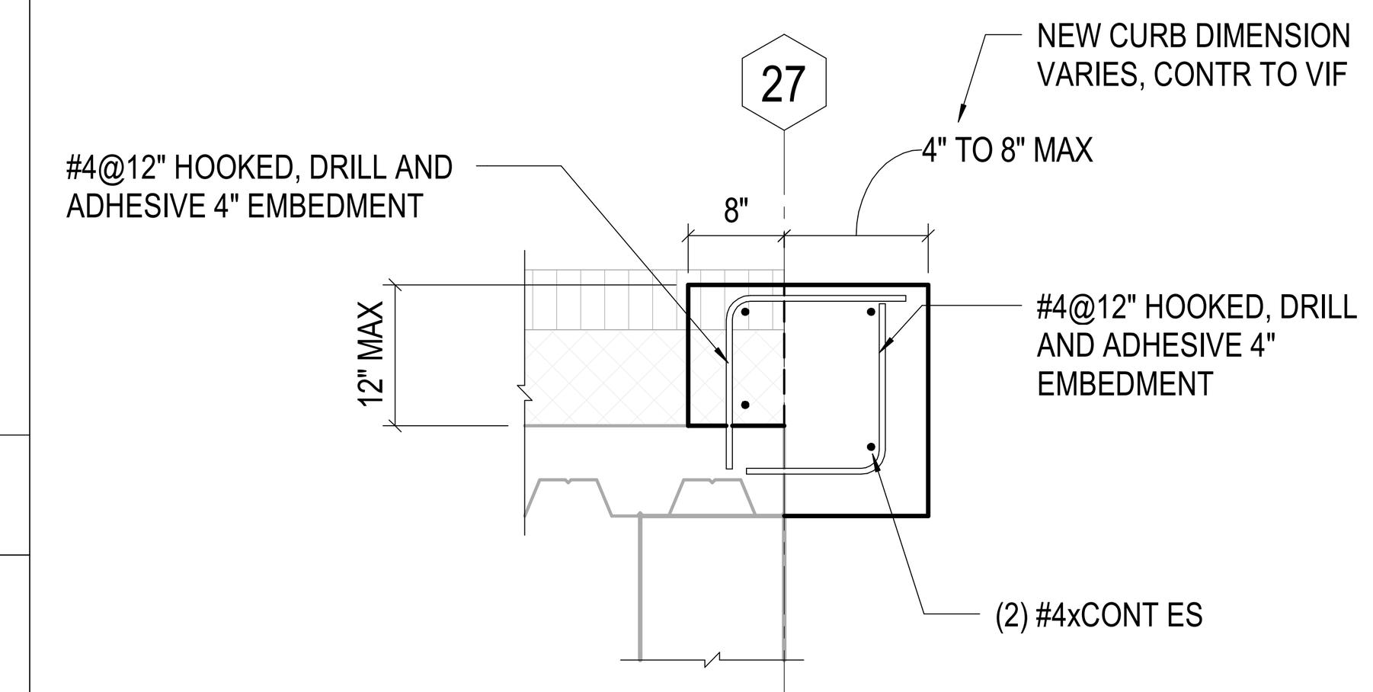
NOTES:
1. SCAN EXISTING CONCRETE AND AVOID EXISITING REINFORCEMENT
2. CONTRACTOR TO FIELD VERIFY EXISTING FOUNDATION WALL

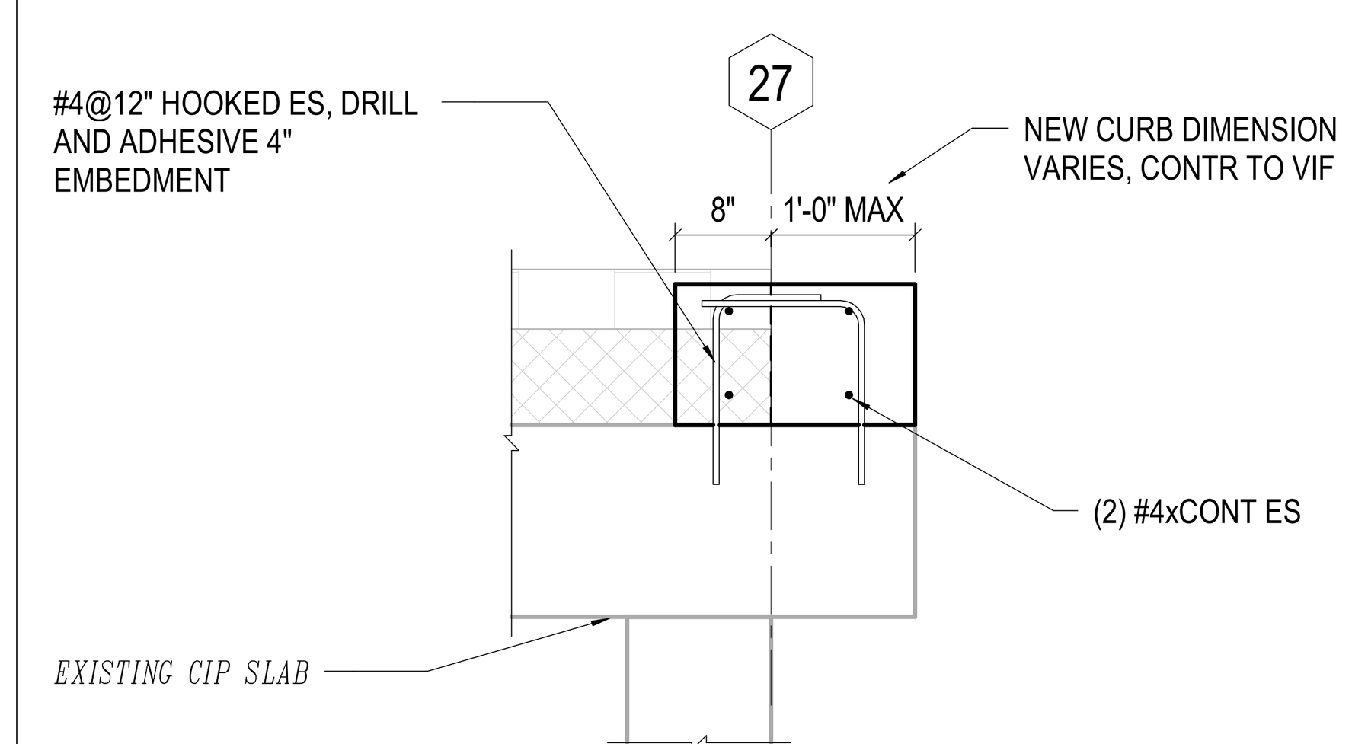
6 3/4" = 1'-0" DECK ADHESIVE TO (E) WALL



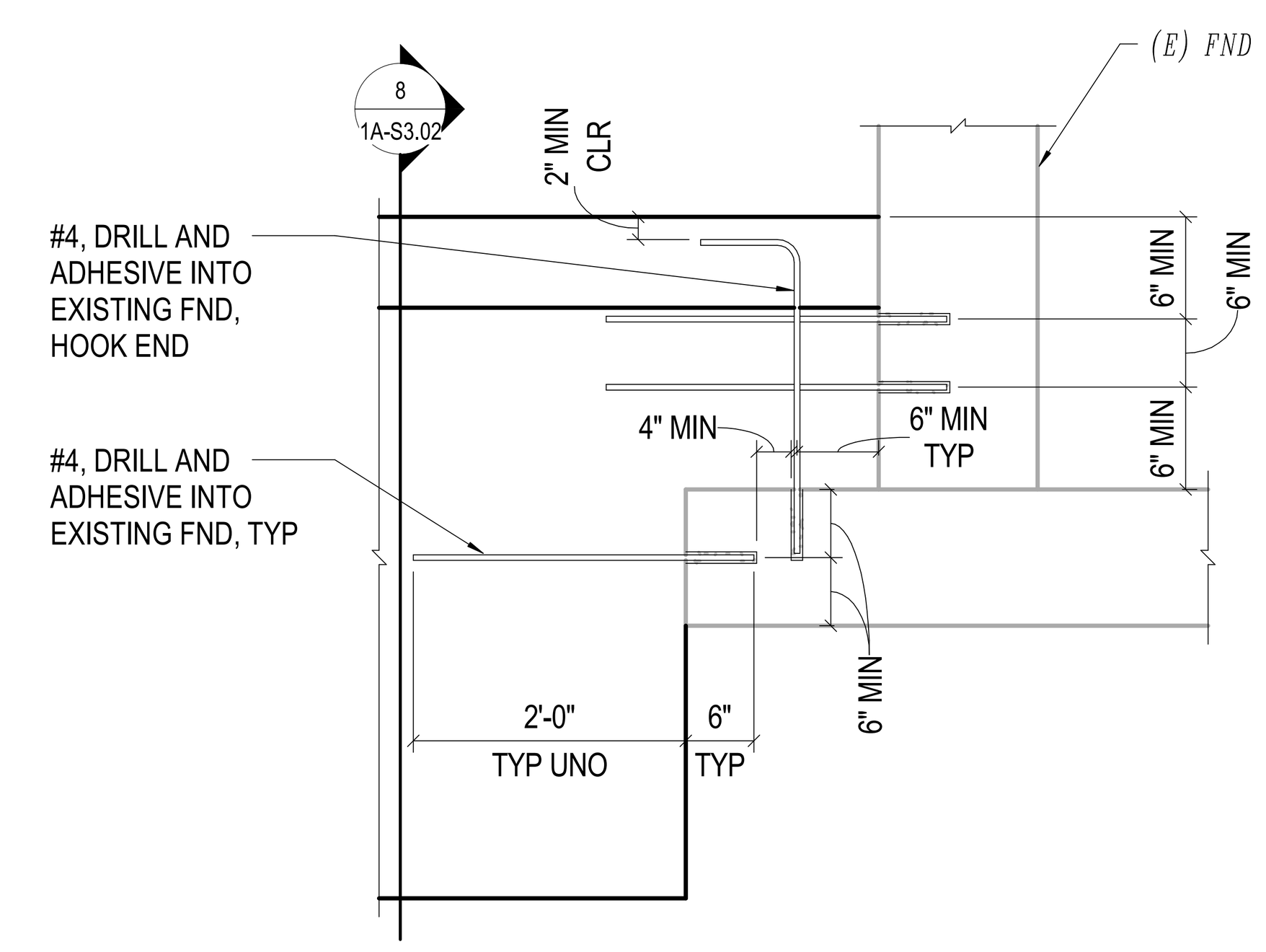
7 3/4" = 1'-0" ANGLE SUPPORTING DECK AT (E) WALL





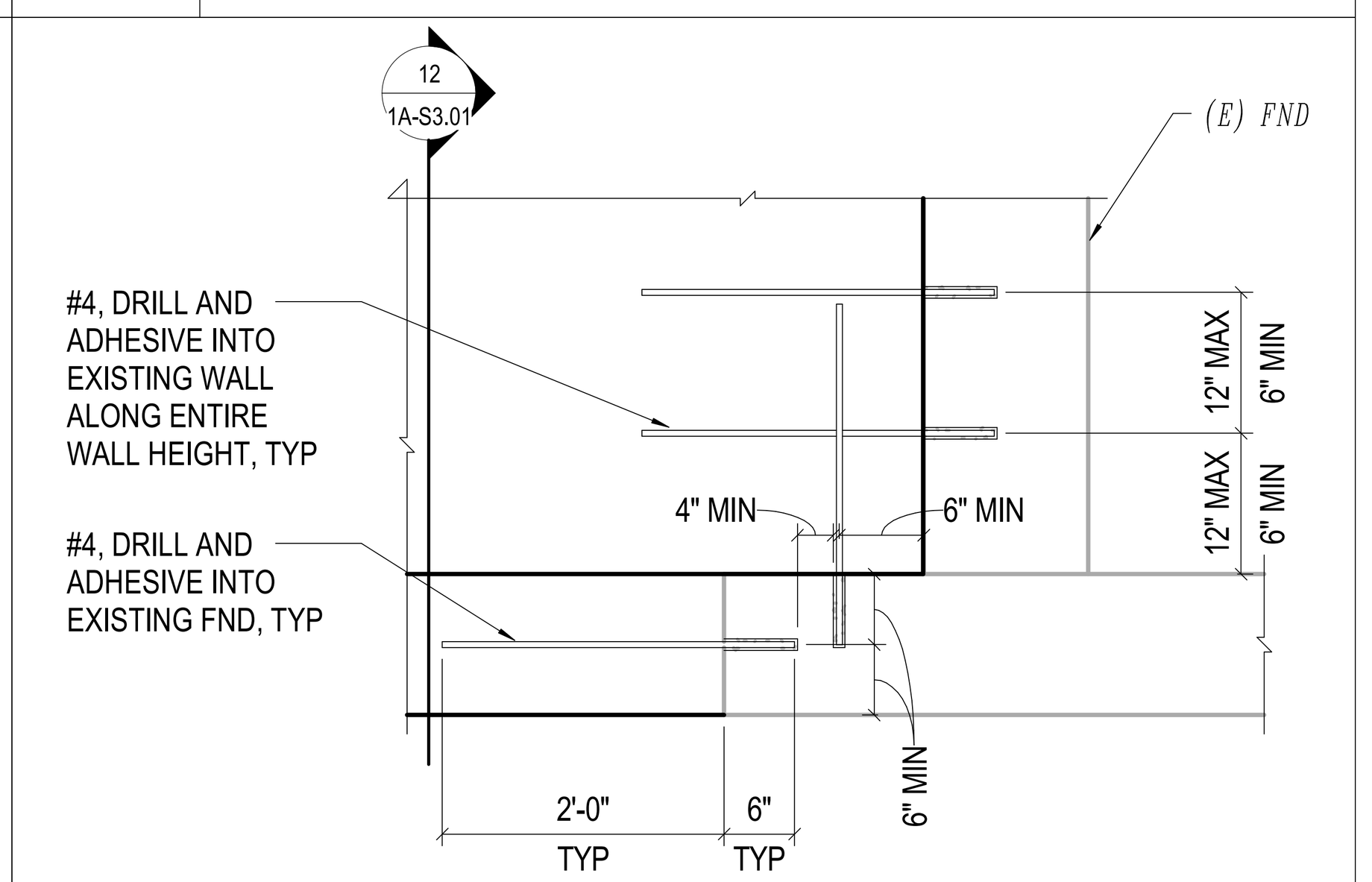


2 3/4" = 1'-0" NEW CURB AT OSP PLAZA



NOTES:
1. SCAN EXISTING CONCRETE AND AVOID EXISITING REINFORCEMENT
2. CONTRACTOR TO FIELD VERIFY EXISTING FOUNDATION WALL AND FOOTING

3 3/4" = 1'-0" GRADE BEAM TIED TO (E) FND



NOTES:
1. SCAN EXISTING CONCRETE AND AVOID EXISITING REINFORCEMENT
2. CONTRACTOR TO FIELD VERIFY EXISTING FOUNDATION WALL AND FOOTING

4 3/4" = 1'-0" FND WALL TIED TO (E) FND

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
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Description
CONCRETE DETAILS

Scale
3/4" = 1'-0"

1A-S3.11

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNES
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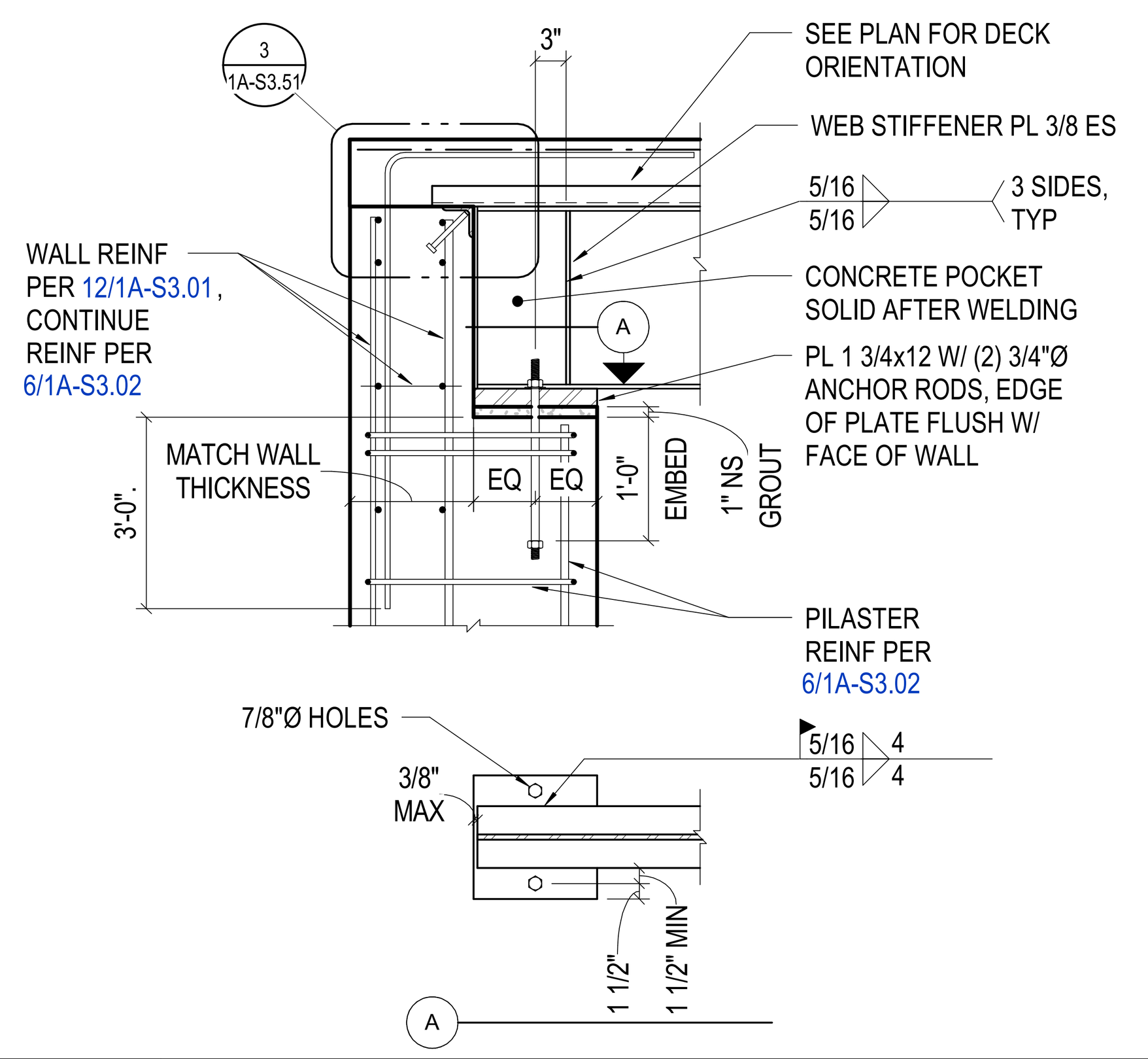
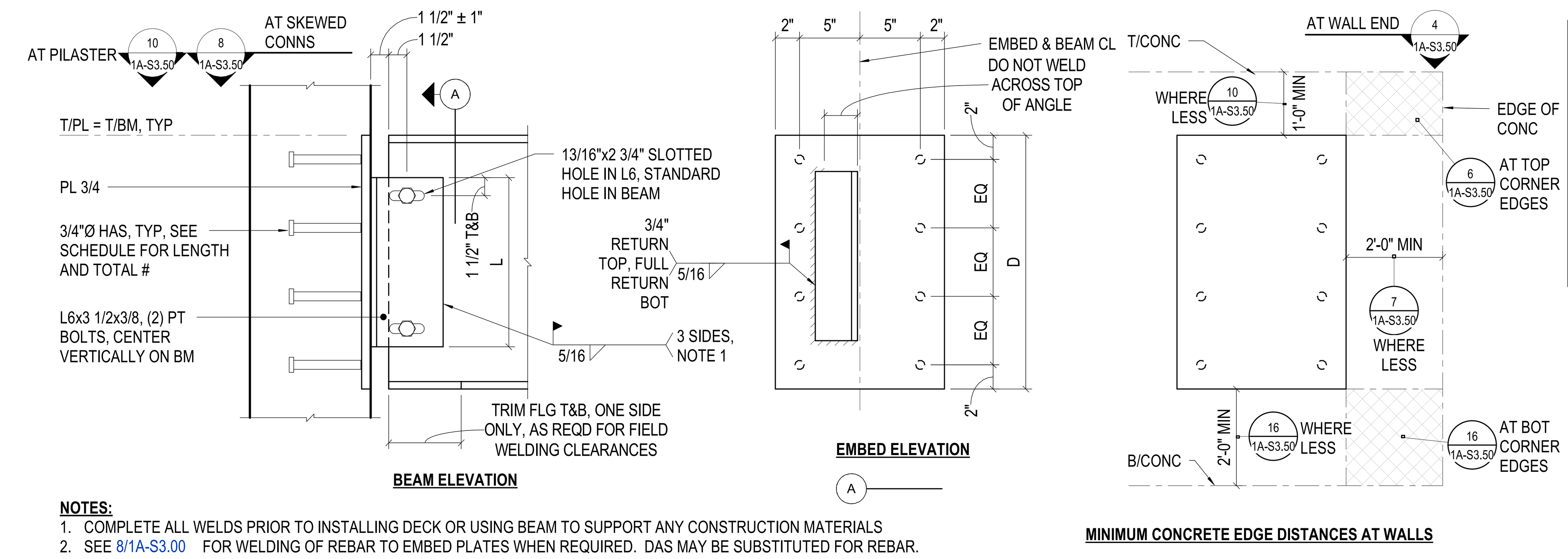


13 — 3/4" = 1'-0" — CONCRETE BEAM BEARING - POCKET



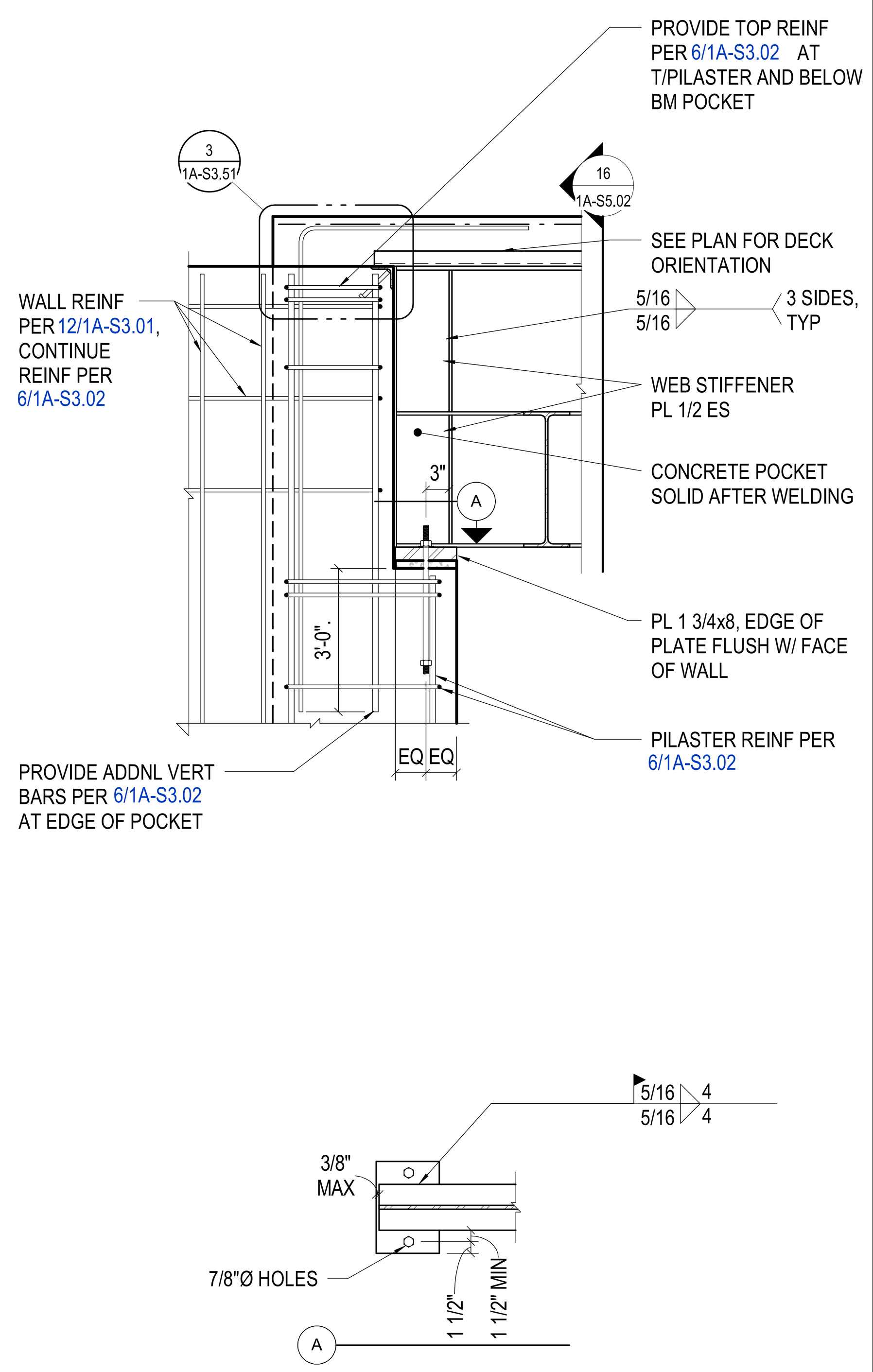
TYP EMBEDDED PL SCHED**

BEAM	CAPACITY (KIPS)* 8" STUDS	D (IN)	L (IN)	TOTAL # HAS
W12	39	12	8	4
W14	51	14	9	6
W16	61	16	10	6
W18	78	18	12	6
W30	113	30	18	14
W36	124	36	20	16

* ULTIMATE LEVEL (LRFD)
** EMBEDDED PLATE TYPE IS BASED ON BEAM DEPTH. IF PLAN REACTION IS GREATER THAN SCHEDULED CAPACITY, REQUEST CUSTOM CONNECTION FROM ENGINEER

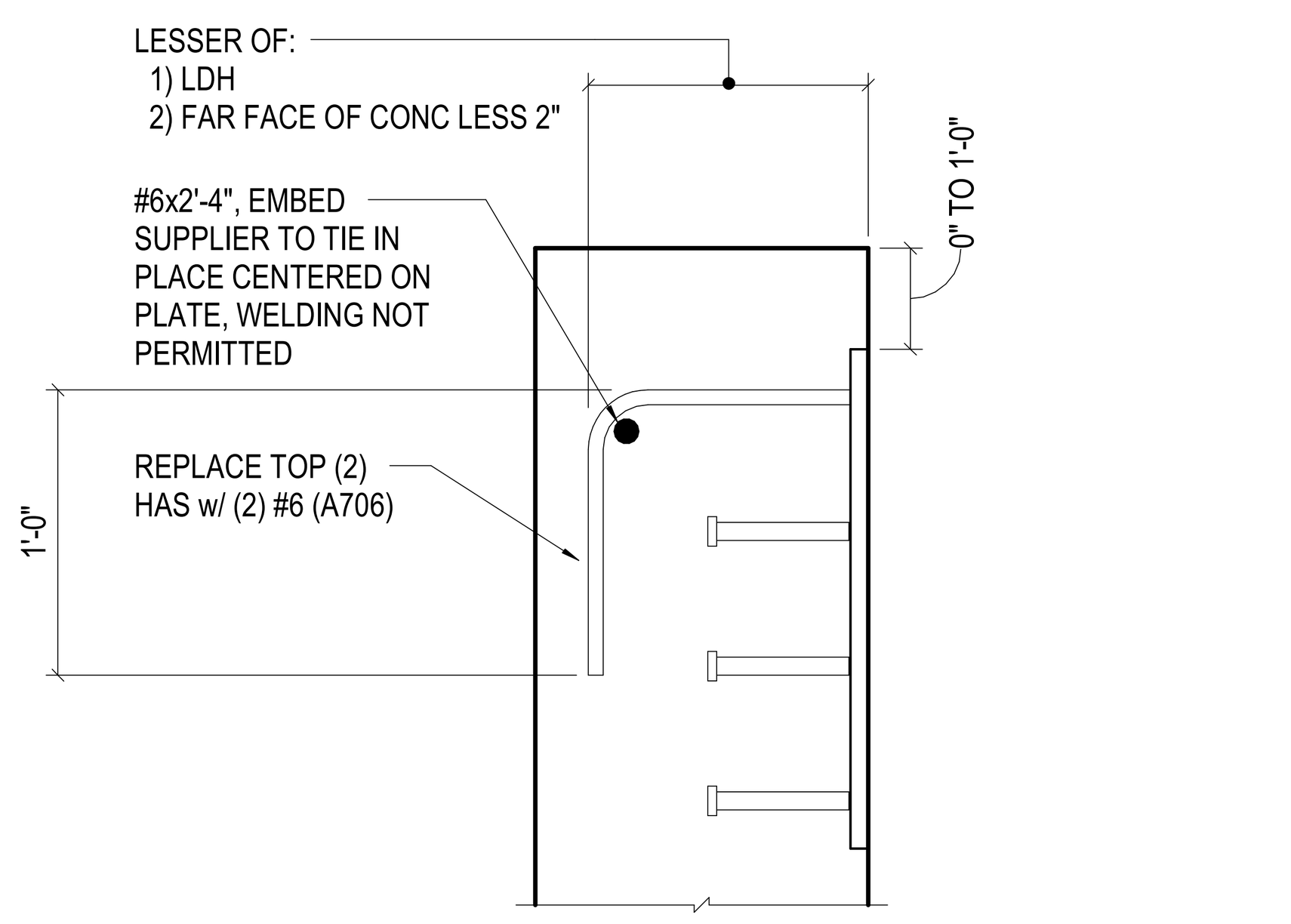
NOTES:
1. COMPLETE ALL WELDS PRIOR TO INSTALLING DECK OR USING BEAM TO SUPPORT ANY CONSTRUCTION MATERIALS
2. SEE 8/1A-S3.00 FOR WELDING OF REBAR TO EMBED PLATES WHEN REQUIRED. DAS MAY BE SUBSTITUTED FOR REBAR.

9 — NO SCALE — TYPICAL BEAM EMBED PL CONNECTION & SCHEDULE - LRFD

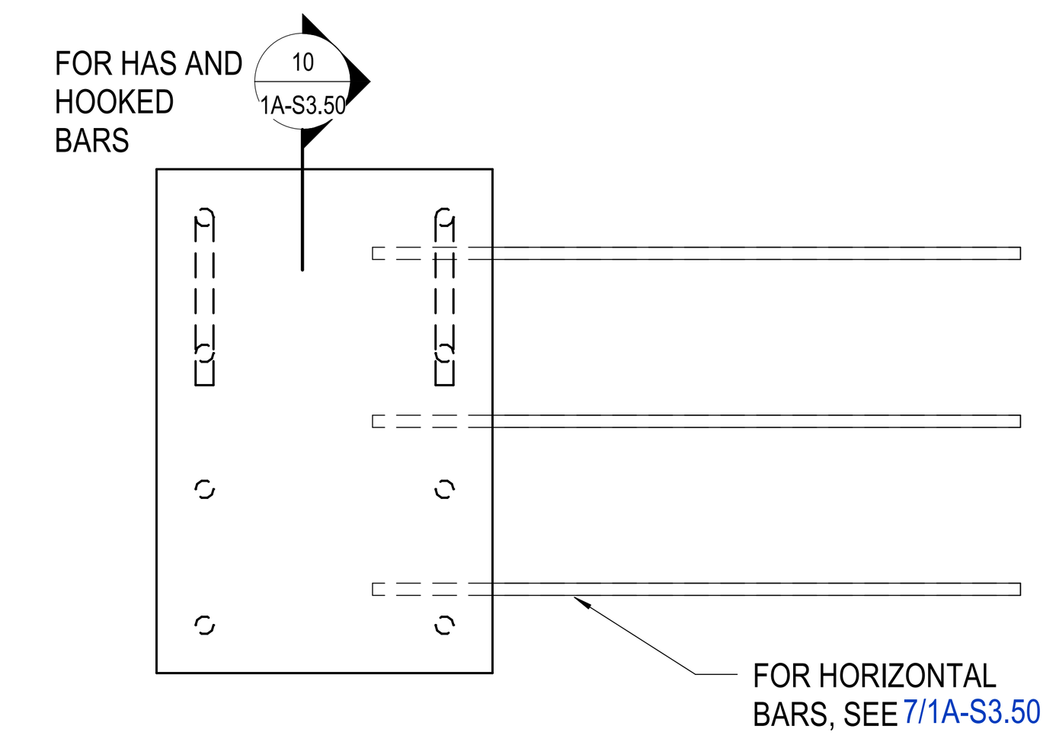


NOTE: SEE 13/1A-S3.50 FOR ADDNL INFORMATION

15 — 3/4" = 1'-0" — CONCRETE BEAM BEARING - END POCKET



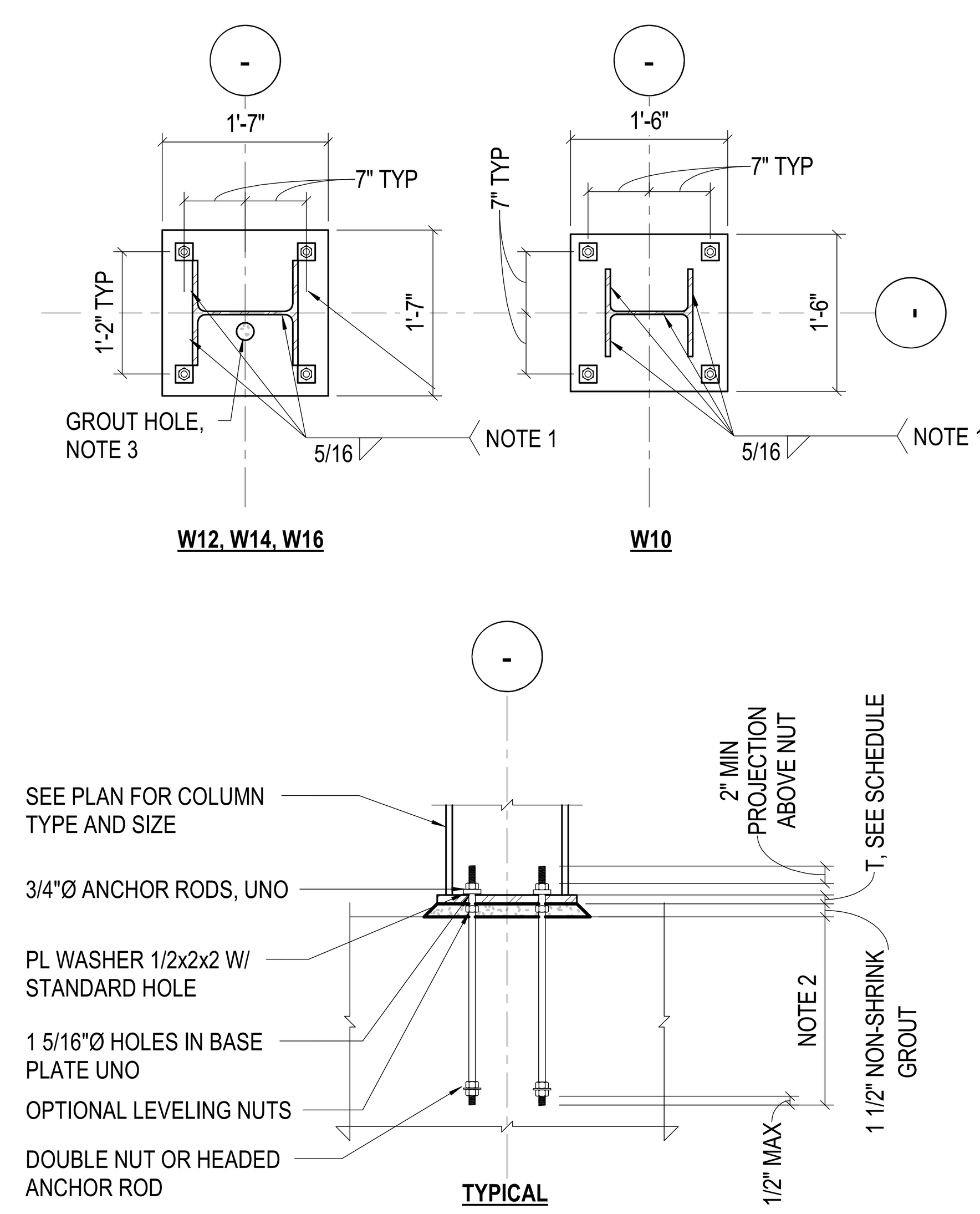
10 — NO SCALE — BEAM EMBED NEAR TOP OF WALL SINGLE SIDED



6 — NO SCALE — BEAM EMBED NEAR TOP EDGE OF WALL

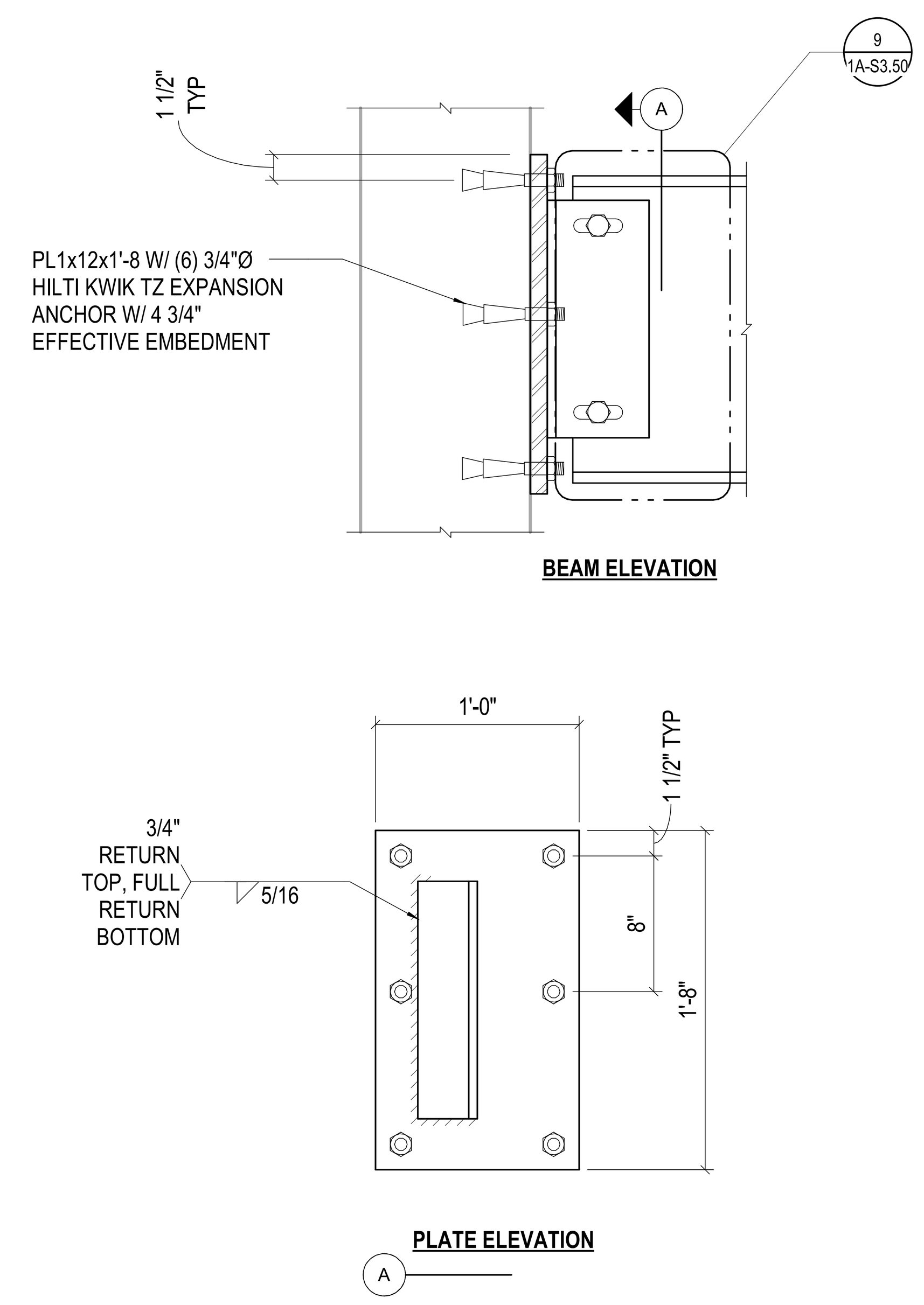
BASE PLATE DIMENSIONS

COLUMN SIZE	PLATE THICKNESS, T (in)	B, (in)	N, (in)
W10x45-W10x49	1 1/4	18	18
W12x65	1 3/4	19	19

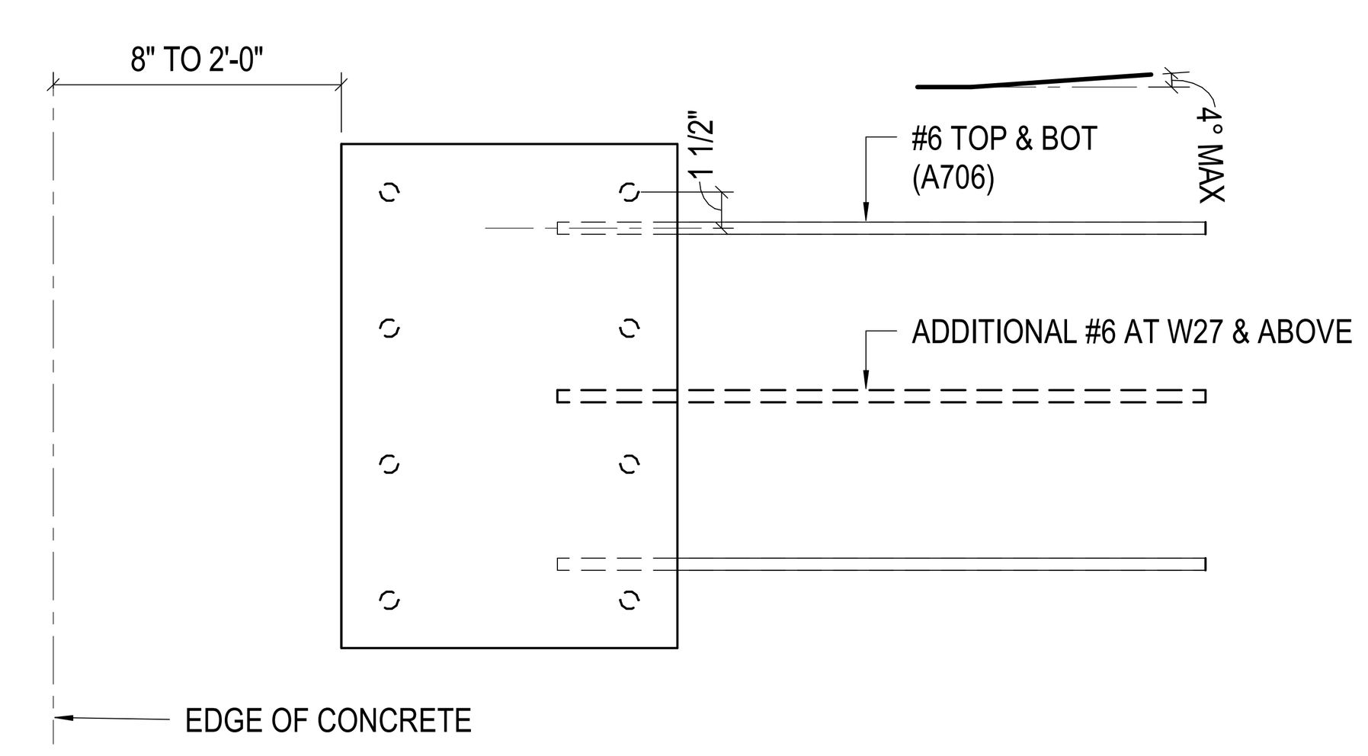


NOTES:
1. ALL AROUND WELD MAY BE USED IN LIEU OF THE WELD SHOWN
2. GREATER OF 9" OR 8xANCHOR ROD Ø
3. 2"Ø MAXIMUM GROUT HOLE AT CONTRACTOR'S OPTION. ONE OR TWO GROUT HOLES RECOMMENDED FOR BASE PLATES LARGER THAN 24" IN WIDTH.

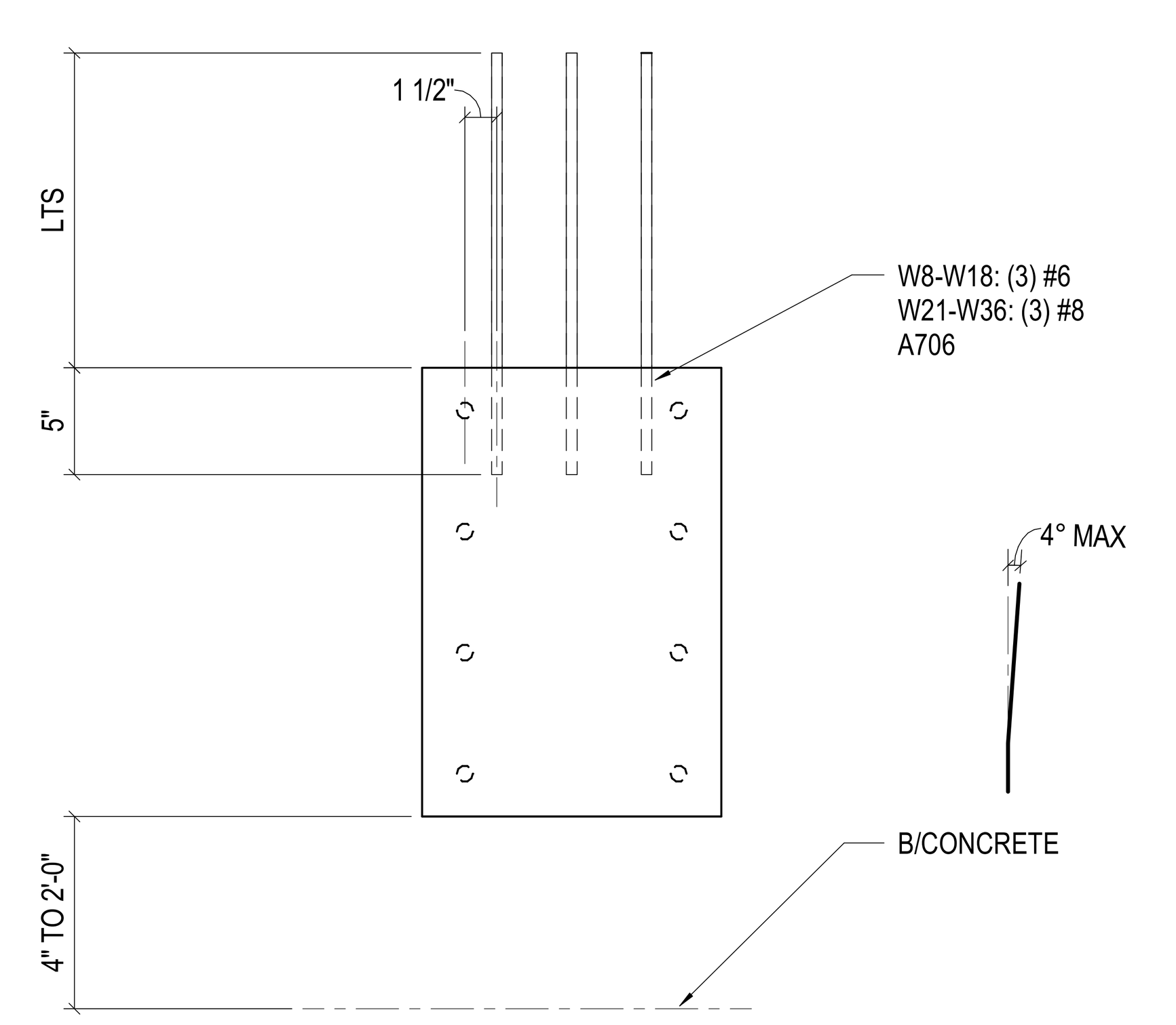
3 — 3/4" = 1'-0" — TYPICAL GRAVITY COLUMN BASE PLATE



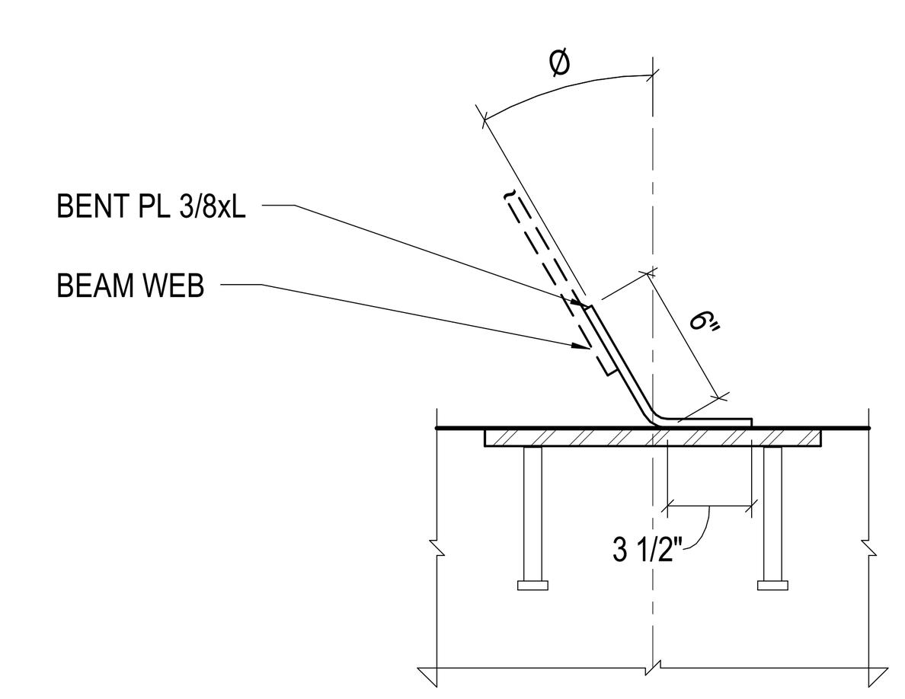
12 — NO SCALE — POST-INSTALLED CONNECTION TO (E) WALL



7 — NO SCALE — BEAM EMBED NEAR EDGE OF WALL

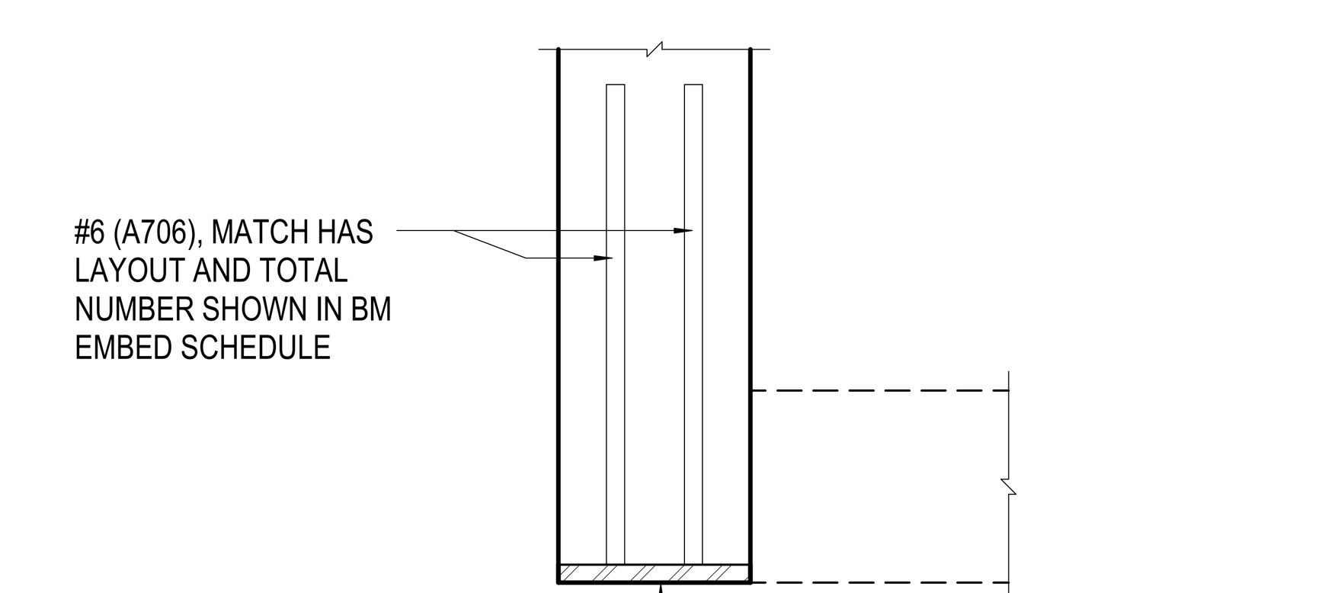


16 — 1 1/2" = 1'-0" — BEAM EMBED NEAR BOTTOM OF WALL



NOTES:
1. REQUEST CONN FROM ENGINEER IF Ø > 45°

8 — NO SCALE — BEAM EMBED AT SKEWED BM



-AT WALLS BETWEEN 8" & 14" THICK, PLATE WIDTH TO MATCH WALL THICKNESS
-AT WALLS THICKER THAN 14", PLATE WIDTH = 14"

4 — 1 1/2" = 1'-0" — BEAM EMBED AT END OF WALL

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38107 PROFESSIONAL ENGINEER
May 19, 2021
Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS
Project Number
20.1411.S.01
Description
CONCRETE SUPPORTING STEEL DETAILS
Scale
As indicated

1A-S3.50

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONKES
DATE PRINTED: 5/19/2021 12:06:27 PM
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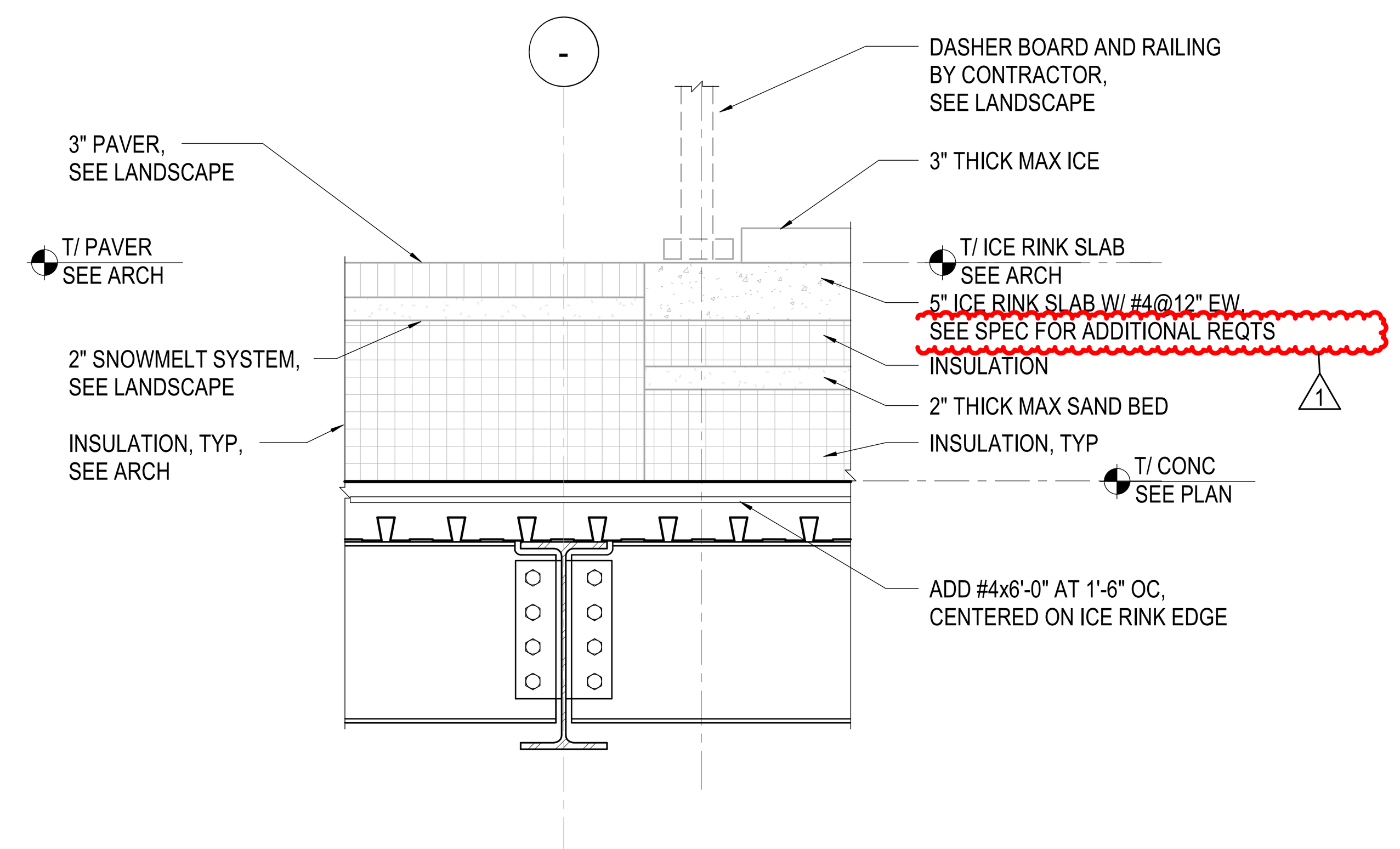
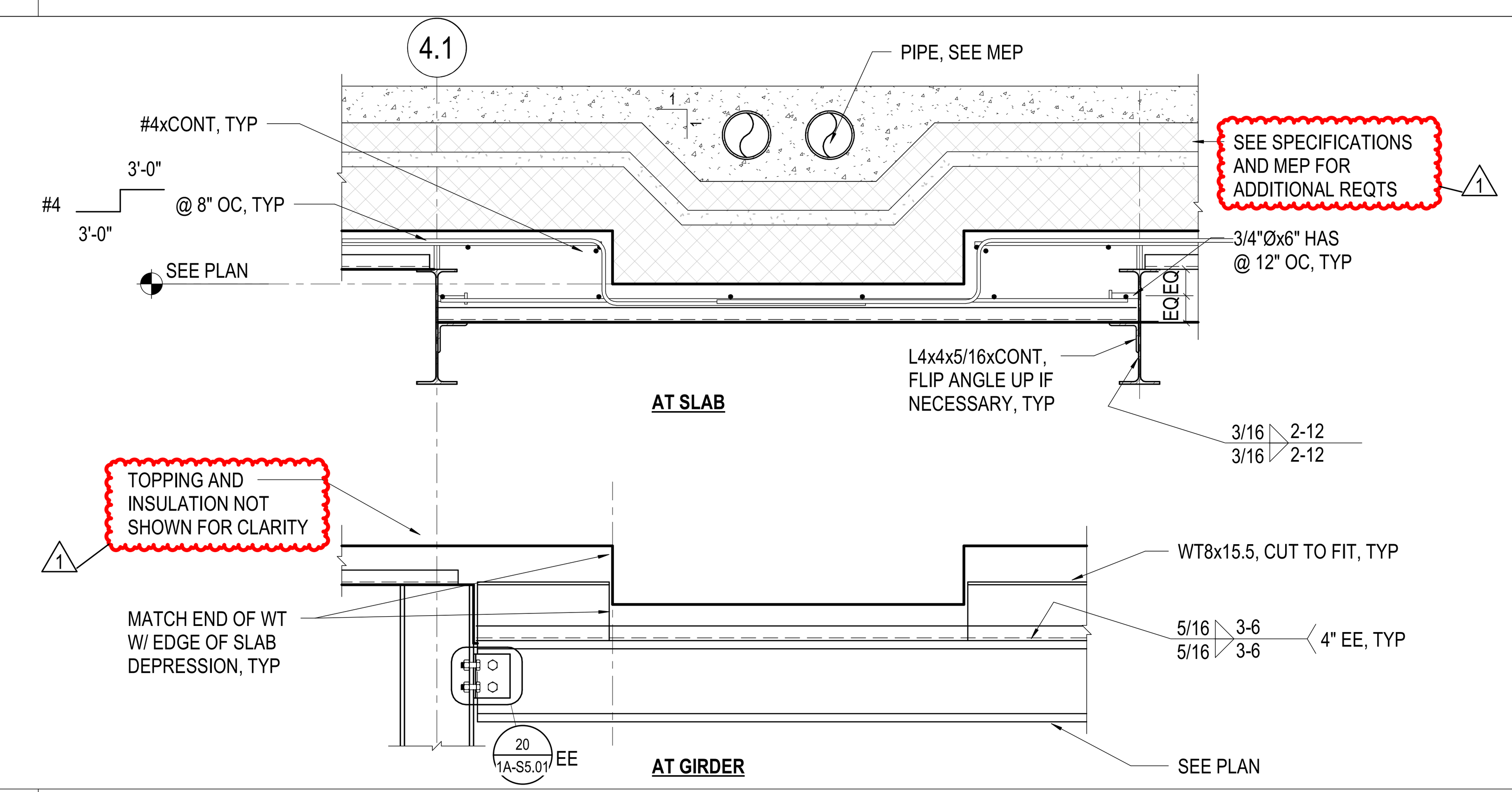
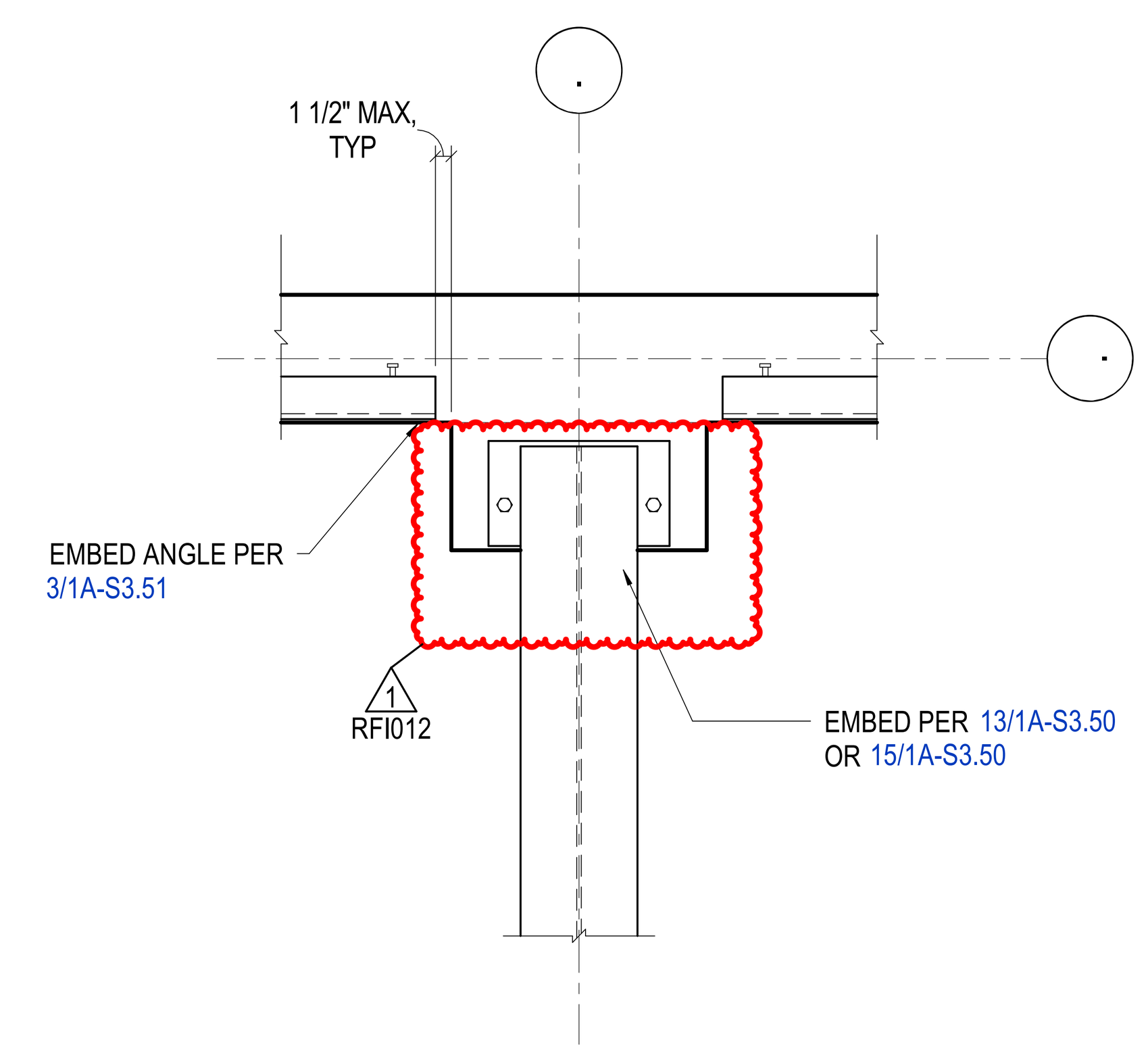


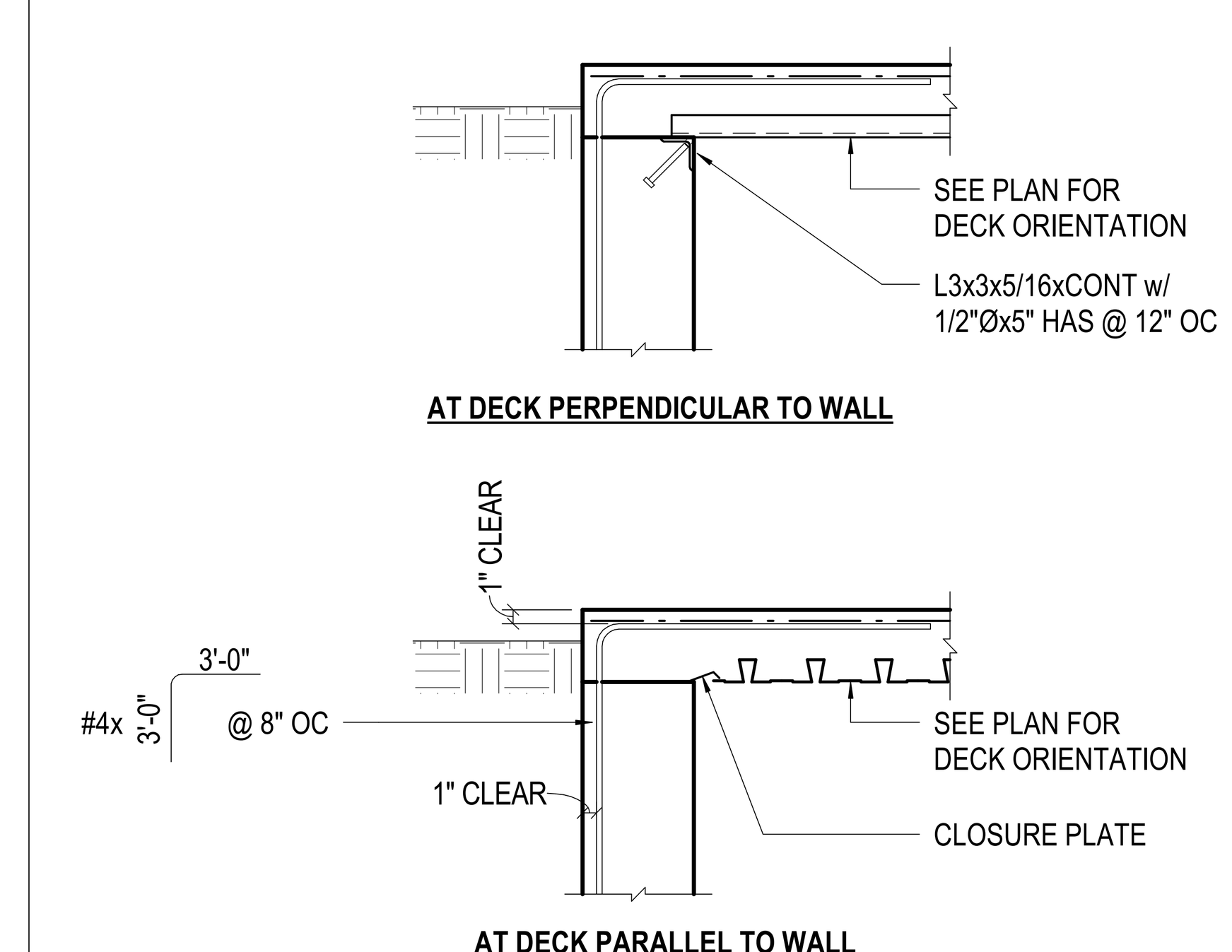
5 1" = 1'-0" ICE RINK SLAB



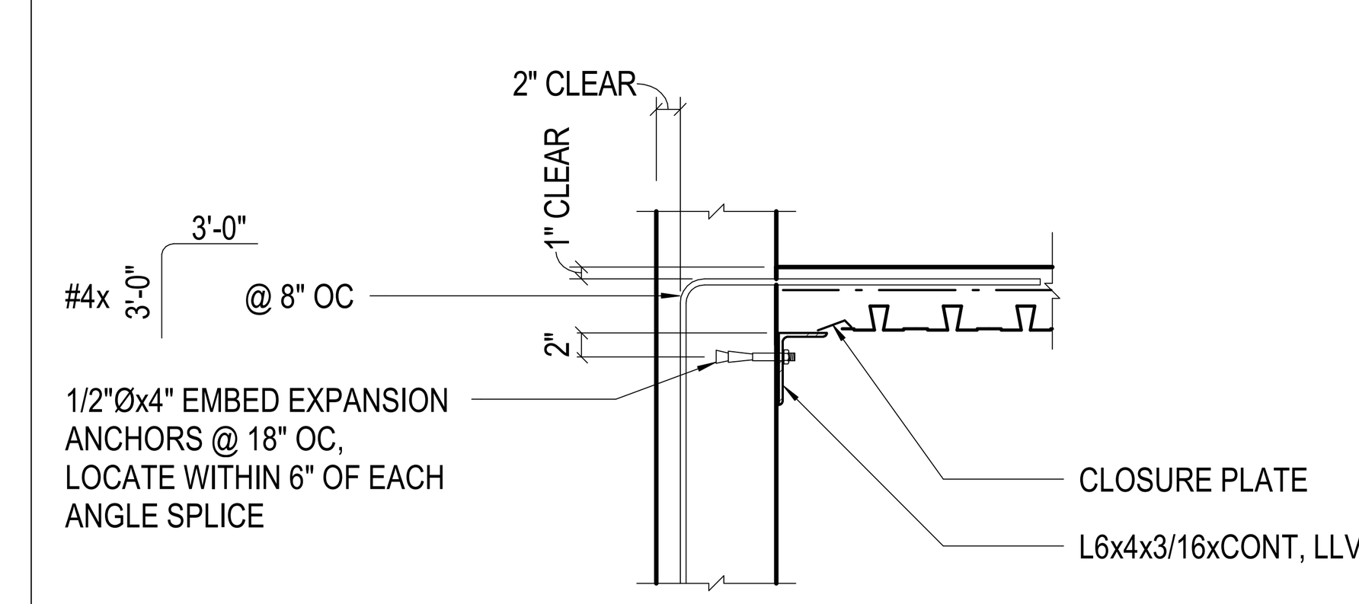
6 3/4" = 1'-0" ICE RINK HEADER TRENCH FRAMING



7 3/4" = 1'-0" DECK SUPPORT T/PILASTER



3 3/4" = 1'-0" TYPICAL COMPOSITE DECK TO T/CONCRETE WALL



1 RFI012

4 3/4" = 1'-0" STEPPED COMPOSITE DECK TO CONCRETE WALL

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107

June 28, 2021

Seal / Signature

Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT
1 2021.06.29	BP3: PROMENADE - BULLETIN 02

RCRBD Record Set TC 07/10/2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

20.1411.S.01

Description

CONCRETE SUPPORTING METAL DECK

Scale

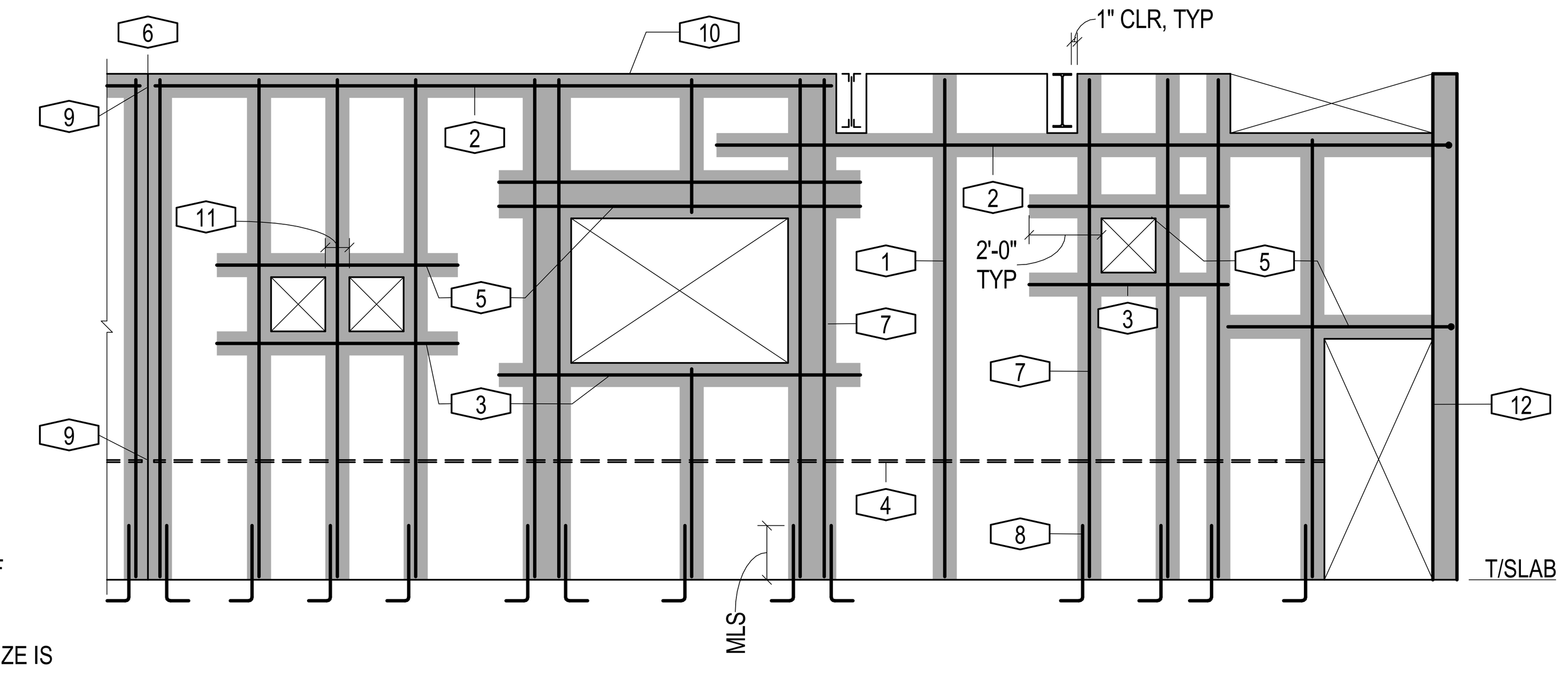
As indicated

1A-S3.51

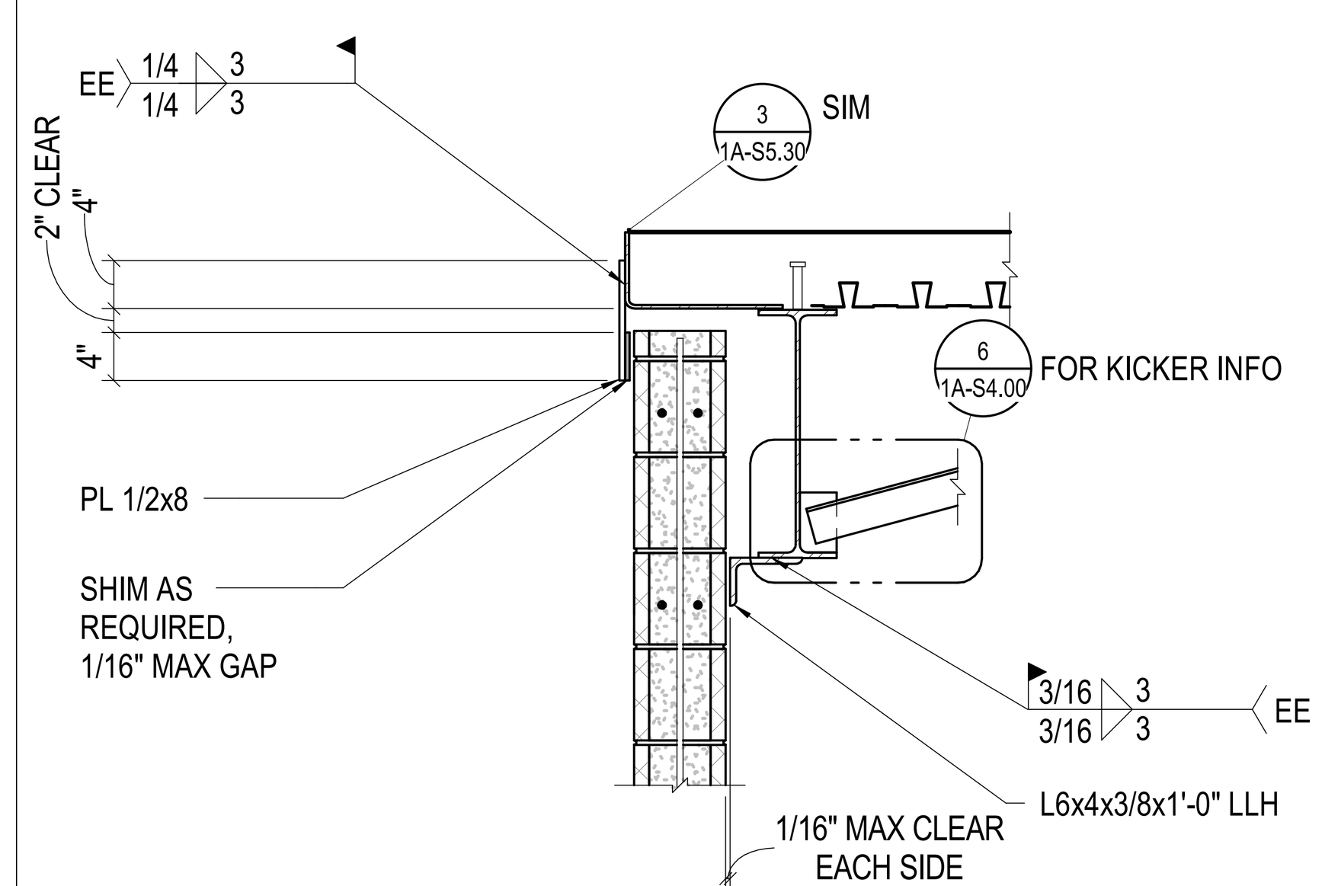
MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNIER
DATE PRINTED: 6/30/2021 10:19:48 AM

KEYNOTES:

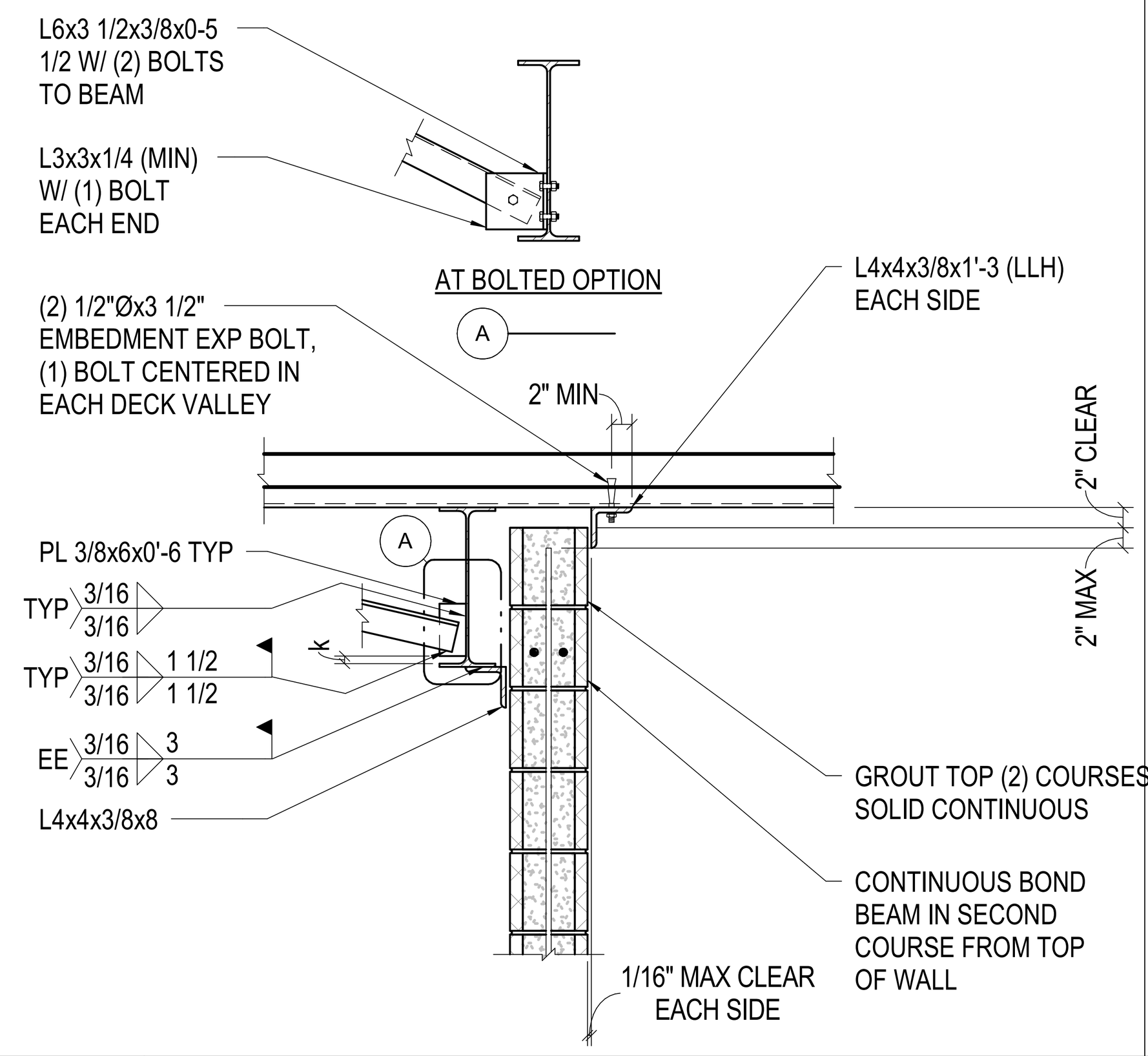
1. TYPICAL WALL VERTICAL REINFORCING: #4@48" OC
2. BOND BEAM W/ (1) #5 AT T/WALL
3. BOND BEAM W/ (1) #5 AT BOT OF ALL OPENINGS
4. HORIZ JOINT REINF: "LADDER" TYPE JOINT REINF W/ (2) W1.7 WIRES @ 16" OC
5. LINTEL
6. CONTROL JOINTS @ 20'-0" OC MAX AND EACH END OF WALL
7. JAMB REINFORCEMENT EACH SIDE OF OPENING
8. DOWELS TO MATCH SIZE AND LOCATION OF VERTICAL BARS
9. TERMINATE ALL HORIZONTAL REINFORCEMNET AT CONTROL JOINTS
10. T/WALL SUPPORT, SEE DETAILS THIS PAGE, LOCATE AT 8'-0" ON CENTER MAX
11. AT SERIES OF TWO OR MORE OPENINGS, MASONRY LINTEL REINFORCEMNET SHALL BE CONTINUOUS. IF SPACE BETWEEN OPENINGS IS LESS THAN 1'-4", USE OVERALL WIDTH OF SERIES OF OPENINGS TO DETERMINE LINTEL SIZE AND JAMB REINF
12. WHERE EDGE OF OPENING IS FLUSH WITH PERPENDICULAR WALL, OR REQUIRED JAMB SIZE IS LARGER THAN AVAILABLE, A CONTROL JOINT IS NOT PERMITTED AT THIS INTERSECTION



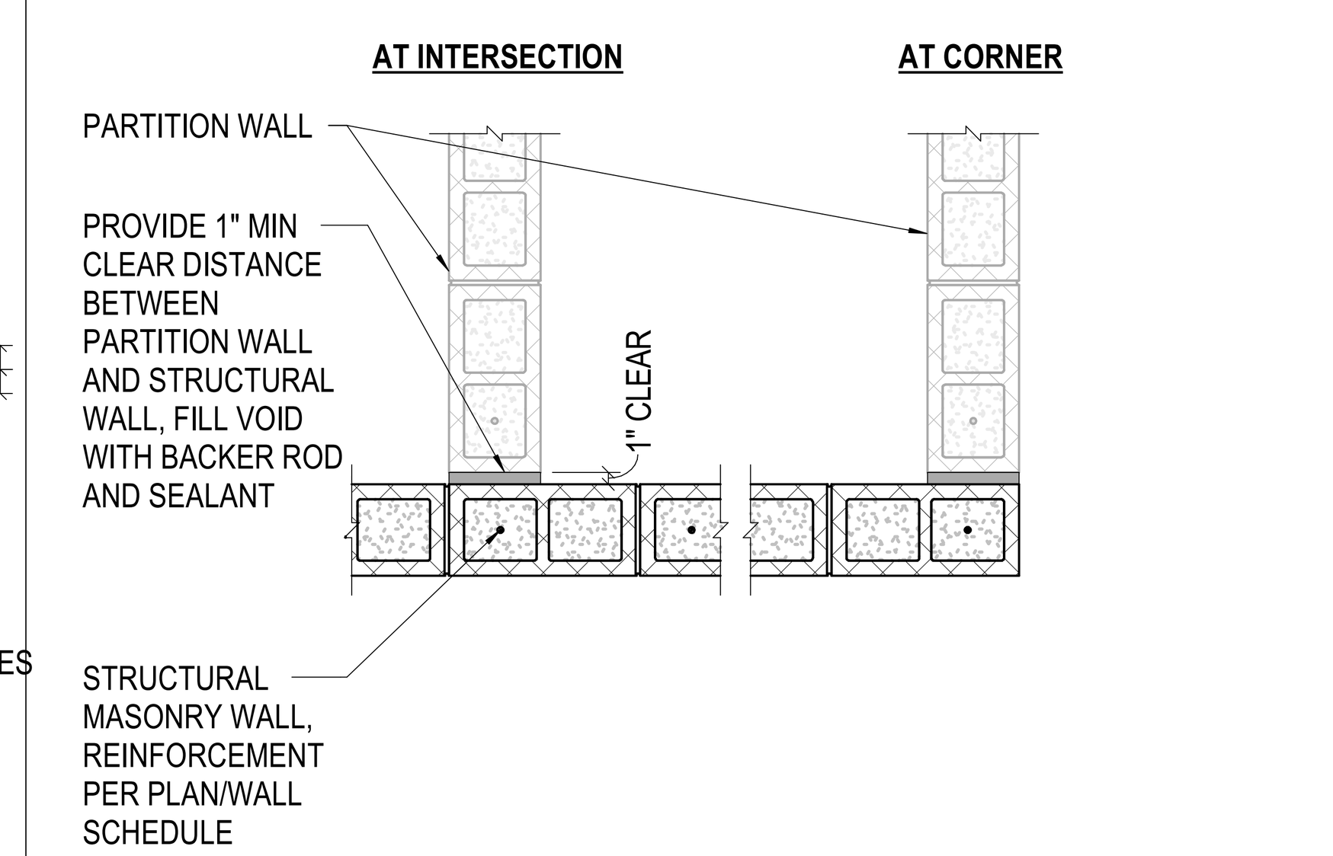
9 — 1/4" = 1'-0" — TYPICAL MASONRY PARTITION ELEVATION



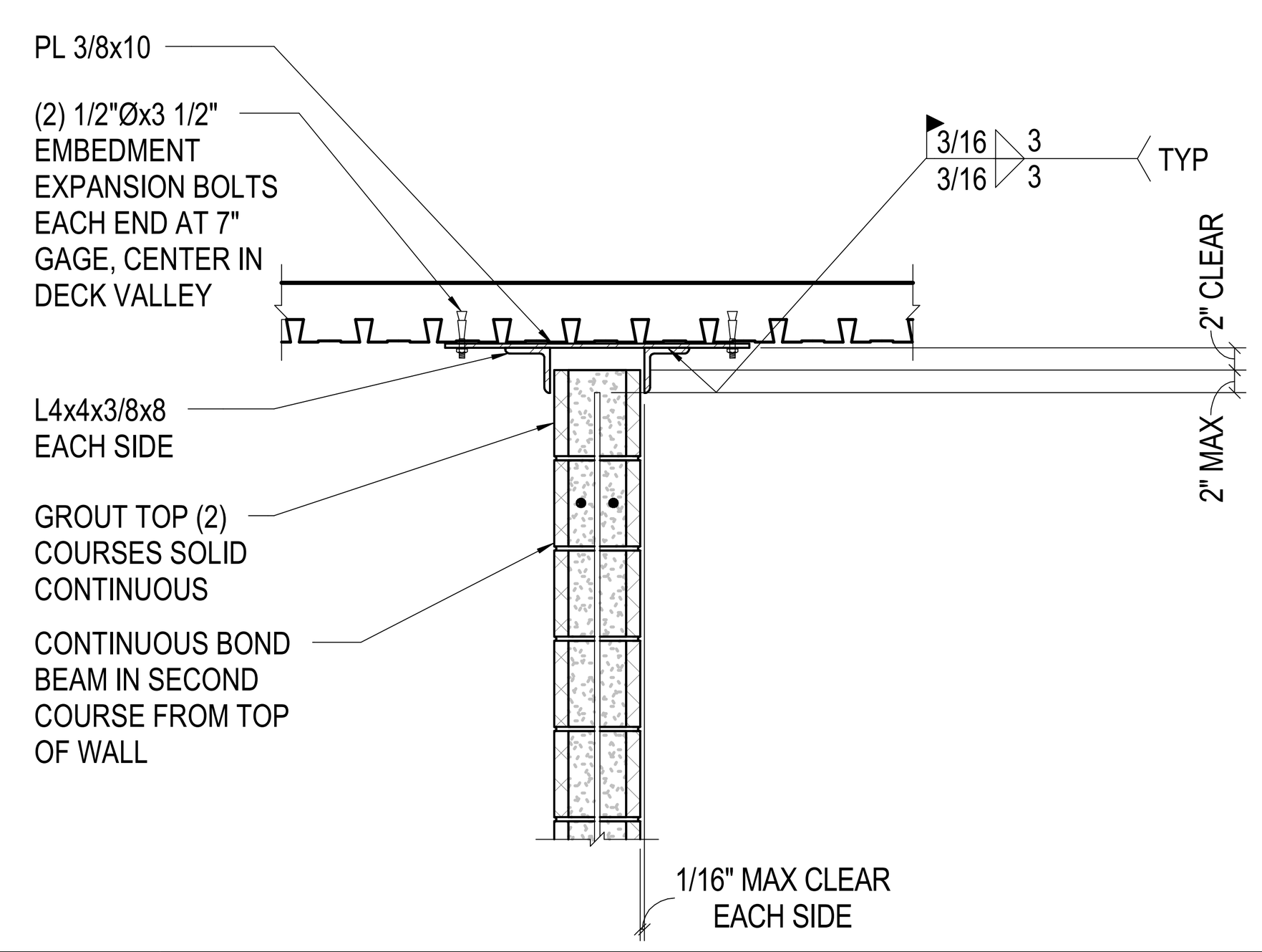
10 — 3/4" = 1'-0" — MASONRY PARTITION SUPPORT - EOS



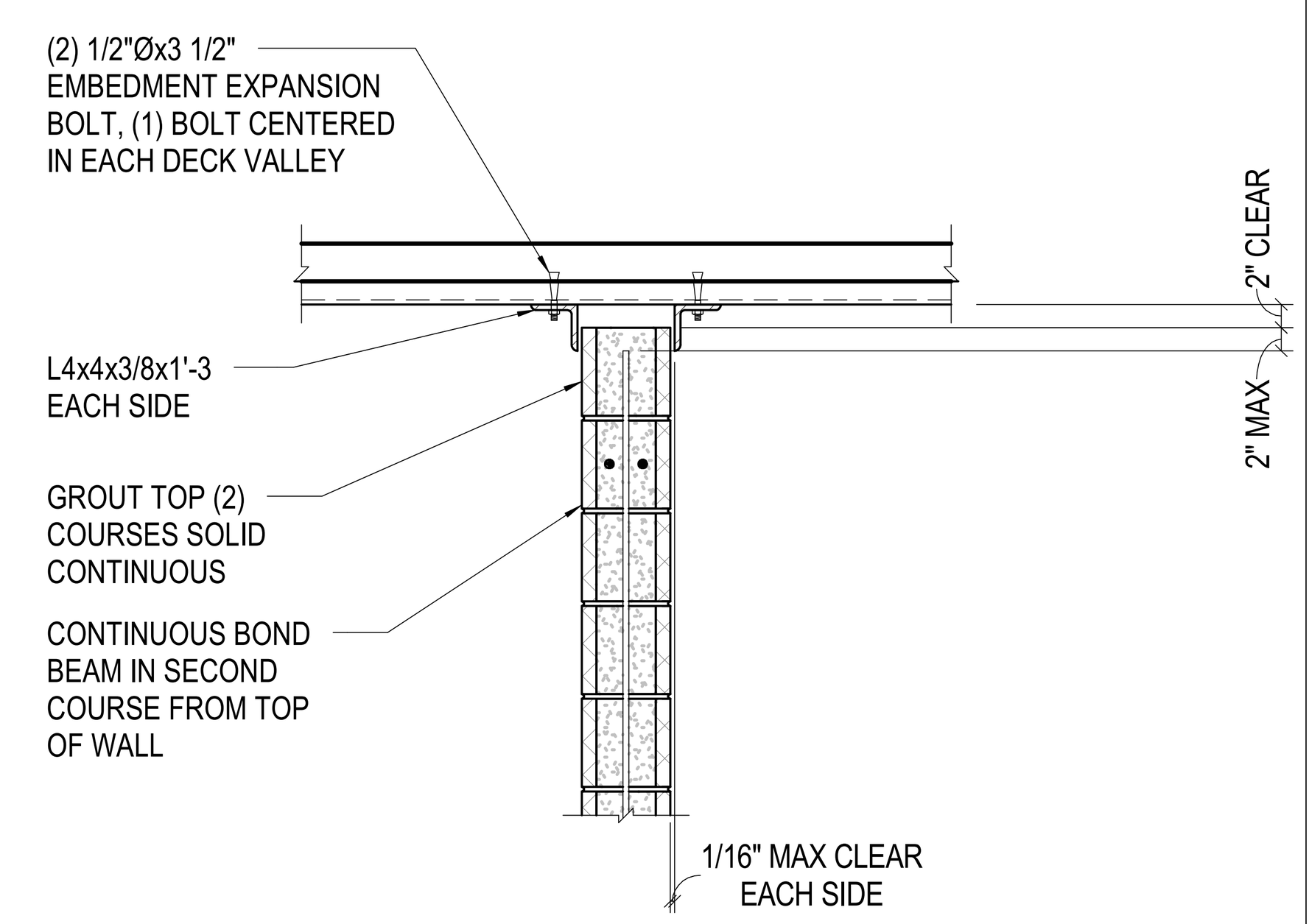
6 — 3/4" = 1'-0" — MASONRY PARTITION SUPPORT - ADJACENT TO STEEL BEAM



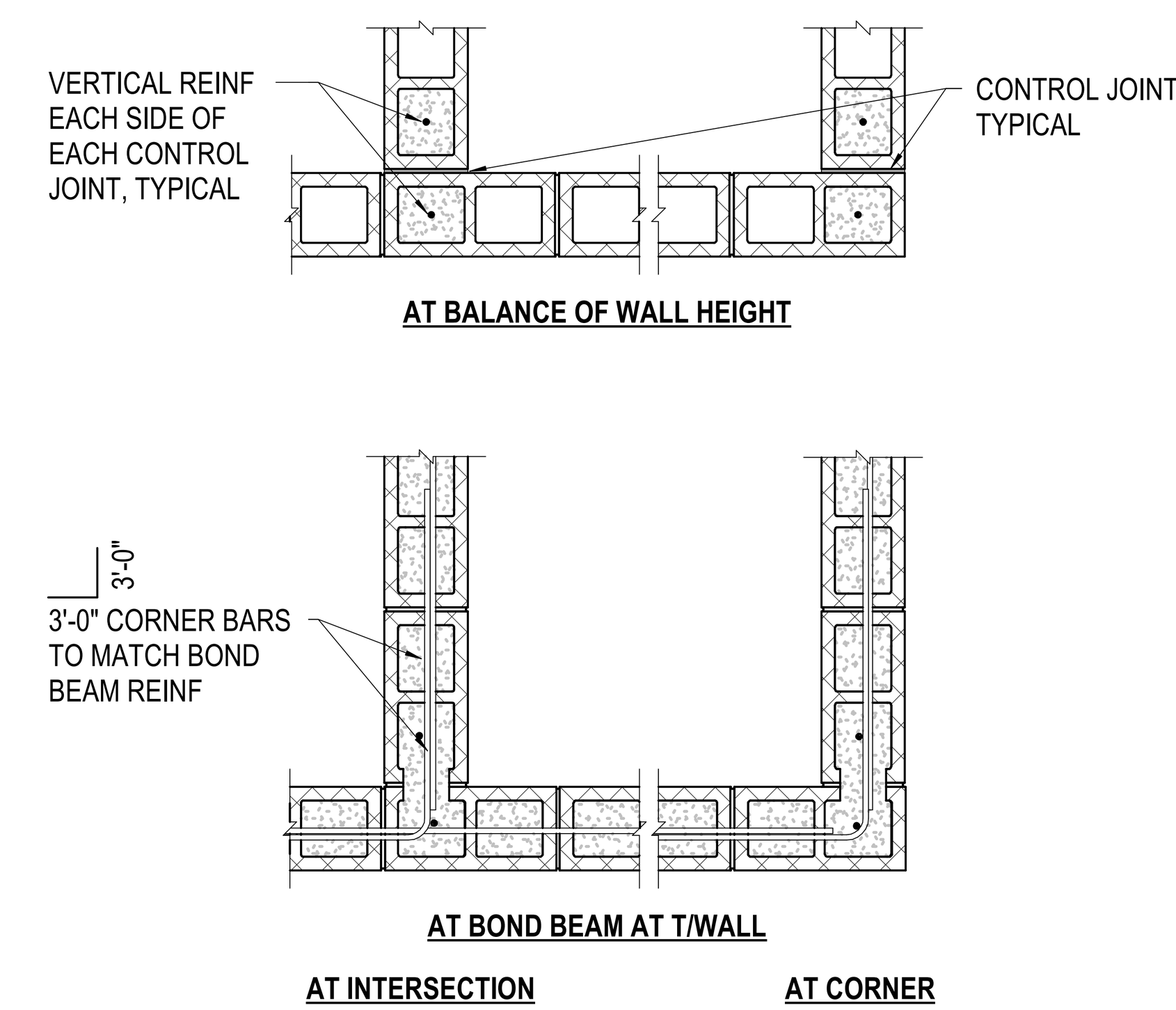
2 — 3/4" = 1'-0" — MASONRY WALL INTERSECTION - PARTITION TO STRUCTURAL WALL



11 — 3/4" = 1'-0" — TYP MASONRY PARTITION SUPPORT - PARALLEL/SKEWED TO DECK



7 — 3/4" = 1'-0" — TYPICAL MASONRY PARTITION SUPPORT - PERP TO DECK



3 — 3/4" = 1'-0" — PARTITION TO PARTITION WALL DETAIL

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
20.1411.S.01

Description
MASONRY DETAILS

Scale
As indicated

1A-S4.00

MM JOB #: 20.1411.S.01
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DATE PRINTED:5/19/2021 12:06:33 PM
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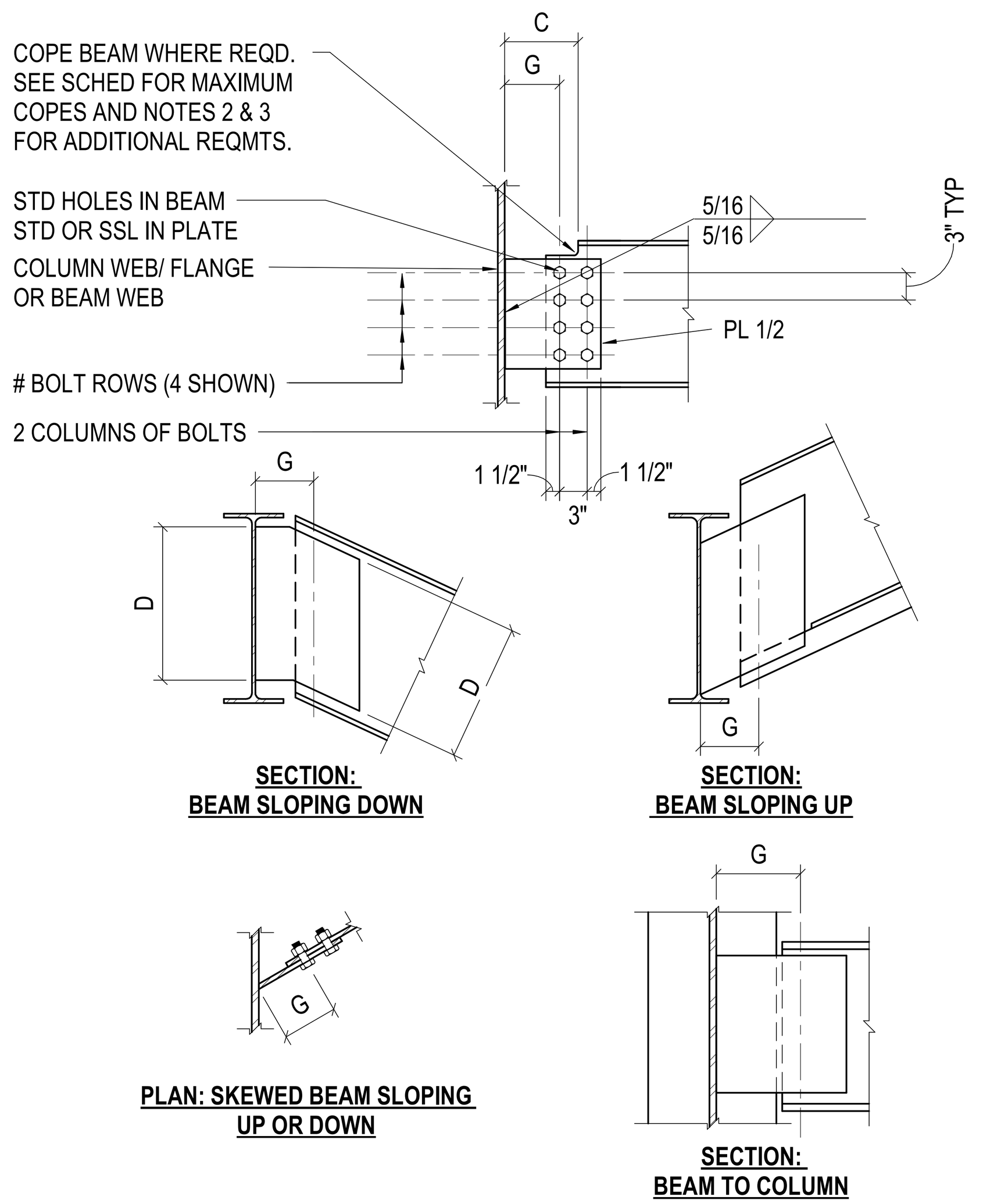
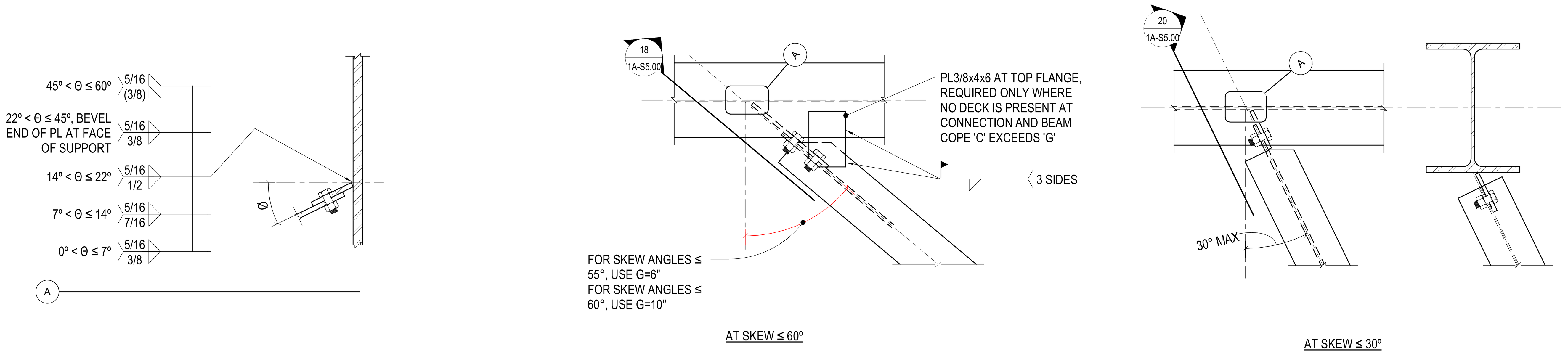
EXTENDED SINGLE PL CONNECTIONS

# BOLT ROWS	BEAM SIZES	G ≤ 6": CAPACITY (KIPS)	G ≤ 6": C MAX TOP	G ≤ 6": C MAX T & B	G ≤ 10": CAPACITY (KIPS)	G ≤ 10": C MAX TOP	G ≤ 10": C MAX T & B
2	W8-W12	18	6"	6"	12	10"	10"
3	W10-W18	33	6"	6"	23	10"	10"
4	W16-W24	55	8"	6"	38	10"	10"
5	W18-W30	80	10"	6"	56	12"	10"
6	W21-W40	110	11"	8"	78	14"	10"
7	W24-W44	142	13"	9"	102	16"	12"
8	W30-W44	177	16"	11"	130	16"	15"
9	W33-W44	214	16"	14"	160	16"	16"

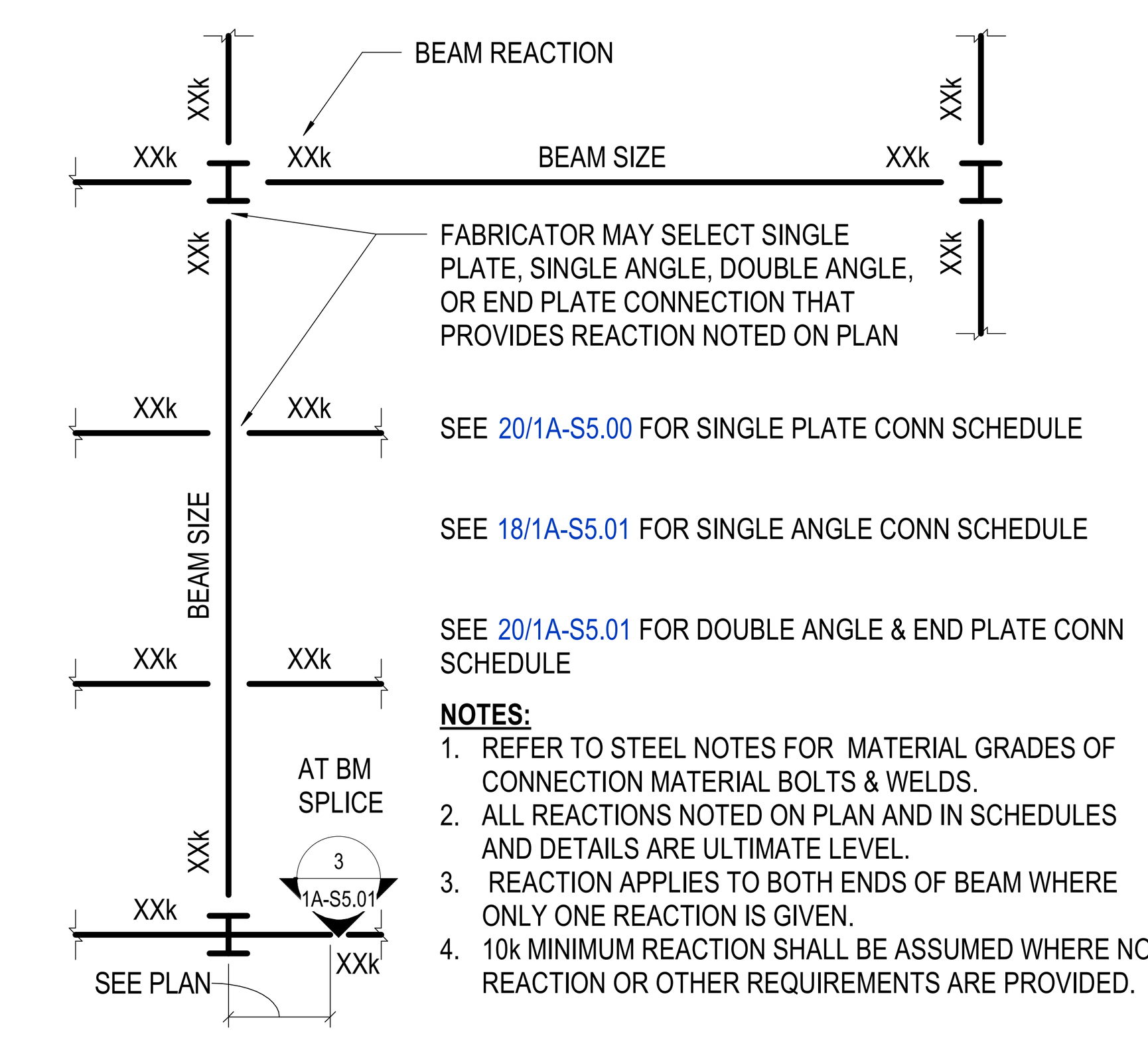


NOTES:
1. ULTIMATE LEVEL (LRFD) IN KIPS.
2. WHERE NO DECK IS PRESENT AT CONNECTION, AND BEAM COPE 'C' EXCEEDS 'G', BRACE TOP FLANGE OF BEAM TO GIRDER. PROVIDE PL3/8x4x6 ON TOP FLANGE. WELD 4 SIDES.
3. AT COLUMNS, BEAM COPE 'C' SHALL NOT EXCEED 'G'.
4. MINIMUM BEAM WEB THICKNESS SHALL BE 0.23".

18 NO SCALE TYP BEAM EXTENDED SINGLE PL CONN - LRFD



13 NO SCALE TYP BEAM SKEWED CONN



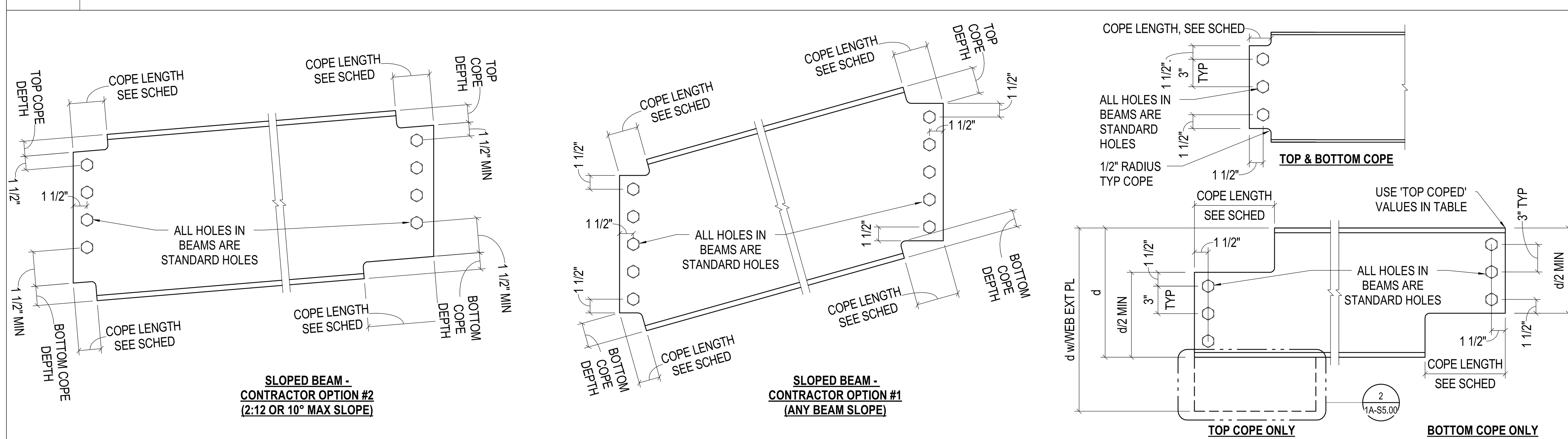
SEE 20/1A-S5.00 FOR SINGLE PLATE CONN SCHEDULE

SEE 18/1A-S5.01 FOR SINGLE ANGLE CONN SCHEDULE

SEE 20/1A-S5.01 FOR DOUBLE ANGLE & END PLATE CONN SCHEDULE

NOTES:
1. REFER TO STEEL NOTES FOR MATERIAL GRADES OF CONNECTION MATERIAL BOLTS & WELDS.
2. ALL REACTIONS NOTED ON PLAN AND IN SCHEDULES AND DETAILS ARE ULTIMATE LEVEL.
3. REACTION APPLIES TO BOTH ENDS OF BEAM WHERE ONLY ONE REACTION IS GIVEN.
4. 10k MINIMUM REACTION SHALL BE ASSUMED WHERE NO REACTION OR OTHER REQUIREMENTS ARE PROVIDED.

1 NO SCALE TYP BEAM CONNECTIONS

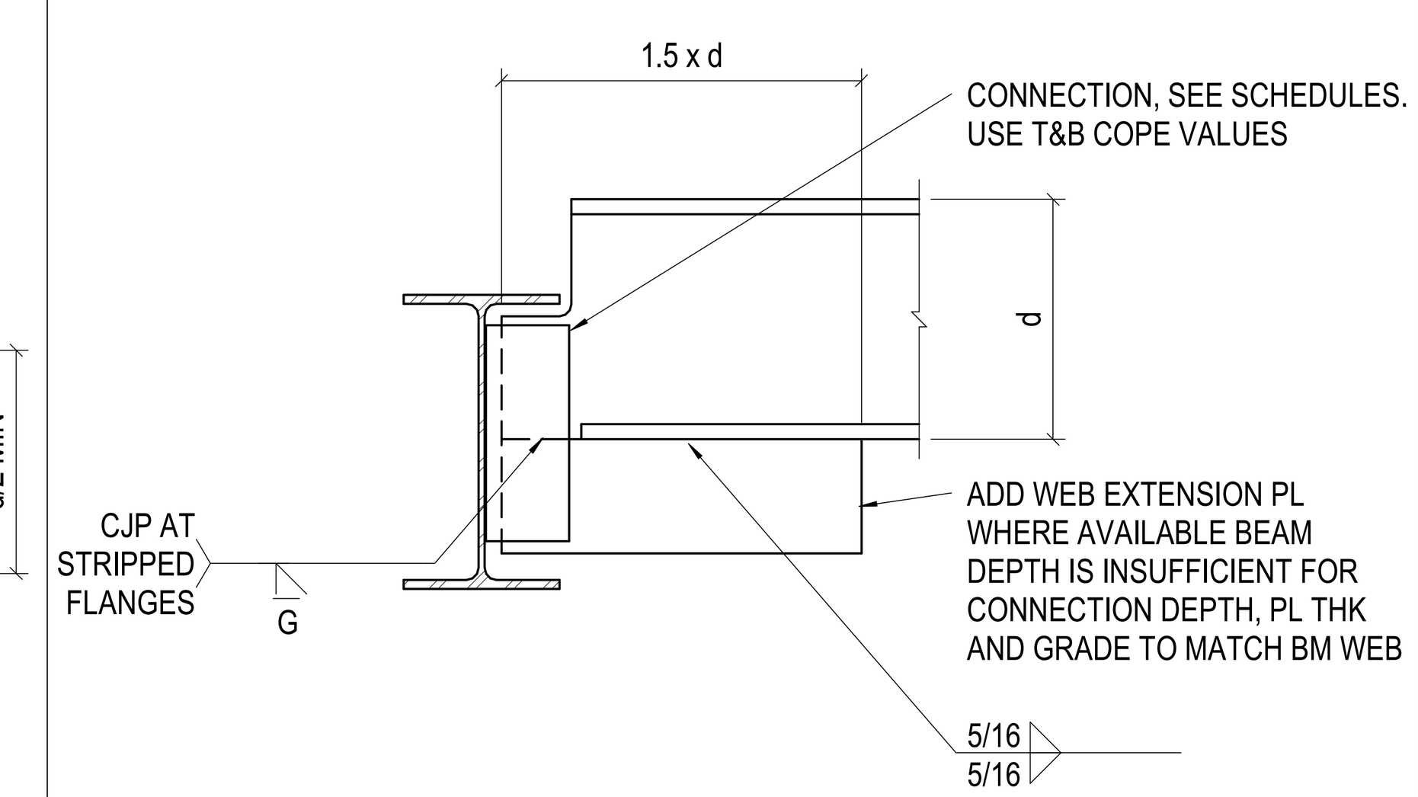


NOTES:
1. DETAIL MAY BE USED AT MEMBERS SLOPED 10° (2:12) OR LESS AT CONTRACTOR'S OPTION

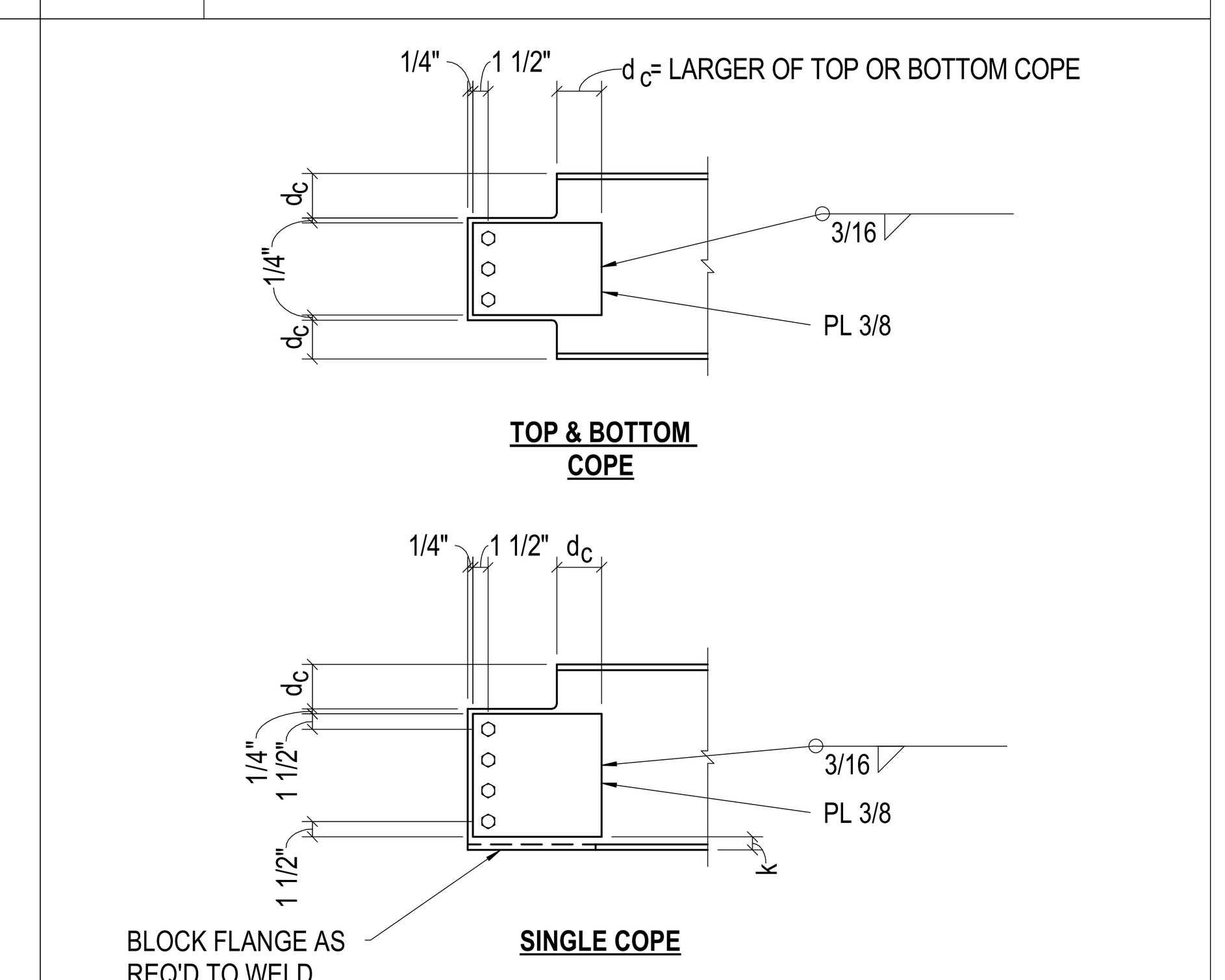
NOTES:
1. DETAIL MAY BE USED AT MEMBERS SLOPED AT ANY PITCH AT CONTRACTOR'S OPTION

NOTES:
1. THE GEOMETRY SHOWN IS THE BASIS FOR CALCULATIONS OF LIMIT STATES INVOLVING COPED BEAMS, ALL EDGE DISTANCE DIMENSIONS SHOWN ARE MINIMUMS

14 NO SCALE TYP BEAM COPE GEOMETRY



2 NO SCALE TYP BEAM WEB EXTENSION



NOTES:
1. DETAIL APPLIES ONLY WHERE INDICATED IN CONNECTION SCHEDULES

3 NO SCALE TYP BEAM WEB REINFORCING

T INDICATES TOP COPE ONLY — TB INDICATES TOP AND BOTTOM COPE

3/4"Ø A325 SINGLE PLATE CONNECTION SCHEDULE - MAX REACTION (KIPS) - ULTIMATE LEVEL (LRFD)

UNCOPED and COPE LENGTH ≤ 4"

BEAM SIZES		UNCOPED 2	3	4	5	6	7	8	9	≤ 4": 2 T	2 TB	3 T	3 TB	4 T	4 TB	5 T	5 TB	6 T	6 TB	7 T	7 TB	8 T	8 TB	9 T	9 TB
W8	10-15 & C8	24								19	9														
	18-28	24								24	13														
	31 & UP	24								24	17														
W10	12-19 & C10	24	43							21	11	39	25												
	22-30	24	43							24	14	43	32												
	33-45	24								24	17														
	49 & UP	24								24	20														
W12	14-22 & C12	24	43							22	12	41	26												
	26-35	24	43							24	13	43	31												
	40 & UP	24	43							24	17	43	39												
W14	22-26		43									43	31												
	30-38		43									43	36												
	43 & UP		43									43	41												
W16	26-31		43	62								43	33	62	60										
	36-57		43	62								43	39	62	62										
	67 & UP		43	62								43	43	62	62										
W18	35-46		43	62	81							43	40	62	62	81	81								
	50-71		43	62	81							43	43	62	62	81	81								
	76 & UP		43	62	81							43	43	62	62	81	81								
W21	44-57			62	81	100								62	62	81	81	100	100						
	62-93			62	81	100								62	62	81	81	100	100						
	101 & UP			62	81	100								62	62	81	81	100	100						
W24	55-62			62	81	100	118							62	62	81	81	100	100	118	118				
	68 & UP			62	81	100	118							62	62	81	81	100	100	118	118				
W27 - W44					81	100	118	137	155							81	81	100	100	118	118	137	137	155	155

COPE LENGTH ≤ 5 1/4"

BEAM SIZES		2 T	2 TB	3 T	3 TB	4 T	4 TB	5 T	5 TB	6 T	6 TB	7 T	7 TB	8 T	8 TB	9 T	9 TB
W8	10-15 & C8	15	9#														
	18-28	20	10														
	31 & UP	24	13														
W10	12-19 & C10	16	9#	33	20												
	22-30	24	11	43	25												
	33-45	24	13														
	49 & UP	24	15														
W12	14-22 & C12	17	9	35	19												
	26-35	24	10	43	23												
	40 & UP	24	13	43	31												
W14	22-26			43	23												
	30-38			43	28												
	43 & UP			43	32												
W16	26-31			43	26	62	45										
	36-57			43	31	62	55										
	67 & UP			43	41	62	62										
W18	35-46			43	31	62	56	81	81								
	50-71			43	37	62	62	81	81								
	76 & UP			43	43	62	62	81	81								
W21	44-57					62	62	81	81	100	100						
	62-93					62	62	81	81	100	100						
	101 & UP					62	62	81	81	100	100						
W24	55-62					62	62	81	81	100	100	118	118				
	68 & UP					62	62	81	81	100	100	118	118				
W27 - W44								81	81	100	100	118	118	137	137	155	155

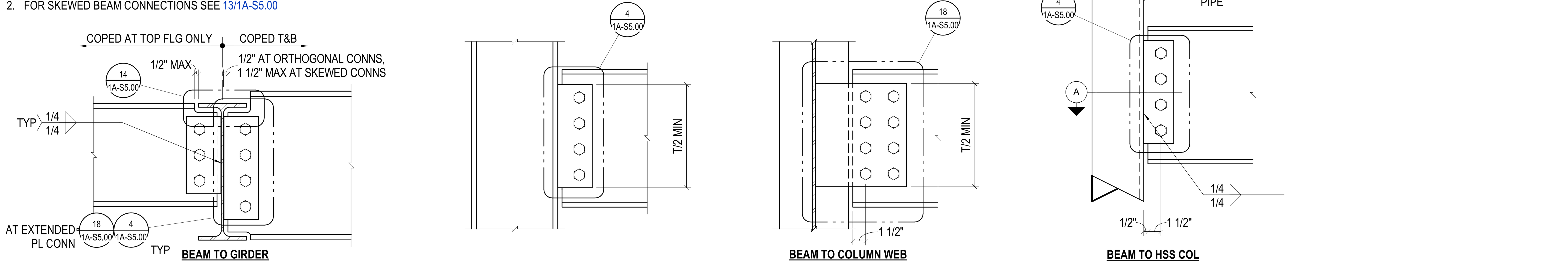
COPE LENGTH ≤ 6 1/8"

BEAM SIZES		2 T	2 TB	3 T	3 TB	4 T	4 TB	5 T	5 TB	6 T	6 TB	7 T	7 TB	8 T	8 TB	9 T	9 TB
W8	10-15 & C8	13	9#														
	18-28	19	9														
	31 & UP	24	11														
W10	12-19 & C10	14	9#	29	17												
	22-30	21	9	41	22												
	33-45	24	11														
	49 & UP	24	13														
W12	14-22 & C12	15	9#	30	15												
	26-35	21	9	42	19												
	40 & UP	24	12	43	27												
W14	22-26			40	19												
	30-38			43	24												
	43 & UP			43	27												
W16	26-31			43	21	62	36										
	36-57			43	26	62	47										
	67 & UP			43	36	62	62										
W18	35-46			43	27	62	48	81	75								
	50-71			43	32	62	57	81	81								
	76 & UP			43	38	62	62	81	81								
W21	44-57					62	56	81	81	100	100						
	62-93					62	62	81	81	100	100						
	101 & UP					62	62	81	81	100	100						
W24	55-62					62	62	81	81	100	100	118	118				
	68 & UP					62	62	81	81	100	100	118	118				
W27 - W44								81	81	100	100	118	118	137	137	155	155

COPE LENGTH ≤ 8"

BEAM SIZES		2 T	2 TB	3 T	3 TB	4 T	4 TB	5 T	5 TB	6 T	6 TB	7 T	7 TB	8 T	8 TB	9 T	9 TB
W8	10-15 & C8	10	9#														
	18-28	14	9#														
	31 & UP	21	9														
W10	12-19 & C10	11	9#	22	13												
	22-30	16	9#	32	17												
	33-45	21	9														
	49 & UP	24	10														
W12	14-22 & C12	12	9#	21	11												
	26-35	16	9#	32	14												
	40 & UP	23	9	43	20												
W14	22-26			31	14												
	30-38			38	18												
	43 & UP			43	21												
W16	26-31			34	16	53	26										
	36-57			42	20	62	34										
	67 & UP			43	28	62	50										
W18	35-46			41	21	62	35	81	59								
	50-71			43	25	62	44	81	70								
	76 & UP			43	30	62	54	81	81								
W21	44-57					62	43	81	66	100	100						
	62-93					62	50	81	79	100	100						
	101 & UP					62	62	81	81	100	100						
W24	55-62					62	50	81	78	100	100	118	118				
	68 & UP					62	53	81	81	100	100	118	118				
W27 - W44								81	81	100	100	118	118	137	137	155	155

NOTES:
1. # INDICATES WEB REINFORCEMENT REQD TO ACHIEVE NOTED CAPACITY. SEE 3/1A-S5.00
2. FOR SKEWED BEAM CONNECTIONS SEE 13/1A-S5.00



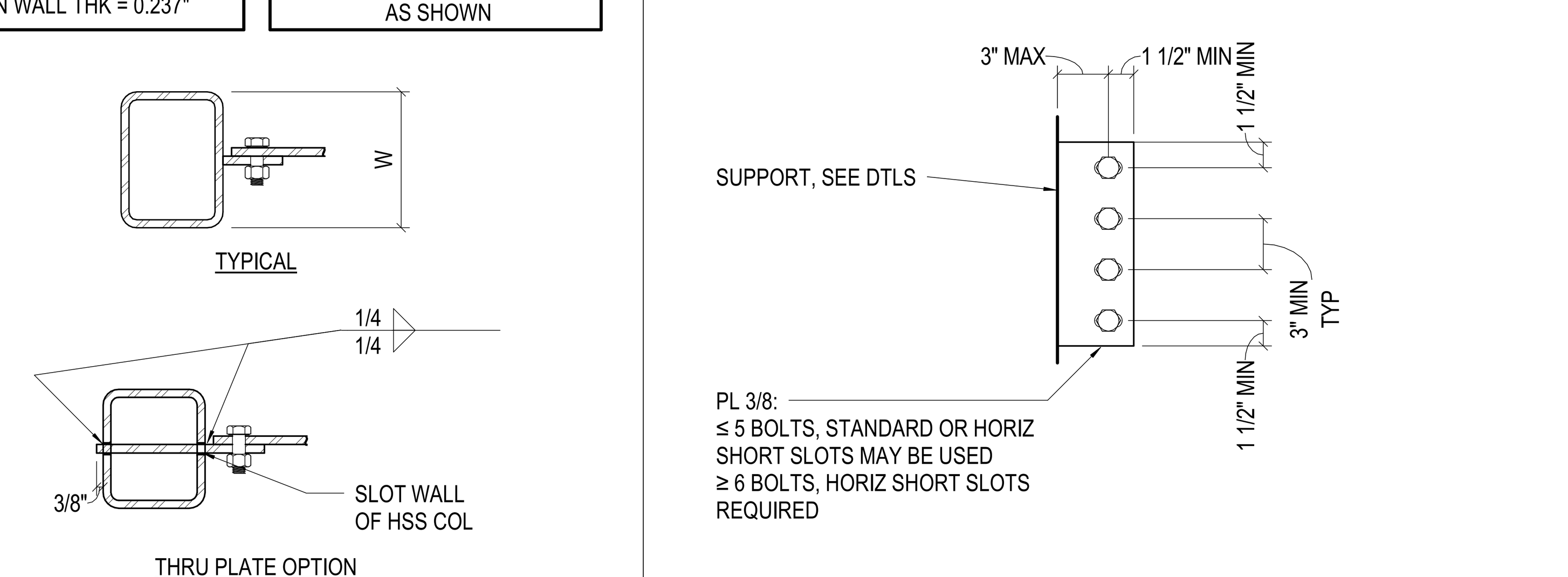
20 NO SCALE TYP BEAM SINGLE PLATE CONNECTION SCHEDULE - LRFD

ROUND HSS OR PIPE
(4"Ø THRU 22"Ø)
MIN WALL THK = 0.237"

RECT HSS

W	MIN WALL THK
3"	1/4"
4"	1/4"
5"	1/4"
6"	1/4"
7"	1/4"
8"	1/4"
9"	5/16"
10"	5/16"
12"	3/8"
14"	1/2"
16"	1/2"

WHERE WALL THICKNESS < MIN, PROVIDE THRU PLATE AS SHOWN



4 NO SCALE TYP BEAM SINGLE PLATE

Steamboat
ALTERRA MOUNTAIN COMPANY
east west partners
2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler
1225 17th Street
Suite 150
Denver, CO 80202
United States
Tel 303.595.8585
Fax 303.825.6823

LANDMARK CONSULTANTS, INC.
141 9th Street
PO Box 774943
Steamboat Springs, CO 80477
Tel 970.871.9494

DESIGNWORKSHOP
1390 Lawrence Street
Suite 100
Denver, CO 80204
Tel 303.623.5186

MARTIN/MARTIN
12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021

Seal / Signature

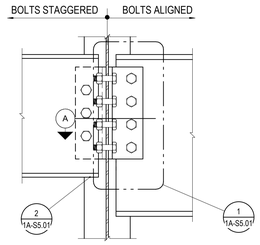
Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

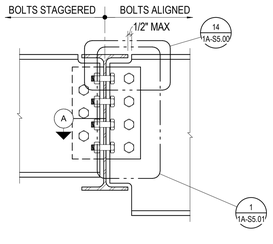
RCRBD Record Set TC 07/10/2021

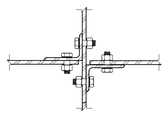
Project Name
SSRC | BASE AREA IMPROVEMENTS
Project Number
20.1411.S.01
Description
TYP STEEL BEAM CONNS - LRFD
Scale
As indicated

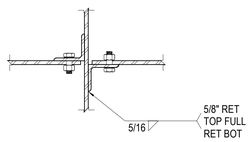
1A-S5.00

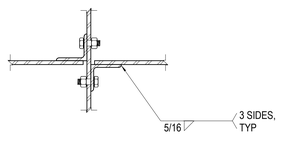
DESIGNERS: NIC MARTIN
LEAD/STR TECH: COLIN MONNES
DATE PRINTED: 5/19/2021 12:06:38 PM
FILE PATH: BIM 360://03.7835.000 - Steamboat Redev/03.7835.000_Structural_SBR_Promenade Building 2021_V2021.rvt
MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

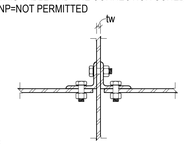


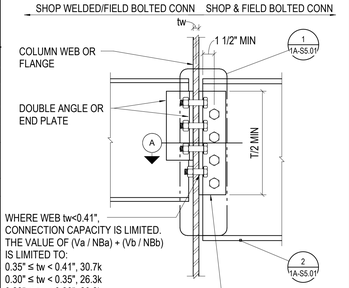


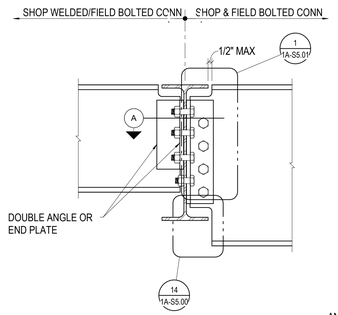


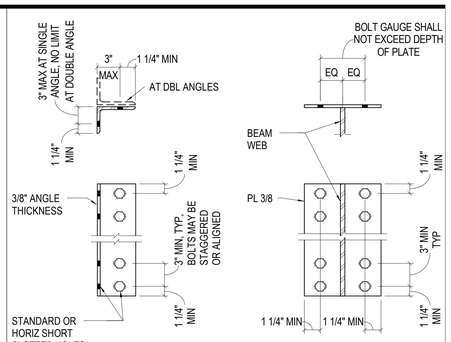


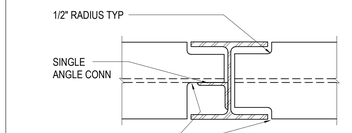


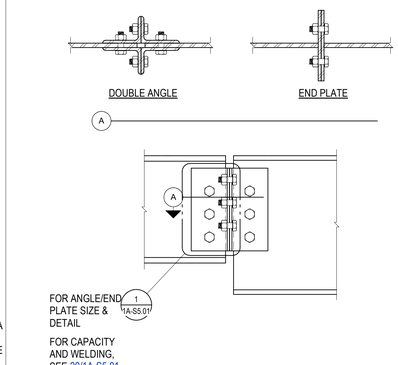


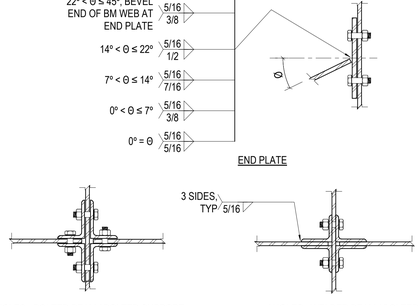












T INDICATES TOP COPE ONLY

TB INDICATES TOP AND BOTTOM COPE

3/4"Ø A325 SINGLE ANGLE CONNECTION SCHEDULE - MAX REACTION (KIPS) - ULTIMATE LEVEL (LRFD)

COPE CONDITION		UNCOPED							
# OF BOLTS		2	3	4	5	6	7	8	9
BEAM SIZES	COPE TYPE								
W8	10-15 & C8	15							
	18-28	15							
	31 & UP	15							
W10	12-19 & C10	15	31						
	22-30	15	31						
	33-45	15							
	49 & UP	15							
W12	14-22 & C12	15	31						
	26-35	15	31						
	40 & UP	15	31						
W14	22-26		31						
	30-38		31						
	43 & UP		31						
W16	26-31		31	50					
	36-57		31	50					
	67 & UP		31	50					
W18	35-46		31	50	69				
	50-71		31	50	69				
	76 & UP		31	50	69				
W21	44-57			50	69	89			
	62 & UP			50	69	89			
W24 TO W44				50	69	89	108	127	146

COPE CONDITION		COPE LENGTH ≤ 4"															
# OF BOLTS		2		3		4		5		6		7		8		9	
BEAM SIZES	COPE TYPE	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15 & C8	15	9														
	18-28	15	13														
	31 & UP	15	15														
W10	12-19 & C10	15	11	31	25												
	22-30	15	14	31	31												
	33-45	15	15														
	49 & UP	15	15														
W12	14-22 & C12	15	12	31	26												
	26-35	15	13	31	31												
	40 & UP	15	15	31	31												
W14	22-26			31	31												
	30-38			31	31												
	43 & UP			31	31												
W16	26-31			31	31	50	50										
	36-57			31	31	50	50										
	67 & UP			31	31	50	50										
W18	35-46			31	31	50	50	69	69								
	50-71			31	31	50	50	69	69								
	76 & UP			31	31	50	50	69	69								
W21	44-57					50	50	69	69	89	89						
	62 & UP					50	50	69	69	89	89						
W24 TO W44						50	50	69	69	89	89	108	108	127	127	146	146

COPE CONDITION		COPE LENGTH ≤ 5 1/4"															
# OF BOLTS		2		3		4		5		6		7		8		9	
BEAM SIZES	COPE TYPE	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15 & C8	15	9#														
	18-28	15	10														
	31 & UP	15	13														
W10	12-19 & C10	15	9#	31	20												
	22-30	15	11	31	25												
	33-45	15	13														
	49 & UP	15	15														
W12	14-22 & C12	15	9	31	19												
	26-35	15	10	31	23												
	40 & UP	15	13	31	31												
W14	22-26			31	23												
	30-38			31	28												
	43 & UP			31	31												
W16	26-31			31	26	50	45										
	36-57			31	31	50	50										
	67 & UP			31	31	50	50										
W18	35-46			31	31	50	50	69	69								
	50-71			31	31	50	50	69	69								
	76 & UP			31	31	50	50	69	69								
W21	44-57					50	50	69	69	89	89						
	62 & UP					50	50	69	69	89	89						
W24 TO W44						50	50	69	69	89	89	108	108	127	127	146	146

COPE CONDITION		COPE LENGTH ≤ 6 1/8"															
# OF BOLTS		2		3		4		5		6		7		8		9	
BEAM SIZES	COPE TYPE	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15 & C8	13	9#														
	18-28	15	9														
	31 & UP	15	11														
W10	12-19 & C10	14	9#	29	17												
	22-30	15	9	31	22												
	33-45	15	11														
	49 & UP	15	13														
W12	14-22 & C12	15	9#	31	15												
	26-35	15	9	31	19												
	40 & UP	15	12	31	27												
W14	22-26			31	19												
	30-38			31	24												
	43 & UP			31	27												
W16	26-31			31	22	50	37										
	36-57			31	27	50	47										
	67 & UP			31	31	50	50										
W18	35-46			31	27	50	48	69	69								
	50-71			31	31	50	50	69	69								
	76 & UP			31	31	50	50	69	69								
W21	44-57					50	50	69	69	89	89						
	62 & UP					50	50	69	69	89	89						
W24 TO W44						50	50	69	69	89	89	108	108	126	127	147	146

COPE CONDITION		COPE LENGTH ≤ 8"															
# OF BOLTS		2		3		4		5		6		7		8		9	
BEAM SIZES	COPE TYPE	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15 & C8	10	9#														
	18-28	14	9#														
	31 & UP	15	9														
W10	12-19 & C10	11	9#	22	13												
	22-30	15	9#	30	17												
	33-45	15	9														
	49 & UP	15	10														
W12	14-22 & C12	12	9#	21	11												
	26-35	15	9#	31	14												
	40 & UP	15	9	31	20												
W14	22-26			31	14												
	30-38			31	18												
	43 & UP			31	21												
W16	26-31			31	16	50	26										
	36-57			31	20	50	34										
	67 & UP			31	28	50	50										
W18	35-46			31	21	50	35	69	59								
	50-71			31	25	50	44	69	69								
	76 & UP			31	30	50	50	69	69								
W21	44-57					50	43	69	66	89	89						
	62 & UP					50	50	69	69	89	89						
W24 TO W44						50	50	69	69	89	89	108	108	127	127	146	146

NOTES:
1. # INDICATES WEB REINFORCEMENT REQD TO ACHIEVE NOTED CAPACITY. SEE 3/1A-S5.00

AT COLUMN

AT GIRDER

BOLTED BEAM / BOLTED SUPPORT

BOLTED BEAM / WELDED SUPPORT

WELDED BEAM / BOLTED SUPPORT

FOR SHARED HOLES WHERE WEB tw<0.41", TOTAL CONNECTION CAPACITY(SUM OF REACTIONS FROM BOTH SIDES) IS LIMITED TO VALUES IN THE TABLE BELOW. USE THE LESSER VALUE FROM THIS TABLE AND THE CONNECTION SCHEDULE.
NP=NOT PERMITTED

BOLTED BEAM/BOLTED SUPPORT
SHARED HOLES

# OF BOLTS	0.24" ≤ tw < 0.30"	0.30" ≤ tw < 0.35"	0.35" ≤ tw < 0.41"
2	NP	NP	NP
3	36	46	53
4	59	74	86
5	82	102	119
6	104	131	152
7	127	159	186
8	150	187	218
9	172	215	250

18 NO SCALE TYP BEAM SINGLE ANGLE CONNECTION SCHEDULE - LRFD

T INDICATES TOP COPE ONLY

TB INDICATES TOP AND BOTTOM COPE

3/4"Ø A325 DOUBLE ANGLE AND END PLATE CONNECTION SCHEDULE - MAX REACTION (KIPS) - ULTIMATE LEVEL (LRFD)

COPE CONDITION		UNCOPED							
# OF BOLTS		2	3	4	5	6	7	8	9
BEAM SIZES	COPE TYPE								
W8	10-15	29							
	18-28	40							
	31 & UP	50							
W10	12-19	33	50						
	22-30	42	63						
	33-45	50							
	49 & UP	59							
W12	14-22	35	52						
	26-35	40	60						
	40 & UP	51	77						
W14	22-26		60						
	30-38		71						
	43 & UP		80						
W16	26-31		65	87					
	36-57		77	103					
	67 & UP		103	138					
W18	35-46		78	105	131				
	50-71		93	124	155				
	76 & UP		107	143	178				
W21	44-57			122	153	184			
	62-93			140	175	210			
	101 & UP			143	178	214			
W24	55-62			138	173	207	242		
	68-103			143	178	214	250		
	104 & UP			143	178	214	250		
W27	84-129				178	214	250		
	146 & UP				178	214	250		
W30	90-148				178	214	250	286	
	173 & UP				178	214	250	286	
W33	118-152					214	250	286	322
	169 & UP					214	250	286	322
W36	135-160					214	250	286	322
	170 & UP					214	250	286	322
W40	149-215					214	250	286	322
	235 & UP					214	250	286	322
W44	ALL						250	286	322

COPE CONDITION		COPE LENGTH ≤ 4"															
# OF BOLTS		2		3		4		5		6		7		8		9	
BEAM SIZES	COPE TYPE	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15	19	9														
	18-28	28	13														
	31 & UP	39	17														
W10	12-19	21	11	39	25												
	22-30	30	14	49	32												
	33-45	40	17														
	49 & UP	49	20														
W12	14-22	22	12	41	26												
	26-35	31	13	47	31												
	40 & UP	42	17	61	39												
W14	22-26			47	31												
	30-38			55	36												
	43 & UP			63	41												
W16	26-31			51	33	67	60										
	36-57			61	39	79	70										
	67 & UP			81	53	106	94										
W18	35-46			62	40	80	72	99	93								
	50-71			73	47	95	85	117	110								
	76 & UP			88	57	114	102	140	132								
W21	44-57					94	84	116	108	137	130						
	62-93					107	96	132	124	157	149						
	101 & UP					134	120	165	155	196	186						
W24	55-62					106	94	130	122	155	147	180	171				
	68-103					111	99	137	128	163	154	189	180				
	104 & UP					134	120	165	155	196	186	227	217				
W27	84-129							152	142	181	171	209	200				
	146 & UP							178	178	214	214	250	250				
W30	90-148							155	146	185	175	214	204	243	233		
	173 & UP							178	178	214	214	250	250	285	285		
W33	118-152									214	205	250	239	284	273	319	307
	169 & UP									214	214	250	250	286	286	322	322
W36	135-160									214	214	250	250	286	286	322	322
	170 & UP									214	214	250	250	286	286	322	322
W40	149-215									214	214	250	250	286	286	322	322
	235 & UP									214	214	250	250	286	286	322	322
W44	ALL											250	250	286	286	322	322

COPE CONDITION		COPE LENGTH ≤ 5 1/4"															
# OF BOLTS		2		3		4		5		6		7		8		9	
BEAM SIZES	COPE TYPE	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15	15	9#														
	18-28	22	10														
	31 & UP	31	13														
W10	12-19	16	9#	33	20												
	22-30	24	11	48	25												
	33-45	31	13														
	49 & UP	39	15														
W12	14-22	17	9	35	19												
	26-35	24	10	47	23												
	40 & UP	34	13	61	31												
W14	22-26			46	23												
	30-38			55	28												
	43 & UP			63	32												
W16	26-31			50	26	67	45										
	36-57			61	30	79	55										
	67 & UP			81	41	106	74										
W18	35-46			61	31	80	56	99	88								
	50-71			73	37	95	66	117	104								
	76 & UP			88	44	114	79	140	124								
W21	44-57					94	65	116	102	137	130						
	62-93					107	75	132	117	157	149						
	101 & UP					134	93	165	146	196	186						
W24	55-62					106	74	130	115	155	147	180	171				
	68-103					111	77	137	121	163	154	189	180				
	104 & UP					134	93	165	146	196	186	227	217				
W27	84-129							152	135	181	171	209	200				
	146 & UP							178	177	214	214	250	250				
W30	90-148							155	137	185	175	214	204	243	233		
	173 & UP							178	178	214	214	250	250	286	286		
W33	118-152									214	205	250	239	284	273	318	308
	169 & UP									214	214	250	250	286	286	322	322
W36	135-160									214	214	250	250	286	286	322	322
	170 & UP									214	214	250	250	286	286	322	322
W40	149-215									214	214	250	250	286	286	322	322
	235 & UP									214	214	250	250	286	286	322	322
W44	ALL											250	250	286	286	322	322

COPE CONDITION		COPE LENGTH ≤ 6 1/8"															
# OF BOLTS		2		3		4		5		6		7		8		9	
BEAM SIZES	COPE TYPE	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15	13	9#														
	18-28	19	9														
	31 & UP	27	11														
W10	12-19	14	9#	29	17												
	22-30	21	9	41	22												
	33-45	27	11														
	49 & UP	33	13														
W12	14-22	15	9#	30	15												
	26-35	21	9	42	19												
	40 & UP	30	12	58	27												
W14	22-26			40	19												
	30-38			49	24												
	43 & UP			60	27												
W16	26-31			43	22	67	37										
	36-57			54	27	79	47										
	67 & UP			81	36	106	64										
W18	35-46			53	27	80	48	99	76								
	50-71			67	32	95	57	117	90								
	76 & UP			88	38	114	69	140	108								
W21	44-57					94	57	116	89	137	128						
	62-93					107	65	132	101	157	146						
	101 & UP					134	81	165	127	196	183						
W24	55-62					106	64	130	100	155	144	180	171				
	68-103					111	67	137	105	163	152	189	180				
	104 & UP					134	81	165	127	196	183	227	217				
W27	84-129							152	117	181	168	209	200				
	146 & UP							178	154	214	214	250	250				
W30	90-148							155	119	185	172	214	204	243	233		
	173 & UP							178	166	214	214	250	250	286	286		
W33	118-152									214	201	250	239	284	273	318	308
	169 & UP									214	214	250	250	286	286	322	322
W36	135-160									214	214	250	250	286	286	322	322
	170 & UP									214	214	250	250	286	286	322	322
W40	149-215									214	214	250	250	286	286	322	322
	235 & UP									214	214	250	250	286	286	322	322
W44	ALL											250	250	286	286	322	322

COPE CONDITION		COPE LENGTH ≤ 8"															
# OF BOLTS		2		3		4		5		6		7		8		9	
BEAM SIZES	COPE TYPE	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15	10	9#														
	18-28	14	9#														
	31 & UP	21	9														
W10	12-19	11	9#	21	13												
	22-30	16	9#	32	17												
	33-45	21	9														
	49 & UP	26	10														
W12	14-22	12	9#	21	11												
	26-35	16	9#	32	14												
	40 & UP	23	9	45	20												
W14	22-26			31	14												
	30-38			38	18												
	43 & UP			47	21												
W16	26-31			34	16	53	26										
	36-57			42	20	68	34										
	67 & UP			63	28	103	50										
W18	35-46			41	21	68	35	99	59								
	50-71			52	25	85	44	117	70								
	76 & UP			68	30	111	54	140	84								
W21	44-57					78	43	116	66	137	100						
	62-93					97	50	132	79	157	114						
	101 & UP					134	63	165	99	196	142						
W24	55-62					93	50	130	78	155	110	180	153				
	68-103					104	52	137	82	163	118	189	161				
	104 & UP					133	63	165	99	196	142	227	194				
W27	84-129							152	91	181	131	209	178				
	146 & UP							178	120	214	172	250	235				
W30	90-148							155	93	185	134	214	182	243	233		
	173 & UP							178	130	214	187	250	250	286	286		
W33	118-152									214	157	250	214	284	273	319	307
	169 & UP									214	191	250	250	286	286	322	322
W36	135-160									214	171	250	233	286	286	322	322
	170 & UP									214	194	250	250	286	286	322	322
W40	149-215									214	180	250	245	286	286	322	322
	235 & UP									214	214	250	250	286	286	322	322
W44	ALL											250	250	286	286	322	322

NOTES:
1. # INDICATES WEB REINFORCEMENT REQD TO ACHIEVE NOTED CAPACITY. SEE 3/1A-S5.00

WHERE WEB tw<0.41", CONNECTION CAPACITY IS LIMITED. THE VALUE OF (Va / NBa) + (Vb / NBb) IS LIMITED TO:
0.35" ≤ tw < 0.41", 30.7k
0.30" ≤ tw < 0.35", 26.3k
0.23" ≤ tw < 0.30", 20.2k
tw ≤ 0.23", 14.9k

WHERE:
Va = REACTION OF BEAM A
Vb = REACTION OF BEAM B
NBa = # BOLTS USED IN BEAM A CONN
NBb = # BOLTS USED IN BEAM B CONN

IF CONNECTION DOES NOT SATISFY CRITERION, INCREASE THE NUMBER OF ROWS OF BOLTS

DETAIL CONN TO PERMIT SAFE ERECTION OF BM EA SIDE WHERE BOLTS ARE SHARED, IN ACCORDANCE WITH ALL OSHA STANDARDS, TYP

TYPICAL AT COLUMN/GIRDER

COPED BEAM CONDITION AT GIRDER

20 NO SCALE TYP BEAM DOUBLE ANGLE AND END PLATE CONNECTION SCHEDULE - LRFD

ANGLE

END PLATE

1 NO SCALE TYP BEAM ANGLES/END PLATE

2 NO SCALE TYP BEAM FLANGE BLOCK

DOUBLE ANGLE

END PLATE

FOR ANGLE/END PLATE SIZE & DETAIL

FOR CAPACITY AND WELDING, SEE 20/1A-S5.01

3 NO SCALE TYP BEAM DBL ANGLE SPLICE

END PLATE

ANGLES - BOLTED BEAM / BOLTED SUPPORT

ANGLES - WELDED BEAM / BOLTED SUPPORT

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KELLY G. KNOWLES
38107
May 19, 2021

Seal / Signature

△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
20.1411.S.01

Description
TYP STEEL BEAM CONNS - LRFD

Scale
As indicated

1A-S5.01

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN
LEAD REVIT TECH:COLIN MONNES
DATE PRINTED:5/19/2021 12:06:46 PM
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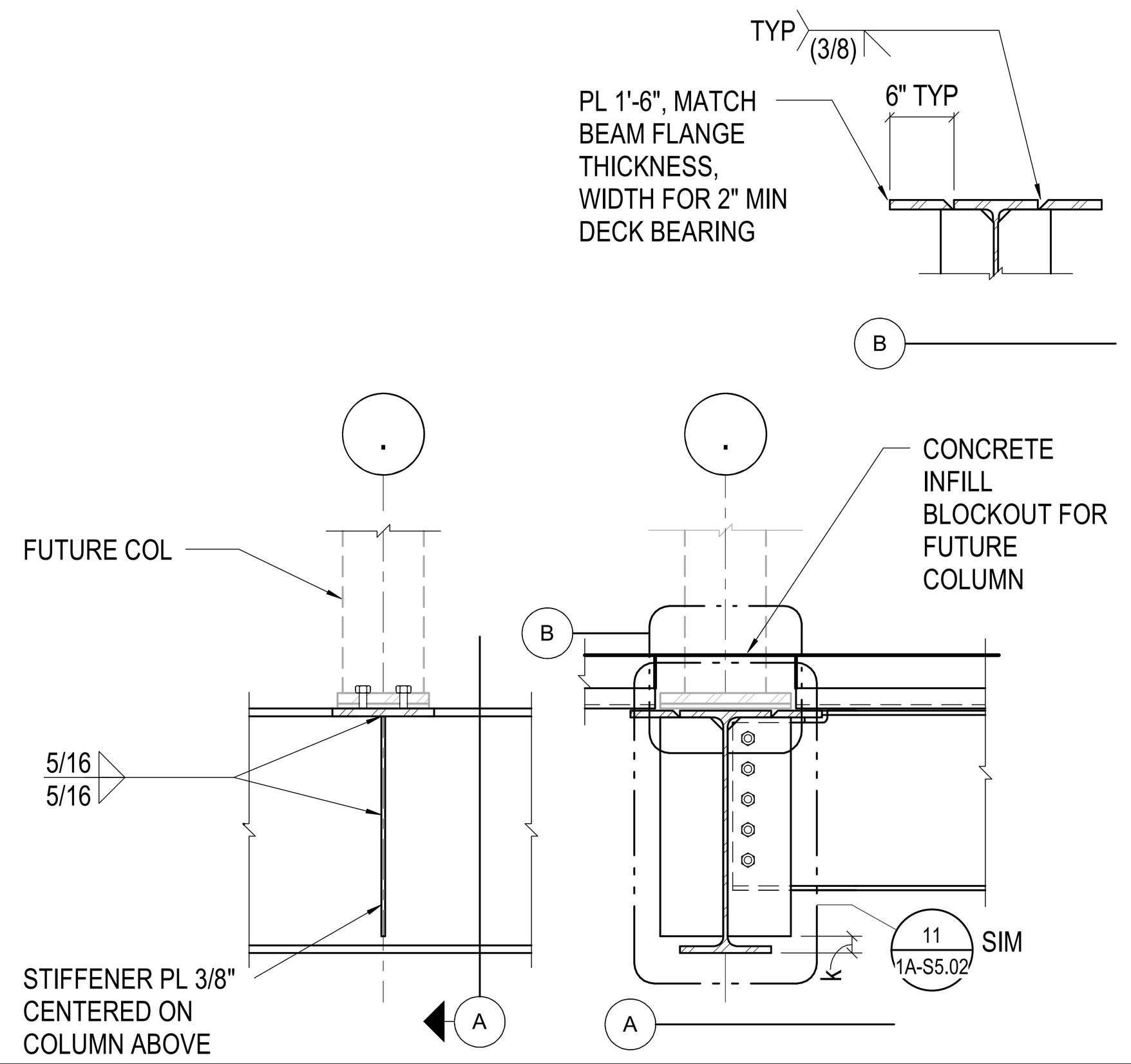
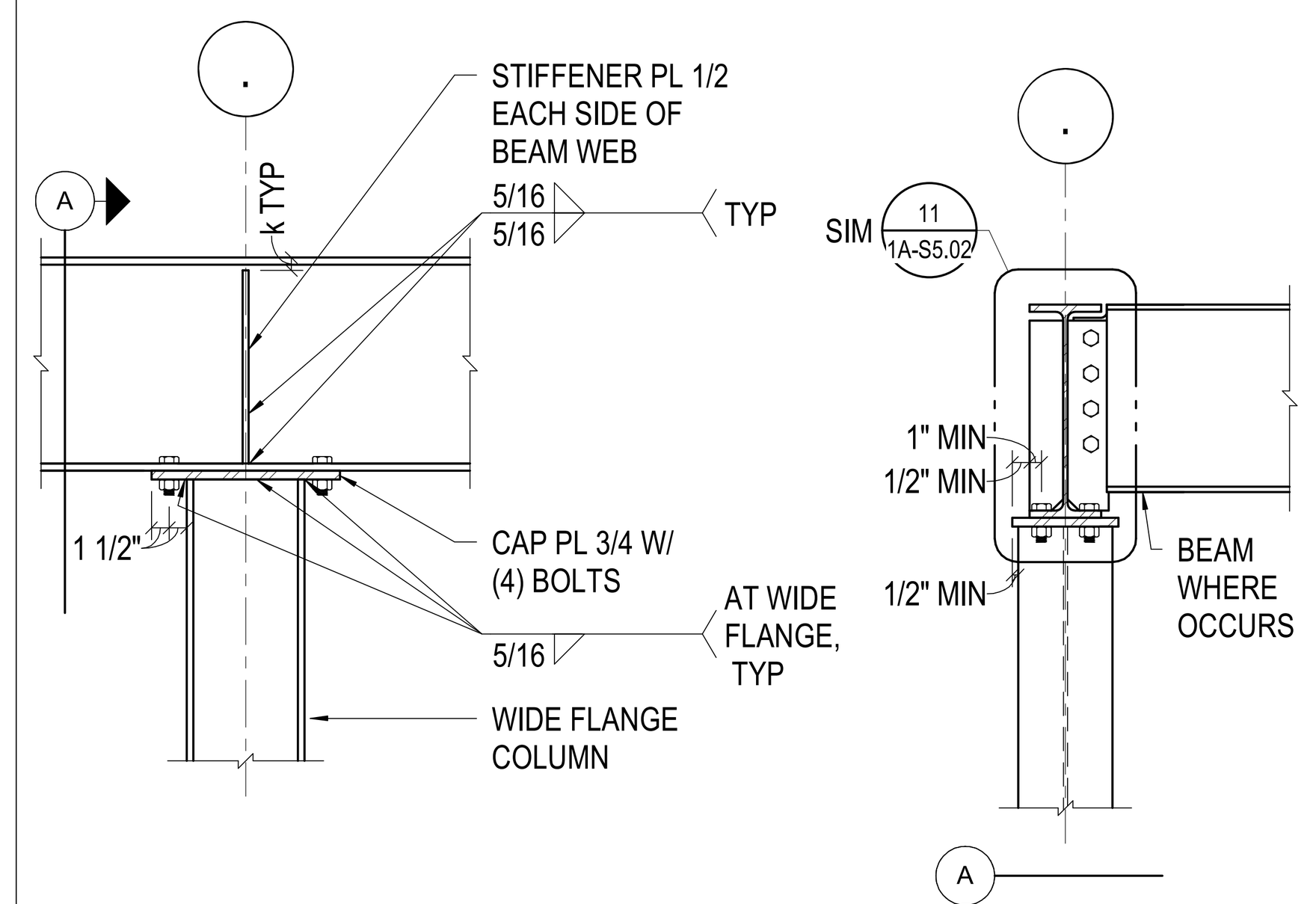
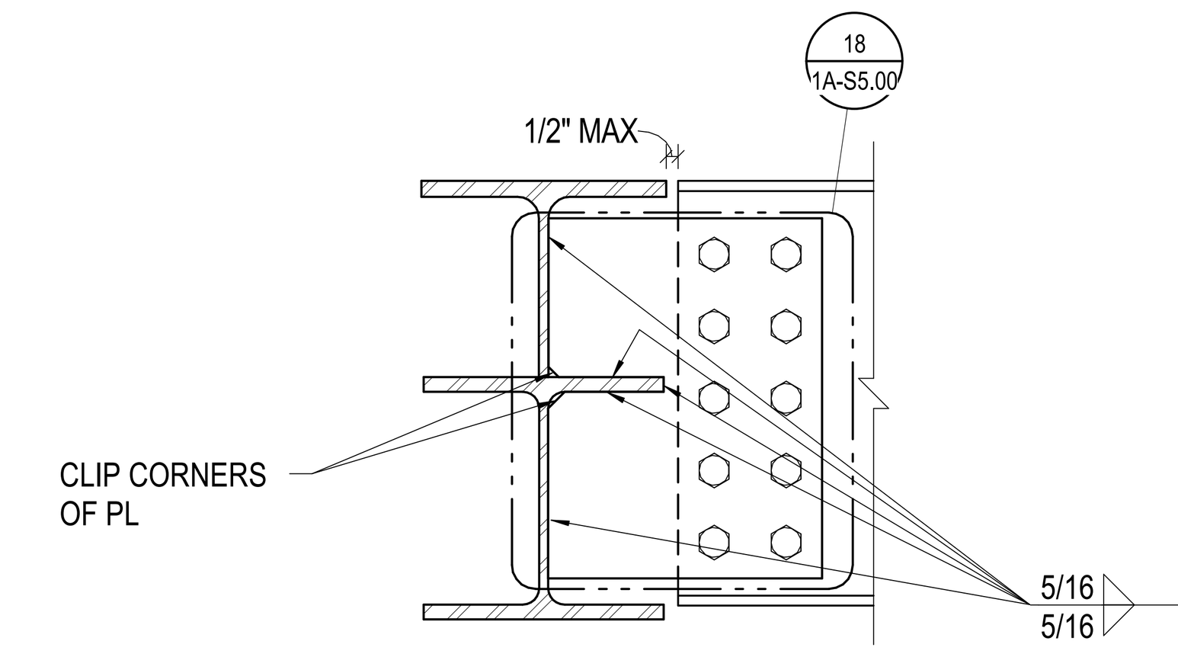


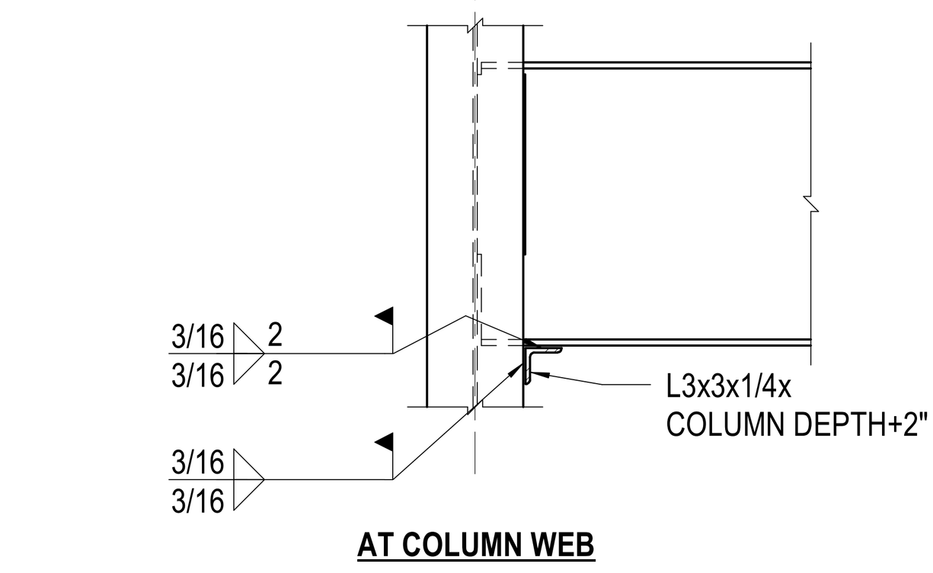
13 3/4" = 1'-0" COLUMN TRANSFER - FUTURE COLUMN



9 3/4" = 1'-0" BEAM OVER PARALLEL COLUMN

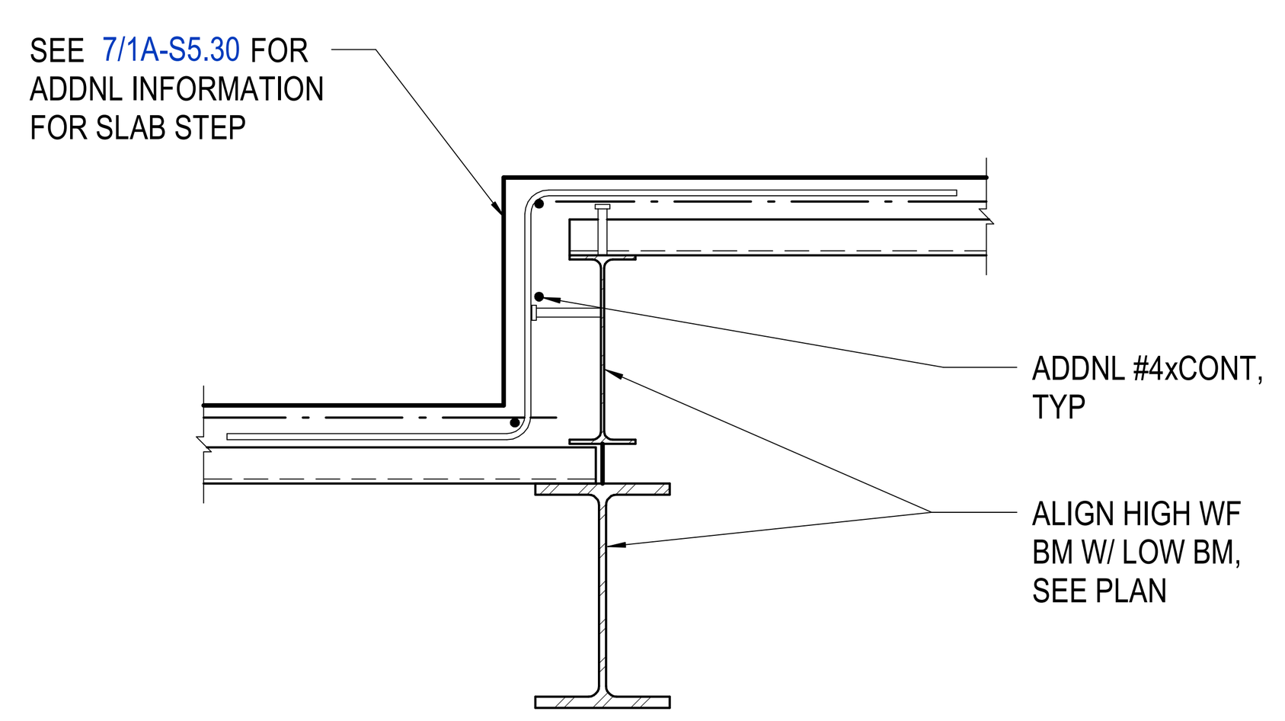


5 1 1/2" = 1'-0" STEPPED BM CONN

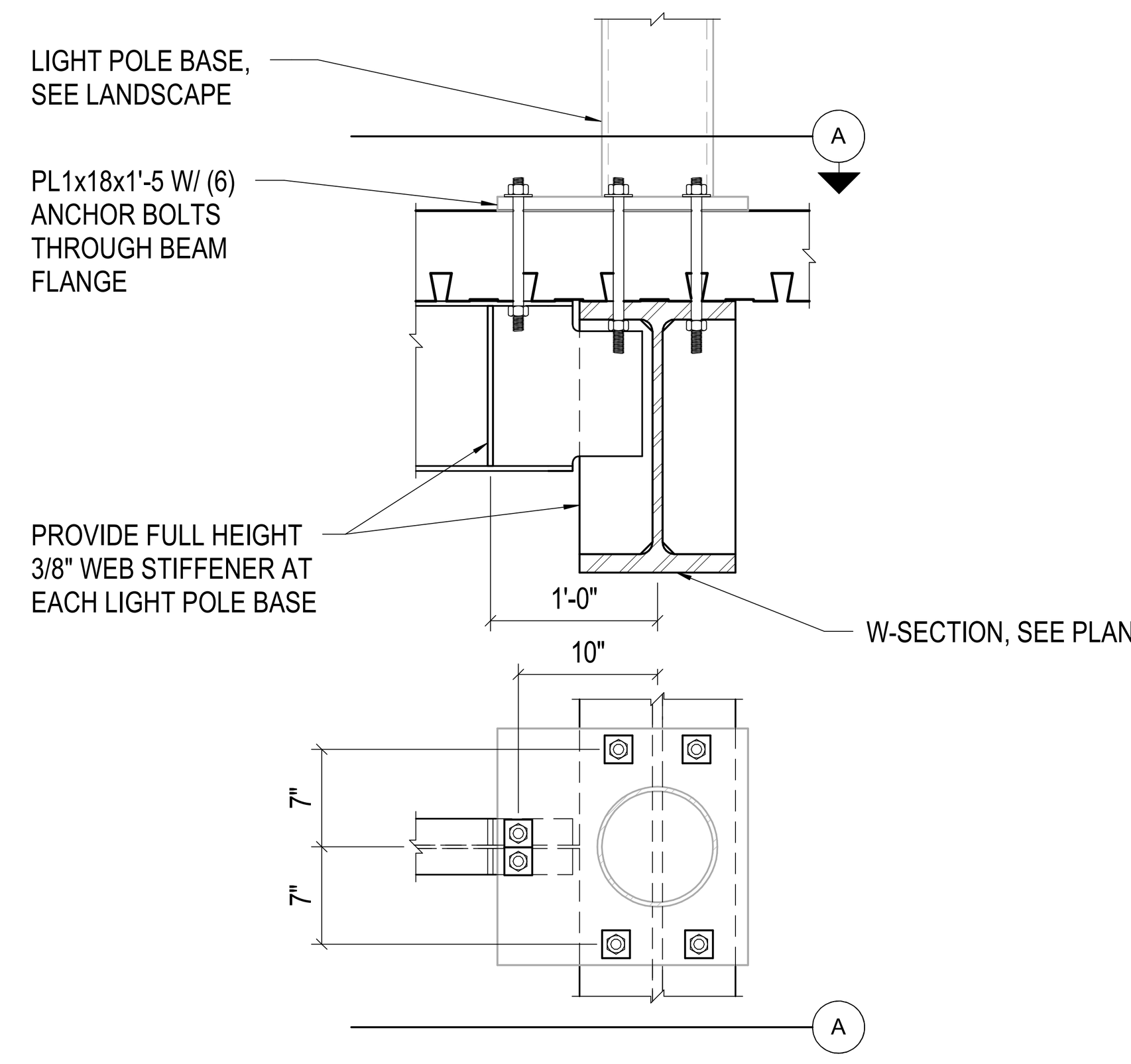


NOTES:
1. DETAIL APPLIES WHERE INDICATED ON PLAN THUS:
2. SEE CONNECTION SCHEDULES FOR CONNECTION DETAILS

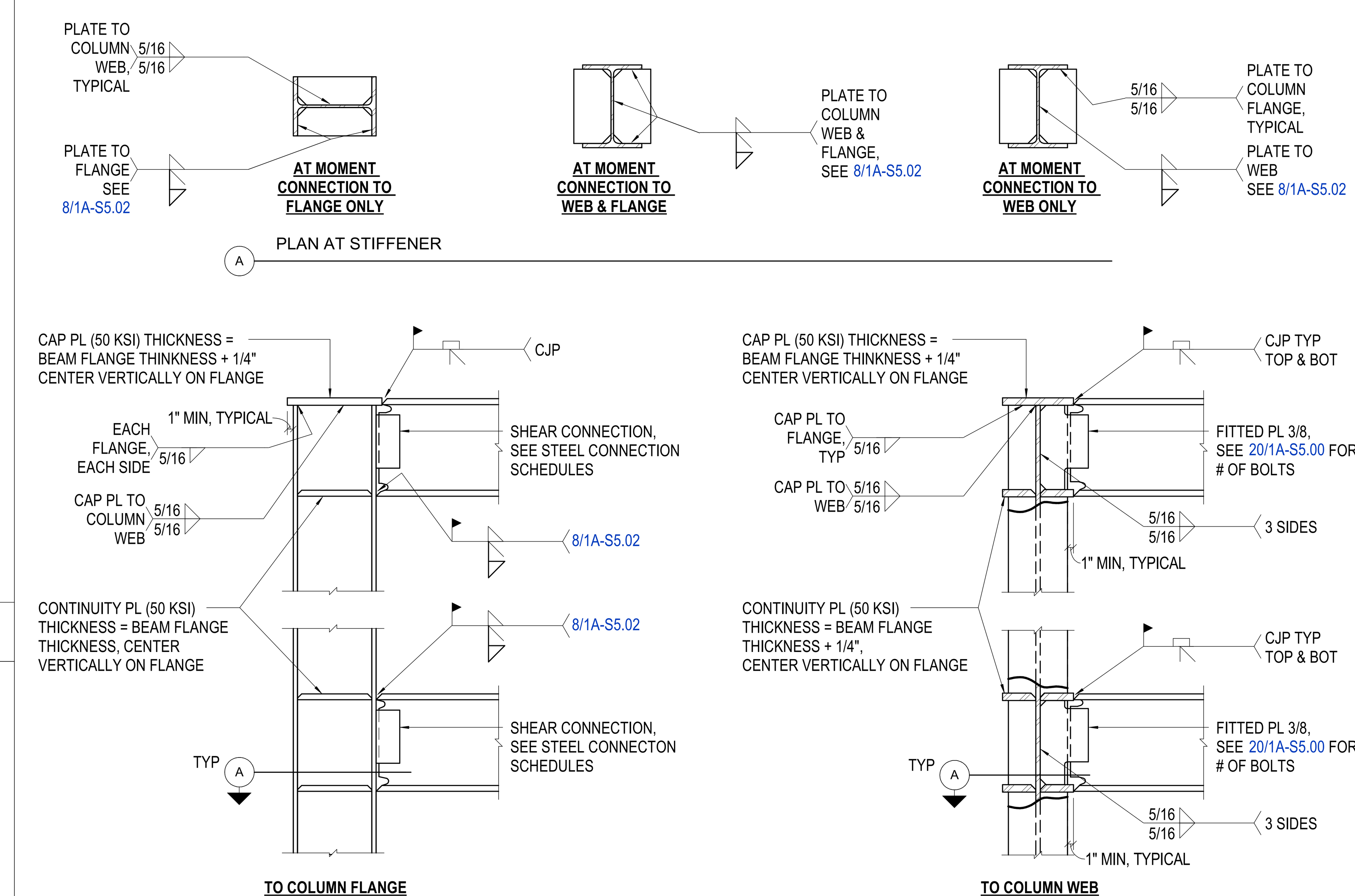
1 3/4" = 1'-0" BOTTOM FLANGE BRACING



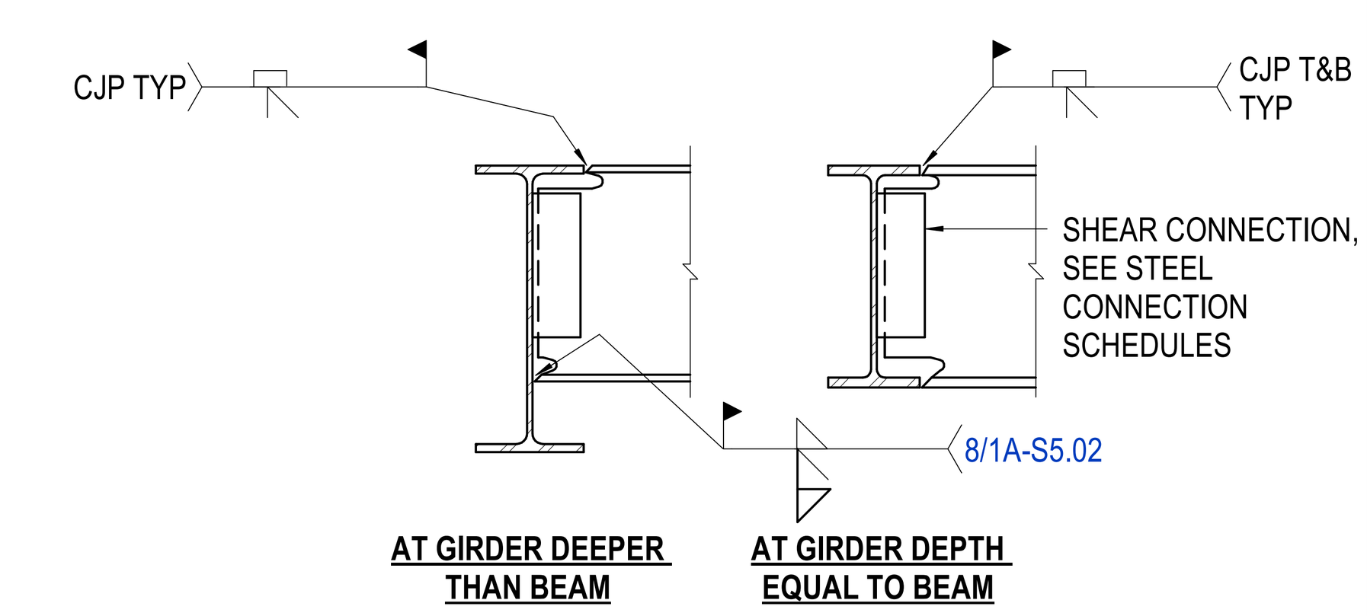
14 3/4" = 1'-0" TWO BM SLAB STEP



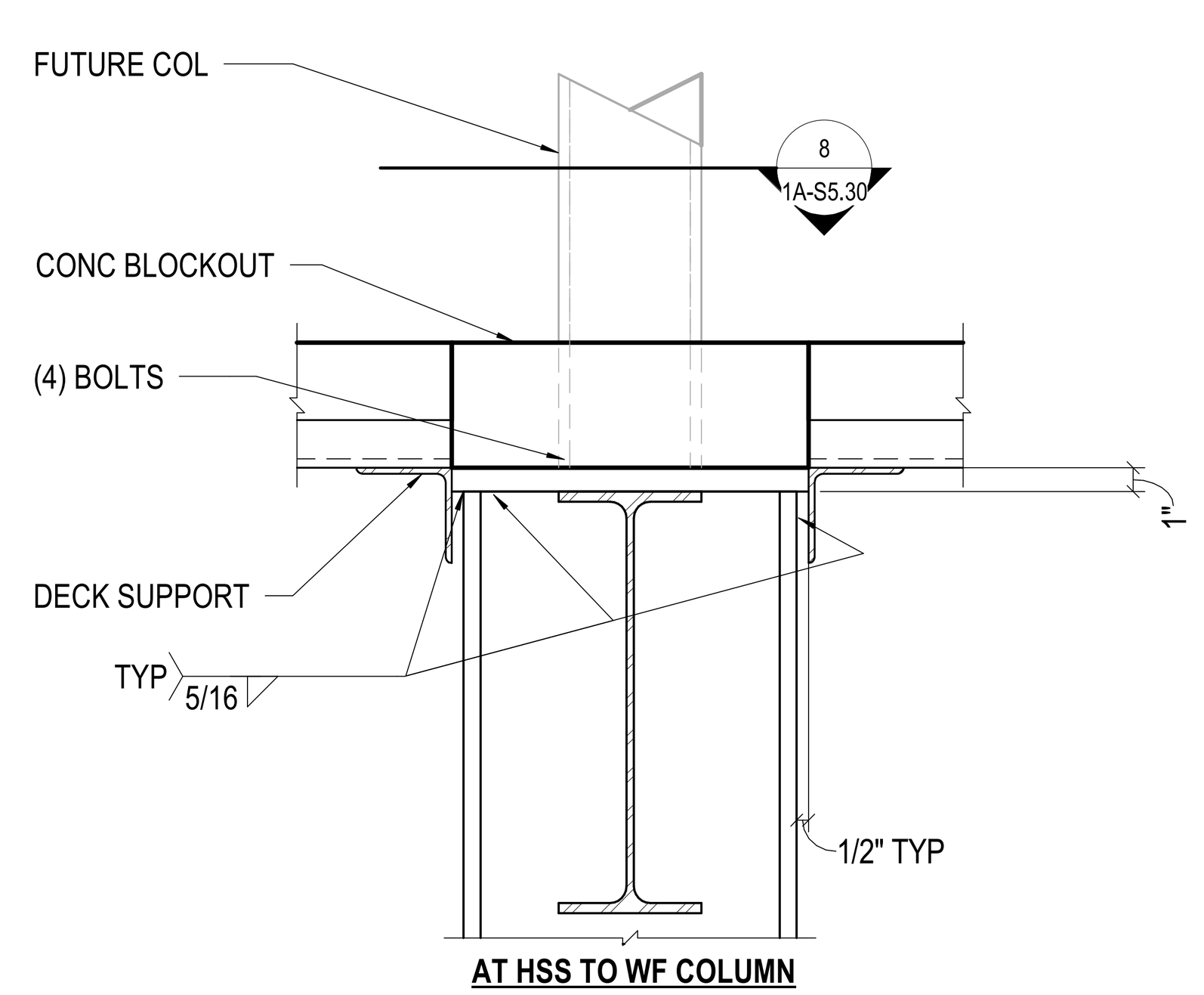
10 NO SCALE LIGHT POLE BASE



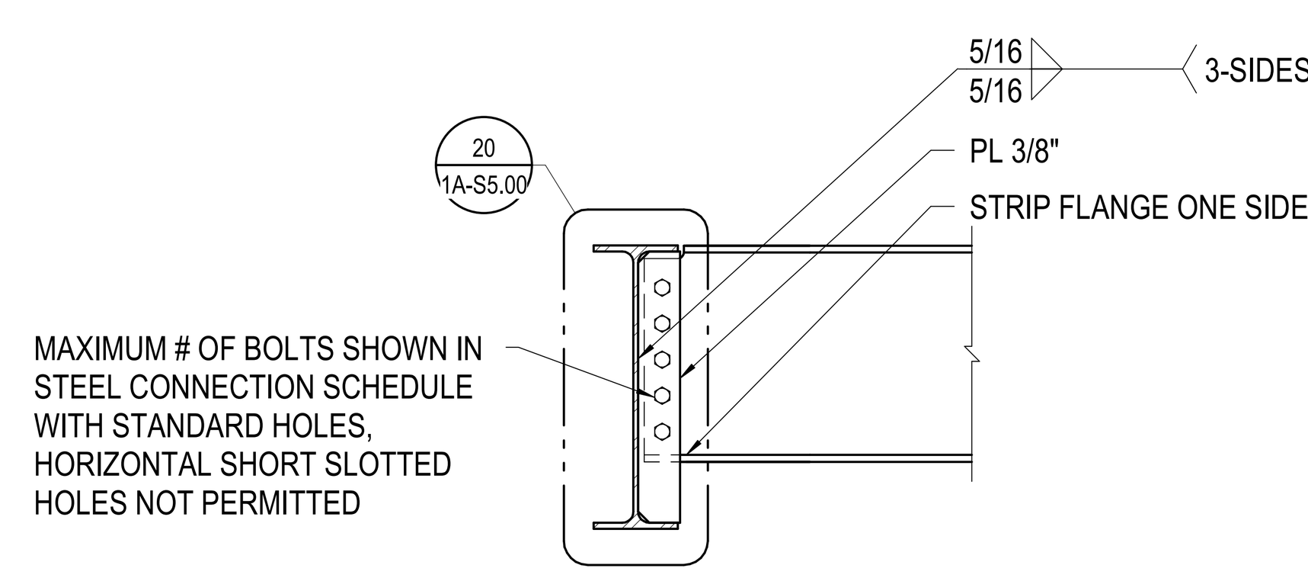
NOTES:
1. CONNECTIONS ARE SIMILAR WHERE MOMENT CONNECTION OCCURS ON EACH SIDE OF COLUMN / GIRDER



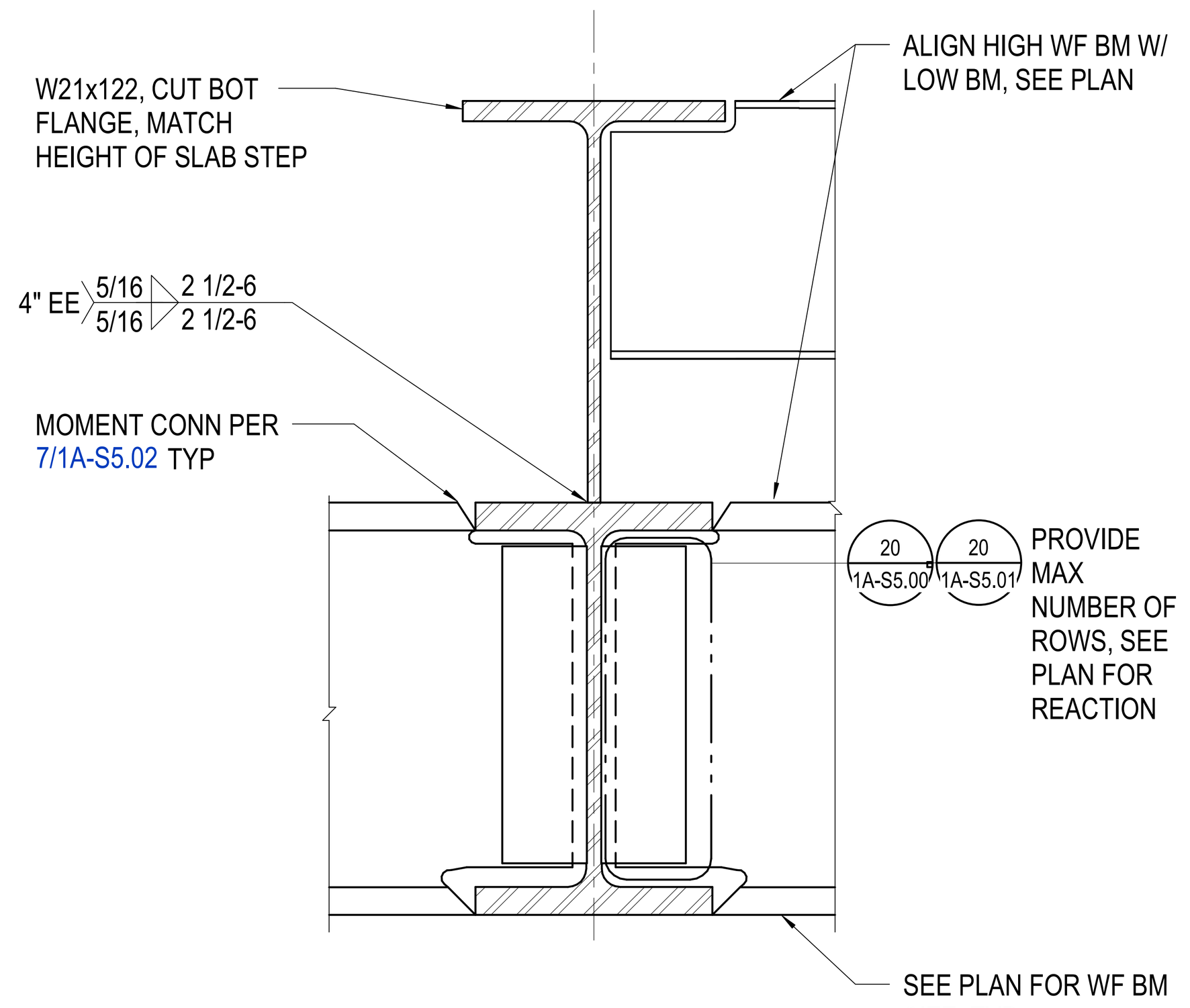
7 3/4" = 1'-0" TYPICAL MOMENT CONNECTION



15 NO SCALE FUTURE COLUMN AT LEVEL 1



11 3/4" = 1'-0" TYPICAL FULL HEIGHT SHEAR CONNECTION



16 1 1/2" = 1'-0" LOW MOMENT CONN

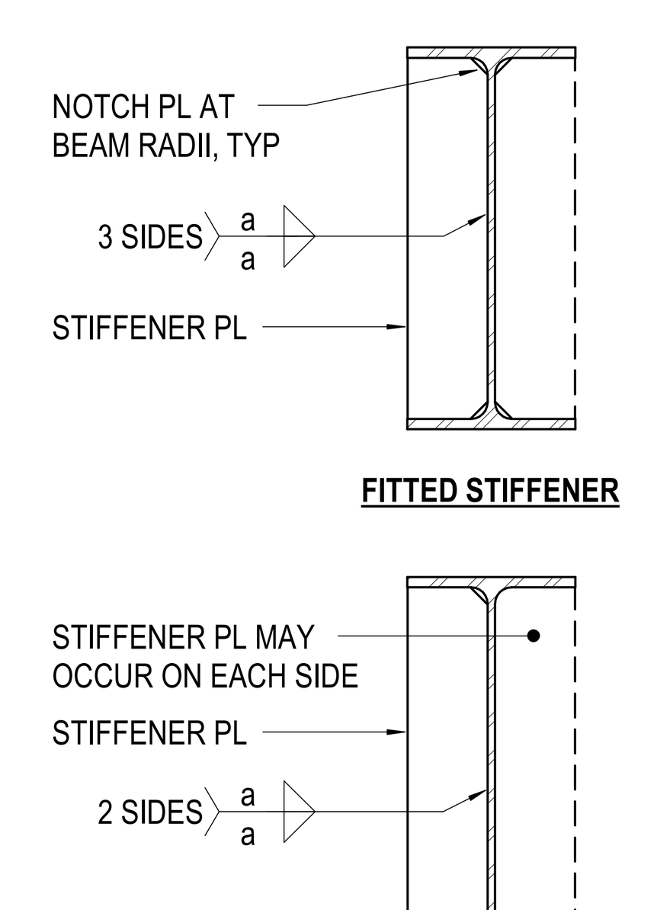
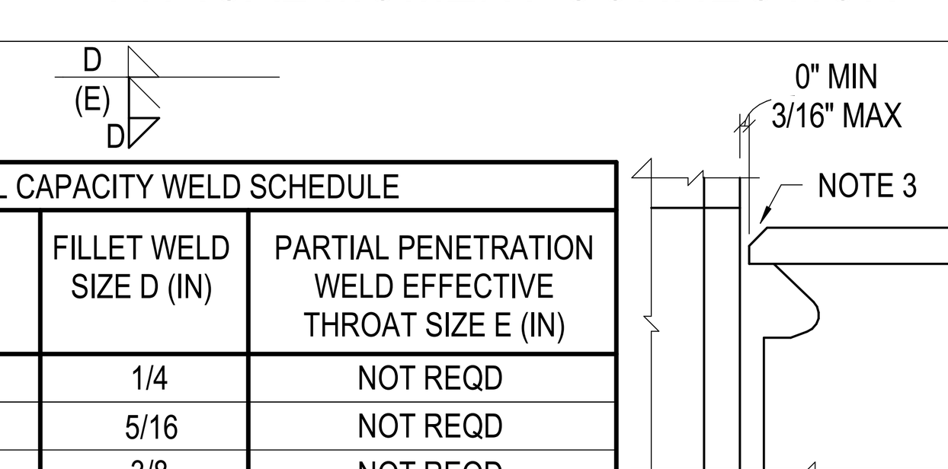


PLATE WELD SCHEDULE	
STIFFENER PL THK	WELD SIZE a (UNO)
3/16"	3/16"
1/4"	3/16"
5/16"	1/4"
3/8"	1/4"
1/2"	5/16"
5/8"	7/16"
3/4"	1/2"
1"	5/8"
1 1/4"	7/8"

NOTES:
1. ACTUAL STIFFENER GEOMETRY VARIES, SEE DETAILS
2. STIFFENER SURFACES THAT CONTACT BEAM FLANGES SHALL BE FINISHED FOR BEARING

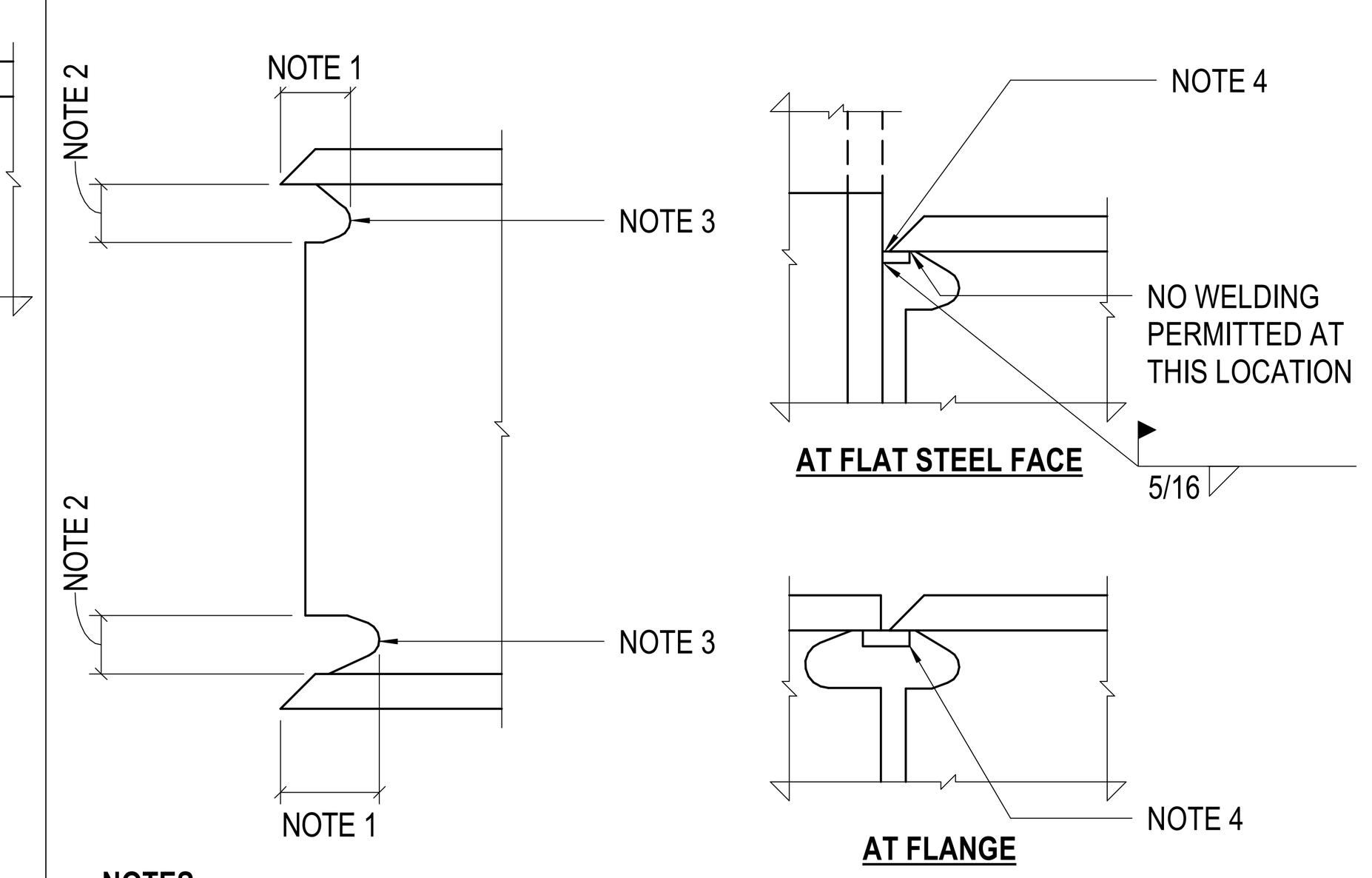
12 1 1/2" = 1'-0" TYPICAL WIDE FLANGE BEAM STIFFENER



FULL CAPACITY WELD SCHEDULE		
CONNECTED FLANGE/PLATE THICKNESS (IN)	FILLET WELD SIZE D (IN)	PARTIAL PENETRATION WELD EFFECTIVE THROAT SIZE E (IN)
≤ 0.37	1/4	NOT REQD
≤ 0.46	5/16	NOT REQD
≤ 0.56	3/8	NOT REQD
≤ 0.65	7/16	NOT REQD
≤ 0.74	1/2	NOT REQD
≤ 0.84	9/16	NOT REQD
≤ 0.93	5/8	NOT REQD
≤ 1	7/16	13/16
≤ 1 1/8	7/16	1
≤ 1 1/4	1/2	1 1/16
≤ 1 3/8	1/2	1 1/4
≤ 1 1/2	9/16	1 5/16
≤ 1 5/8	5/8	1 7/16
> 1 5/8	N/A	CJP (NOTE 2)

NOTES:
1. COMPLETE JOINT PENETRATION WELDS MAY BE USED AS AN ALTERNATE TO FILLET AND BUILT-UP WELDS FOR ANY CONNECTED FLANGE/PLATE THICKNESS.
2. SEE DETAIL 4/1A-S5.02 FOR WELD ACCESS HOLE AND BACKING REQUIREMENTS AT COMPLETE JOINT PENETRATION WELDS.
3. SCHEDULED WELDS SHALL BE INCREASED IN SIZE BY GAP WIDTH FOR GAPS 1/16" AND GREATER.

8 1/2" = 1'-0" TYPICAL FULL CAPACITY WELD SCHEDULE



NOTES:
1. GREATER OF 1.5 x WEB THICKNESS OR 1 1/2"
2. GREATER OF 1.0 x WEB THICKNESS OR 3/4", SHALL NOT EXCEED 2"
3. MIN RADIUS = 3/8"
4. BACKING AT CONTRACTOR'S OPTION, BACKING MAY REMAIN IN PLACE UNO

4 3" = 1'-0" TYPICAL WIDE FLANGE CJP WELD ACCESS AND BACKING

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May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
20.1411.S.01

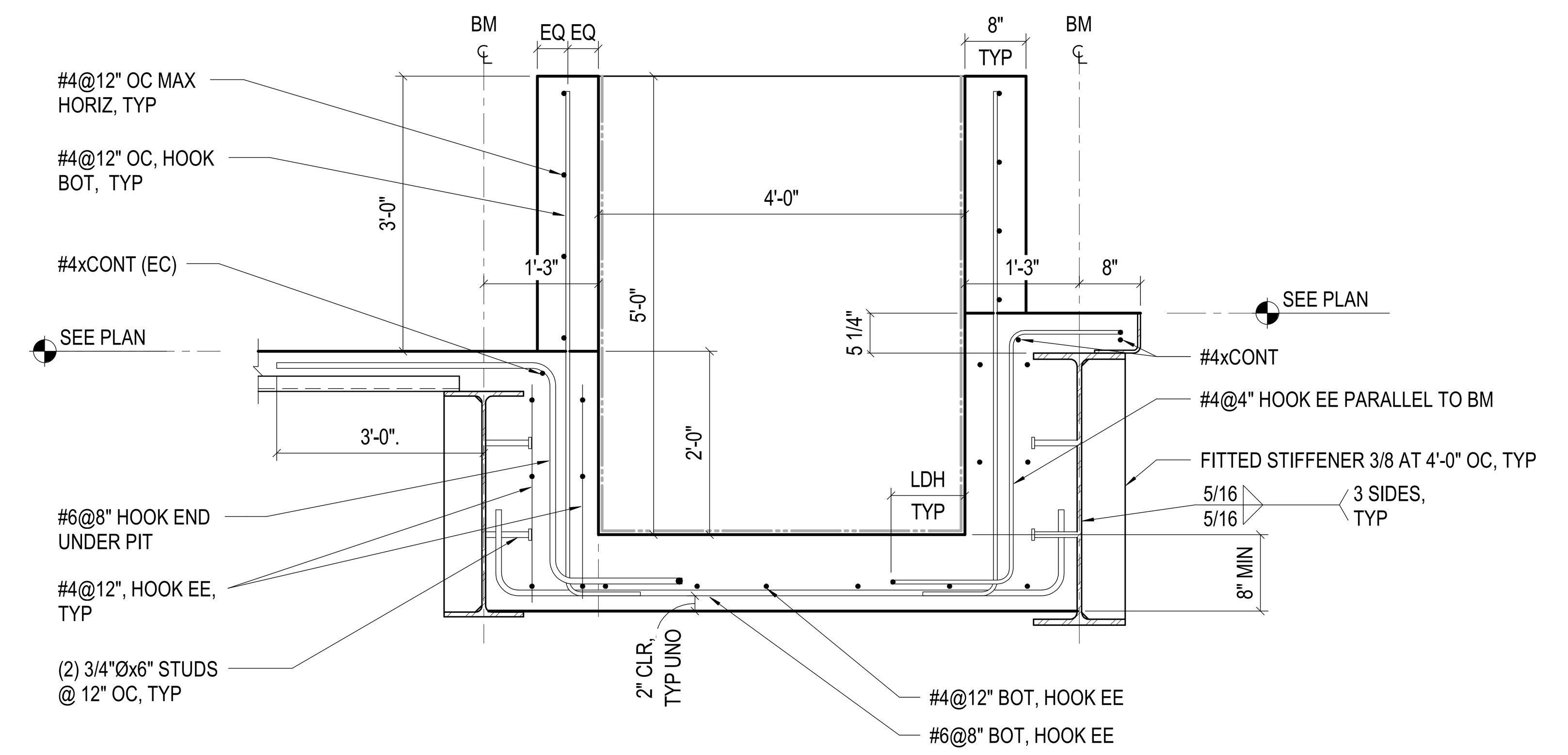
Description
STEEL DETAILS

Scale
As indicated

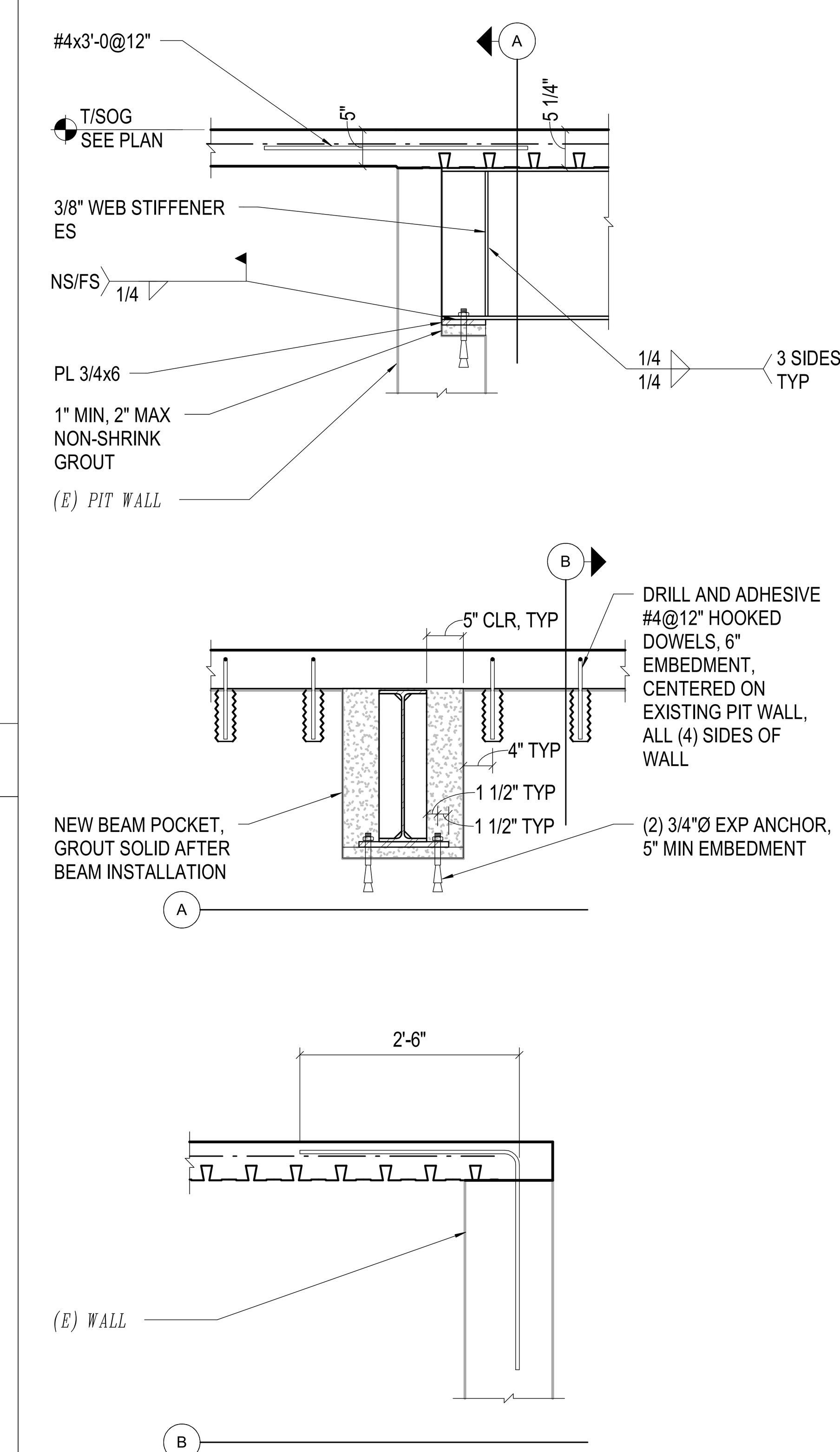
1A-S5.02

DESIGNERS: MC MARTIN
LEAD REVIT TECH: COLIN KNOWLES
DATE PRINTED: 5/19/2021 12:06:52 PM
FILE PATH: BIM 360://2037835.000 - Steamboat Redev/03.7835.000_Structural_SBR_Promenade Building 2021_V2021.rvt

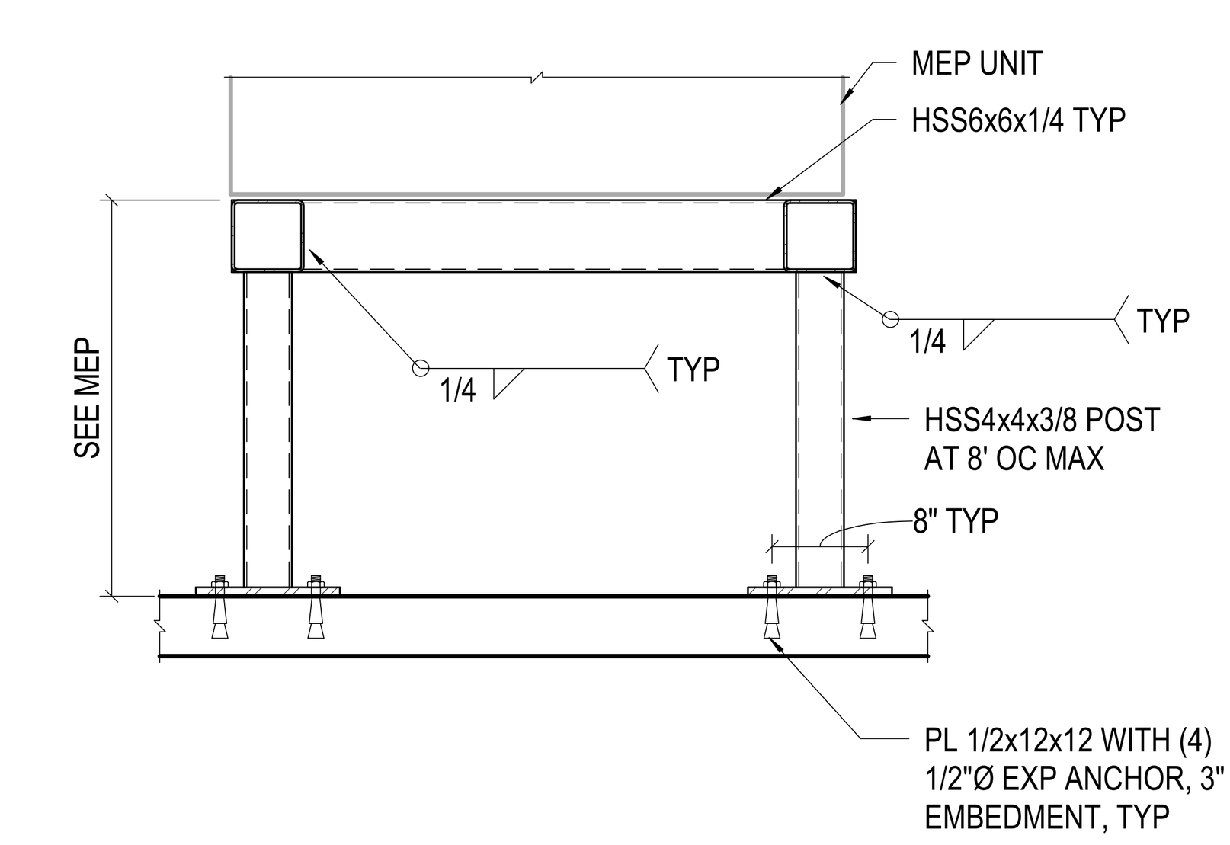
MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN



5 3/4" = 1'-0" **SNOW MELT PIT SECTION**



3 3/4" = 1'-0" **NEW STEEL ON EXISTING PIT WALL**



4 3/4" = 1'-0" **MEP SUPPORT**

Steamboat
ALTERRA MOUNTAIN COMPANY
east west partners

2305 Mount Werner Circle
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RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

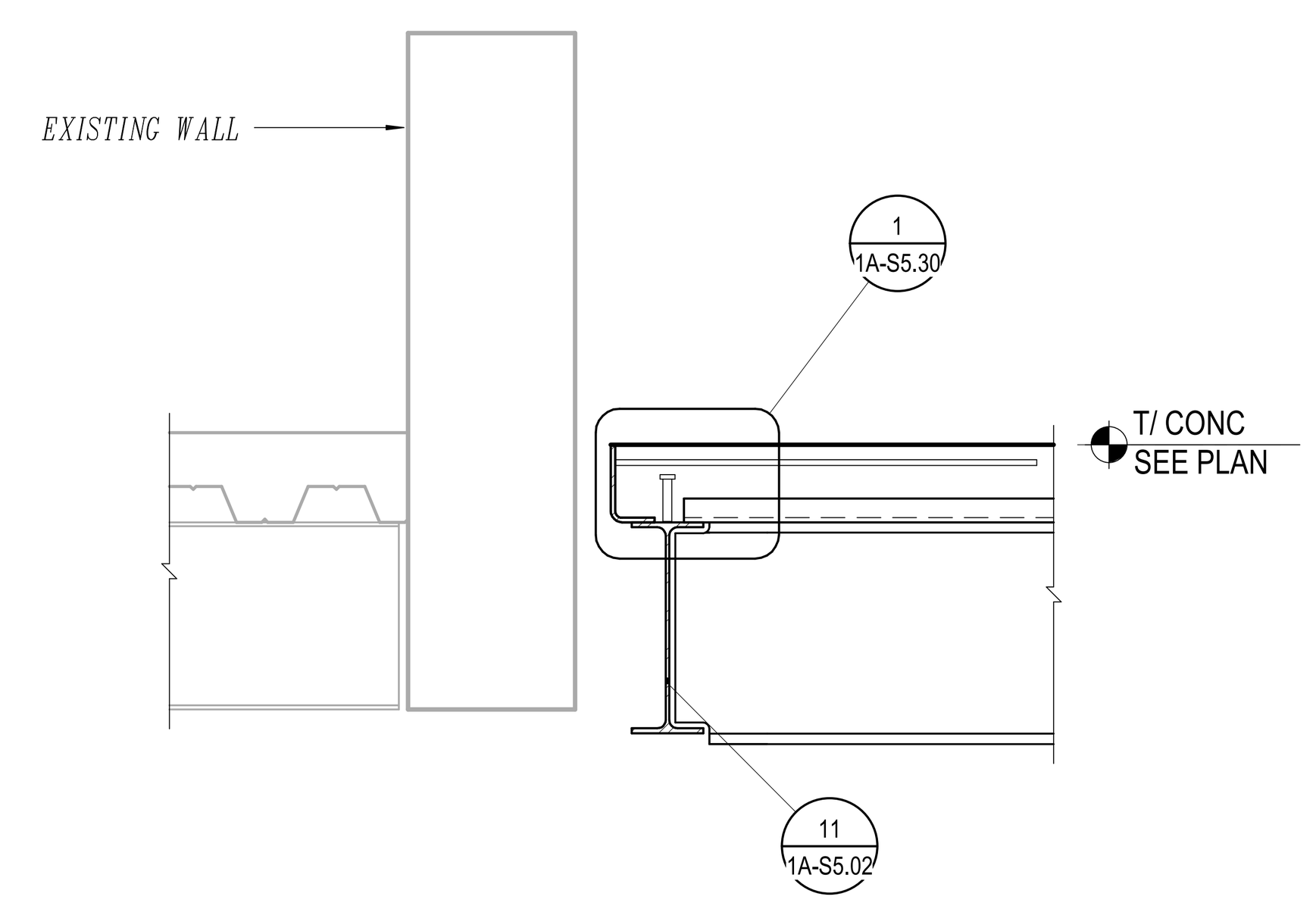
Project Number
20.1411.S.01

Description
STEEL DETAILS

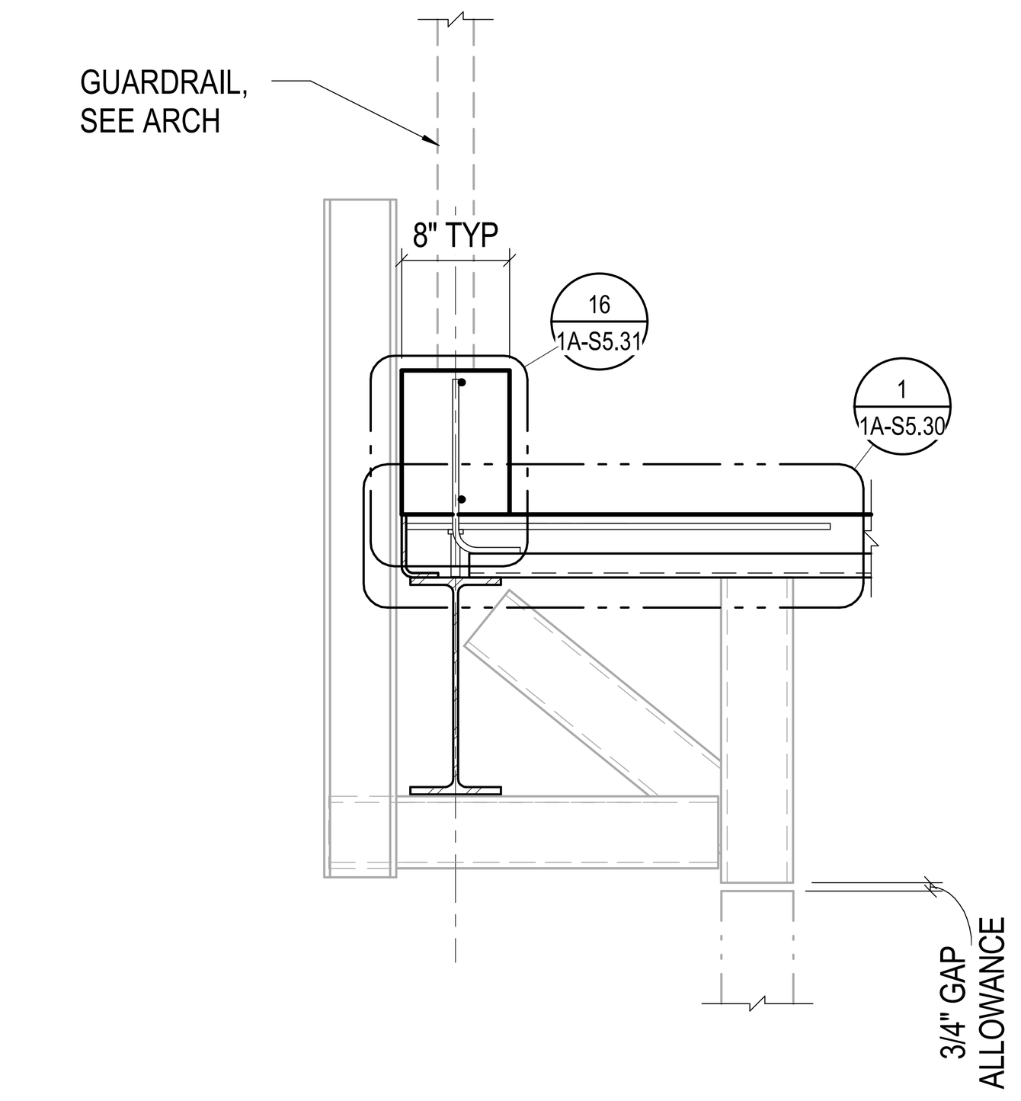
Scale
3/4" = 1'-0"

1A-S5.03

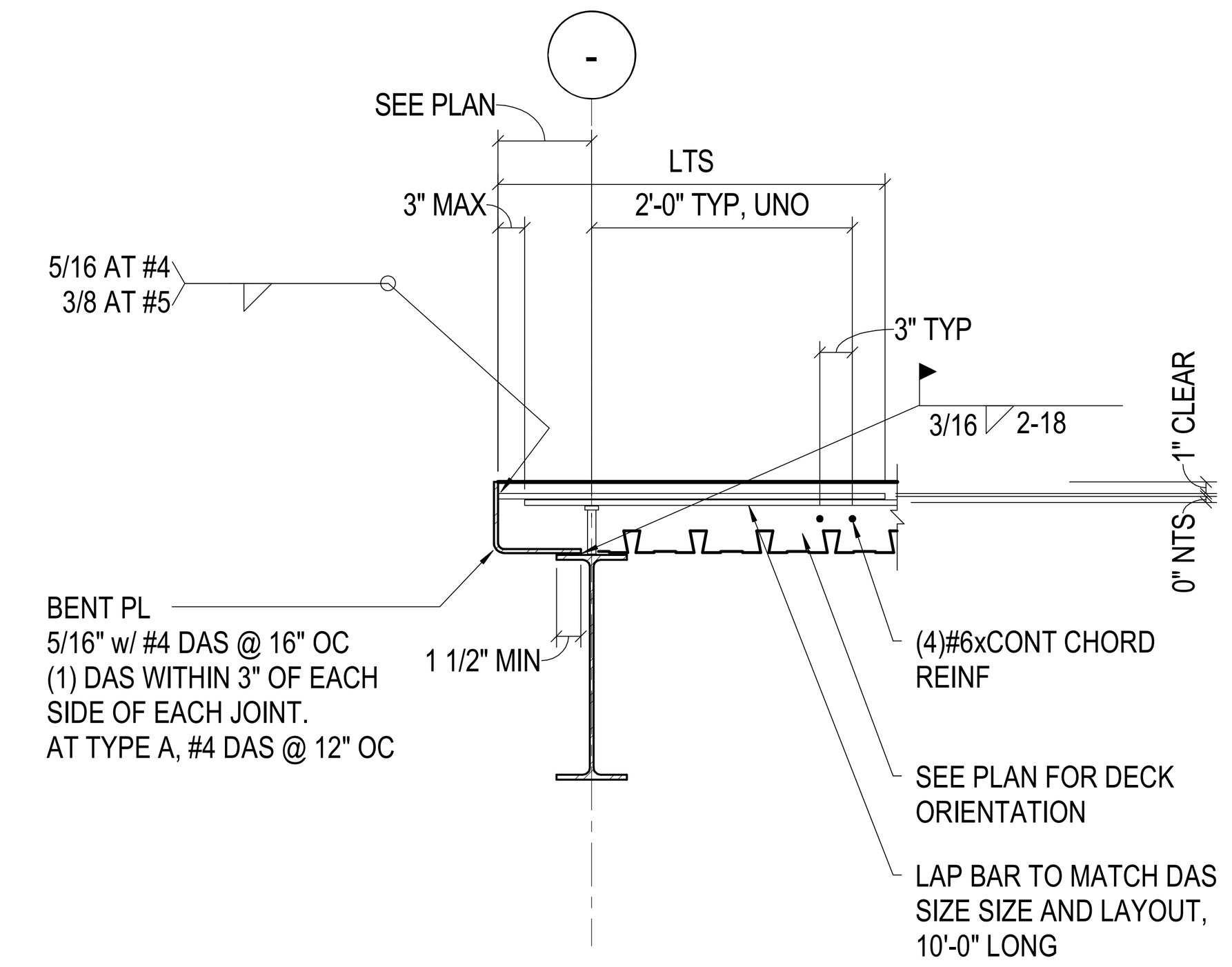
MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN



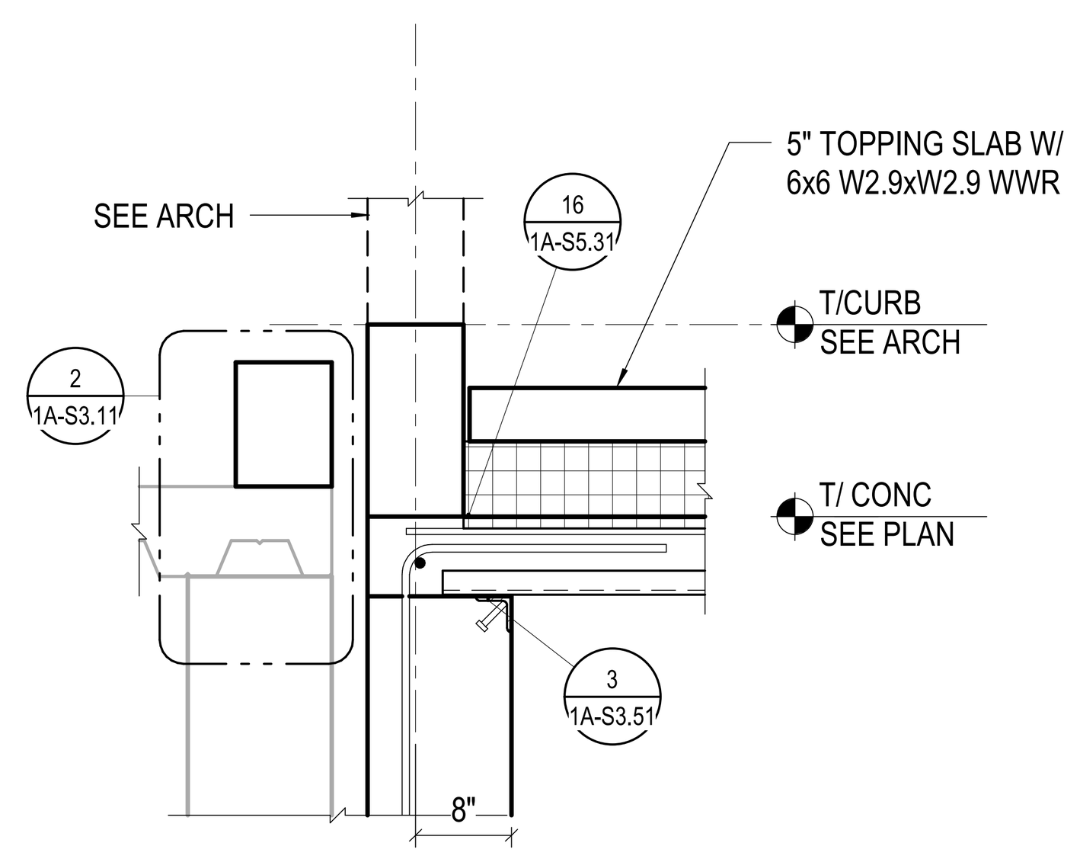
9 3/4" = 1'-0" EXTERIOR SLAB EDGE AT CANTLIEVERED FLOOR



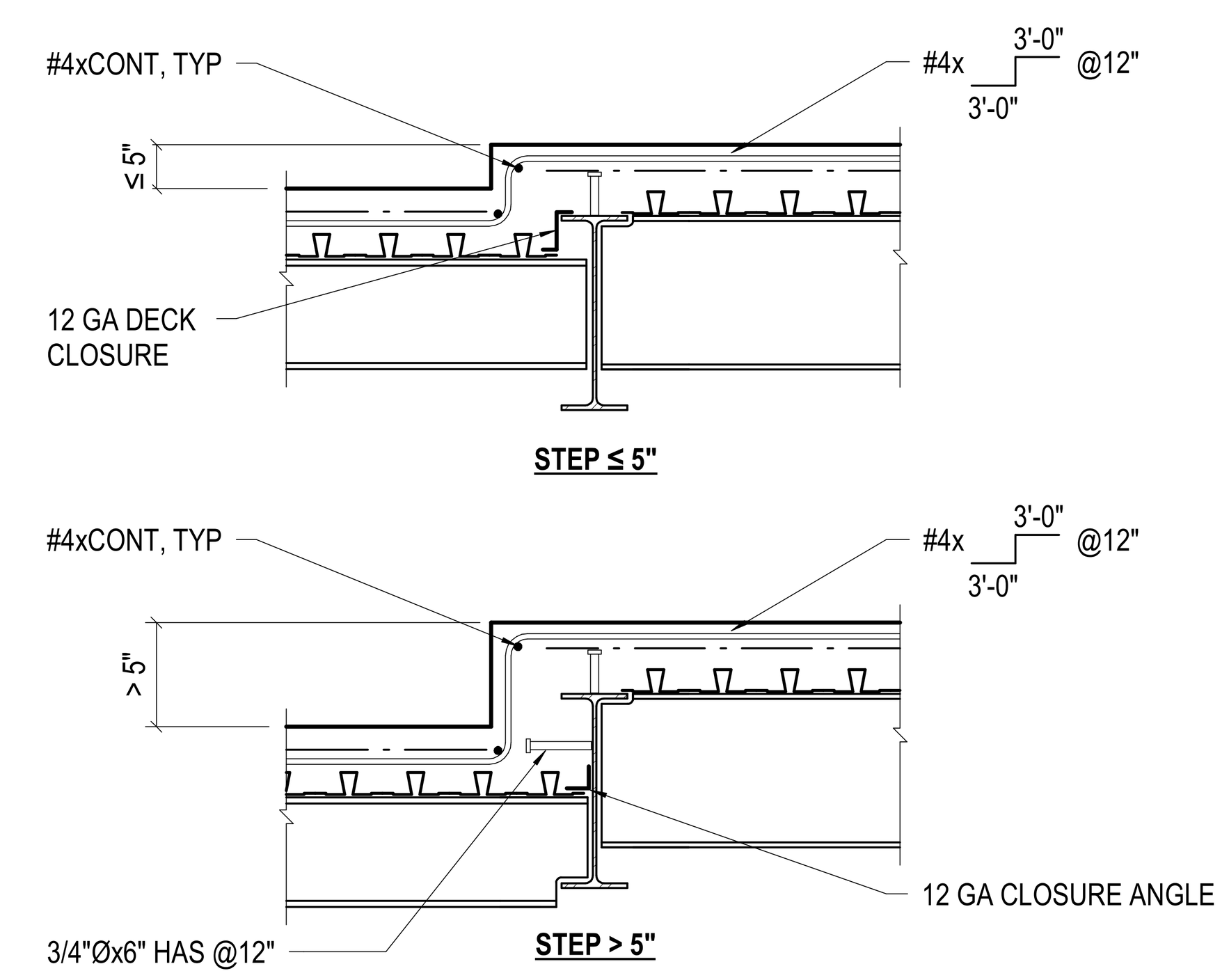
5 3/4" = 1'-0" EXTERIOR SLAB EDGE GUARD RAIL



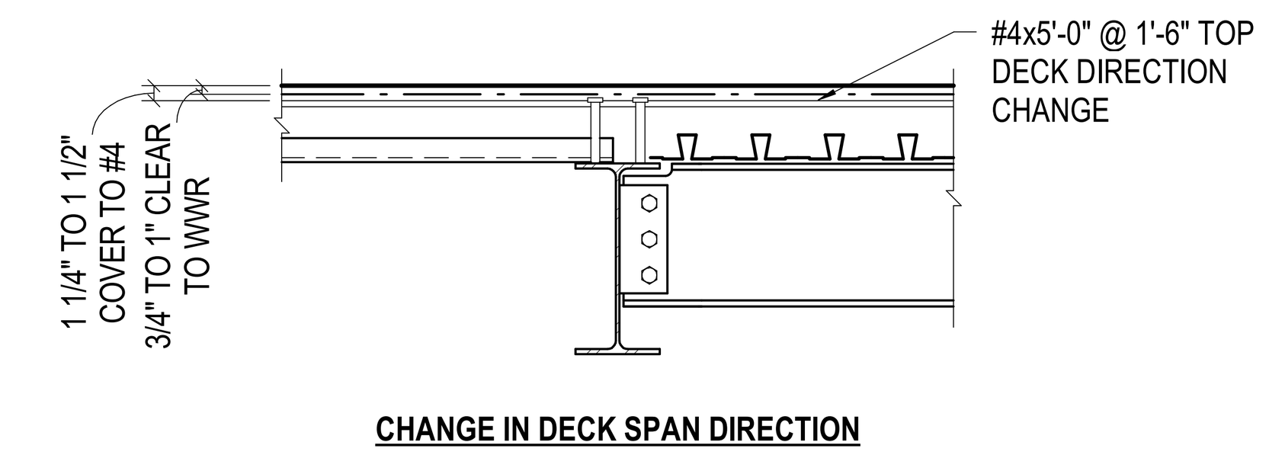
1 3/4" = 1'-0" TYPICAL EXTERIOR SLAB EDGE



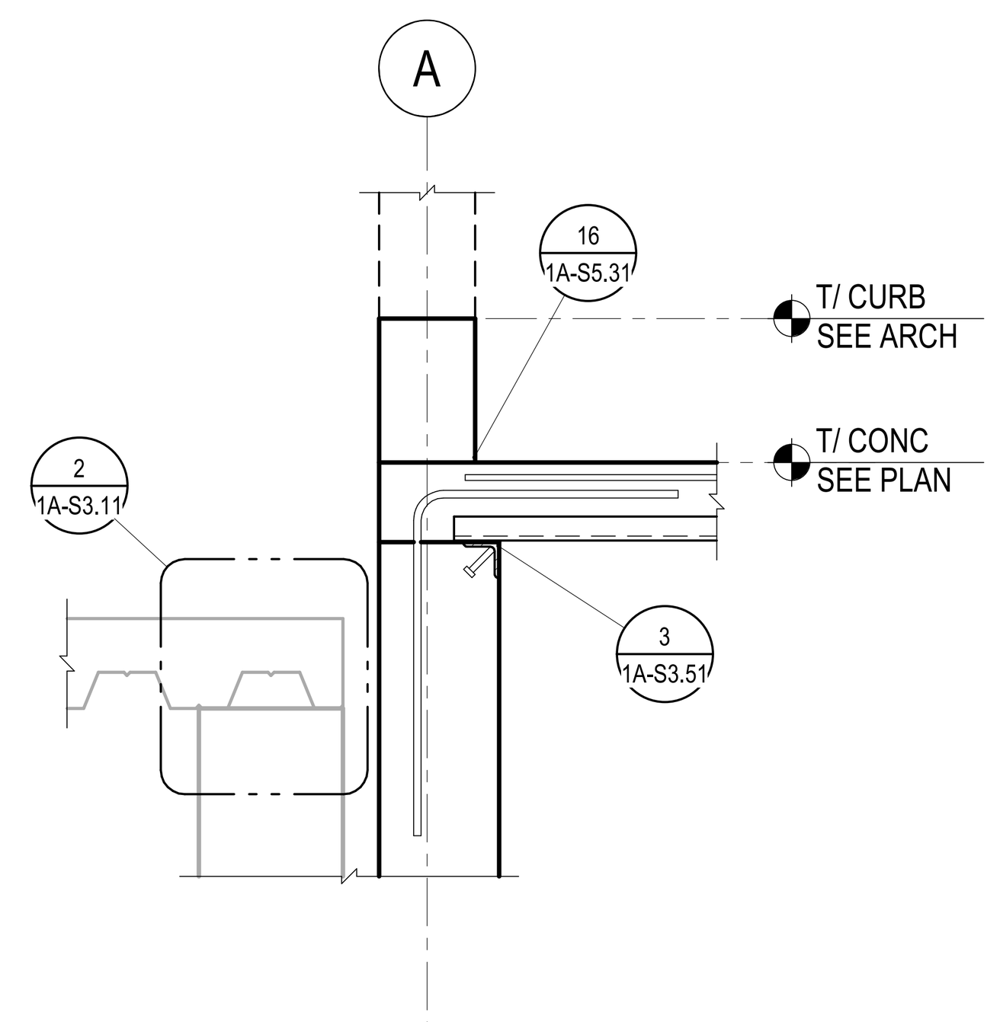
10 3/4" = 1'-0" EXTERIOR SLAB EDGE AT MECH YARD



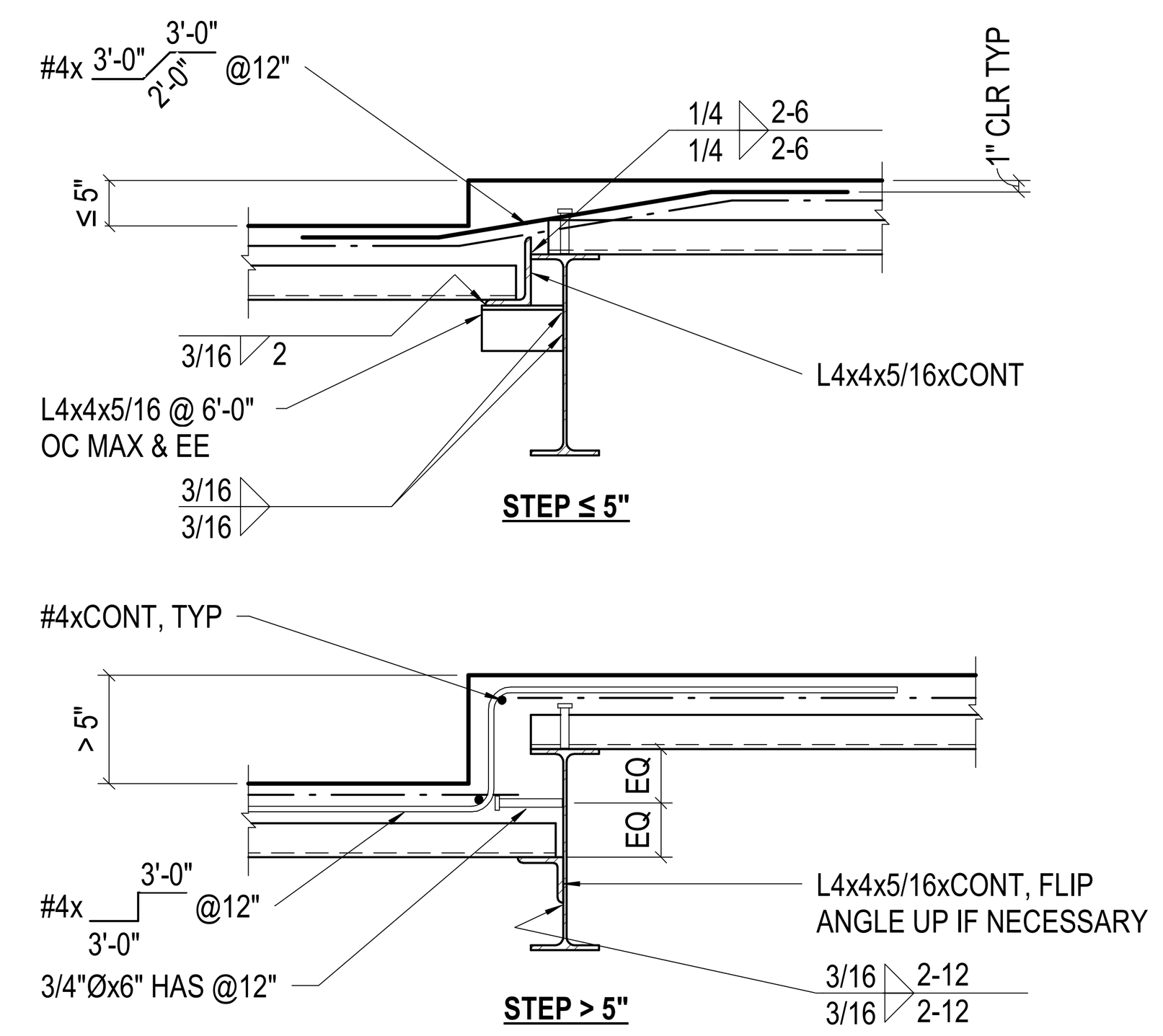
6 3/4" = 1'-0" TYP SLAB STEP - DECK PARALLEL



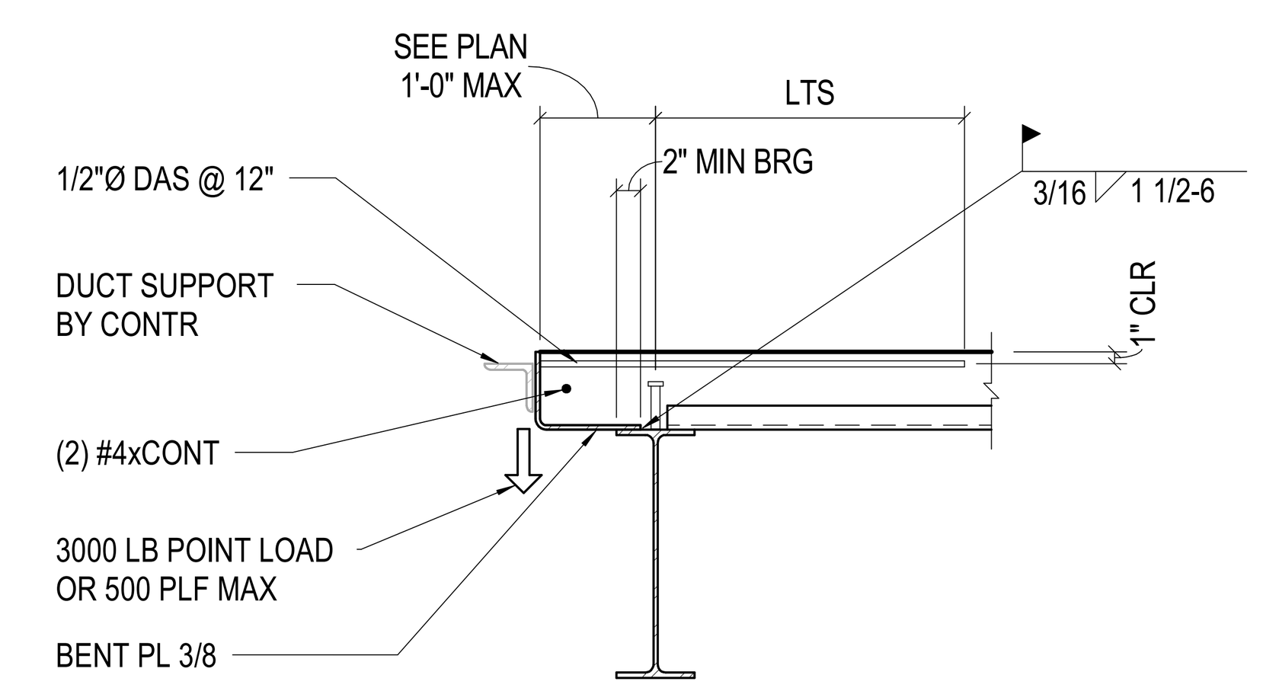
2 3/4" = 1'-0" TYIPCAL CHANGE IN COMPOSITE DECK DIRECTION



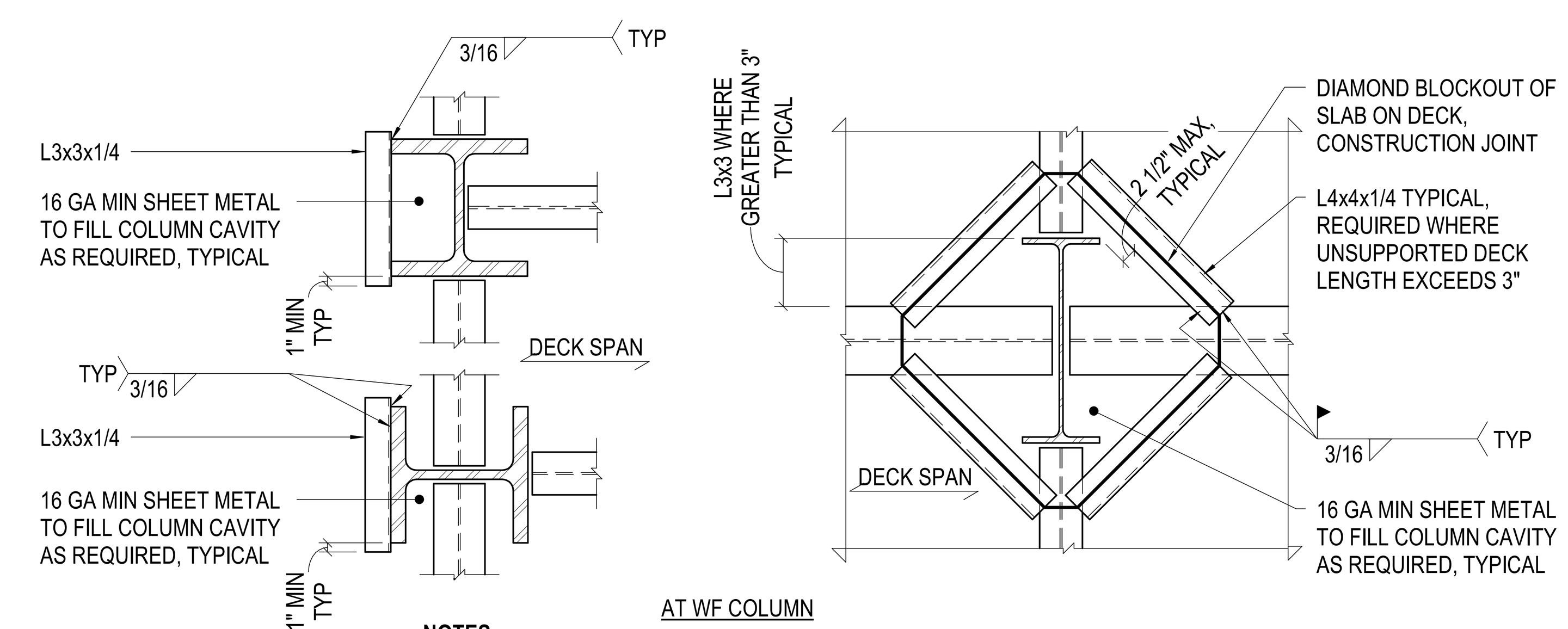
11 3/4" = 1'-0" EXTERIOR SLAB EDGE - LEVEL 1 SLAB



7 3/4" = 1'-0" TYP SLAB STEP - DECK PERP



3 3/4" = 1'-0" MECHANICAL SHAFT COMPOSITE SLAB EDGE



NOTES:

1. CONTRACTOR MAY DESIGN ALTERNATE METHODS OF DECK SUPPORT. DECK SUPPORTS SHALL BE ABLE TO SUPPORT THE DECK AS A FORM WITH THE WET WEIGHT OF THE CONCRETE AND ALL CONSTRUCTION LOADS

8 3/4" = 1'-0" TYPICAL METAL DECK SUPPORT AT FUTURE COLUMN

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021

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Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
20.1411.S.01

Description
TYPICAL COMPOSITE SLAB DETAILS

Scale
3/4" = 1'-0"

1A-S5.30

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

DESIGNERS: NIC MARTIN
LEAD BIM TECH: COLIN KNOWLES
DATE PRINTED: 5/19/2021 12:06:56 PM
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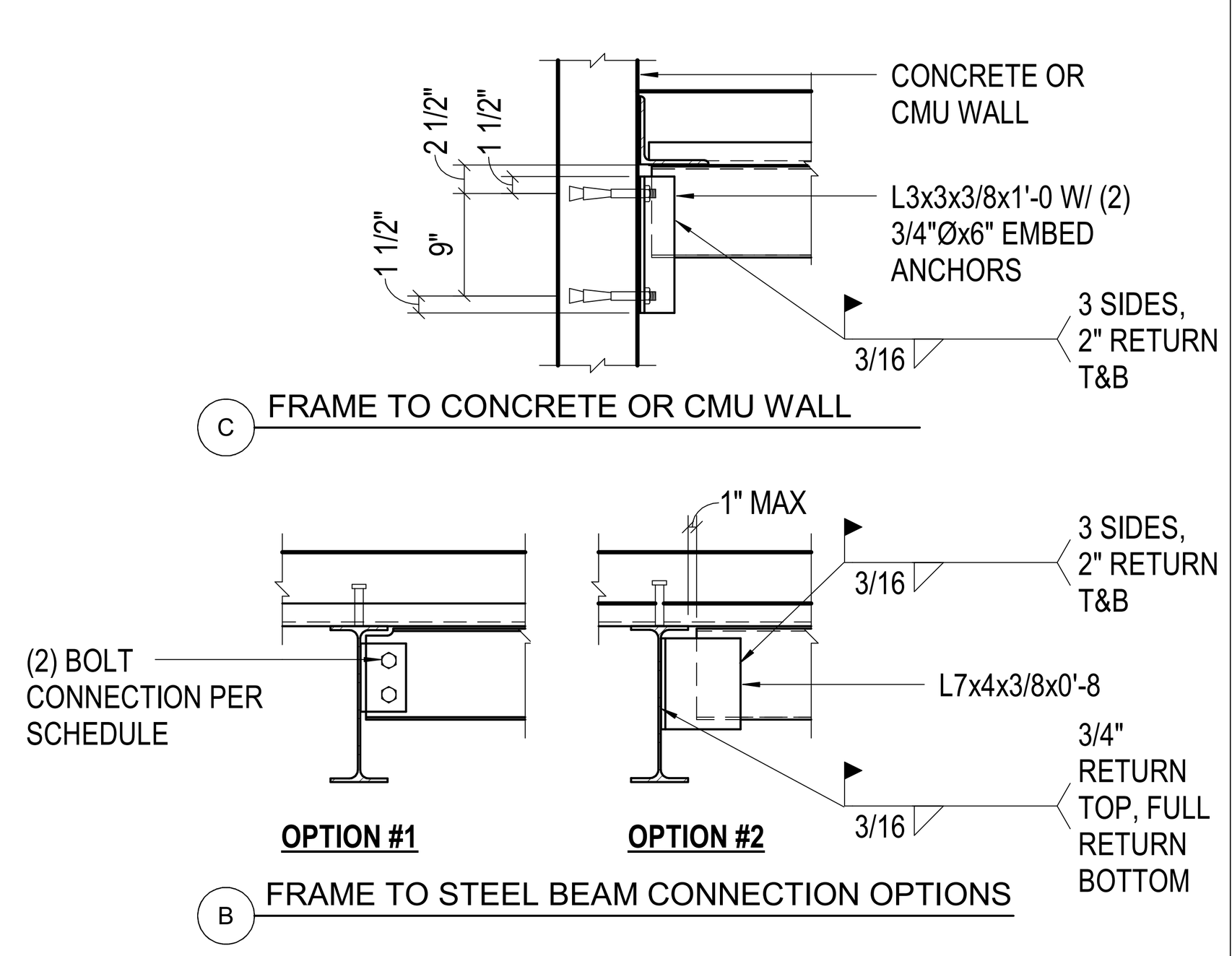
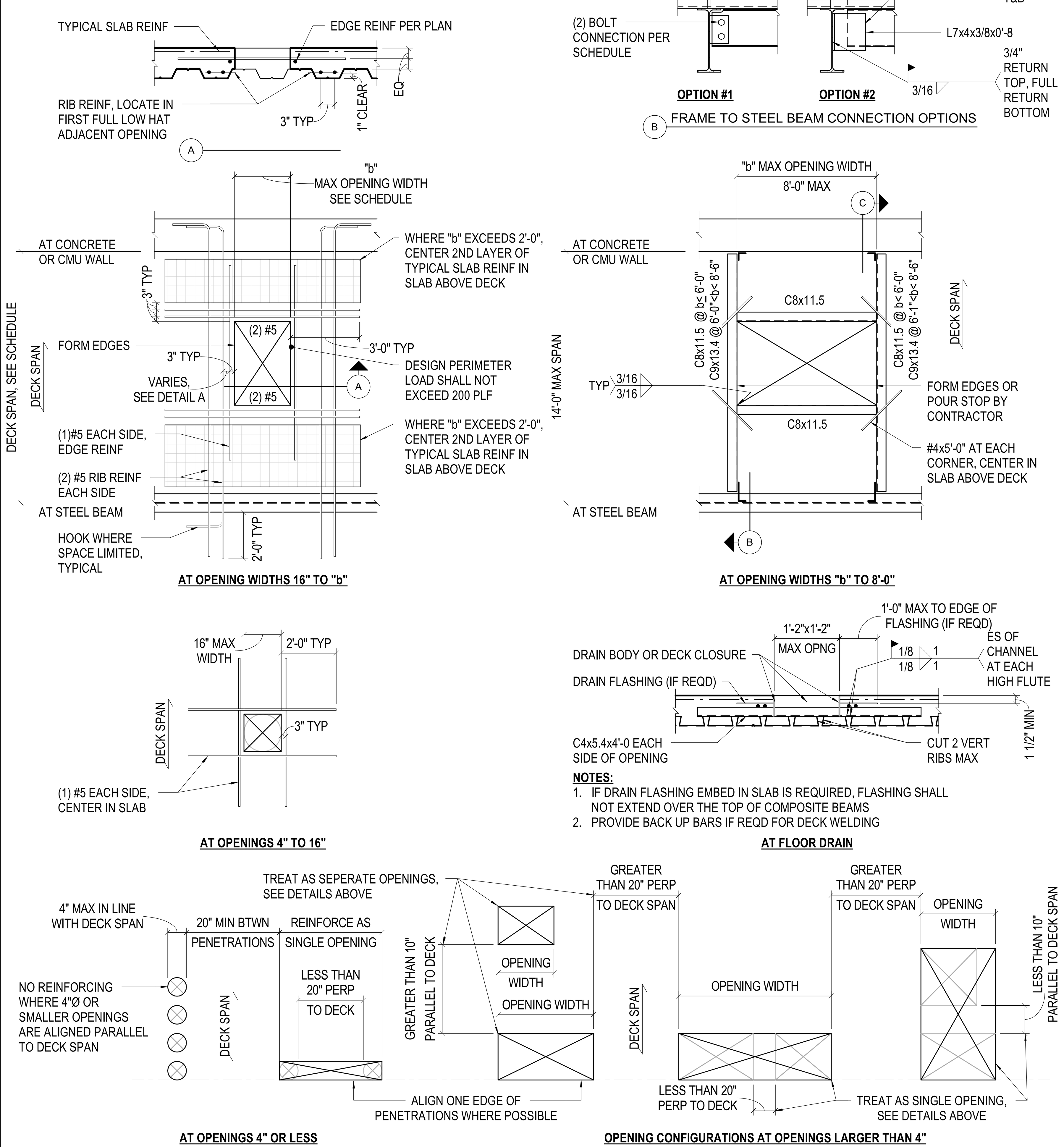
COMPOSITE SLAB PENETRATION REINFORCING

	SLAB TYPE	DECK SPAN (ft) LESS THAN 10'-0"	10'-0" TO 12'-0"	12'-0" TO 14'-0"
		"b" - MAX OPENING WIDTH	"b" - MAX OPENING WIDTH	"b" - MAX OPENING WIDTH
NORMAL WEIGHT	2VLI-4.5	4'-3"	3'-0"	2'-0"





NOTES:
1. IF DRAIN FLASHING EMBED IN SLAB IS REQUIRED, FLASHING SHALL NOT EXTEND OVER THE TOP OF COMPOSITE BEAMS
2. PROVIDE BACK UP BARS IF REQD FOR DECK WELDING

NOTES:
1. PLACE SLEEVES ON DECK PRIOR TO CONCRETE PLACEMENT
2. DO NOT CUT DECK UNTIL CONCRETE HAS REACHED 75% f'c
3. WHERE POSSIBLE ALIGN PENETRATIONS PARALLEL & PERPENDICULAR TO DECK SUCH THAT ONE EDGE OF PENETRATION ALIGNS IN EACH DIRECTION
4. TREAT ADJACENT OPENINGS AS A SINGLE LARGE OPENING IF EITHER:
   A. OPENINGS ARE ALIGNED PARALLEL TO DECK SPAN WITH LESS THAN 10" CLEAR OR
   B. OPENINGS ARE ALIGNED PERPENDICULAR TO DECK SPAN WITH LESS THAN 20" CLEAR

NOTES:
5. NO PENETRATION REINFORCING IS REQUIRED AT:
   A. SLEEVES 4"Ø OR SMALLER
   B. SLEEVES 4"Ø OR SMALLER ALIGNED PARALLEL TO DECK SPAN
   C. SLEEVES 4"Ø OR SMALLER IF SPACED GREATER THAN 20" PERPENDICULAR TO DECK SPAN; IF SPACING BETWEEN OPENINGS PERPENDICULAR TO DECK SPAN DOES NOT EXCEED 20", REINFORCE AS A SINGLE OPENING

19 NO SCALE SLAB ON METAL DECK PENETRATIONS AND SLAB OPENINGS

SLAB ON METAL DECK CONNECTION SCHEDULE

TYPE	PERPENDICULAR SUPPORT MEMBERS CONNECTION	PATTERN	PARALLEL SUPPORT MEMBERS CONN	PATTERN	SIDELAPS CONN	PATTERN
A	3/4"Ø PUDDLE WELDS	36/4 AT VL DECK 30/4 AT 0.6C DECK 32/4 AT 1.0C DECK 32/4 AT 1.3C DECK	3/4"Ø PUDDLE WELDS	12" OC	#10 SCREW	3'-0" OC

NOTES:
1. SHEAR STUDS MAY REPLACE PUDDLE WELDS ONE-FOR-ONE

SLAB ON METAL DECK PROPERTIES

DECK TYPE	DECK DEPTH (IN)	DECK GAUGE	DECK Fy (KSI)	I POS (IN^4/FT)	S POS (IN^3/FT)	S NEG (IN^3/FT)	MINIMUM DECK BEARINGS (IN) EXTERIOR	INTERIOR
2" EPICORE	2	20	50	0.47	0.34	0.31	2	4
2" EPICORE	2	18	50	0.63	0.47	0.43	2	4

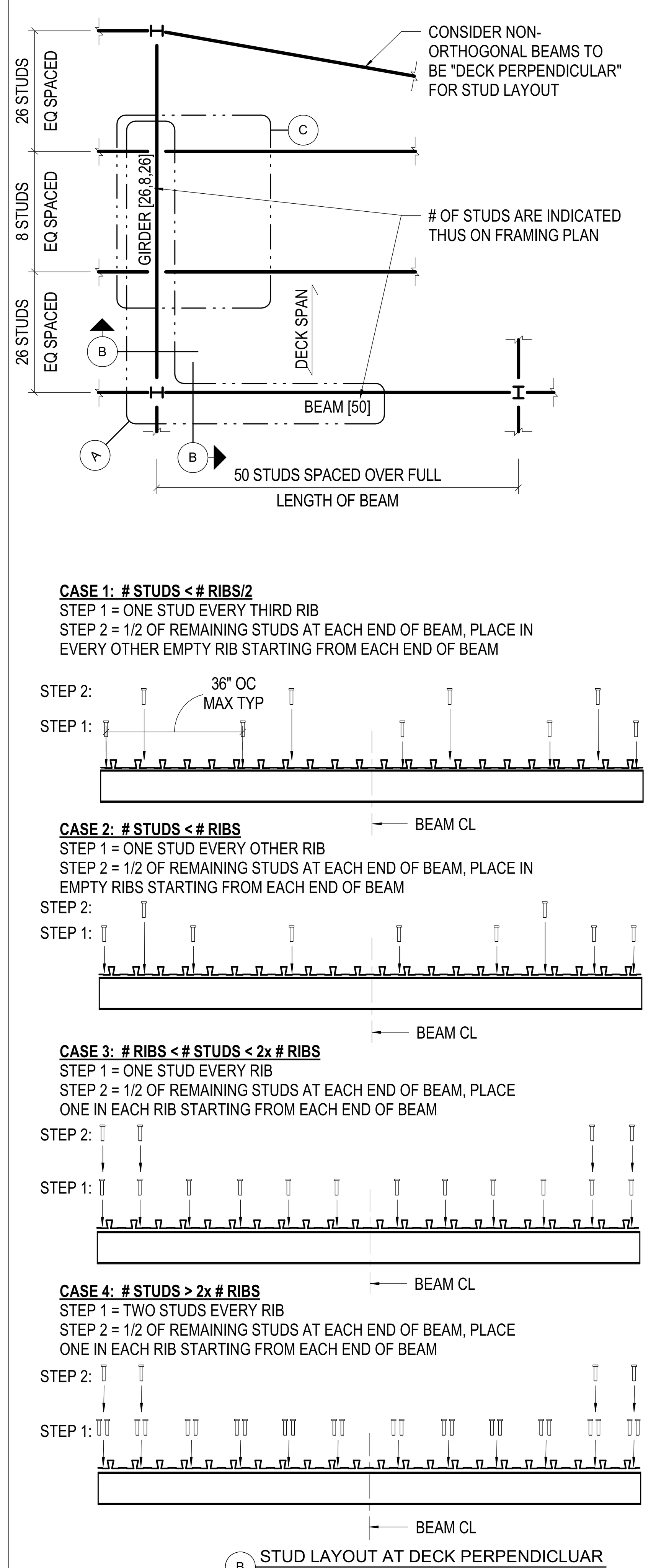
NOTES:
1. COMPOSITE METAL DECK SPECIFIED IS MANUFACTURED BY EPICORE. ALTERNATE COMPOSITE METAL DECK MAY BE SUPPLIED PROVIDED MINIMUM DECK PROPERTIES ARE SATISFIED AND THE RATIO OF THE RIB WIDTH MEASURED AT MID HEIGHT OF DECK TO RIB HEIGHT IS NO LESS THAN 1.5.

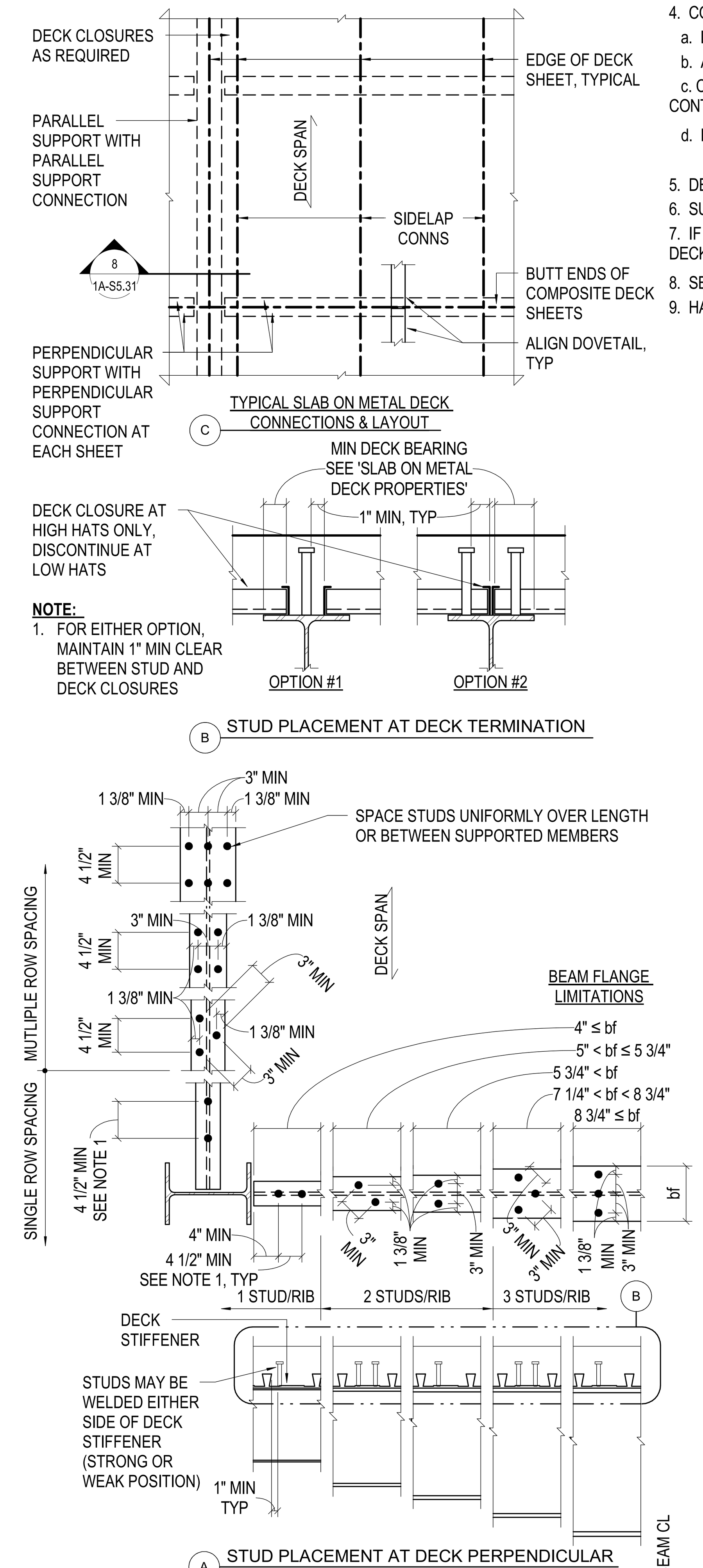
SLAB ON METAL DECK SCHEDULE

SLAB MARK	DECK TYPE	DECK GAGE	CONC ABOVE DECK (IN)	TOTAL THK (IN)	CONC TYPE (SEE NOTE 8)	SLAB REINF	1 SPAN	2 SPAN	3 SPAN	CANTILEVER	CONN TYPE
2E3.25-20A	2" EPICORE	20	3 1/4	5 1/4	3 (NWC)	#4@18" EW	7'-5"	7'-10"	8'-1"	-	A
2E3.25-18A	2" EPICORE	18	3 1/4	5 1/4	3 (NWC)	#4@18" EW	9'-0"	9'-3"	9'-6"	-	A
2E3.25-20B	2" EPICORE	20	3 1/4	5 1/4	3 (NWC)	6x6-W2.5xW2.5 WWR	7'-5"	7'-10"	8'-1"	-	A

(1 SPAN, 2 SPAN, 3 SPAN, CANTILEVER = MAXIMUM UNSHORED DECK SPAN)

NOTES:
1. AT COMPOSITE SYSTEMS, NET-IN-PLACE LENGTH OF SHEAR STUDS SHALL MEET THE FOLLOWING:
   - 1 1/2" MIN ABOVE T/DECK
   - 1" MIN BELOW T/CONCRETE
2. SEE SPECIFICATIONS FOR FLOOR FINISH & FLATNESS REQUIREMENTS
3. INSTALL DECK OVER 4 SUPPORTS (3 SPAN CONTINUOUS) WHERE POSSIBLE
4. COMPOSITE DECK DESIGN IS SIZED BASED UPON THE FOLLOWING MAXIMUM CONDITIONS:
   a. DECK DEFLECTION = 1/2"
   b. AVERAGE SLAB THICKNESS INCREASED BY 1/2" FOR LEVELING
   c. CONSTRUCTION LIVE LOAD = 20 PSF, IF CONSTRUCTION LIVE LOAD EXCEEDS 20 PSF, CONTRACTOR SHALL DESIGN FOR INCREASED LOADING
   d. NORMAL WEIGHT CONCRETE: 150 PCF WET WEIGHT, 145 PCF DRY WEIGHT
5. DECK TYPE 'VL' MAY BE EITHER 'VLI' OR 'VLJ'
6. SUBMIT SHOP DRAWINGS INDICATING STUD LAYOUT (NO. OF STUDS/RIB) AND PLACEMENT ALONG BEAM
7. IF ACTUAL DECK SPANS EXCEED MAXIMUMS SHOWN IN TABLE ABOVE, CONTRACTOR TO SHORE DECK, PROVIDE HEAVIER GAUGE DECK, OR PROVIDE MUTIPLE LAYERS OF DECK.
8. SEE "CONCRETE MIX TABLE" IN GENERAL NOTES FOR CONCRETE MIX REQUIREMENTS
9. HANGERS WITH A 50 POUND MAXIMUM LOAD MAY BE PLACED AT 4'-0" MINIMUM SPACING EACH WAY, UNO

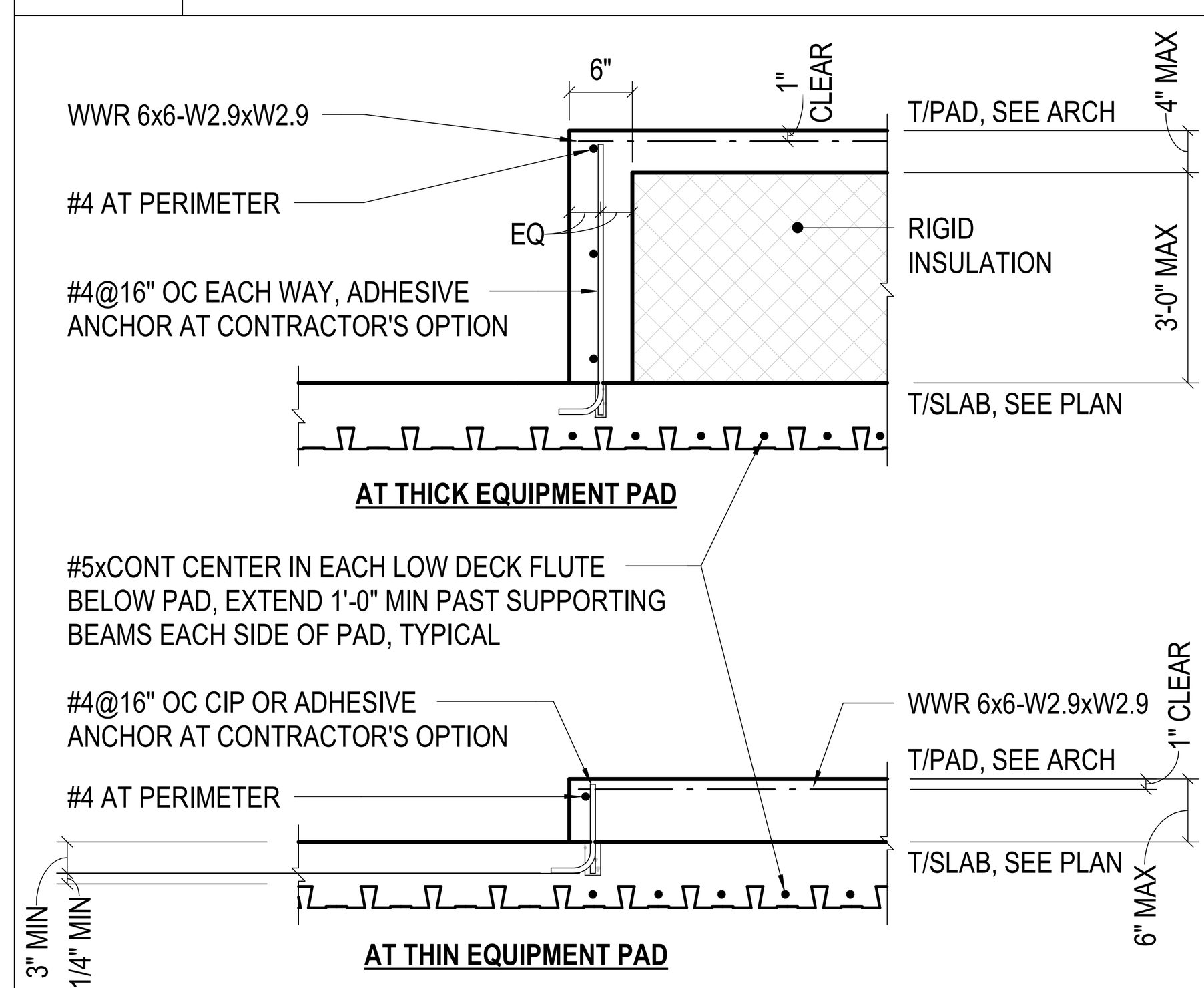




NOTE:
1. FOR EITHER OPTION, MAINTAIN 1" MIN CLEAR BETWEEN STUD AND DECK CLOSURES

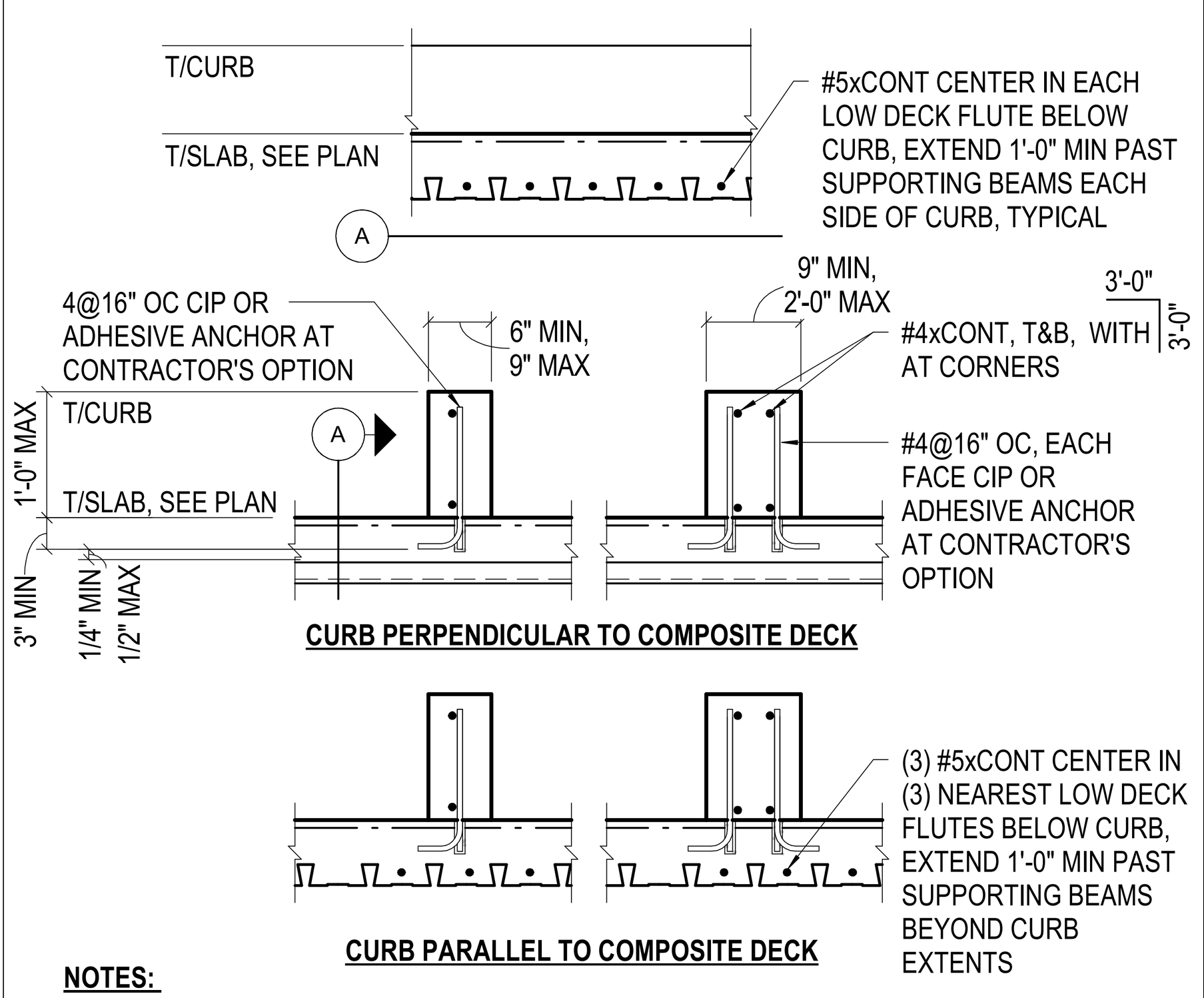
NOTES:
1. PROVIDE STUDS AT 12" MAX WHERE NUMBER OF STUDS IS NOT INDICATED

11 NO SCALE TYPICAL SLAB ON METAL DECK SCHEDULE, DECK LAYOUT AND STUD LAYOUT



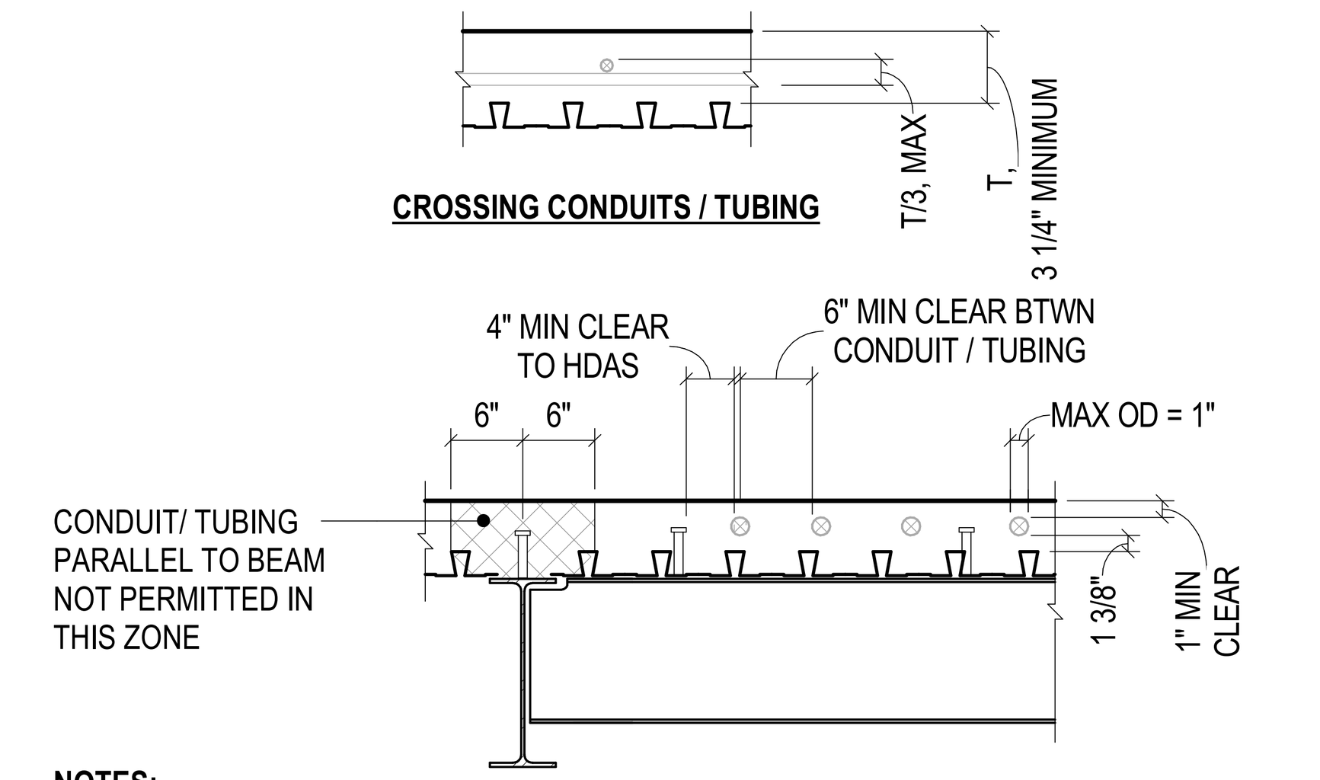
NOTES:
1. COORDINATE PAD WITH ARCH/MECH/ELEC DRAWINGS AND EQUIPMENT SUPPLIER FOR SIZE, THICKNESS, AND LOCATIONS

20 3/4" = 1'-0" EQUIPMENT PAD ON SLAB ON METAL DECK



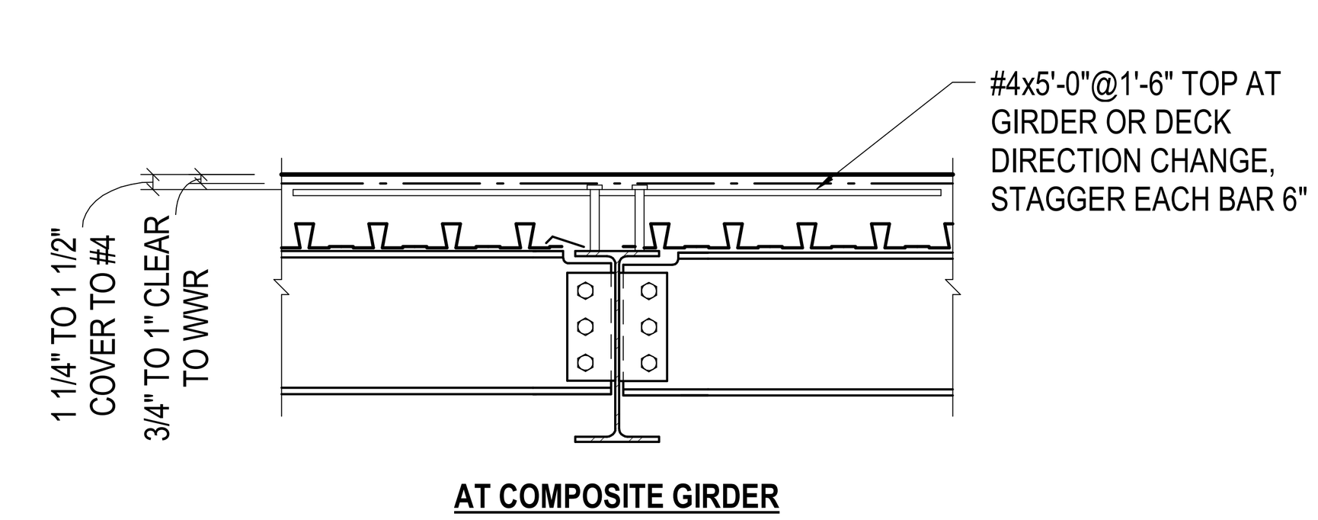
NOTES:
1. COORDINATE CURB WITH ARCH/MECH/ELEC DRAWINGS AND EQUIPMENT SUPPLIER FOR SIZE, THICKNESS, AND LOCATIONS

16 3/4" = 1'-0" CONCRETE CURB ON SLAB ON METAL DECK

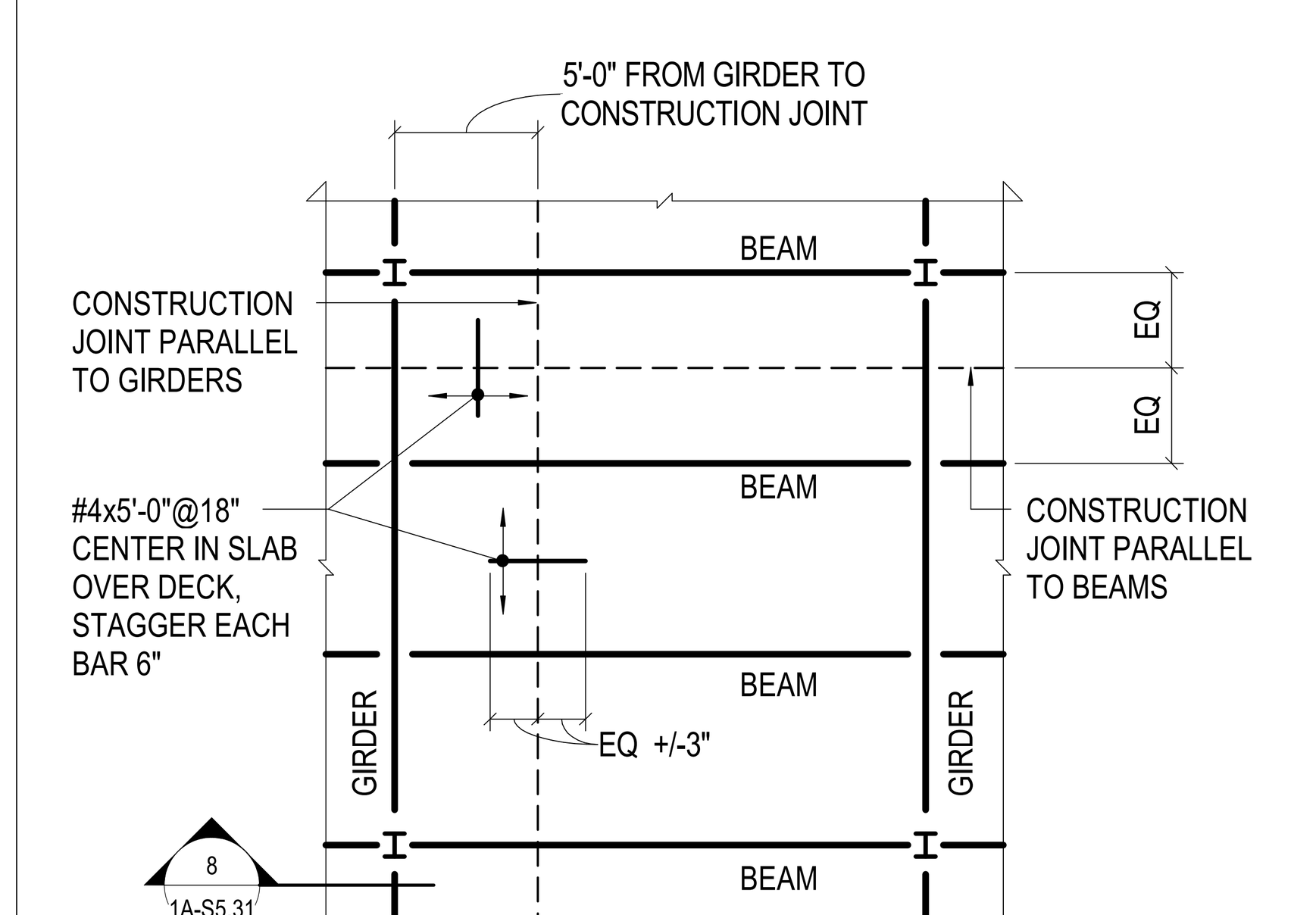


NOTES:
1. AS CONDUIT / TUBING NEARS JUNCTION BOXES / ROOMS AND MINIMUM SPACING REQUIREMENTS SHOWN ABOVE CANNOT BE MAINTAINED:
   A. TURN CONDUIT / TUBING DOWN THROUGH THE BOTTOM OF DECK AT LOCATION OF 6" CLEAR SPACING BETWEEN CONDUITS / TUBING
   B. ROUTE CONDUIT / TUBING BELOW DECK TO JUNCTION BOX / ROOM
   C. ROUTE CONDUITS / TUBING UP THROUGH FLOOR TO PANELS / MANIFOLDS AT FLOOR PENETRATIONS MEETING REQUIREMENTS OF DETAIL 19/1A-S5.31
2. ALUMINUM CONDUIT / TUBING IS NOT PERMITTED IN ANY CONCRETE
3. NO CONDUIT / TUBING PERMITTED IN FLOORS SUBJECTED TO FREQUENT PALLET JACK USE

12 3/4" = 1'-0" TYPICAL CONDUIT / TUBING IN SLAB ON METAL DECK



8 3/4" = 1'-0" TYP SLAB ON METAL DECK GIRDER & DECK DIRECTION REINFORCING



NOTES:
1. NO SAW CUT JOINTS IN ELEVATED SLAB ON METAL DECK UNO
2. SEE GENERAL NOTES FOR POUR LENGTH AND AREA LIMITS
3. SUBMIT DRAWINGS SHOWING CONSTRUCTION AND CONTROL JOINT LOCATIONS ALONG WITH THE SEQUENCE OF POURS. CONSTRUCTION JOINT LOCATIONS AND CASTING SEQUENCE SHALL BE ARRANGED TO MINIMIZE THE EFFECTS OF ELASTIC AND LONG-TERM SHORTENING/SHRINKAGE.

4 NO SCALE TYPICAL SLAB ON METAL DECK CONSTRUCTION JOINT LOCATIONS

Steamboat
ALTERRA MOUNTAIN COMPANY
east west partners
2305 Mount Werner Circle
Steamboat Springs, CO 80487
Gensler
1225 17th Street Suite 150 Denver, CO 80202 United States Tel 303.595.8585 Fax 303.825.6823
LANDMARK CONSULTANTS, INC. 141 9th Street PO Box 774943 Steamboat Springs, CO 80477 Tel 970.871.9494
DESIGNWORKSHOP 1390 Lawrence Street Suite 100 Denver, CO 80204 Tel 303.623.5186
MARTIN/MARTIN 12499 West Colfax Ave. Lakewood, CO 80215 United States Tel 303.431.6100
me engineers 14143 Denver West Pkwy Suite 300 Golden, CO United States Tel 303.421.6655

May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

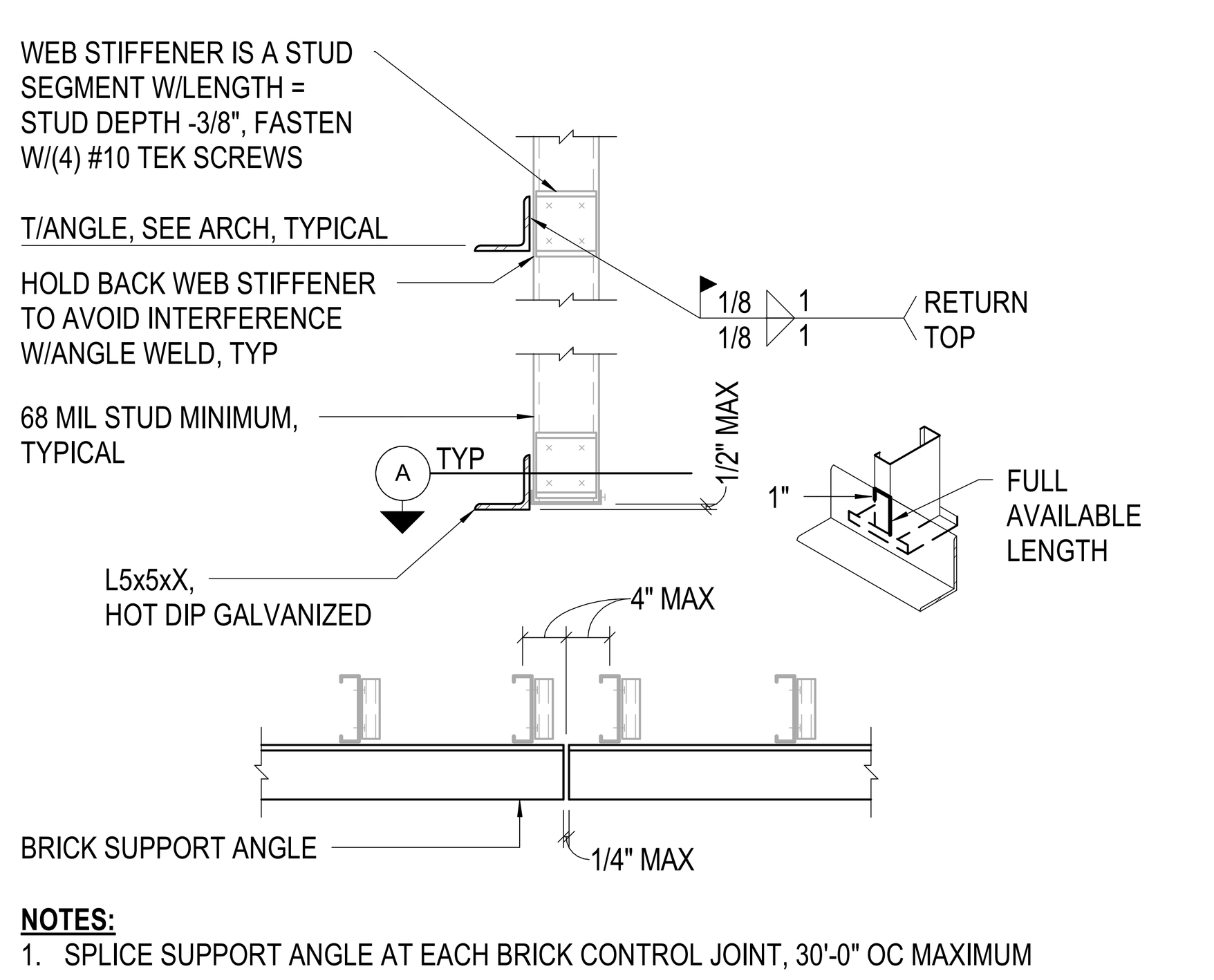
Project Number
20.1411.S.01

Description
TYPICAL SLAB ON METAL DECK DETAILS

Scale
As indicated

1A-S5.31

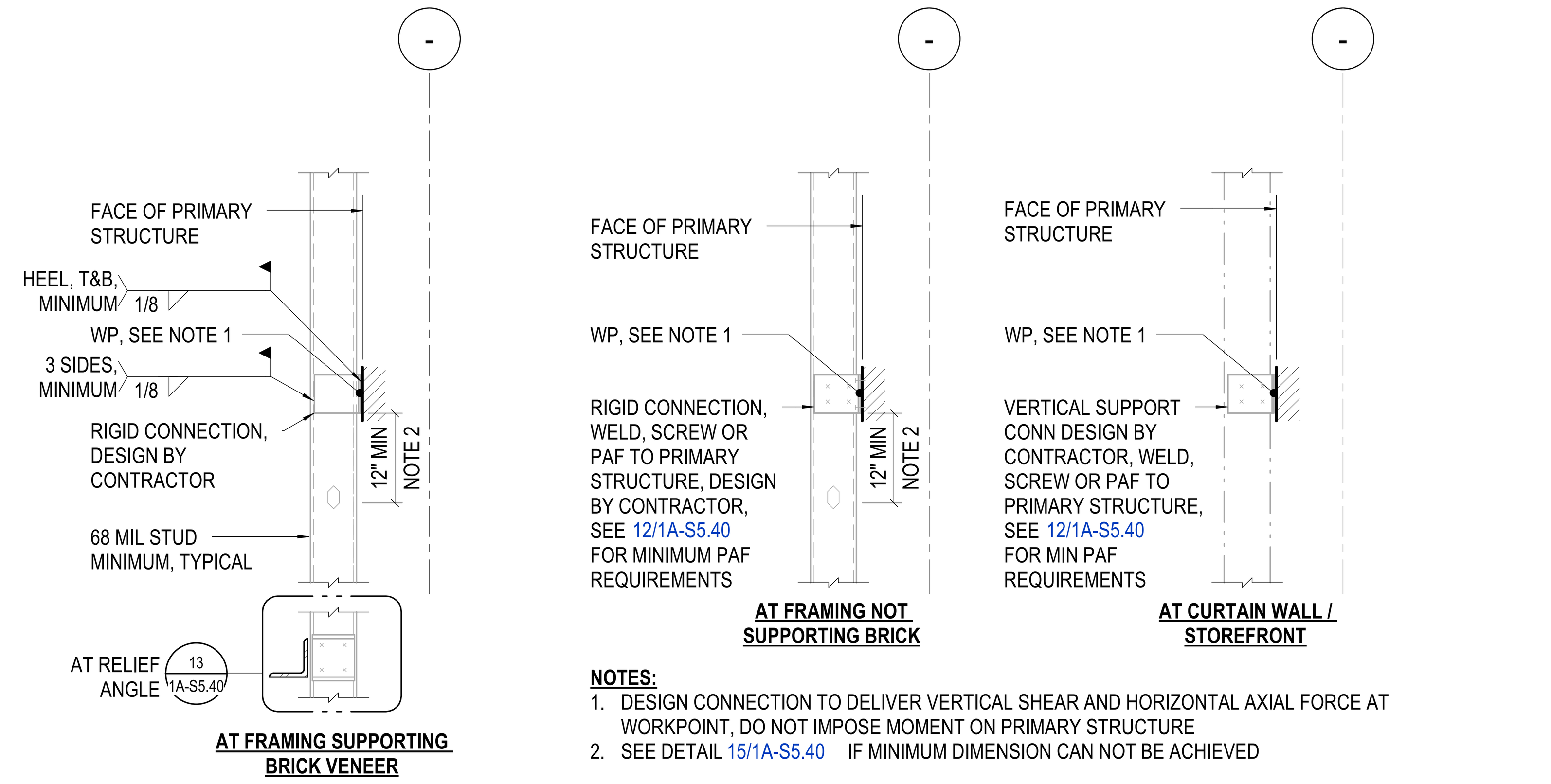
MM JOB #: 20.1411.S.01
DESIGNERS: MC MARTIN
PRINCIPAL: KELLY KNOWLES
LEAD BIM TECH: COLIN KNOWLES
EOR: KELLY KNOWLES
DATE PRINTED: 5/19/2021 12:07:02 PM
PROJECT MANAGER: C. A. CHEN
FILE PATH: BIM 360://20.1411.S.01 - Steamboat Redev/20.1411.S.01_Structural_SSR_Promenade Building 2021_V2021.rvt



NOTES:
1. SPLICE SUPPORT ANGLE AT EACH BRICK CONTROL JOINT, 30'-0" OC MAXIMUM

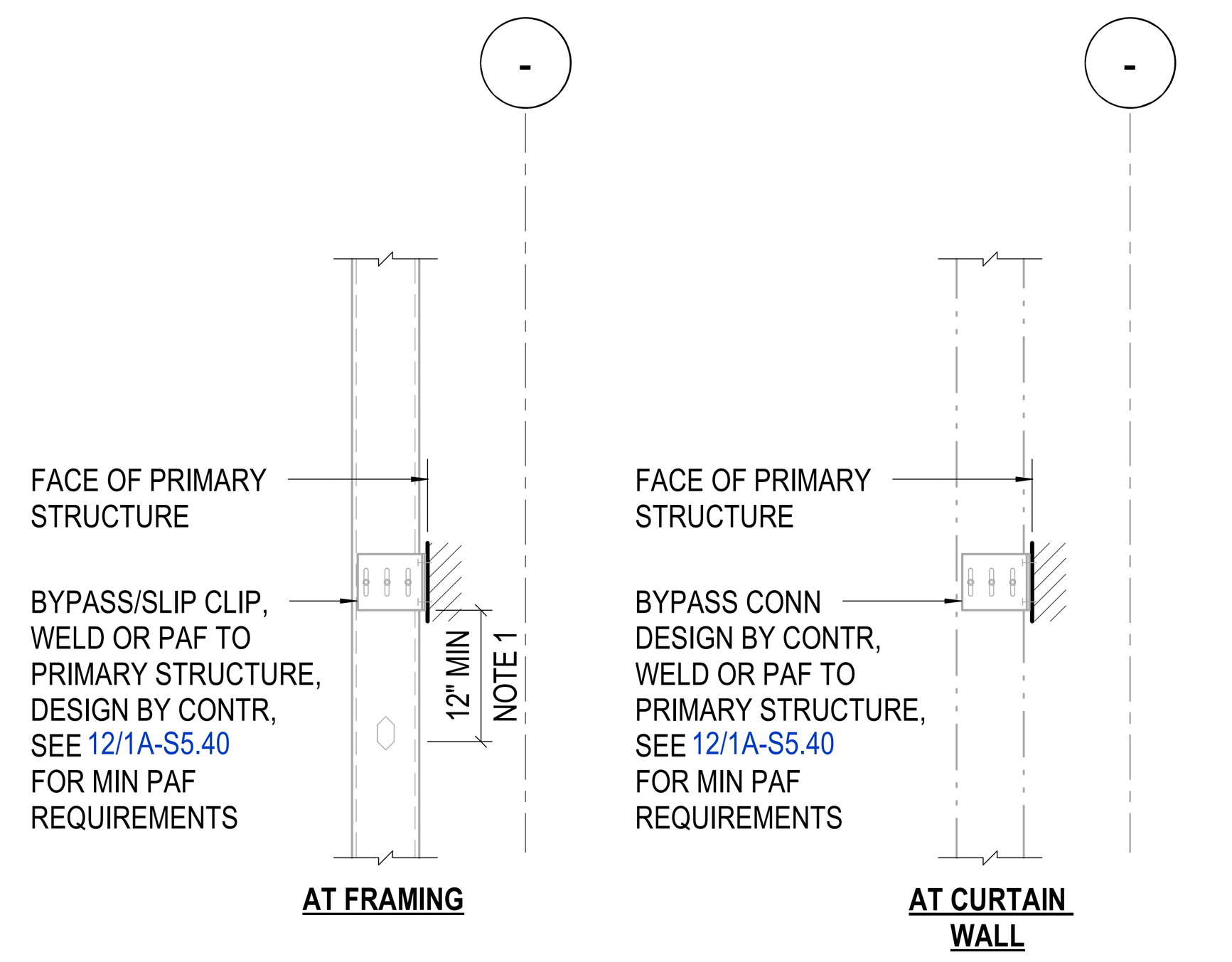
AT SUPPORT ANGLE SPLICE

13 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - STONE SUPPORT TO MTL STUD



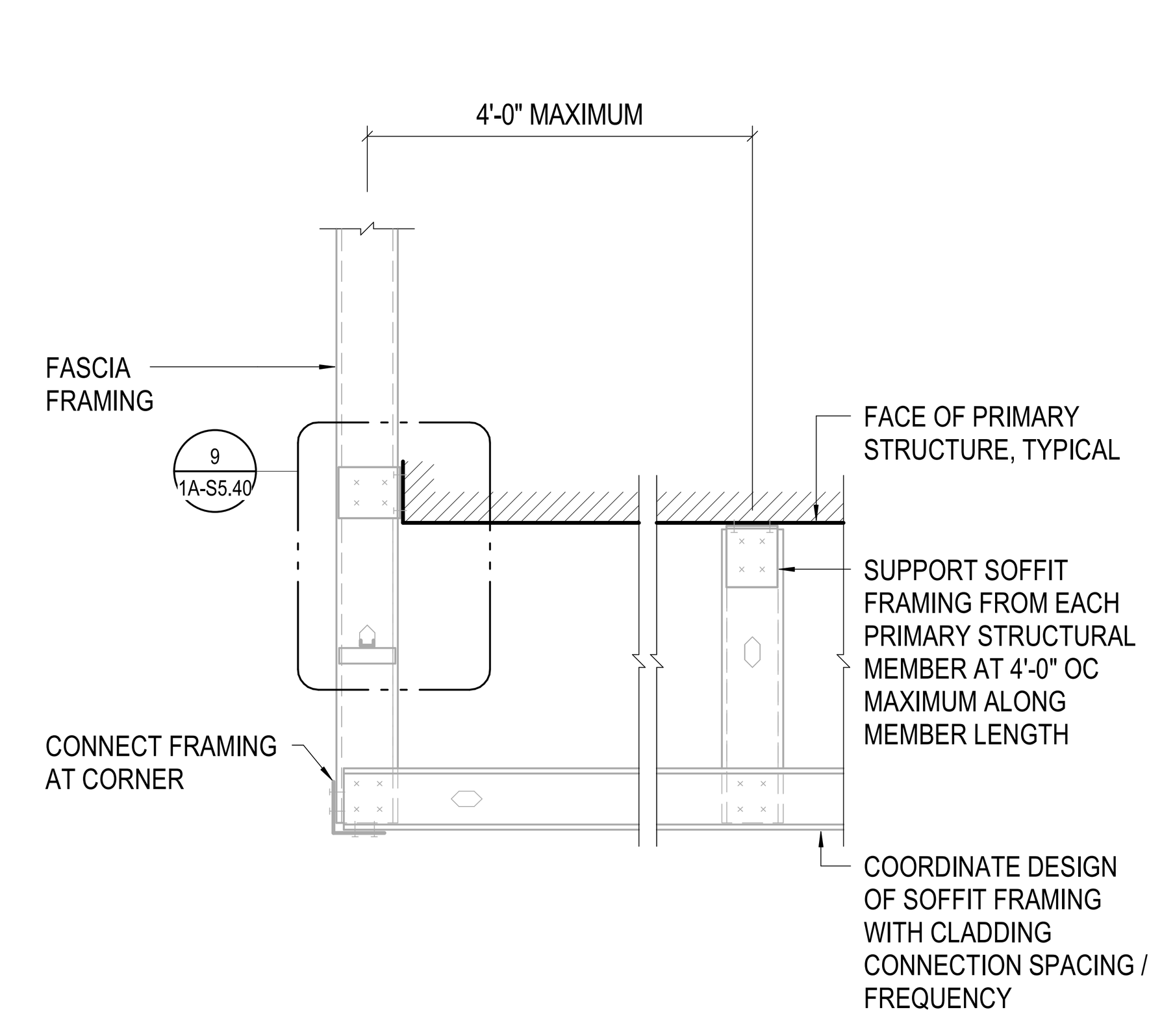
NOTES:
1. DESIGN CONNECTION TO DELIVER VERTICAL SHEAR AND HORIZONTAL AXIAL FORCE AT WORKPOINT, DO NOT IMPOSE MOMENT ON PRIMARY STRUCTURE
2. SEE DETAIL 15/1A-S5.40 IF MINIMUM DIMENSION CAN NOT BE ACHIEVED

9 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - FIXED CONNECTION MINIMUM REQUIREMENTS

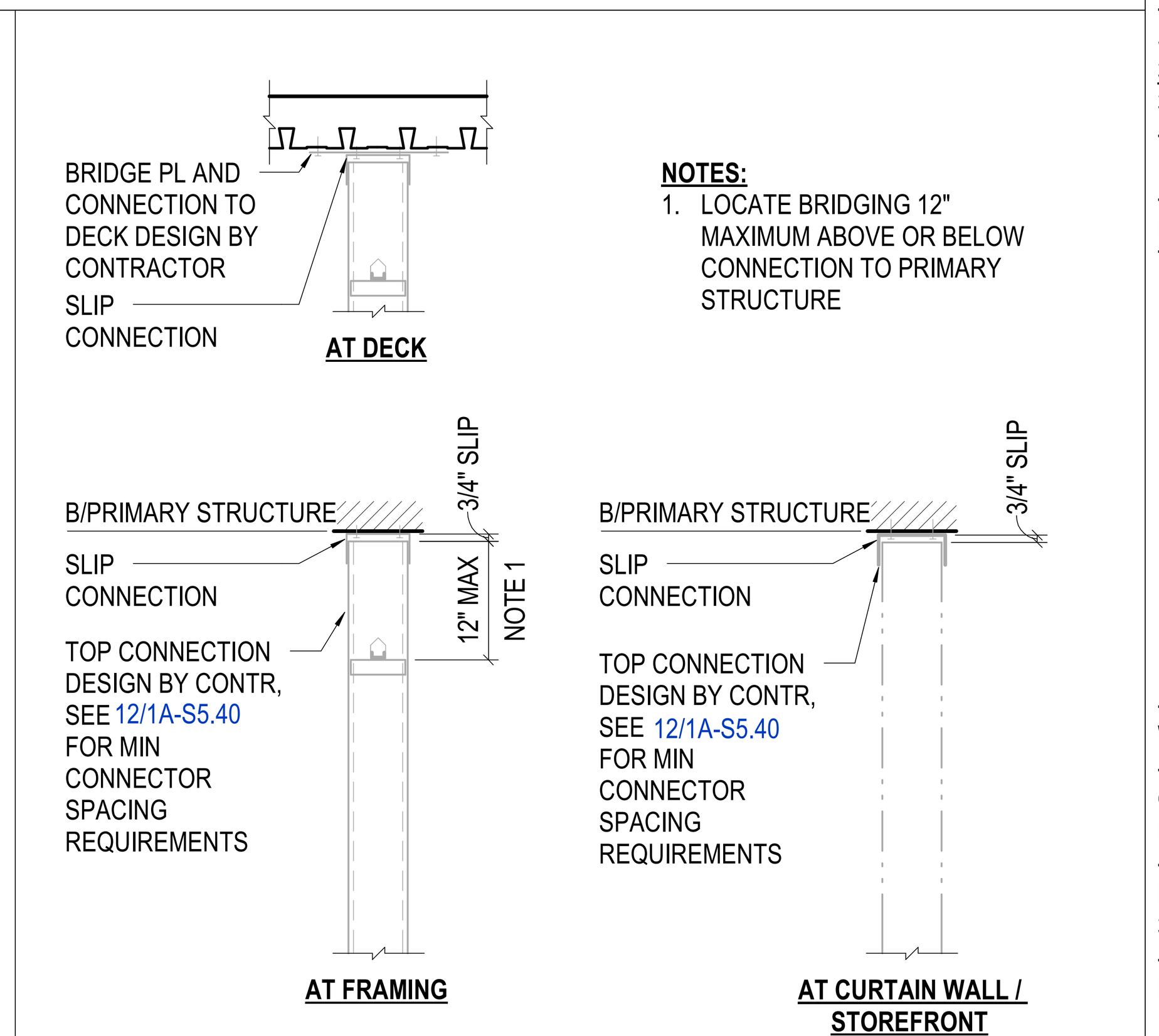


NOTES:
1. SEE DETAIL 15/1A-S5.40 IF MINIMUM DIMENSION CANNOT BE ACHIEVED

14 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - SLIP CONN MIN REQUIREMENTS

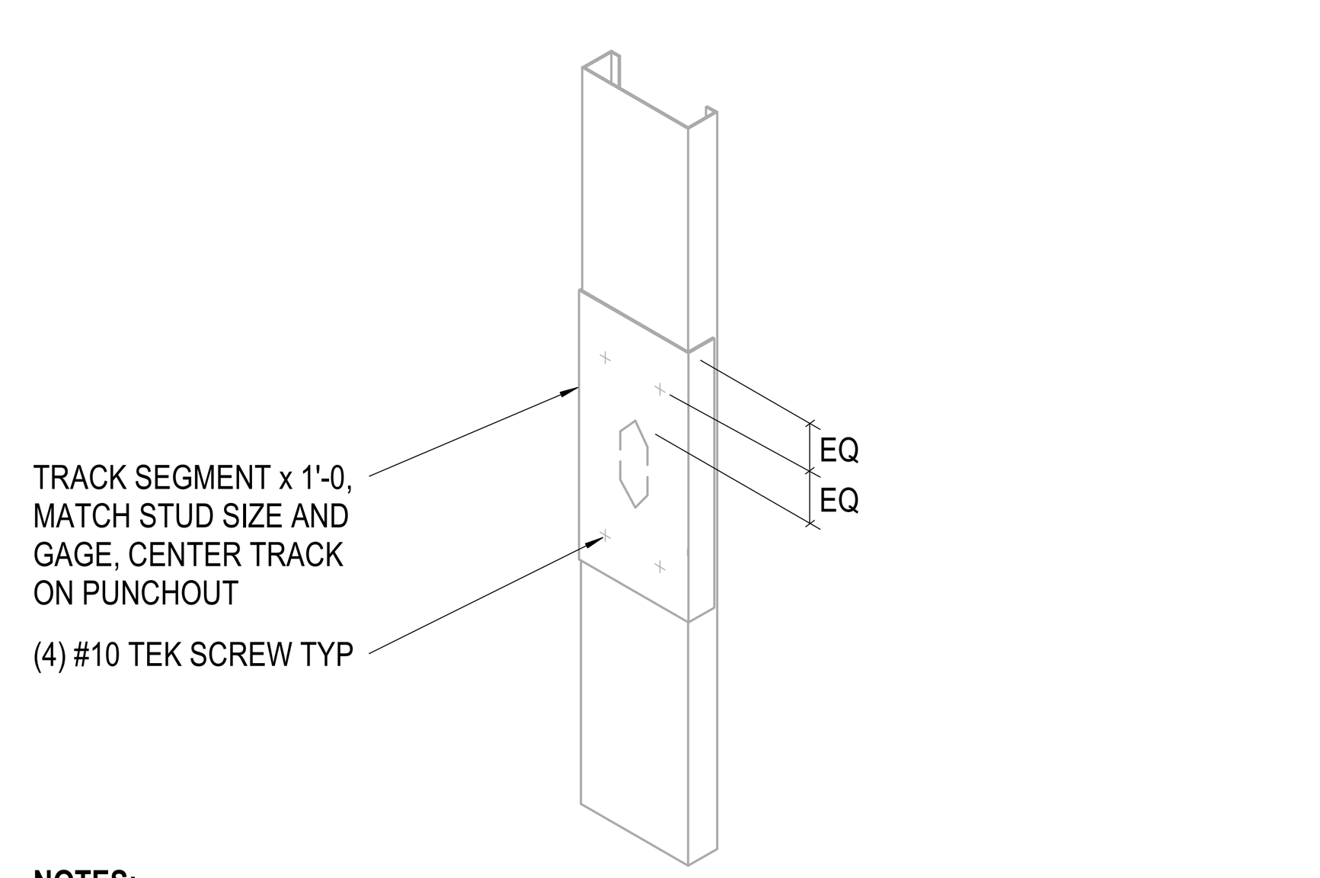


10 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - SOFFIT FRAMING MIN REQT(s)



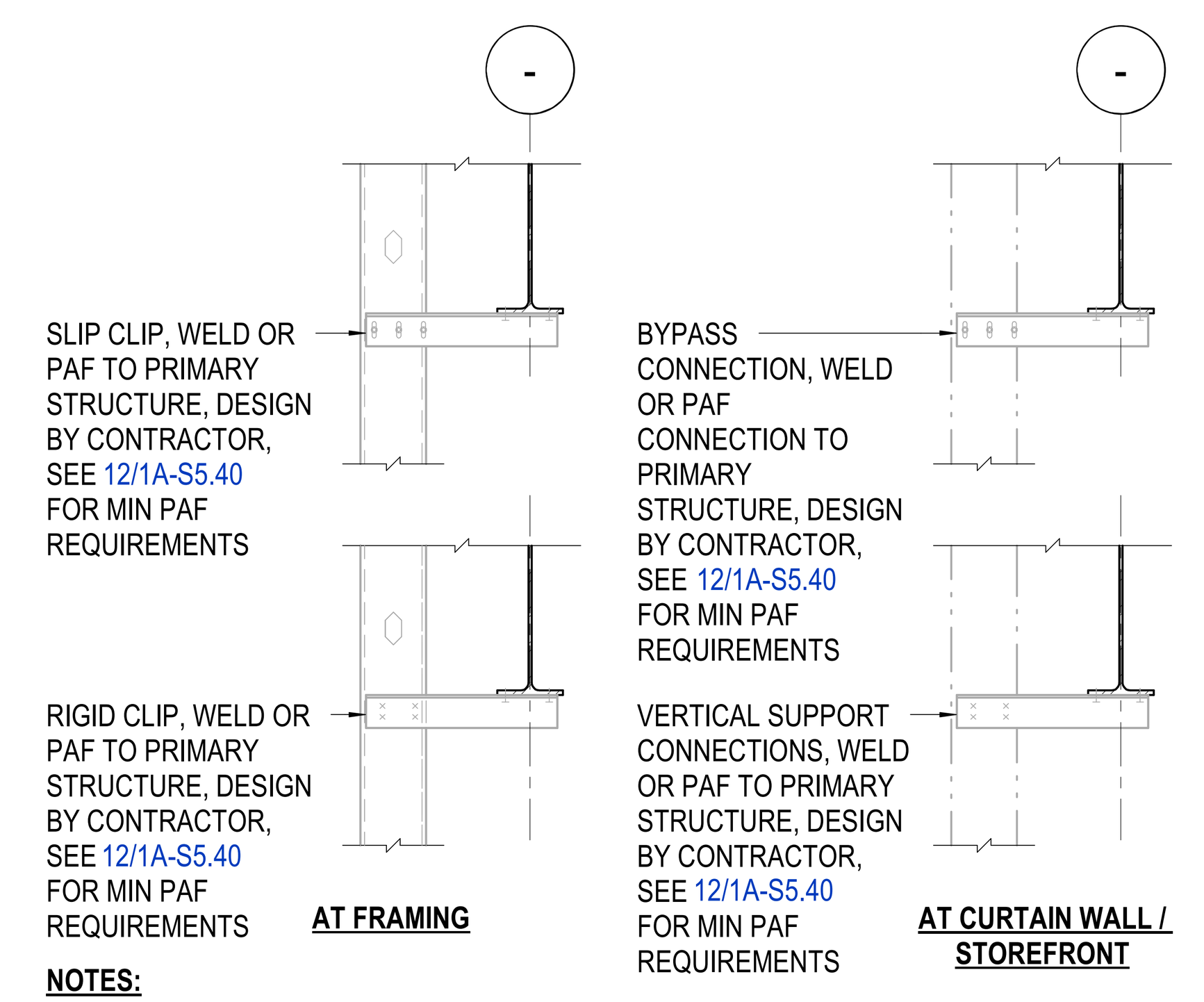
NOTES:
1. LOCATE BRIDGING 12" MAXIMUM ABOVE OR BELOW CONNECTION TO PRIMARY STRUCTURE

6 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - FRAM TO B/PRIMARY STRUCTURE



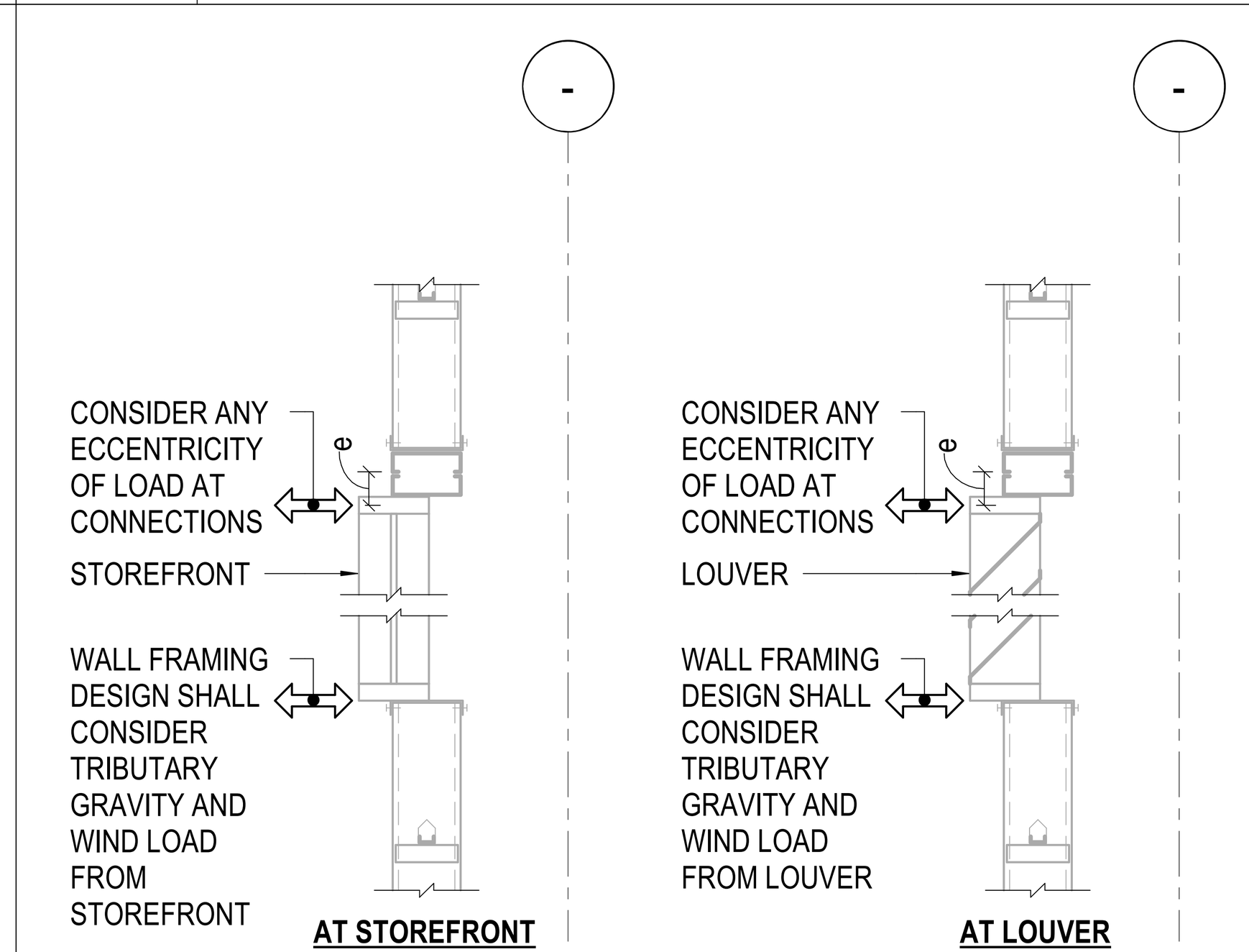
NOTES:
1. REINFORCING REQUIRED WHEN PUNCHOUT LOCATION SPECIFIED IN OTHER DETAILS CANNOT BE ACHIEVED
2. PUNCHOUT REINFORCING INDICATED IS A MINIMUM, FINAL REINFORCING SHALL BE DESIGNED BY CONTRACTOR

15 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - PUNCHOUT REINFORCING

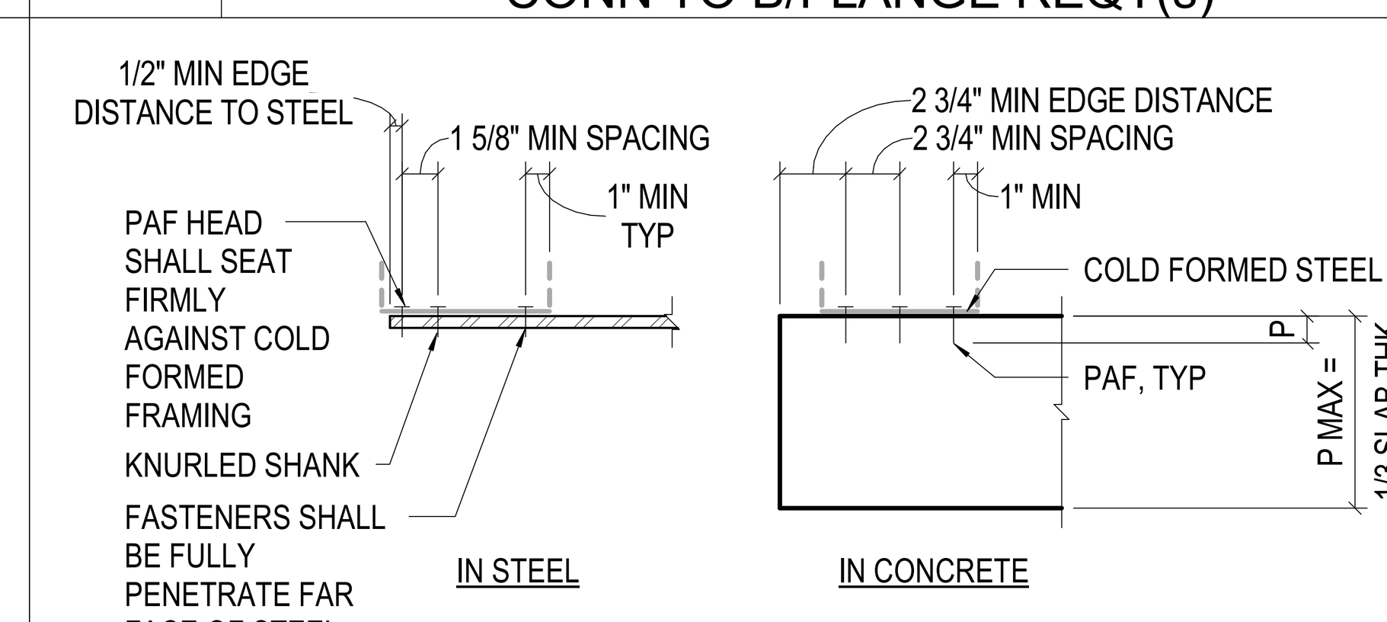


NOTES:
1. SEE DETAILS FOR ALLOWABLE CONNECTION FORCES TO PRIMARY STRUCTURAL FRAMING
2. DO NOT CONNECT TO BOTTOM FLANGE OF BEAM UNLESS SPECIFICALLY INDICATED IN DETAILS

11 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - CONN TO B/FLANGE REQT(s)

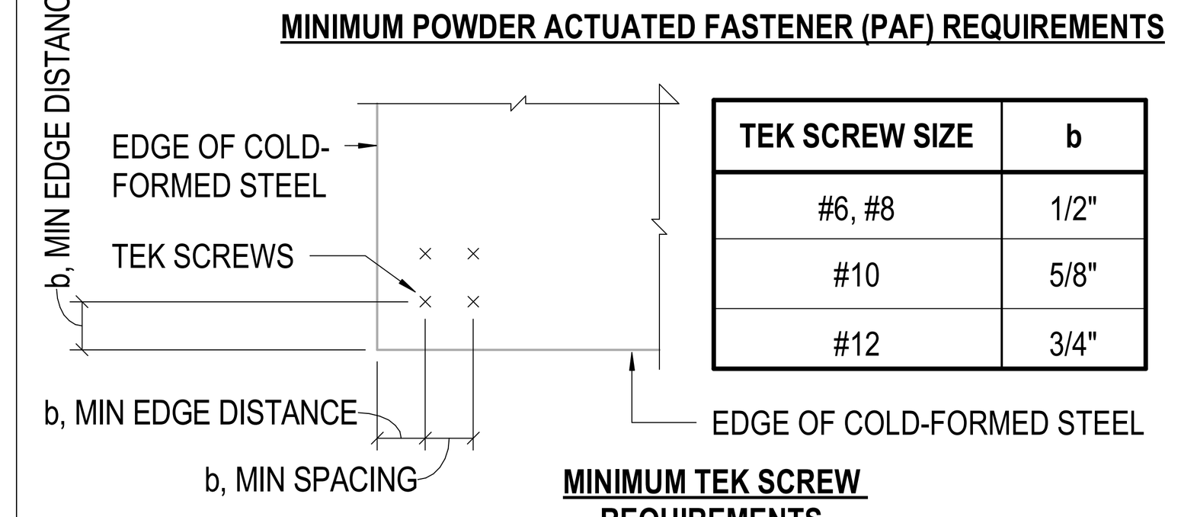


7 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - STOREFRONT/LOUVER TO FRAMING



NOTES:
1. DO NOT USE PAF's TO RESIST TENSION LOADS IN CONCRETE
2. DO NOT USE PAF's IN MASONRY

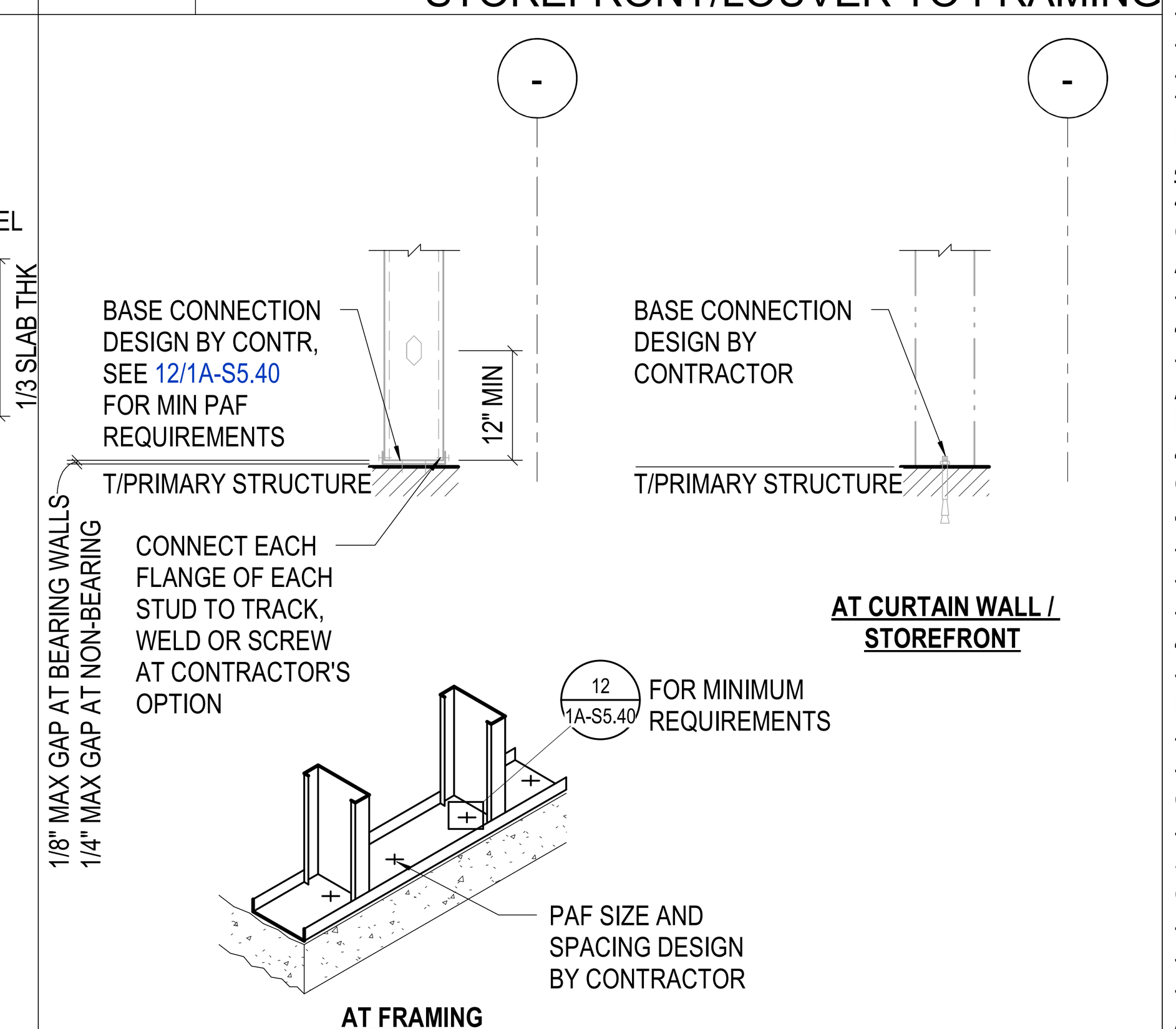
MINIMUM POWDER ACTUATED FASTENER (PAF) REQUIREMENTS



TEK SCREW SIZE	b
#6, #8	1/2"
#10	5/8"
#12	3/4"

MINIMUM TEK SCREW REQUIREMENTS

12 1 1/2" = 1'-0" CONTRACTOR ENGINEERED WALL - FASTENER MINIMUM REQT(s)



8 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - BASE CONN MIN REQUIREMENTS

DESIGN CRITERIA FOR PERFORMANCE SPECIFIED COLD FORMED STEEL FRAMING (CFSF)

1) GENERAL COLD FORMED STEEL FRAMING REQUIREMENTS

1A) COLD FORMED STEEL FRAMING (CFSF) USED FOR EXTERIOR CLADDING SUPPORT IS A PERFORMANCE SPECIFIED SYSTEM DESIGNED (ENGINEERED) AND PROVIDED BY THE CONTRACTOR

1B) THE CONTRACTOR SHALL DESIGN ALL MEMBERS AND CONNECTIONS FORMING A COMPLETE SYSTEM FOR THE CLADDING SELF WEIGHT, WIND AND SEISMIC FORCES INDICATED IN THE DESIGN CRITERIA SECTION AND AS INDICATED IN THE STRUCTURAL DOCUMENTS

1C) INFORMATION PERTAINING TO THE FRAMING IS SHOWN THROUGHOUT THE ARCHITECTURAL AND STRUCTURAL DOCUMENTS AND IN THE SPECIFICATIONS. CONTRACTOR SHALL REFERENCE AND COORDINATE FRAMING WITH ALL TRADES AND DESIGN DOCUMENTS

1D) REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS INCLUDING PROFESSIONAL ENGINEERING AND SUBMITTAL REQUIREMENTS

1E) VARIATIONS PROPOSED BY THE CONTRACTOR TO ACCOMMODATE PREFABRICATION AND ALTERNATE SCHEMES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO PREPARING DRAWINGS AND ENGINEERING OF THE COLD FORMED STEEL FRAMING.

2) BIDDING REQUIREMENTS

2A) THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A BID THAT INCLUDES ALL ITEMS ASSOCIATED WITH THE DESIGN AND CONSTRUCTION OF THE EXTERIOR WALL AND SOFFIT FRAMING, INCLUDING BUT NOT LIMITED TO:
- DESIGN OF THE FRAMING MEMBERS (STUDS, SILLS, HEADERS, JAMBS, SOFFITS, HANGERS & KICKERS, ETC.)
- CONNECTION DESIGN: BOTH FRAMING-TO-FRAMING CONNECTIONS AND CONNECTIONS BETWEEN FRAMING AND THE PRIMARY STRUCTURAL FRAME
- COORDINATION AND INSTALLATION OF ALL FRAMING

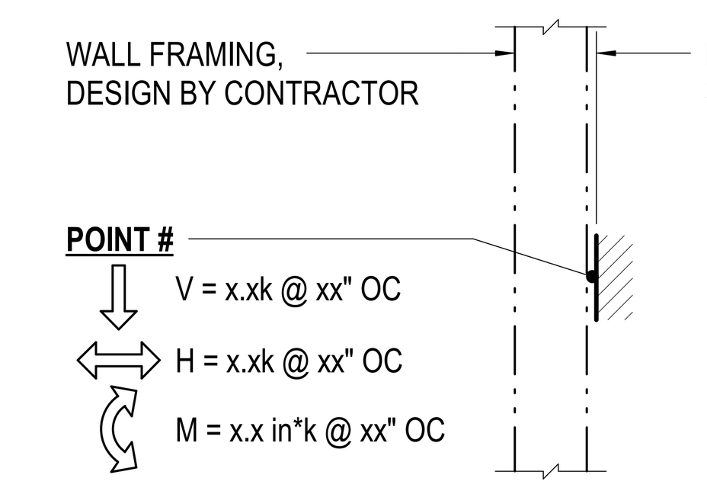
2B) BIDS SHALL BE BASED ON CONTRACTOR'S ENGINEERED SIZES TO RESIST THE DESIGN FORCES AND MEET THE MINIMUM REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS
- DO NOT BASE BIDS SOLELY ON THE MINIMUM REQUIREMENTS

2C) FRAMING MEMBERS DEPTHS SHALL BE AS NOTED ON ARCHITECTURAL DOCUMENTS, UNLESS NOTED OTHERWISE

2D) VARY MEMBER THICKNESS, FLANGE WIDTH, YIELD STRESS, AND SPACING AS REQUIRED TO SATISFY:
- INDICATED PERFORMANCE CRITERIA
- MINIMUM STRUCTURAL REQUIREMENTS INDICATED IN THE SPECIFICATIONS AND STRUCTURAL DETAILS

3) ENGINEERING REQUIREMENTS

3A) **GENERAL:**
- FRAMING MEMBERS SHALL BE AS NOTED ON THE ARCHITECTURAL DOCUMENTS, UNLESS NOTED OTHERWISE
- FRAMING MEMBERS SHALL DELIVER MAXIMUM FORCES TO THE PRIMARY STRUCTURAL FRAME AT THE LOCATIONS, DIRECTIONS, AND MAGNITUDES NOTED IN STRUCTURAL DETAILS THUS:



- DO NOT CONNECT FRAMING TO THE PRIMARY STRUCTURAL FRAMING AT LOCATIONS OR IN WAYS NOT SPECIFICALLY INDICATED IN THE DETAILS
- ALL CONNECTIONS TO PRIMARY STRUCTURE SHALL BE DESIGNED AS PINNED CONNECTIONS. DO NOT DELIVER MOMENT TO PRIMARY STRUCTURE UNLESS SPECIFICALLY INDICATED.
- DO NOT CONNECT FRAMING TO THE BOTTOM FLANGE OF BEAMS UNLESS SPECIFICALLY INDICATED IN STRUCTURAL DETAILS

3B) **GC / COLD FORMED STEEL FRAMING DESIGNER / CLADDING DESIGNER COORDINATION:**
- COLD FORMED STEEL FRAMING MEMBERS AND FRAMING ATTACHMENT SHALL BE DESIGNED FOR THE TRIBUTARY LOADING AT THE FRAMING SPACING INDICATED ON THE CONTRACT DOCUMENTS
- CLADDING SUPPLIER SHALL DESIGN CLADDING TO DISTRIBUTE LOAD UNIFORMLY TO AND ATTACH TO EACH FRAMING MEMBER.
- CLADDING ATTACHMENT SPACING WHICH DOES NOT EQUALLY DISTRIBUTE LOAD TO EACH STEEL FRAMING MEMBER IS NOT ACCEPTABLE WITHOUT APPROVAL FROM THE STEEL FRAMING SUPPLIER / DESIGNER AND THE PROJECT ENGINEER OF RECORD (EOR)
- IF THE CLADDING SUPPLIER DOES NOT AND / OR CANNOT UNIFORMLY LOAD / ATTACH TO EACH STEEL FRAMING MEMBER, THE LOADS FROM THE CLADDING SUPPLIER MUST BE PROVIDED TO THE FRAMING SUPPLIER. THE STEEL FRAMING SUPPLIER WILL NEED TO INCORPORATE THESE INCREASED LOADS INTO THE FRAMING DESIGN.
- GC SHALL COORDINATE BETWEEN COLD FORMED STEEL FRAMING SUPPLIER AND CLADDING SUPPLIER AS REQUIRED.

3C) **LOADS:**
- WIND LOADS GIVEN IN THESE DOCUMENTS ARE BASED ON A COMPONENT AND CLADDING TRIBUTARY AREA OF 10 SQUARE FEET. REDUCTION IN LOADS BASED ON TRIBUTARY AREA ARE ALLOWED AS PERMITTED IN THE GOVERNING BUILDING CODE.
- CALCULATE AND APPLY TO COLD FORMED STEEL FRAMING HEADERS, SILLS & JAMBS CUMULATIVE LINE AND CONCENTRATED TRIBUTARY LOADS FROM CLADDING DEAD LOAD AND WIND PRESSURES ON WINDOWS, LOUVERS, DOORS, CURTAIN WALL, AND OTHER OPENINGS
- COORDINATE MULLION AND JAMB LOCATIONS WITH THE GENERAL CONTRACTOR
- CONTRACTOR SHALL ACCOUNT FOR LOCALIZED LOADS AND MOMENTS DUE TO ECCENTRICALLY APPLIED LOADS SUCH AS SLIP CONNECTIONS AND WINDOW HEAD TRACKS

3D) **PRIMARY FRAME DEFLECTIONS:** PROVIDE VERTICAL SLIP CONNECTIONS AND DEFLECTION TRACKS AS NEEDED TO ACCOMMODATE VERTICAL DEFLECTIONS OF THE PRIMARY STRUCTURAL FRAMING. UNLESS NOTED OTHERWISE, PROVIDE THE FOLLOWING ALLOWANCES FOR VERTICAL DEFLECTION OF THE PRIMARY STRUCTURAL FRAMING:
- AT EXTERIOR / SPANDREL INFILL FRAMING: 3/4"
- AT EXTERIOR / SPANDREL BYPASS FRAMING: 3/4"
- AT INTERIOR FRAMING: GREATER OF L/240 OR 3/4"

3E) **VERTICAL DEFLECTION CRITERIA:** DESIGN COLD FORMED METAL FRAMING HEADERS TO MEET THE FOLLOWING VERTICAL DEFLECTION CRITERIA:
- FOR STUDS SUPPORTING MASONRY VENEER = SPAN / 600
- FOR STUDS SUPPORTING STUCCO = SPAN / 240
- FOR STUDS SUPPORTING THIN SET ADHERED VENEER = SPAN / 360
- FOR STUDS SUPPORTING METAL PANELS = SPAN / 240
- FOR STUDS SUPPORTING OTHER = SPAN / 240

3F) **HORIZONTAL DEFLECTION CRITERIA:** DESIGN COLD FORMED METAL FRAMING MEMBERS TO MEET THE FOLLOWING HORIZONTAL DEFLECTION CRITERIA:
- FOR STUDS BACKING-UP MASONRY VENEER = SPAN / 600
- FOR STUDS BACKING-UP STUCCO OR THIN SET ADHERED VENEER = SPAN / 360
- FOR STUDS BACKING-UP METAL PANELS = SPAN / 240
- FOR STUDS BACKING-UP OTHER = SPAN / 240
- PER IBC TABLE 1604.3 FOOTNOTE F, WIND LOAD IS PERMITTED TO BE TAKEN AS 0.42 TIMES THE COMPONENT AND CLADDING ULTIMATE LOADS FOR THE PURPOSE OF DETERMINING DEFLECTION LIMITS.

4) CONSTRUCTION REQUIREMENTS

4A) CONSTRUCTION SHALL CONFORM TO THE MINIMUM REQUIREMENTS SHOWN ON THE CONTRACT DOCUMENTS, INCLUDING DETAILS THROUGHOUT THE STRUCTURAL DOCUMENTS AND MINIMUM REQUIREMENTS INDICATED IN DETAILS ON THIS SHEET
- SEE DETAILS THIS SHEET INDICATING ADDITIONAL MINIMUM CFSF CRITERIA

4B) **REQUIRED SITE VISITS**
- THE CONTRACTOR'S COLD FORMED STEEL FRAMING ENGINEER SHALL MAKE SITE VISITS AS APPROPRIATE (1 MINIMUM) TO OBSERVE THE INSTALLATION OF THE COLD FORMED METAL FRAMING

4C) **MINIMUM STUD GAGES:** MINIMUM STUD THICKNESS BASED ON THE ATTACHMENT OF CLADDING MATERIAL IS GIVEN IN THE FOLLOWING TABLE:

MATERIAL ATTACHED TO STUDS	MIN. MIL THICKNESS	MAX. STUD SPACING
WELDED MASONRY VENEER LEDGE	68	16" OC
MASONRY VENEER BACKUP	43	16" OC
ALL OTHERS	33	24" OC

4D) **ADDITIONAL CRITERIA FOR CFSF:**
- PROVIDE HORIZONTAL STUD BRIDGING AS REQUIRED TO BRACE FRAMING, MINIMUM OF (1) ROW AT MID-HEIGHT
- PROVIDE (1) STUD EACH SIDE OF MASONRY CONTROL JOINTS
- COLD FORMED STEEL TRACK THICKNESS SHALL BE EQUAL TO OR GREATER THAN THE CONNECTED WALL STUD THICKNESS
- ALL CONNECTIONS SHALL USE PREFABRICATED FRAMING CONNECTORS (CLIPS). DO NOT SITE / FIELD FABRICATE CONNECTORS FROM TRACKS OR STUDS UNLESS SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS
- DO NOT USE PAF's TO RESIST TENSION LOADS IN CONCRETE
- DO NOT USE PAF's IN MASONRY
- DO NOT NOTCH, DRILL OR OTHERWISE MODIFY FRAMING WITHOUT PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER AND EOR

4 3/4" = 1'-0" CONTR ENGINEERED WALL - NOTES /REQUIRED DESIGN CRITERIA

Steamboat
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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
20.1411.S.01

Description
PERFORMANCE SPECIFIED FRAMING

Scale
As indicated

1A-S5.40

DESIGNERS: MC MARTIN
LEAD REVIT TECH: COLIN KNOWLES
DATE PRINTED: 5/19/2021 12:07:05 PM
FILE PATH: BIM 360://20.7835.000 - Steamboat Redev/20.7835.000_Structural_SBR_Promenade Building 2021_V2021.rvt

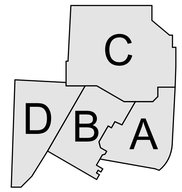
MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

ATMOS ENERGY CORPORATION
2# Systems will not be allowed unless proof of an appliance requiring a MINUMUM of over 7" W.C. is provided to Atmos Energy Corporation personnel for review.
Meter location must be approved by an Atmos Energy Corporation employee during a mandatory site visit to be scheduled after foundation is in place.
Meters will not be allowed under a shedding roofline or where overhanging snow is a danger to the meter set.

01 ARCHITECTURAL SITE PLAN - EXISTING CONDITIONS
SCALE: 1" = 40'-0"

GENERAL NOTES

KEY PLAN



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STATE OF COLORADO
JON CHARLES CAMBRILL
203617
LICENSED ARCHITECT
05.19.2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
ARCHITECTURAL SITE PLAN - EXISTING CONDITIONS

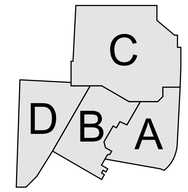
Scale
1" = 40'-0"
Ref North

AS1.000

01 COMPOSITE PLAN - LOWER LEVEL B1 (PHASE 1)
SCALE: 1" = 40'-0"

GENERAL NOTES

KEY PLAN



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JON CHARLES CAMPBELL
203617
LICENSED ARCHITECT
05.19.2021

Project Name
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Project Number
003.7835.000

Description
COMPOSITE PLAN - LOWER LEVEL B1 (PHASE 1)

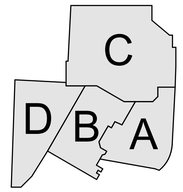
Scale
1" = 40'-0"
Ref North

1-A1.100

01 COMPOSITE PLAN - LEVEL 01 (PHASE 1)
SCALE: 1" = 40'-0"

GENERAL NOTES

KEY PLAN



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JON CHARLES CAMRUD
203617
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05.19.2021

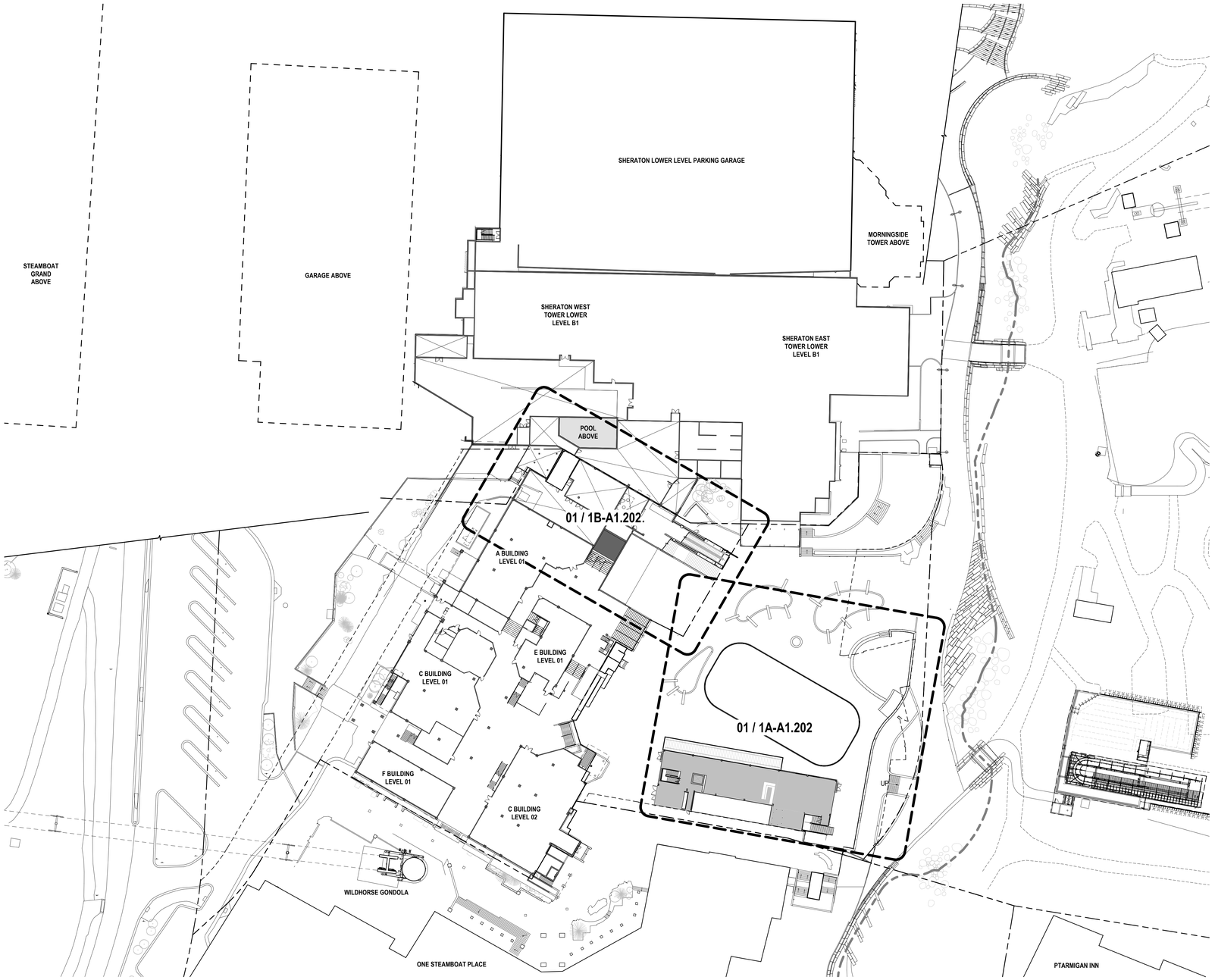
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
COMPOSITE PLAN - LEVEL 01 (PHASE 1)

Scale
1" = 40'-0"
Ref North

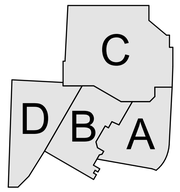
1-A1.101



01 COMPOSITE PLAN - LEVEL 02 (PHASE 1)
SCALE: 1" = 40'-0"

GENERAL NOTES

KEY PLAN



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07/10/2021

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STATE OF COLORADO · JON CHARLES CAMBELL · 203617 · LICENSED ARCHITECT
05.19.2021

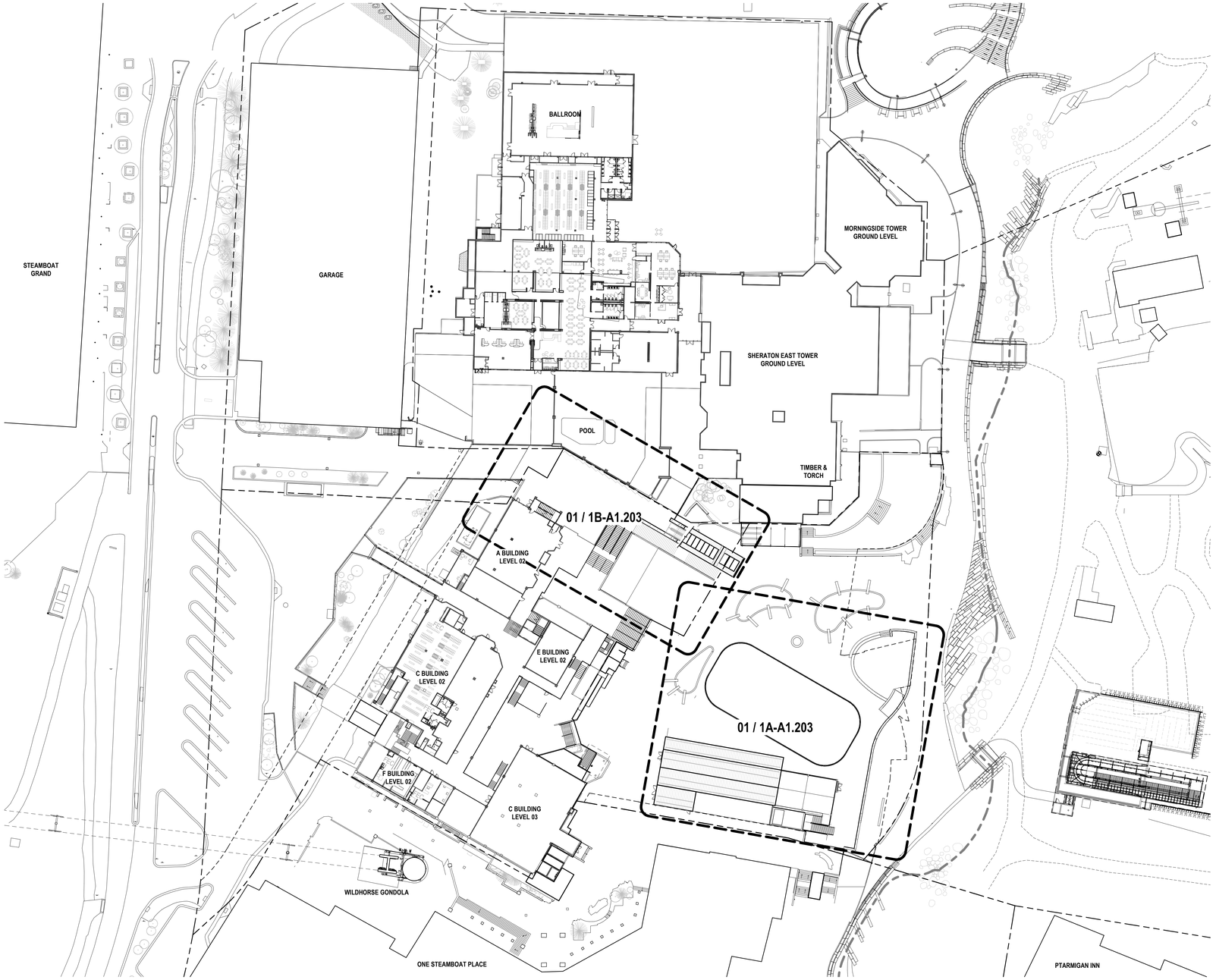
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
COMPOSITE PLAN - LEVEL 02 (PHASE 1)

Scale
1" = 40'-0" Ref North

1-A1.102

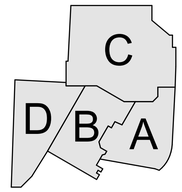


01 COMPOSITE PLAN - LEVEL 03 (PHASE 1)
SCALE: 1" = 40'-0"

GENERAL NOTES

1. SEE 'SCHEMATIC DESIGN - KIDS VACATION CLUB' PACKAGE FOR REFERENCED INTERIOR WORK IN 1C SECTOR
2. SEE 'SCHEMATIC DESIGN - GONDOLA SQUARE INTERIORS' PACKAGE FOR REFERENCED INTERIOR WORK IN 1B SECTOR

KEY PLAN



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203617
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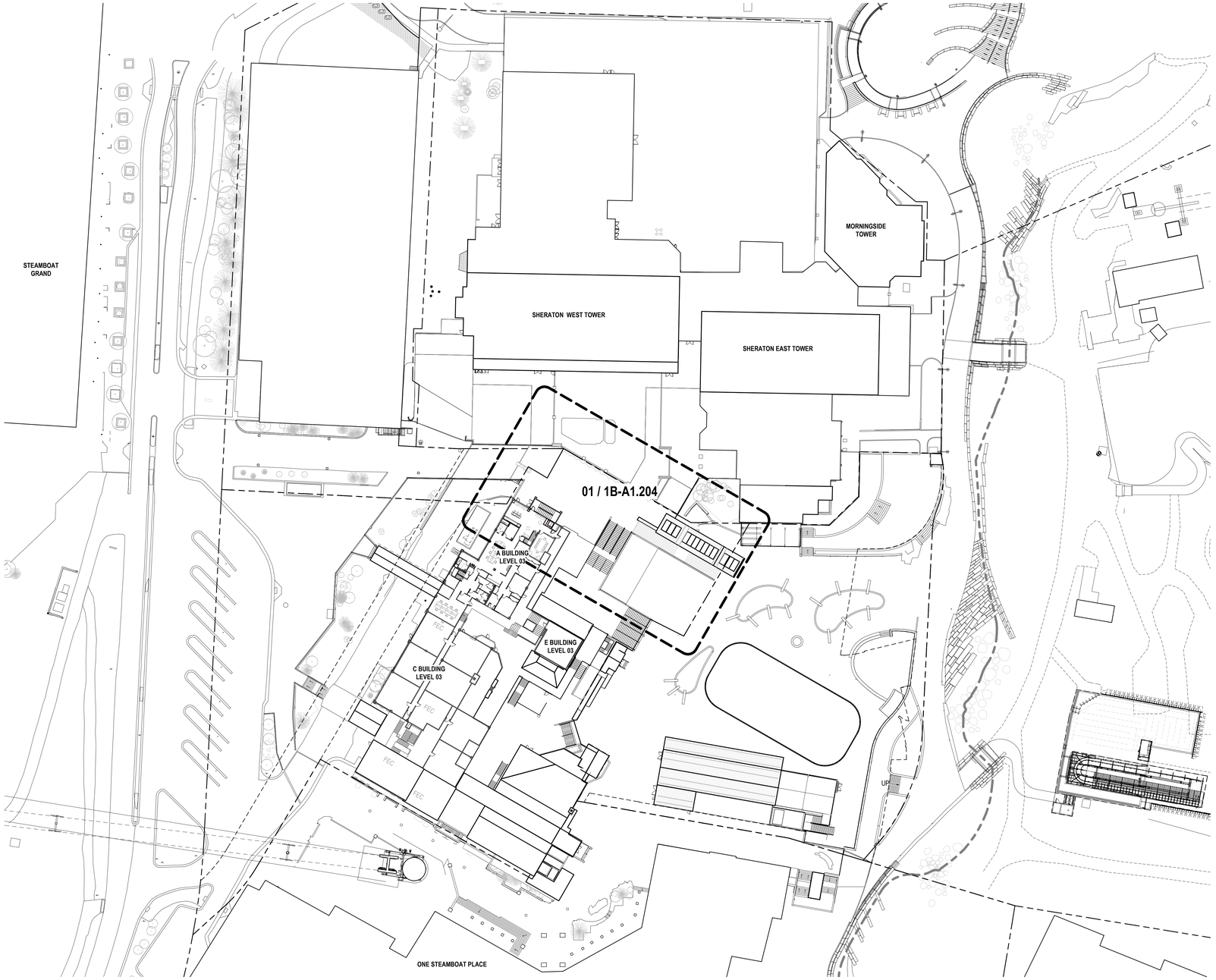
Description
COMPOSITE PLAN - LEVEL 03 (PHASE 1)

Scale
1" = 40'-0"
Ref North

1-A1.103

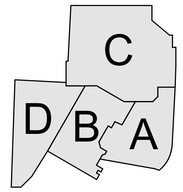


01 COMPOSITE PLAN - LEVEL 04 (PHASE 1)
SCALE: 1" = 40'-0"

GENERAL NOTES

1. SEE 'SCHEMATIC DESIGN - KIDS VACATION CLUB' PACKAGE FOR REFERENCED INTERIOR WORK IN 1C SECTOR
2. SEE 'SCHEMATIC DESIGN - GONDOLA SQUARE INTERIORS' PACKAGE FOR REFERENCED INTERIOR WORK IN 1B SECTOR

KEY PLAN



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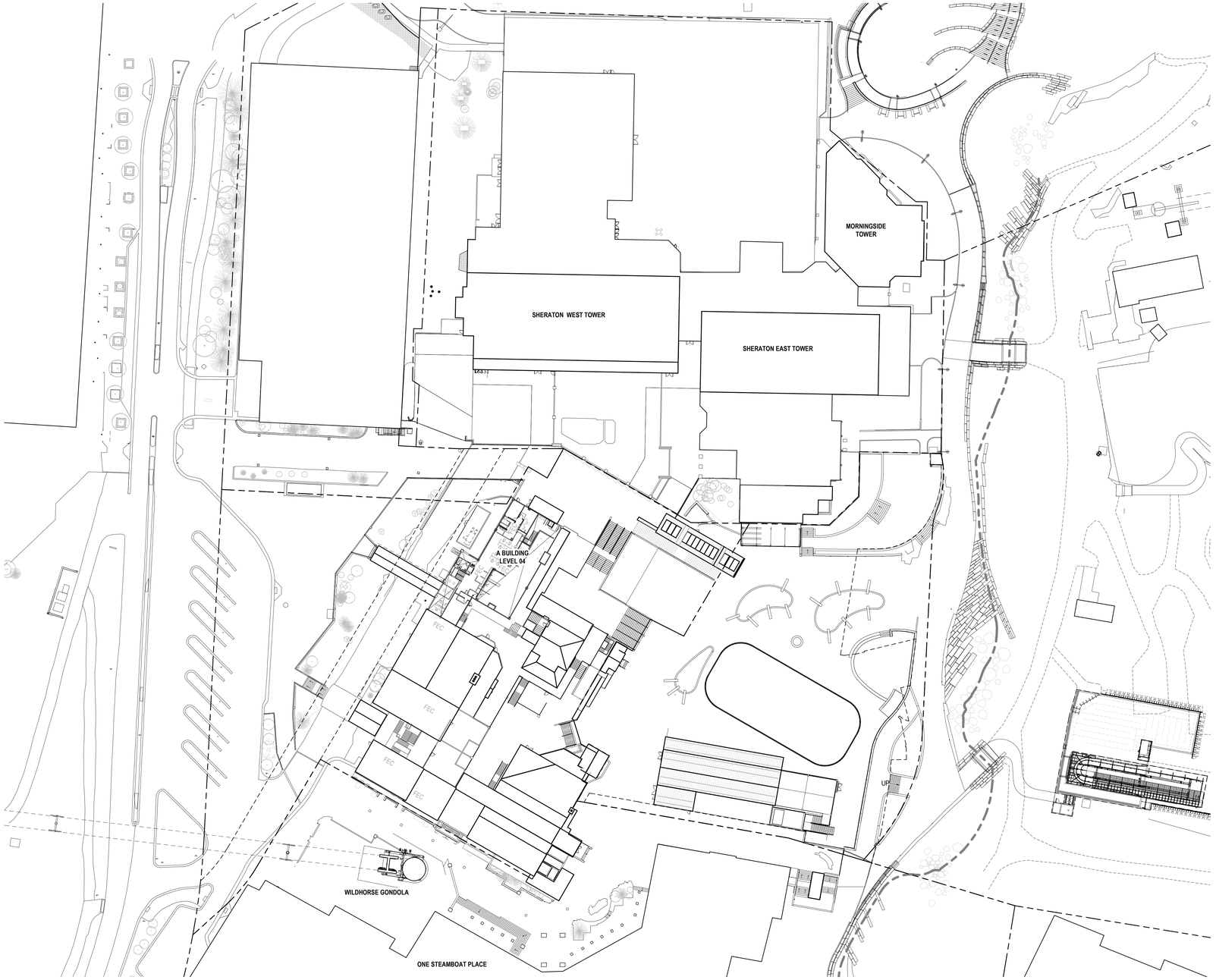
Project Number
003.7835.000

Description
COMPOSITE PLAN - LEVEL 04 (PHASE 1)

Scale
1" = 40'-0"
Ref North

1-A1.104

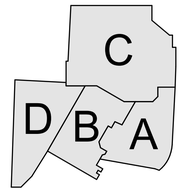


01 COMPOSITE PLAN - LEVEL 05 (PHASE 1)
SCALE: 1" = 40'-0"

GENERAL NOTES

1. SEE 'SCHEMATIC DESIGN - KIDS VACATION CLUB' PACKAGE FOR REFERENCED INTERIOR WORK IN 1C SECTOR
2. SEE 'SCHEMATIC DESIGN - GONDOLA SQUARE INTERIORS' PACKAGE FOR REFERENCED INTERIOR WORK IN 1B SECTOR

KEY PLAN



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Description
COMPOSITE PLAN - LEVEL 05 (PHASE 1)

Scale
1" = 40'-0"
Ref North

1-A1.105

MISCELLANEOUS

SYMBOL	DESCRIPTION
1 / SIM / A101	SECTION NO. / SECTION VIEW SHEET NO.
A / M1-01	DETAIL DESIGNATION
AHU / 1.01	POWERED EQUIPMENT DESIGNATION
VAV / 1.01	NON POWERED EQUIPMENT DESIGNATION
TYPE / LENGTH	BASEBOARD EQUIPMENT DESIGNATION
2" 1	SHEET KEY NOTES
	POINT OF DISCONNECTION
	ARROW INDICATES DIRECTION OF FLOW
	EXTERIOR WALL LOUVER (UNDER ARCH. SECTION)
UC	UNDERCUT DOOR (UNDER ARCH. SECTION)
D/L	DOOR LOUVER (UNDER ARCH. SECTION)
L/D	LOUVER DOOR FULL HEIGHT, (UNDER ARCH. SECTION)

SYMBOL	DESCRIPTION
	SUPPLY DIFFUSER-4-WAY THROW
	SUPPLY DIFFUSER-3-WAY THROW
	SUPPLY DIFFUSER-2-WAY THROW
	SUPPLY DIFFUSER-1-WAY THROW
	CEILING ACCESS PANEL
	RETURN DIFFUSER
	EXHAUST DIFFUSER
H	HUMIDIFIER
	FLEXIBLE DUCT CONNECTION
	SUPPLY AIR FLOW SYMBOL
	RETURN/EXHAUST AIR FLOW SYMBOL
	HEAT TRACE

EQUIPMENT DESIGNATION

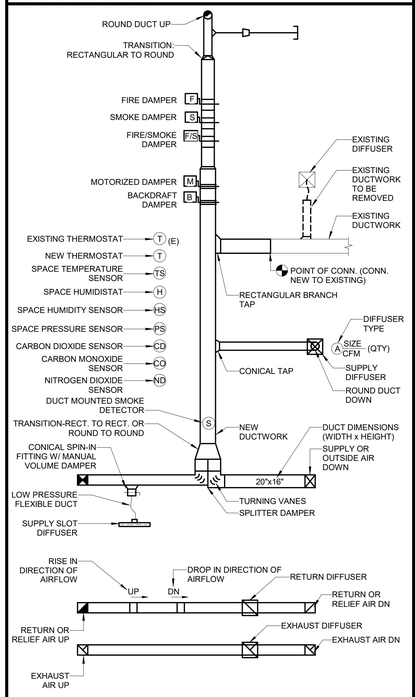
LEVEL

01 - LEVEL 01
02 - LEVEL 02
03 - LEVEL 03
04 - LEVEL 04
05 - LEVEL 05
06 - LEVEL 06

FCU 1A.01

- INDICATES TYPE OF EQUIPMENT
- INDICATES UNIT NUMBER WITHIN AREA
- INDICATES AREA (A,B,C,D,E,F,G) ETC.

DUCTWORK



PIPING TYPES

DOUBLE LINE PIPING (2" AND ABOVE)	SINGLE LINE PIPING (UP TO 2")	PIPE TYPE
CHS	CHS	CHILLED WATER SUPPLY
CHR	CHR	CHILLED WATER RETURN
HWS	HWS	HEATING WATER SUPPLY
HWR	HWR	HEATING WATER RETURN
CWS	CWS	CONDENSER WATER SUPPLY
CWR	CWR	CONDENSER WATER RETURN
D	D	CONDENSATE DRAIN
HPS	HPS	HIGH PRESSURE STEAM SUPPLY
MPS	MPS	MEDIUM PRESSURE STEAM SUPPLY
LPS	LPS	LOW PRESSURE STEAM SUPPLY
HPR	HPR	HIGH PRESSURE CONDENSATE RETURN
MPR	MPR	MEDIUM PRESSURE CONDENSATE RETURN
LPR	LPR	LOW PRESSURE CONDENSATE RETURN
RS	RS	REFRIGERANT SUCTION
RL	RL	REFRIGERANT LIQUID
RHG	RHG	REFRIGERANT HOT GAS
A	A	CONTROL AIR (PNEUMATIC)
BD	BD	BOILER BLOW DOWN
BF	BF	BOILER FEED
BO	BO	BLOW OFF
CF	CF	CHEMICAL FEEDER
PCS/R	PCS/R	PROCESS COOLING WATER SUPPLY/RETURN
HTWS/R	HTWS/R	HIGH TEMP. HOT WATER SUPPLY/RETURN
PHWS/R	PHWS/R	PRIMARY OR DISTRICT HEATING WATER SUPPLY/RETURN
PCHS/R	PCHS/R	PRIMARY OR DISTRICT CHILLED WATER SUPPLY/RETURN
PR	PR	PUMPED CONDENSATE RETURN
(E)	(E)	EXISTING PIPING
(E)	(E)	EXISTING PIPING TO BE REMOVED

PIPING SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
FITTINGS:		
	P&T	PRESSURE/TEMPERATURE PORT TAPS
	CR	CONCENTRIC REDUCER
	ER	ECCENTRIC REDUCER
EJ	EJ	EXPANSION JOINT
	U	UNION
	T	THERMOMETER W/ THERMOWELL
	AV	AIR VENT
	FC	FLEXIBLE PIPE CONNECTOR
FS	FS	FLOW SWITCH
PS	PS	PRESSURE SWITCH
	PG	PRESSURE GAUGE W/ GAUGE COCK
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		PIPE CAP OR PLUG
	IV	ISOLATION VALVE, RE: SPECS
	OS&Y	OUTSIDE STEM AND YOKE
	DV	DRAIN VALVE W/ HOSE END CONNECTION
		BALL VALVE W/ HOSE CONNECTION
	CV	CHECK VALVE WITH INDICATION OF FLOW DIRECTION
	PRV	PRESSURE REDUCING VALVE
S	SV	SOLENOID VALVE
F / C1	FCV	AUTO FLOW CONTROL VALVE W/ TEST PORTS
	CS,BV	CIRCUIT SETTER OR BALANCING VALVE
	GLV	GLOBE VALVE (STRAIGHT PATTERN)
	GLV	GLOBE VALVE (ANGLE PATTERN)
	BFV	BUTTERFLY VALVE
	BV	BALL VALVE
	TCV	AUTOMATIC TEMPERATURE CONTROL VALVE, 2-WAY
	TCV	AUTOMATIC TEMPERATURE CONTROL VALVE, 3-WAY
	BV	BALANCING VALVE
	TMP	TEMPERATURE/PRESSURE RELIEF VALVE
		VALVE IN RISER
	STR	STRAINER W/ BLOW-OFF & CAPPED HOSE END CONNECTION
	ST	STEAM TRAP

ABBREVIATIONS:

ABBREVIATION	DESCRIPTION
A	
A	AIR (COMPRESSED)
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT
	AIR COMPRESSOR
ACCH	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
	AREA DRAIN
ADJ	ADJUSTABLE
AF	AIR FILTER
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMB	AMBIENT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARI	AMERICAN REFRIGERANT INSTITUTE
ARCH	ARCHITECT
AS	AIR SEPARATOR
ASHRAE	AMERICAN SOCIETY OF HEATING AND REFRIGERATION ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AV	ACID VENT
	AIR VENT
AVG	AVERAGE
AW	ACID WASTE
AWS	AMERICAN WELDING SOCIETY
AUX	AUXILIARY
B	
B	BOILER
BC	BELOW COUNTER
B/C	BACK OF CURB
BFV	BUTTERFLY VALVE
BH	BOX HYDRANT
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BM	BENCHMARK
BOD	BOTTOM OF DUCT (AFF)
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STRUCTURE
BT	BATH TUB
	BREAK TANK
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BWV	BACK WATER VALVE
C	
C	CELSIUS
CAB	CABINET
CAV	CONSTANT AIR VOLUME
CB	CATCH BASIN
CC	COOLING COIL
CD	CONDENSATE DRAIN LINE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIRC	CIRCULATING
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CPI	CAST IRON PIPE INSTITUTE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CO	CLEANOUT
COL	COLUMN
COMB	COMBINATION
COMP	COMPRESSOR
CON	CONVERTER
CONC	CONCRETE
	CONCENTRIC
COND	CONDENSER
	CONDENSATE
CONN	CONNECTION
CONT	CONTINUOUS
	CONTINUATION
	CONTROLLER
CONTR	CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CRAC	COMPUTER ROOM A/C UNIT
CRT	CATHODE RAY TUBE
CRU	CONDENSATE RETURN UNIT
CT	COOLING TOWER
CTR	CENTER
CU	COPPER
CW	COLD WATER
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
CV	CONSTANT VOLUME
D	
dB	DECIBEL
DB	DRY-BULB
DC	DOUBLE DUCT CONSTANT VOLUME
	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DESIG	DESIGNATION
DEFL	DEFLECTION
DTL	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DP	DISCHARGE PLENUM
DPR	DAMPER
DS	DOUNSPOUT
	DOUBLE SUCTION
DV	DOUBLE DUCT VAV
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DX	DIRECT EXPANSION
E	
(E)	EXISTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
EDB	ENTERING DRY BULB
EDF	ELECTRIC DRINKING FOUNTAIN
EDH	ELECTRIC DUCT HEATER

ABBREVIATION	DESCRIPTION
EDR	EFFECTIVE DIRECT RADIATION
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EJ	EXPANSION JOINT
EL	ELEVATION
EMRG	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
ENT	ENTERING
ES	END SUCTION
	EMERGENCY SHOWER
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EVAP	EVAPORATOR
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EX	EXPLOSION PROOF
EXT	EXTERNAL
EXTG	EXISTING
F	
F	DEGREE FAHRENHEIT
FBO	FURNISHED BY OTHERS
FCO	FLOOR CLEAN OUT
FCS	FLOOR CONTROL SWITCH
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
	FIRE DAMPER
FDS	FIRE DEPARTMENT SIAMESE
FDV	FIRE DEPARTMENT VALVE
FG	FIBERGLASS
FF	FINAL FILTER
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FL	FLOW LINES
FLR	FLOOR
FP	FAN POWERED MIXING BOX
	FIRE PUMP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FRIC	FRICTION
FRZR	FREEZER
FS	FLOW SWITCH
	FIRE SPRINKLER
FSK	FLOOR SINK
FT	FOOT
	FEET
FT WC	FEET, WATER COLUMN
FUT	FUTURE
G	
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLV	GLOBE VALVE
GND	GROUND
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GSH	GRAND SENSIBLE HEAT
GV	GATE VALVE
H	
HB	HOSE BIBB
HC	HEATING COIL
HD	HEAD
	HUB DRAIN
HF	HUMIDIFIER
HORIZ	HORIZONTAL
HP	HORSEPOWER
	HALON PANEL
HPU	HEAT PUMP UNIT
HKP	HOUSEKEEPING PAD
HSC	HORIZONTAL SPLIT CASE
HSTAT	HUMIDISTAT
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HU	HUMIDIFIER SECTION
HW	HOT WATER
HWC	HOT WATER CIRCULATOR
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ
I	
ID	INSIDE DIAMTER
IE	INVERT ELEVATION
IH	INFRARED HEATER
IN	INCH
IN WC	INCH, WATER COLUMN
INSUL	INSULATION
INT	INTERNAL
	INTERIOR
IW	INDIRECT WASTE
J	
JB	JUNCTION BOX
JP	JOCKEY PUMP
K	
KEC	KITCHEN EQUIPMENT CONTRACTOR
KO	KNOCKOUT
KVA	KILOVOLT AMPS
KW	KILOWATT
L	
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBS	POUNDS
LBS/HR	POUNDS PER HOUR
LF	LINEAR FEET
LP	LOW PRESSURE
LRA	LOCKED ROTOR AMPS
LVG	LEAVING
LVL	LEVEL
LWB	LEAVING WET BULB
LWCO	LOW WATER CUT OFF
LWT	LEAVING WATER TEMPERATURE

ABBREVIATION	DESCRIPTION
M	
MA	MAKE-UP AIR
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTUH
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MALLEABLE IRON
MIN	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
MP	MEDIUM PRESSURE
MS	MOP SINK
MTD	MOUNTED
MTL	METAL
MU	MAKE-UP
MUA	MAKE-UP AIR UNIT
MVD	MANUAL VOLUME DAMPER
N	
(N)	NEW
NC	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO	NUMBER
NTS	NOT TO SCALE
O	
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OAHU	OUTSIDE AIR HANDLING UNIT
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
	OVERFLOW DRAIN
OFCU	OUTSIDE AIR FAN COIL UNIT
OPG	OPENING
OS&Y	OPEN STEM AND YOLK
P	
P	PUMP
	PLUMBING EQUIPMENT
PC	PLUMBING CONTRACTOR
PCR	PUMPED CONDENSATE RETURN
PD	PRESSURE DROP
	PLANTER DRAIN
PF	PRE-FILTER
PH	PHASE
	POST HYDRANT
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PNEU	PNEUMATIC
PNL	PANEL
PNTH	PENTHOUSE
PP	POLYPROPYLENE
PPM	PARTS PER MILLION
PRESS	PRESSURE
PRI	PRIMARY
PRS	PRIMARY REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PT	PLUMBING TRIM
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PWL	SOUND POWER LEVEL
Q	
QTY	QUANTITY
R	
(R)	REMOVE
	RELOCATE
RA	RETURN AIR
RAD	REFRIGERATED AIR DRYER
RAF	RETURN AIR FAN
RAG	RETURN AIR GRILLE
RAT	RETURN AIR TEMPERATURE
RCP	REFLECTED CEILING PLAN
	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RE	REFERENCE
	REFER
RECIRC	RECIRCULATE
RED	REDUCER
REFR	REFRIGERATOR
REG	REGISTER
REINF	REINFORCING
REQD	REQUIRED
REV	REVISION
	REVISE
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS
RKVA	RUNNING KILOVOLT AMPS
RKW	RUNNING KILOWATTS
RL	REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPS
RM	ROOM
	REFRIGERANT MACHINE
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
RV	RELIEF VALVE
S	
SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SAG	SUPPLY AIR GRILLE
SAN	SANITARY SEWER
SAR	SUPPLY AIR REGISTER
SCHED	SCHEDULE
SCFM	STANDARD AIR CUBIC FEET PER MINUTE
SCR	SILICON CONTROLLED RECTIFIER
SD	STORM DRAIN
SE	SEWAGE EJECTOR
SEC	SECONDARY
SECT	SECTION
SENS	SENSIBLE
SF	SQUARE FEET

ABBREVIATION	DESCRIPTION
SFCS	SPRINKLER FLOOR CONTROL STATION
SH	SHOWER
SHT	SHEET
SIM	SIMILAR
SK	SINK
SKVA	STARTING KILOVOLT AMPS
SKW	STARTING KILOWATTS
SM	SHEET METAL
SP	STATIC PRESSURE
	SUMP PUMP
SPEC	SPECIFICATION
SPR	SPRINKLER
SQ	SQUARE
SS	STAINLESS STEEL
	SERVICE SINK
SSD	SUBSURFACE DRAIN
SSFU	SANITARY SEWER FIXTURE UNITS
SSSC	SOLID STATE SPEED CONTROL
STD	STANDARD
STL	STEEL
STR	STRAINER
SURF	SURFACE
SUSP	SUSPEND
SV	SANITARY VENT
ST	SOUND TRAP
T	
TC	TEMPERATURE CONTROL
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TF	TRANSFER FAN
TG	TRANSFER GRILLE
TH BLK	THRUST BLOCK
TOD	TOP OF DUCT (AFF)
TOP	TOP OF PIPE (AFF)
TP	TRAP PRIMER
TPD	TRAP PRIMER DEVICE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL
U	
U	URINAL
UF	UNDERFLOOR
U/S	UNDERSLAB
UCD	UNDERCUT DOOR
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UTR	UP THROUGH ROOF
V	
V	VOLT, VENT
VA	VOLT-AMPERE
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VALVE BOX
	VACUUM BREAKER
VCP	VITRIFIED CLAY PIPE
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREUENCY DRIVE
VIB	VALVE IN BOX
VOV	VALVE ON VERTICAL
VP	VACUUM PUMP
VR	VARIABLE AIR VOLUME REHEAT
VSD	VARIABLE SPEED DRIVE
VTR	VENT THROUGH ROOF
W	
W	WATT, WASTE, WIDTH
W/	WITH
W/O	WITHOUT
WB	WETBULB
WC	WATER CLOSET
WCO	WALL CLEANOUT
WF	WATER FILTER
WH	WALL HYDRANT
WM	WATER METER
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WWF	WELDED WIRE FABRIC
WT	WATER TIGHT
	WEIGHT
Y	
Y	YARD HYDRANT
Z	
Z	ZONE

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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Seal / Signature

COLORADO LICENSED MARSHA E. EDWARDS 56806 PROFESSIONAL ENGINEER

05/18/2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

Description

MECHANICAL LEGEND

Scale

1/8" = 1'-0"

1A-M0.000

GENERAL MECHANICAL CONTRACT REQUIREMENTS:

GENERAL:

1. UNLESS OTHERWISE NOTED, THE WORK DESCRIBED ON THE PLANS AND SPECIFICATIONS SHALL INCLUDE THE FURNISHING AND INSTALLATION OF ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE AND OPERATIONAL HVAC, FIRE PROTECTION AND PLUMBING SYSTEMS. CONTRACTOR SHALL FURNISH THESE EVEN IF ITEMS REQUIRED TO ACHIEVE THIS (I.E. OFFSETS, ISOLATION AND BALANCING DEVICES, MAINTENANCE CLEARANCES, ETC.) ARE NOT SPECIFICALLY SHOWN.

2. DATA GIVEN ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED. ABSOLUTE ACCURACY IS NOT GUARANTEED AND THE CONTRACTOR SHALL OBTAIN AND VERIFY EXACT LOCATIONS, MEASUREMENTS, LEVELS, SPACE REQUIREMENTS, POTENTIAL CONFLICTS WITH OTHER TRADES, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT HIS WORK TO THE ACTUAL CONDITIONS OF THE JOB.

3. THE DRAWINGS ARE DIAGRAMMATICAL IN NATURE AND SHALL NOT BE SCALED. THEY SHOW CERTAIN PHYSICAL RELATIONSHIPS WHICH MUST BE ESTABLISHED WITHIN THE DIVISION 21,22 AND 23 WORK AND ITS INTERFACE WITH OTHER WORK. ESTABLISHING THIS RELATIONSHIP IN THE FIELD IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR. THIS DIVISION SHALL COORDINATE ITS WORK WITH ALL DIVISIONS OF THE WORK AND ADJUST ITS WORK AS REQUIRED BY THE ACTUAL CONDITIONS OF THE PROJECT.

A. THE CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID TO BECOME THOROUGHLY FAMILIAR WITH THE ACTUAL CONDITIONS OF THE PROJECT. NO EXTRAS WILL BE ALLOWED DUE TO LACK OF KNOWLEDGE OF EXISTING CONDITIONS.

B. CERTAIN SYSTEMS REQUIRE ENGINEERING OF INSTALLATION DETAILS BY CONTRACTOR. UNLESS FULLY DETAILED IN THE CONTRACT DOCUMENTS, SUCH ENGINEERING IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.

C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE WHERE CLEARANCES ARE LIMITED, AND WHERE INSTALLATION DRAWINGS OR SCHEMATICS, "CONSTRUCTION DRAWINGS", OR COORDINATION DRAWINGS MAY BE REQUIRED IN ACCORDANCE WITH, OR IN EXCESS OF, THOSE REQUIRED BY THE SPECIFICATIONS. THE CONTRACTOR SHALL PREPARE ALL SUCH COORDINATION DRAWINGS AS PART OF THE BASE CONTRACT. SUCH DRAWINGS MAY BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR RECORD AND COMMENT. ANY WORK INSTALLED WITHOUT APPROVED COORDINATION DRAWINGS IS DONE AT THE CONTRACTOR'S RISK.

4. THESE NOTES ONLY SUPPLEMENT, AND DO NOT REPLACE, THE SPECIFICATIONS.

5. DEFINITIONS AND TERMINOLOGY

A. THE DEFINITIONS OF DIVISION 1 AND THE GENERAL CONDITIONS OF THIS SPECIFICATION ALSO APPLY TO THE DIVISION 21,22 AND 23 CONTRACT DOCUMENTS.

B. "CONTRACT DOCUMENTS" CONSTITUTE THE DRAWINGS, SPECIFICATIONS, GENERAL CONDITIONS, PROJECT MANUALS, ETC., PREPARED BY ENGINEER (OR OTHER DESIGN PROFESSIONAL IN ASSOCIATION WITH ENGINEER) FOR CONTRACTOR'S BID OR CONTRACTOR'S NEGOTIATIONS WITH THE OWNER. THE DIVISION 21,22 AND 23 DRAWINGS AND SPECIFICATIONS PREPARED BY THE ENGINEER ARE NOT CONSTRUCTION DOCUMENTS.

C. "CONSTRUCTION DOCUMENTS", "CONSTRUCTION DRAWINGS", AND SIMILAR TERMS FOR DIVISION 21,22 AND 23 WORK REFER TO INSTALLATION DIAGRAMS, SHOP DRAWINGS AND COORDINATION DRAWINGS PREPARED BY THE CONTRACTOR USING THE DESIGN INTENT INDICATED ON THE ENGINEER'S CONTRACT DOCUMENTS. THESE SPECIFICATIONS DETAIL THE CONTRACTOR'S RESPONSIBILITY FOR "ENGINEERING BY CONTRACTOR" AND FOR PREPARATION OF CONSTRUCTION DOCUMENTS.

D. "(N)" INDICATES "NEW" EQUIPMENT TO BE PROVIDED UNDER THIS CONTRACT.

E. "(E)" INDICATES "EXISTING" EQUIPMENT ON SITE WHICH MAY OR MAY NOT NEED TO BE RELOCATED AS A PART OF THIS WORK.

F. "(R)" INDICATES EXISTING EQUIPMENT TO BE RELOCATED AS PART OF THIS WORK.

G. "FURNISH" MEANS TO "SUPPLY" AND USUALLY REFERS TO AN ITEM OF EQUIPMENT.

H. "INSTALL" MEANS TO "SET IN PLACE, CONNECT AND PLACE IN FULL OPERATIONAL ORDER".

I. "PROVIDE" MEANS TO "FURNISH AND INSTALL".

J. "EQUIVALENT" MEANS "MEETS THE SPECIFICATIONS OF THE REFERENCE PRODUCT OR ITEM IN ALL SIGNIFICANT ASPECTS." SIGNIFICANT ASPECTS SHALL BE AS DETERMINED BY THE ARCHITECT/ENGINEER.

K. "WORK BY OTHER(S) DIVISIONS"; "RE: XX DIVISION", AND SIMILAR EXPRESSIONS MEANS WORK TO BE PERFORMED UNDER THE CONTRACT DOCUMENTS, BUT NOT NECESSARILY UNDER THE DIVISION OR SECTION OF THE WORK ON WHICH THE NOTE APPEARS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO COORDINATE THE WORK OF THE CONTRACT BETWEEN HIS/HER SUPPLIERS, SUBCONTRACTORS AND EMPLOYEES. IF CLARIFICATION IS REQUIRED, CONSULT ARCHITECT/ENGINEER BEFORE SUBMITTING BID.

L. BY INFERENCE, ANY REFERENCE TO A "CONTRACTOR" OR "SUB-CONTRACTOR" MEANS THE ENTITY WHICH HAS CONTRACTED WITH THE OWNER FOR THE WORK OF THE CONTRACT DOCUMENTS.

M. "ENGINEER" MEANS THE DESIGN PROFESSIONAL FIRM WHICH HAS PREPARED THESE CONTRACT DOCUMENTS. ALL QUESTIONS, SUBMITTALS, ETC. OF THIS DIVISION SHALL BE ROUTED THROUGH THE ARCHITECT TO THE ENGINEER (THROUGH PROPER CONTRACTUAL CHANNELS).

ELECTRICAL COORDINATION:

1. VERIFY THE ELECTRICAL SERVICE PROVIDED BY THE ELECTRICAL CONTRACTOR BEFORE ORDERING ANY MECHANICAL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS.

2. PROVIDE PREMIUM EFFICIENCY MOTORS WITH 1.15 SERVICE FACTOR ON ALL EQUIPMENT, MOTORS SHALL BE CAPABLE OF OPERATING CONTINUOUSLY AT 105°F UNDER JOBSITE CONDITIONS AND ALTITUDE.

3. UNLESS NOTED OTHERWISE, ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH HOA SWITCH AND STARTER COMPATIBLE WITH EQUIPMENT AND BMS SYSTEM. STARTERS SHALL BE PROVIDED BY DIVISION 21,22 AND 23 UNLESS IN A MOTOR CONTROL CENTER. ALL DISCONNECTS SHALL BE FURNISHED BY DIVISION 26.

4. THE ELECTRICAL POWER FOR CERTAIN EQUIPMENT PROVIDED UNDER DIVISION 21,22 AND 23 HAS NOT BEEN SPECIFICALLY INDICATED ON THE ELECTRICAL DRAWINGS AND MUST BE PROVIDED BY AND FIELD COORDINATED BY THE DIVISION 21,22 AND 23 TRADE REQUIRING SUCH POWER.

SUFFICIENT POWER FOR THIS PURPOSE SHALL BE FURNISHED AS "SPARE", DEDICATED CIRCUIT CAPACITY IN DIVISION 26'S PANELBOARDS. ALL WIRING, CONDUIT AND ELECTRICAL DEVICES DOWNSTREAM OF THE PANELBOARDS IS THE RESPONSIBILITY OF THE DIVISION 21,22 AND 23 TRADE REQUIRING THE POWER UNLESS OTHERWISE SHOWN ON THE ELECTRICAL DRAWINGS.

SUCH EQUIPMENT IS HEREBY DEFINED AS:

A. ELECTRICAL HEAT TRACE. REQUIRED HEAT TRACE LOCATIONS, CAPACITIES AND SPECIFICATION ARE SHOWN OR INDICATED ON THE DRAWINGS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

B. FIRE PROTECTION AIR COMPRESSORS, DRY-PIPE CONTROL PANELS AND VALVES. REQUIRED CONNECTIONS ARE INCLUDED IN THE DIVISION 21 WORK, AND WILL BE SHOWN BY THAT CONTRACTOR'S ENGINEERED SYSTEM DESIGN DRAWINGS.

(1) PRE-ACTION SYSTEM INITIATION SIGNALS (SUCH AS SMOKE DETECTORS, OR GENERAL ALARM CONDITIONS IN A PRE-ACTION ZONE) SHALL BE PROVIDED UNDER DIVISION 28 FIRE-ALARM WORK.

(2) DIVISION 21 SHALL PROVIDE PRE-ACTION CONTROL PANEL AND INTERCONNECTION BETWEEN NEAREST SUITABLE FIRE ALARM PANEL AND LOCATION OF PRE-ACTION VALVE(S).

(3) DIVISION 28 SHALL PROVIDE INTERCONNECTION BETWEEN FIRE COMMAND CENTER ALARM PANEL (PROVIDED UNDER DIVISION 28) AND REMOTE COMMUNICATION FIRE ALARM PANEL (PROVIDED UNDER DIVISION 28).

C. TEMPERATURE CONTROL PANELS, CONTROL AIR COMPRESSORS AND LINE VOLTAGE POWER FOR 24V CONTROL TRANSFORMERS. REQUIRED CONNECTION ARE INCLUDED IN DIVISION 230900 AND WILL BE SHOWN BY THAT CONTRACTOR'S CONTROL SUBMITTAL DRAWINGS.

D. IT IS NOT PERMISSIBLE TO UTILIZE "SPARE" POWER FROM ADJACENT POWER CIRCUITS TO SERVE ANY OF THE ABOVE LOADS. ALL POWER MUST COME FROM DEDICATED CIRCUITS.

5. SMOKE DETECTORS:

FOR AIR HANDLING UNITS AND AIR SYSTEMS WITH A CAPACITY EXCEEDING 2000 CFM, PROVIDE UL LISTED SMOKE DETECTORS IN RETURN AIR SYSTEMS IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE AND ELSEWHERE AS SHOWN ON THE DRAWINGS.

SMOKE DETECTORS WILL BE FURNISHED AND SET IN PLACE UNDER THIS DIVISION. DETECTORS WILL BE WIRED UNDER DIVISION 28. SMOKE DETECTORS MUST BE OF THE SAME MANUFACTURER, AND COMPATIBLE WITH THE FIRE FLARM SYSTEM PROVIDED UNDER DIVISION 28 (IF APPLICABLE).

CONNECT RELAY(S) TO FAN CONTROL CIRCUIT TO STOP FAN WHEN SMOKE IS DETECTED.

INSTALLATION:

1. SUSPEND EACH TRADE'S WORK SEPARATELY FROM THE STRUCTURE. DUCTWORK SHALL BE HELD TIGHT TO STRUCTURE EXCEPT WHERE OTHERWISE SHOWN.

2. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

3. PROVIDE MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE AROUND ALL EQUIPMENT REQUIRING SAME.

4. PROVIDE FOR SAFE CONDUCT OF THE WORK, CAREFUL REMOVAL AND DISPOSITION OF MATERIALS AND PROTECTION OF PROPERTY WHICH IS TO REMAIN UNDISTURBED.

5. PROVIDE ACCESS DOORS FOR ALL EQUIPMENT, VALVES, CLEANOUTS, ACTUATORS AND CONTROLS WHICH REQUIRE ACCESS FOR ADJUSTMENT OR SERVICING AND WHICH ARE LOCATED IN OTHERWISE INACCESSIBLE LOCATIONS.

A. FOR EQUIPMENT LOCATED IN "ACCESSIBLE LOCATIONS" SUCH AS LAY-IN CEILINGS: LOCATE EQUIPMENT TO PROVIDE ADEQUATE SERVICE CLEARANCE FOR NORMAL MAINTENANCE WITHOUT REMOVING ARCHITECTURAL, ELECTRICAL OR STRUCTURAL ELEMENTS SUCH AS THE CEILING SUPPORT SYSTEM, ELECTRICAL FIXTURES, ETC. "NORMAL MAINTENANCE" INCLUDES, BUT IS NOT LIMITED TO:FILTER CHANGING; GREASING OF BEARINGS; USING P/T PORTS FOR PRESSURE OR TEMPERATURE MEASUREMENTS; SERVICING CONTROL VALVES AND SERVICING CONTROL PANELS.

6. ISOLATE ALL PRESSURIZED PIPE (WATER, ETC.) AT EACH RISER, BRANCH, PIECE OF EQUIPMENT, AND AREA SERVED.

7. PROVIDE PRIMERS FOR ALL FLOOR DRAINS AND FLOOR SINKS SHOWN ON DRAWINGS. PRIMERS MAY BE CONNECTED TO FLUSH FIXTURES OR BE STAND ALONE. SEE SPECIFICATIONS.

8. NO DOMESTIC WATER, CHILLED WATER, OR HEATING WATER LINES SHALL BE LOCATED EXPOSED IN FINISHED SPACES OR BELOW THE BUILDING SLAB UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

9. NO GAS LINES SHALL BE LOCATED BELOW BUILDING SLAB.

10. ALL CURBS, ROOF JACKS, ROOF THIMBLES, SANITARY VENTS, ROOF DRAINS, ETC. SHALL BE COMPATIBLE WITH ROOFING SYSTEM TO BE PROVIDED. REFERENCE ARCHITECTURAL DIVISION FOR REQUIRED FLASHING DETAILS.

11. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL CONCRETE EQUIPMENT PAD DIMENSIONS, BASED ON THE FINAL EQUIPMENT SELECTION, TO THE STRUCTURAL AND GENERAL CONTRACTOR FOR INCLUSION IN THOSE CONTRACTOR'S WORK AS DESCRIBED BY THE GENERAL CONTRACTOR.

12. WARRANTY: AT A MINIMUM, THE ENTIRE MECHANICAL SYSTEM SHALL BE WARRANTED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER ACCEPTANCE OF THE SYSTEM BY THE OWNER. REFER TO INDIVIDUAL SPECIFICATION SECTIONS FOR SPECIFIC WARRANTY REQUIREMENTS.

DUCTWORK INSTALLATION:

1. SEAL ALL SEAMS (LONGITUDINAL AND TRANSVERSE) AIR TIGHT WITH SEALANT PER SPECIFICATIONS.

2. DUCT DIMENSIONS ARE INSIDE CLEAR.

3. DIFFUSER NECK SIZE IS SAME AS FLEXIBLE DUCT SIZE.

4. UNLESS OTHERWISE NOTED, ALL CHANGES IN DIRECTION SHALL BE MADE WITH RADIUS ELBOWS WITH RADIUS TO CENTERLINE EQUAL TO 1.5 DUCT WIDTH.

5. WHERE REQUIRED FOR SPACE CONSTRAINTS, PROVIDE MITERED ELBOWS WITH TURNING VANES AS FOLLOWS:

A. FOR DUCT WIDTHS OF 36" OR LESS, PROVIDE MANUFACTURED SINGLE WIDTH TURNING VANES, WITH NO TRAILING EDGES AND SPACING IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS FOR "STANDARD SPACING".

B. USE DOUBLE THICKNESS (AIRFOIL) BLADES WITHOUT TRAILING EDGES FOR DUCT WIDTHS GREATER THAN 36".

6. ALL FLEXIBLE DUCTS SHALL NOT BE LESS THAN 4', OR MORE THAN 10' IN LENGTH. INSTALL FLEXIBLE DUCTWORK SUCH THAT:

A. MINIMUM OVERALL LENGTH OF 3D, STRAIGHT INTO NECK OF DIFFUSER.

B. MAXIMUM OF 135° OF TOTAL TURNING IN ENTIRE LENGTH OF FLEXIBLE DUCT.

C. MINIMUM TURNING RADIUM OF R = 1.5D.

D. WHERE:
* D = FLEXIBLE DUCT DIAMETER
* R = RADIUS OF TURN AS MEASURED TO CENTERLINE OF DUCT.

7. RETURN AIR PLENUM: THE HVAC SYSTEM WILL USE THE SPACE ABOVE THE CEILING AS A RETURN AIR PLENUM. CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF NFPA AND LOCAL CODE REQUIREMENTS FOR ALL MATERIAL INSTALLED IN THE RETURN AIR PLENUM.

A. IN ADDITION, THE CONTRACTOR SHALL PROVIDE A COMPLETE RETURN AIR PATH BETWEEN ALL RETURN AIR DEVICES (GRILLES ETC.) AND THEIR RESPECTIVE HVAC UNIT. MAXIMUM VELOCITY OF RETURN AIR IN PLENUM SHALL GENERALLY NOT EXCEED 250 FEET PER MINUTE, NOR EXCEED 750 FEET PER MINUTE AT ANY CROSS-SECTION OF THE RETURN AIR PATH.

8. BRANCH LINES:

A. MAKE ALL TAPS TO ROUND DUCTWORK WITH CONICAL TEES.

B. MAKE ALL TAPS TO RECTANGLE DUCTWORK WITH 45° ENTRY OR CONICAL SPIN IN TO ROUND.

C. INCLUDE DAMPERS AT ALL BRANCH LINES.

10. DUCT SIZES NOT CALLED OUT SHALL BE DETERMINED BASED ON 0.08" S.P. LOSS OR LESS PER 100 FT. OF LENGTH.

11. ASSUME ROUND OR OVAL DUCTS IN EXPOSED AREAS.

12. INCLUDE DAMPERS AT ALL BRANCH LINES, WHERE SHOWN ON THE DRAWINGS, AND WHERE OTHERWISE REQUIRED FOR BALANCING.

PIPE INSTALLATION:

1. ALL PIPING SHALL BE ADEQUATELY SUPPORTED FROM THE BUILDING STRUCTURE TO PREVENT SAGGING, POCKETING, SWAYING OR DISPLACEMENT BY MEANS OF HANGERS AND SUPPORTS. PIPING IS NOT TO BE SUPPORTED BY EQUIPMENT.

2. PROVIDE DIELECTRIC UNIONS BETWEEN DISSIMILAR MATERIALS.

3. PROVIDE MANUAL AIR VENTS AND CAPPED HOSE-END DRAINS WITH ISOLATION VALVES AT PIPING HIGH AND LOW POINTS.

4. WELD PIPE IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS. WELDERS SHALL BE CERTIFIED FOR TYPE OF WORK BEING PERFORMED.

5. FLUSH OUT PIPING AND REMOVE CONTROL DEVICES BEFORE PERFORMING PRESSURE TEST. DO NOT USE PIPING SYSTEM VALVES TO ISOLATE SECTIONS WHERE TEST PRESSURE EXCEEDS VALVE PRESSURE RATING. PRESSURIZE PIPING AT 100 PSIG. IF LEAKAGE IS OBSERVED OR IF TEMPERATURE COMPENSATED PRESSURE DROP EXCEEDS 1% OF TEST PRESSURE, REPAIR LEAKS AND RETEST. DO NOT USE AIR PRESSURE TO TEST PLASTIC PIPE.

6. PROVIDE SUPPORT UNDER ELBOWS ON PUMP SUCTION AND DISCHARGE LINES.

7. ALL STRAINERS SHALL BE FURNISHED WITH A "ROUGHING" SCREEN AND TWO (2) SCREENS FOR NORMAL OPERATION. INSTALL STRAINER WITH ROUGHING SCREEN AND OPERATE SYSTEM FOR 24 HOURS MINIMUM (RUN DOMESTIC WATER SYSTEMS AT MAX FLOW FOR A MINIMUM OF ONE HALF (1/2) HOUR. REMOVE ROUGHING SCREEN AND INSTALL NORMAL SCREEN, AFTER TWO WEEKS OF NORMAL OPERATION INSTALL NEW NORMAL SCREEN.

8. PIPING SIZES SHALL BE BASED ON 2' OR LESS HEAD LOSS PER 100 FEET OF LENGTH. VELOCITIES SHALL NOT EXCEED 10 FEET PER SECOND.

9. INSTALL ALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHIN THE PIPING SYSTEM. ENSURE ALL REQUIRED PIPE EXPANSION WILL OCCUR IN THE PROPER DIRECTION AND SEGMENT OF PIPE. PROPERLY ANCHOR (RE: SPECIFICATIONS) ALL PIPING REQUIRING EXPANSION/CONTRACTION ISOLATION. COORDINATE PIPE EXPANSION/CONTRACTION TO PREVENT DAMAGE TO ANY AND ALL BUILDING COMPONENTS.

10. PROVIDE ISOLATION VALVES AT EVERY HYDRONIC BRANCH LINE.

CONDENSATE DRAINAGE:

1. PROVIDE CONDENSATE DRAINAGE FOR ALL COOLING COILS AND OVERFLOW PANS.

2. ROUTE CONDENSATE PIPING, FULL SIZE OF DRIP PAN CONNECTION, TO NEAREST CODE APPROVED RECEPTACLE. INSULATE WHERE LOCATED ABOVE FINISHED CEILINGS.

3. HEAT TRACE CONDENSATE LINES FROM FOOD SERVICE EQUIPMENT.

LOUVERS:

1. ALL LOUVERS LOCATED ON EXTERIOR WALLS SHALL BE PROVIDED BY DIVISION 23. REQUIRED LOUVER FREE AREAS ARE INDICATED ON DIVISION 23 DRAWINGS. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO CONFIRM THAT THE REQUIRED FREE AREA HAS BEEN PROVIDED, PRIOR TO CONNECTION TO THAT LOUVER. DIVISION 23 SHALL PROVIDE ALL LOUVER PLENUMS.

CUTTING, PATCHING AND DEMOLITION:

1. KEEP DEMOLITION & CUTTING TO MINIMUM REQUIRED FOR PROPER EXECUTION OF WORK.

2. BE RESPONSIBLE FOR ALL CUTTING AND PATCHING NECESSARY FOR THE COMPLETION OF THE WORK.

3. NO CUTTING (NOT SHOWN ON THE CONTRACT DOCUMENTS) SHALL BE DONE WITHOUT THE APPROVAL OF THE ARCHITECT AS TO LOCATIONS, METHOD AND EXTENT OF THE CUTTING.

4. REPAIR ALL ACCIDENTAL OR INTENTIONAL DAMAGE TO MATCH EXISTING CONSTRUCTION WITH NO NOTICEABLE DIFFERENCE IN CONTINUITY, APPEARANCE OR FUNCTION.

5. ALL "CAPPED" SANITARY AND VENT LINES SHALL BE RECONNECTED OR RE-ROUTED AS NECESSARY TO PREVENT "DEAD-ENDS" IN THE PIPING. ALL PIPING SHALL DRAIN TO ACTIVE SANITARY WASTE LINES AND ALL BRANCHES WITH TRAPS SHALL BE ADEQUATELY VENTED.

GENERAL PLUMBING CONTRACT REQUIREMENTS:

1. THE GENERAL MECHANICAL REQUIREMENTS PERTAIN TO THE WORK OF THIS DIVISION.

2. PREPARE SHOP DRAWINGS OF ALL NEW WORK (INCLUDING SLEEVE LOCATIONS) TO VERIFY LOCATIONS AND COORDINATION OF WORK BETWEEN TRADES PRIOR TO INSTALLATION.

3. ALL DRAIN GRATES, CLEANOUT COVERS, AND OTHER FINISHED, EXPOSED COMPONENTS SHALL BE PROTECTED FROM DAMAGE. DAMAGED COMPONENTS SHALL BE REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

4. COORDINATE ROUTING OF ALL PLUMBING PIPING BELOW SLAB WITH STRUCTURAL GRADE BEAMS, TIE BEAMS, ETC. ALLOW FOR REROUTING OF PIPING AS REQUIRED.

5. ALL REQUIRED OPENINGS IN CONCRETE BEAMS AND STRUCTURAL WALLS ARE TO BE ACCOMPLISHED USING SLEEVES PROPERLY SIZED FOR THE PIPE THEY SERVE. CORE DRILLING IN BEAMS IS NOT ALLOWED. CORE DRILLING IN PANS IS ALLOWED UPON PRIOR APPROVAL OF ARCHITECT AND STRUCTURAL ENGINEER.

6. HORIZONTAL STORM AND SANITARY PIPING SHALL RUN AT A SLOPE OF 1/4" PER FOOT MINIMUM FOR 3" AND SMALLER PIPING. 4" AND LARGER PIPING SHALL RUN AT 1/8" PER FOOT MINIMUM.

7. NO DOMESTIC WATER LINES SHALL BE LOCATED EXPOSED IN FINISHED SPACES OR BELOW THE BUILDING SLAB UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

8. WHERE SHOWN, MINIMIZE THE NUMBER OF JOINTS ON ANY PRESSURIZED PIPING BELOW CONCRETE SLABS. ALL BELOW GRADE PIPING TO BE PRESSURE TESTED AND WITNESSED BY ARCHITECT BEFORE BACKFILLING.

9. ALL CLEANOUTS FOR HORIZONTAL STORM DRAINAGE SYSTEM SHALL BE PIPE SIZE OR MAXIMUM 6" FOR LARGER PIPE.

10. IN ADDITION TO THE CLEANOUT LOCATIONS SHOWN ON DRAWINGS, PROVIDE ADDITIONAL CLEANOUTS AT:
A. ALL UPPER TERMINALS.

B. EACH RUN OF PIPING WHICH IS MORE THAN 100 FEET IN LENGTH OR FRACTION THEREOF.

C. HORIZONTAL LINES 5 FEET OR MORE.

D. HORIZONTAL LINES FOR EACH AGGREGATE CHANGE OF DIRECTION EXCEEDING 135 DEGREES.

E. AT THE BASE OF ALL WASTE AND VENT RISERS. ALL VERTICAL CLEANOUTS SHALL BE SIZED TO ACCOMMODATE THE LARGEST PIPE ON THAT BRANCH LINE, BUT NEVER LARGER THAN 4".

11. NO GAS LINES SHALL BE LOCATED BELOW BUILDING SLAB. ALL GAS PIPING IN AIR PLENUMS TO BE WELDED.

12. PROVIDE ISOLATION VALVES ON ALL PIPING SERVING HOSE BIBBS.

13. ANY ELECTRICAL SPACE NOT CONSTRUCTED WITH A SUB-ROOF WHICH MAY HAVE PLUMBING PIPING AT THE CEILING OF THESE SPACES SHALL HAVE A DRIP PAN INSTALLED BELOW THE PIPING. DRIP PANS SHALL BE 1.5 TIMES THE WIDTH OF THE PIPING SERVED WITH A MINIMUM OF 2" HIGH SIDES. DRIP PANS SHALL BE SUSPENDED FROM THE PIPING SERVED AND SHALL SLOPE AT A MINIMUM 1/8"/FT. DRIP PANS SHALL DISCHARGE WITH MIN. 1-1/2" DR TO FLOOR DRAINS.

A. DO NOT LOCATE PIPING DIRECTLY ABOVE ANY ELECTRICAL EQUIPMENT IN ELECTRICAL ROOMS.

14. MAINTAIN DESIGNATED PLUMBING FIXTURE HEADER SIZE FOR FULL BANK OF FIXTURES.

15. PROVIDE GAS VENTS EXTENDING CONTINUOUSLY FROM ALL INTERIOR GAS REGULATORS TO THE EXTERIOR OF THE BUILDING. TERMINATE AT AN APPROVED LOCATION. SIZE VENTS SUCH THAT MINIMUM VENT SIZE (FOR VENT WHICH IS 10 FEET OR LESS IN LENGTH) EQUALS RELIEF OUTLET PIPE SIZE. INCREASE VENT PIPE SIZE ONE PIPE SIZE FOR EVERY ADDITIONAL TEN FEET OF VENT PIPE LENGTH.

A. PROVIDE AN ISOLATION VALVE DOWNSTREAM OF EVERY INTERIOR GAS REGULATOR.

STRUCTURE:

1. DO NOT PENETRATE STRUCTURAL MEMBERS. ALL EQUIPMENT SUPPORTS SHALL BE ATTACHED TO THE LOAD BEARING MEMBERS OF STRUCTURAL ELEMENTS. DO NOT OVER-STRESS ANY STRUCTURAL MEMBERS. CONTACT STRUCTURAL ENGINEER FOR ALLOWABLE LOADS FOR SPECIFIC MEMBERS.

2. DO NOT UTILIZE POWER DRIVEN ANCHORS FOR ANY LOCATIONS WHICH REQUIRE THE LOAD TO BE HELD IN TENSION. SEE STRUCTURAL DIVISION FOR ADDITIONAL RESTRICTIONS.

3. SEE ALSO STRUCTURAL DIVISION FOR ACCEPTABLE ANCHORING AND SUPPORT MEANS, METHODS, AND LOCATIONS.

4. PROVIDE FLEXIBLE CONNECTORS, EXPANSION LOOPS, EXPANSION JOINTS, ADDITIONAL FITTINGS OR EQUIVALENT TO ACCOMMODATE THE THERMAL EXPANSION OF THE BUILDING THROUGH STRUCTURAL EXPANSION JOINTS. PROVIDE SUCH FITTING AT EVERY PIPE, DUCT, CONDUIT, ETC. CROSSING OF A STRUCTURAL EXPANSION JOINT.

CONSTRUCTION VENTILATION:

1. WHERE EXISTING OR NEW MECHANICAL SYSTEMS ARE USED FOR TEMPORARY VENTILATION OR CLIMATE CONTROL, MECHANICAL EQUIPMENT INSTALLER SHALL PROVIDE CONSTRUCTION FILTERS, MAINTAIN EQUIPMENT, AND CLEAN, ADJUST AND PUT IN NEW CONDITION BEFORE BUILDING OCCUPANCY. PARTS AND LABOR WARRANTY SHALL NOT BE CONSIDERED TO START UNTIL ACCEPTANCE OF SYSTEM BY OWNER.

2. PROVIDE CONSTRUCTION FILTERS INSTALLED AT ALL AIR MOVING DEVICES THROUGHOUT THE CONSTRUCTION. REMOVE FILTERS ONLY FOR BALANCING AND FINAL TURNOVER. INSPECT ALL NON-CONSTRUCTION FILTERS AND REPLACE ALL THOSE DEEMED NECESSARY BY THE ENGINEER PRIOR TO ACCEPTANCE OF THE SYSTEM BY THE OWNER.

GAS FIRED VENTING REQUIREMENTS:

1. ALL FLUES SERVING GAS FIRED EQUIPMENT SHALL BE DOUBLE WALL TYPE "B" BY METALBESTOS CO. OR EQUAL. TERMINATE FLUES A MINIMUM HEIGHT ABOVE ROOF (AS DETERMINED BY CODE) WITH WEATHER CAP. SLOPE HORIZONTAL RUNS TOWARD POINT OF ORIGINATION AT MINIMUM 1/4" PER 1'.

ELECTRIC HEAT FREEZE PROTECTION:

1. PIPE HEAT TRACE CABLE:

A. HEAT TRACE CABLE SHALL BE INSTALLED BY A LICENSED ELECTRICIAN.

B. APPLY THE HEAT TRACE CABLE ON THE PIPE AFTER PRESSURE TESTING.

(1) DO NOT SPIRAL WRAP ON PIPE.

(2) MAKE ONE WRAP AT VALVES.

(3) SECURE TO PIPE WITH METHODS APPROVED BY MANUFACTURER.

C. APPLY "ELECTRICALLY TRACED" SIGNS ON OUTSIDE OF INSULATION.

D. TEST PER MANUFACTURER'S RECOMMENDATIONS.

E. APPLY HEAT TRACE TO THE FOLLOWING PIPING SYSTEMS.

(1) DOMESTIC WATER (COLD, HOT, RECIRC.) EXPOSED TO FREEZING CONDITIONS.

(2) SANITARY TRAPS AND THE DOWNSTREAM HORIZONTAL PIPE WHERE EXPOSED TO FREEZING CONDITIONS.

(3) STORM PIPING SUBJECT TO FREEZING CONDITIONS.

F. ALL HEAT TRACE PIPE SHALL BE INSULATED PER SPECIFICATIONS.

G. COORDINATE ALL HEAT TRACING AND REQUIRED CIRCUITS WITH ELECTRICAL CONTRACTOR.

FIRE PROTECTION NOTES:

1. FIRE PROTECTION NOTES

A. SUBMIT SHOP DRAWINGS SHOWING PROPOSED LAYOUT OF FIRE PROTECTION SYSTEM. DRAWINGS SHALL SHOW ACTUAL EQUIPMENT TO BE USED, DIMENSIONS AND HYDRAULIC CALCULATIONS. SHOP DRAWINGS SHALL BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION PRIOR TO SUBMITTAL TO ENGINEER OR ARCHITECT.

B. SHOW THE CONNECTING MAIN AND BRANCH PIPE SIZES FOR ALL RELOCATED EXISTING SPRINKLER HEADS.

C. CONFORM TO HAZARD OCCUPANCY REQUIREMENTS OF NFPA 13.

2. THE ENTIRE BUILDING SHALL BE SERVED BY A WET PIPE TYPE FIRE SPRINKLER SYSTEM. COORDINATE ELECTRICAL, FIRE PROTECTION AND MECHANICAL SPACE REQUIREMENTS CAREFULLY BEFORE PROCEEDING WITH INSTALLATION.

3. EXTEND THE EXISTING SPRINKLER SYSTEM, RELOCATE EXISTING AND ADD NEW SPRINKLER HEADS IN ACCORDANCE WITH NFPA 13, ALL APPLICABLE CODES AND ORDINANCES AND PROJECT REQUIREMENTS TO COMPLETELY PROTECT THE NEW WORK.

4. SYSTEM SHALL BE INSTALLED COMPLETE AND OPERATIONAL, INCLUDING WATER FLOW INDICATOR, CONNECTIONS TO EXISTING ALARM, DRAIN PIPING, IDENTIFICATION SIGNS, ETC.

5. WORK SHALL BE PERFORMED BY A QUALIFIED FIRE SPRINKLER INSTALLER WITH A MINIMUM OF (5) FIVE YEARS EXPERIENCE IN SIMILAR INSTALLATIONS.

6. COORDINATE ALL WORK WITH ALL OTHER TRADES.

7. SUPPLY OWNER AN EXTRA STOCK OF SIX SPRINKLER HEADS (6), THREE (3) OF EACH TYPE, AND A SPRINKLER WRENCH.

FIRE STOPPING:

1. FIRE STOPPING REQUIREMENT: PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR FIRE STOPS ASTM-E-814. ACCEPTANCE MATERIALS NCLUDE: DOW CORNING RTV FIRE STOP FOAM FOR BARE PIPE, METAL CONDUIT, AND ELECTRICAL CABLE; 3M FIRE DAM 21,22 AND 230 CAULK FOR BARE PIPE, METAL CONDUIT, AND BUILDING CONSTRUCTION; GAPS 3M FS-195 INTUMESCENT STRIPS FOR INSULATED PIPES, PLASTIC PIPE OR CONDUIT, AND ELECTRICAL CABLE.

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

MATHEW E. EDWARDS
56806
05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - MECHANICAL GENERAL NOTES

Scale
1/8" = 1'-0"

1A-M0.001

1 PROMENADE BUILDING - MECHANICAL SITE PLAN
SCALE: 1" = 20'-0"

GENERAL NOTES:

1. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR IS RESPONSIBLE FOR ALL OFFSETS, TRANSITIONS, ELBOWS, ETC. AS REQUIRED IN DUCTWORK, PIPING, SUPPORTS, ETC. TO COMPLETE THE WORK IN A CLEAN FUNCTIONAL INSTALLATION THAT IS FULLY COORDINATED WITH ALL OTHER TRADES. ANY PRICING EFFORT SHALL TAKE THESE FACTORS INTO ACCOUNT.

2. MAINTAIN CODE REQUIRED AREA OF SEPARATION FROM OUTSIDE AIR INTAKES TO TERMINATIONS OF EXHAUST, COMBUSTION AIR, PLUMBING VENTS, ETC.

3. COORDINATE EQUIPMENT HOUSEKEEPING PAD DIMENSIONS AND LAYOUT WITH THE GENERAL CONTRACTOR BASED ON FINAL EQUIPMENT SIZES.

4. PROVIDE MANUAL BALANCE DAMPERS IN ALL SUPPLY DUCT BRANCH TAPS DOWNSTREAM OF VAV BOXES.

5. PROVIDE MANUAL BALANCE DAMPERS IN ALL EXHAUST DUCT BRANCH TAPS.

6. COORDINATE SPACE TEMPERATURE SENSORS AND THERMOSTAT LOCATIONS TO ALIGN VERTICALLY WITH LIGHT SWITCHES.

7. TEMPERATURE CONTROLS CONTRACTOR SHALL SUBMIT PLANS INDICATING ALL SPACE TEMPERATURE SENSORS, T-STATS, HUMIDITY SENSORS, ETC. AS PART OF SUBMITTAL PROCESS FOR A/E REVIEW PRIOR TO ROUGH-IN.

8. PROVIDE THROUGH FACE BALANCING FOR ALL DIFFUSERS, REGISTERS, AND GRILLES ABOVE INACCESSIBLE AREAS.

9. PROVIDE TURNING VANES IN ALL 90° DUCT ELBOWS.

10. INSTALL EXPOSED DUCTWORK AS HIGH AS POSSIBLE.

11. ALL DUCT/PIPE PENETRATIONS THROUGH FIRE RATED/SMOKE RATED PARTITIONS SHALL BE CAULKED AND SEALED TO MEET THE RATING REQUIRED. REFER TO LIFE SAFETY DRAWINGS FOR FIRE/SMOKE RATING REQUIREMENTS.

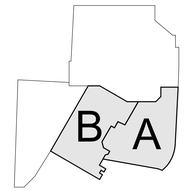
12. PROVIDE ISOLATION VALVES AT EACH BRANCH LINE OFF OF RISER.

13. PROVIDE 3/4" BRANCH PIPING TO ALL TERMINAL UNITS, UNLESS NOTED OTHERWISE.

14. PROVIDE CONDENSATE DRAIN FROM ALL CHILLED WATER COILS AND DX EVAPORATOR COILS TO NEAREST MOP SINK OR MECHANICAL ROOM FLOOR DRAIN. PROVIDE CONDENSATE PUMP FOR WALL MOUNTED UNITS AND CONCEALED UNITS THAT CANNOT BE GRAVITY DRAINED TO TERMINATION LOCATION

KEYNOTES

KEY PLAN



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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
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Seal / Signature

COLORADO LICENSED
MATHEW E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

Project Name
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Project Number
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Description
PROMENADE - MECHANICAL SITE PLAN

Scale
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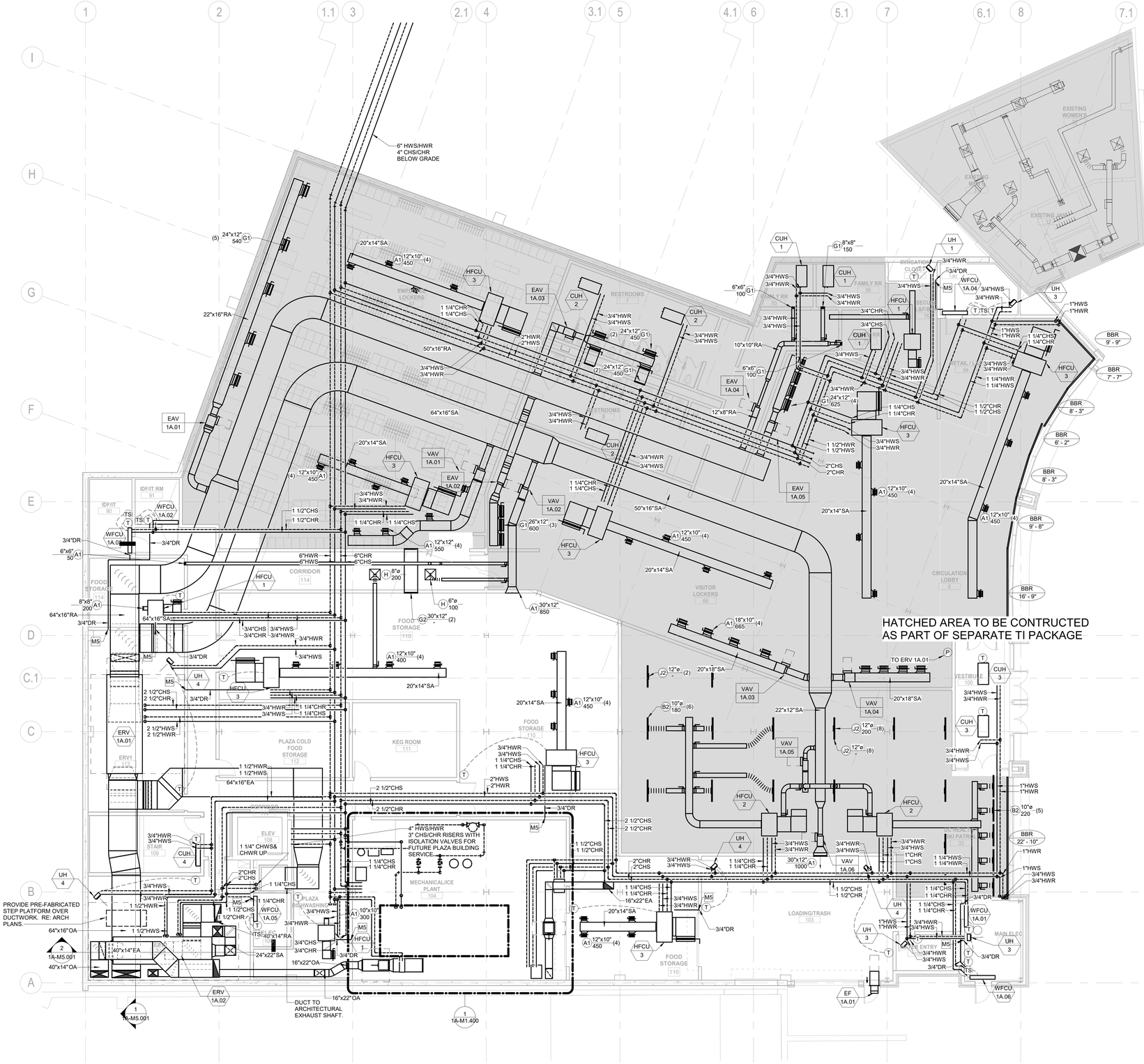
1A-M1.100



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3. COORDINATE EQUIPMENT HOUSEKEEPING PAD DIMENSIONS AND LAYOUT WITH THE GENERAL CONTRACTOR BASED ON FINAL EQUIPMENT SIZES.

4. PROVIDE MANUAL BALANCE DAMPERS IN ALL SUPPLY DUCT BRANCH TAPS DOWNSTREAM OF VAV BOXES.

5. PROVIDE MANUAL BALANCE DAMPERS IN ALL EXHAUST DUCT BRANCH TAPS.

6. COORDINATE SPACE TEMPERATURE SENSORS AND THERMOSTAT LOCATIONS TO ALIGN VERTICALLY WITH LIGHT SWITCHES.

7. TEMPERATURE CONTROLS CONTRACTOR SHALL SUBMIT PLANS INDICATING ALL SPACE TEMPERATURE SENSORS, T-STATS, HUMIDITY SENSORS, ETC. AS PART OF SUBMITTAL PROCESS FOR A/E REVIEW PRIOR TO ROUGH-IN.

8. PROVIDE THROUGH FACE BALANCING FOR ALL DIFFUSERS, REGISTERS, AND GRILLES ABOVE INACCESSIBLE AREAS.

9. PROVIDE TURNING VANES IN ALL 90° DUCT ELBOWS.

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KEYNOTES

M5	ROUTE CONDENSATE DRAIN DOWN IN WALL AND STUB OUT OF WALL TO FLOOR DRAIN.

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PROFESSIONAL ENGINEER
05/18/2021

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Project Number
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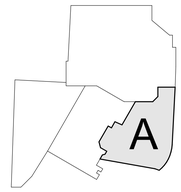
Description
PROMENADE - MECHANICAL PLAN - LEVEL 00

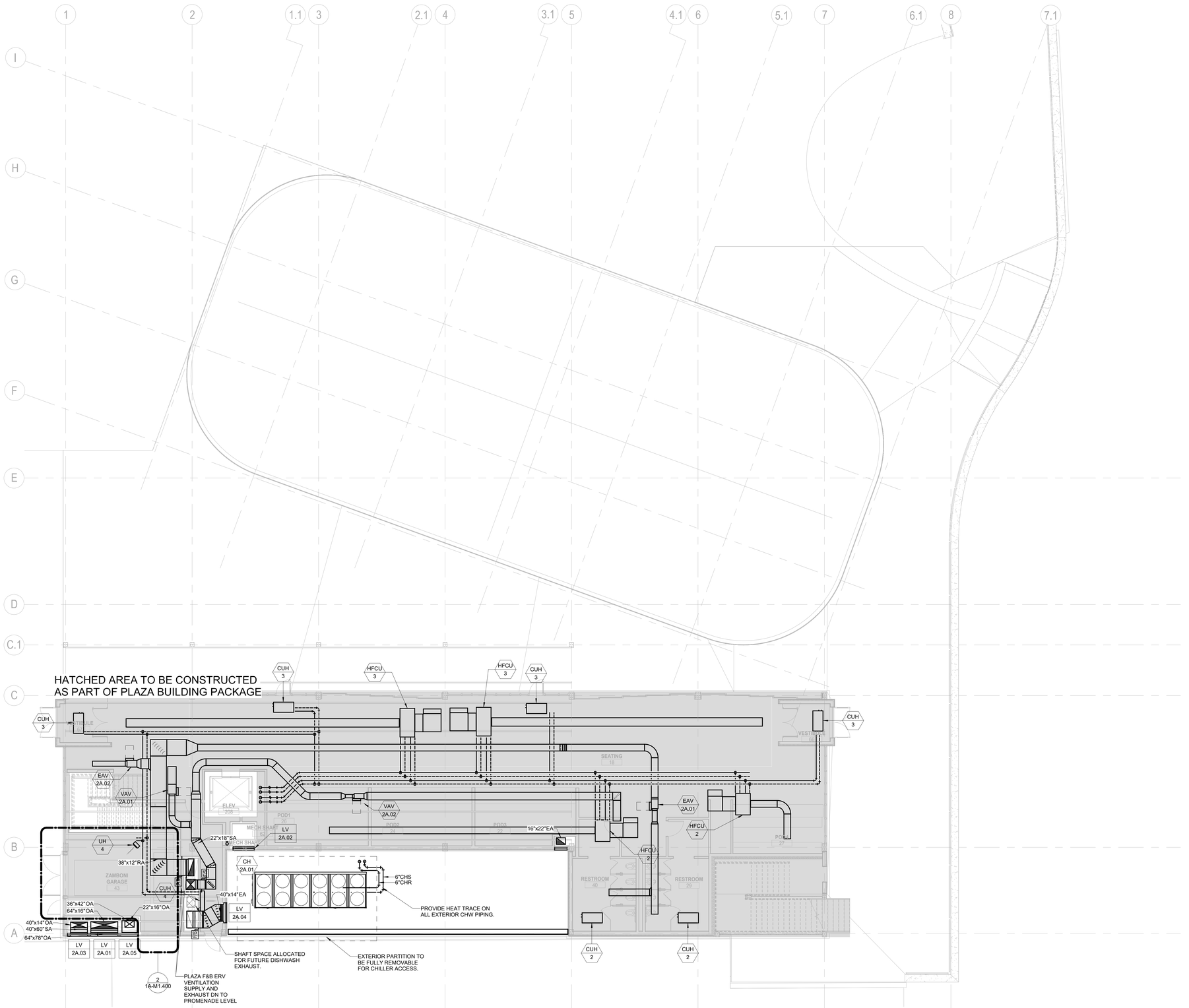
Scale
1/8" = 1'-0"

1A-M1.200

KEY PLAN



1 MECHANICAL PLAN - LOWER LEVEL 00 PROMENADE
SCALE: 1/8" = 1'-0"



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2. MAINTAIN CODE REQUIRED AREA OF SEPARATION FROM OUTSIDE AIR INTAKES TO TERMINATIONS OF EXHAUST, COMBUSTION AIR, PLUMBING VENTS, ETC.

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KEYNOTES

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

COLORADO LICENSED
MAUREEN E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

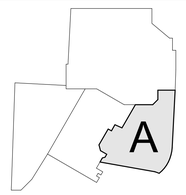
Project Number
003.7835.000

Description
PROMENADE - MECHANICAL PLAN - LEVEL 01

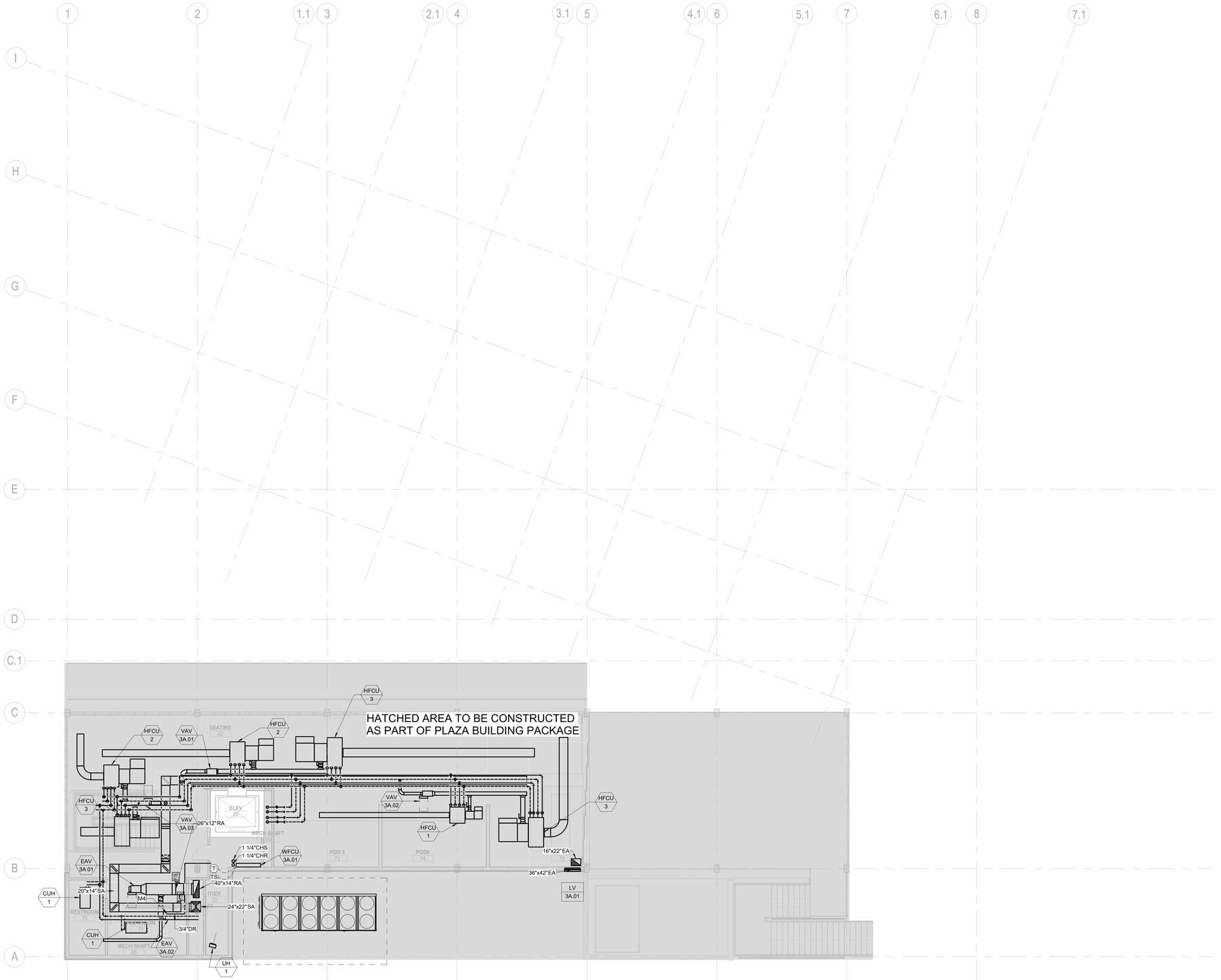
Scale
1/8" = 1'-0"

1A-M1.201

KEY PLAN



1 MECHANICAL PLAN - LEVEL 01 PLAZA
SCALE: 1/8" = 1'-0"



1 MECHANICAL PLAN - LEVEL 02 PLAZA
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

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KEYNOTES

M4	ROUTE CONDENSATE DRAIN DOWN TO APPROVED RECEPTACLE.

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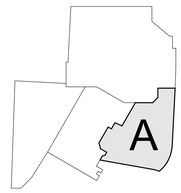
07/10/2021

KEY PLAN



Seal / Signature

COLORADO LICENSED
MATTHEW E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

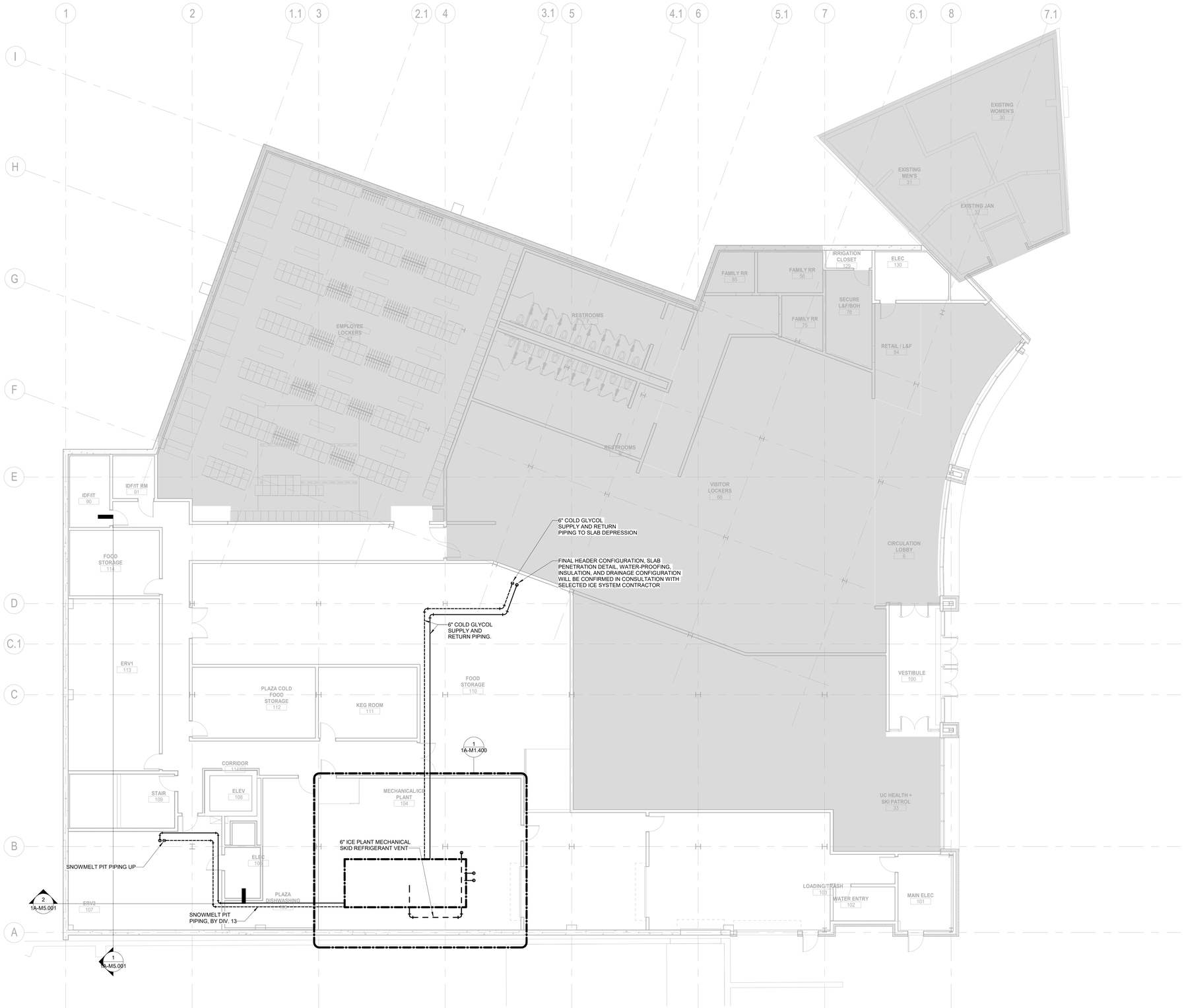
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - MECHANICAL PLAN - LEVEL 02

Scale
1/8" = 1'-0"

1A-M1.202



GENERAL NOTES:

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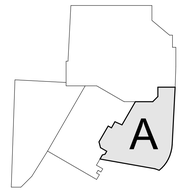
KEYNOTES

KEY PLAN



1 ICE PLANT PLAN - LOWER LEVEL 00 PROMENADE

SCALE: 1/8" = 1'-0"

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07/10/2021

Seal / Signature

COLORADO LICENSED
MATTHEW E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

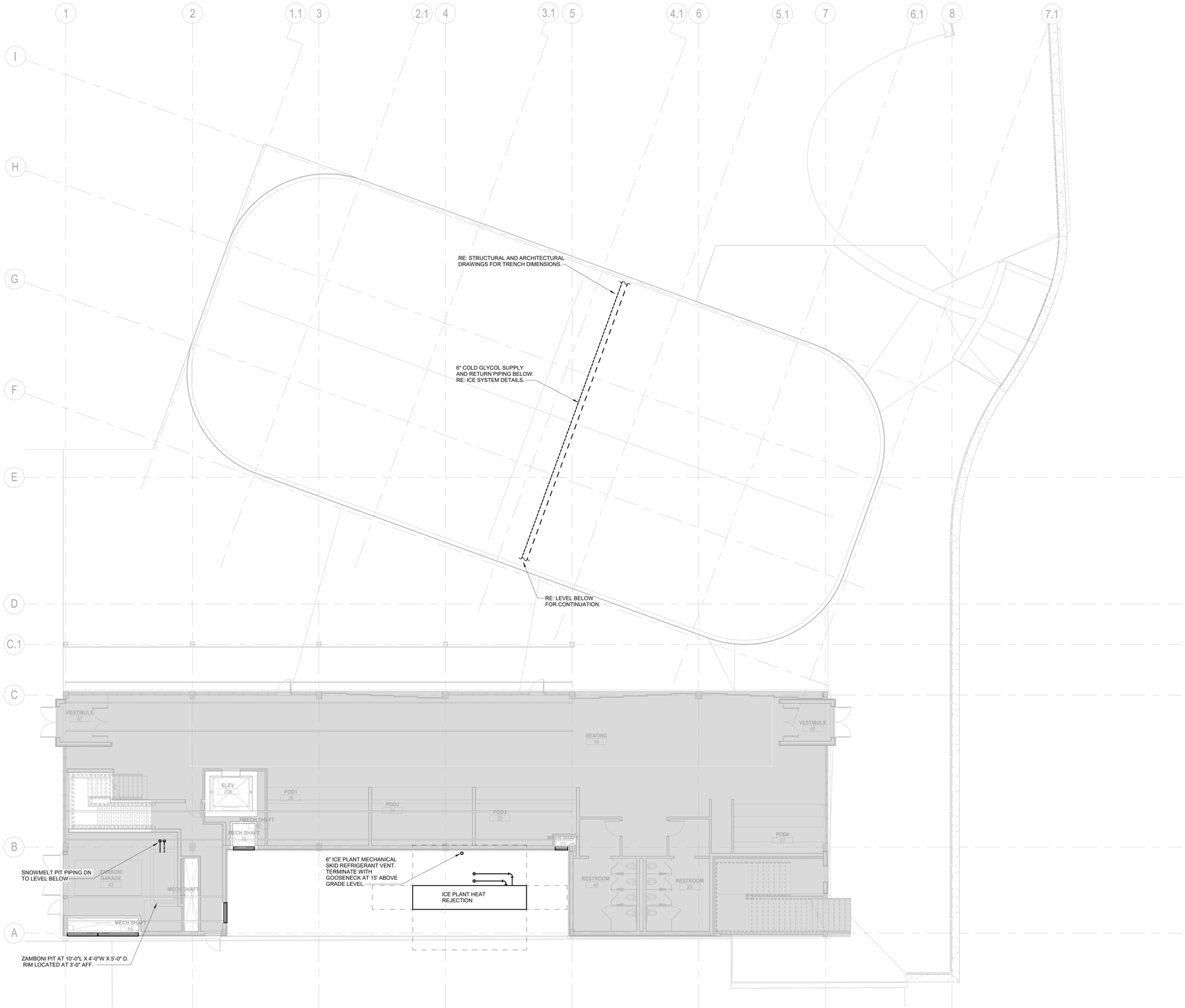
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ICE PLANT PLAN - LEVEL 00

Scale
1/8" = 1'-0"

1A-M1.300



1 ICE PLANT PLAN - LEVEL 01 PLAZA

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COLORADO LICENSED
MARSHA E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

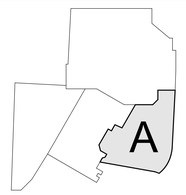
Project Number
003.7835.000

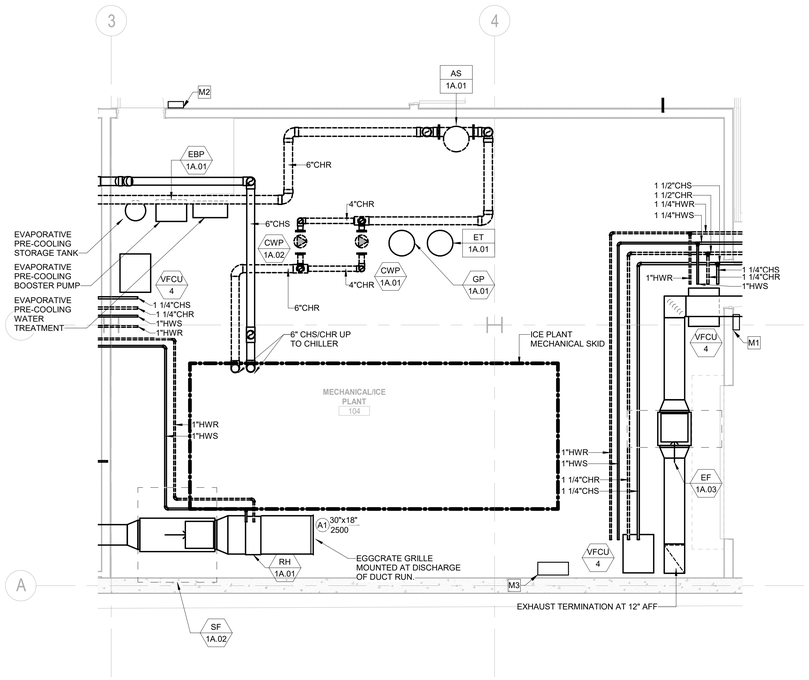
Description
PROMENADE - ICE PLANT PLAN - LEVEL 01

Scale
1/8" = 1'-0"

1A-M1.301

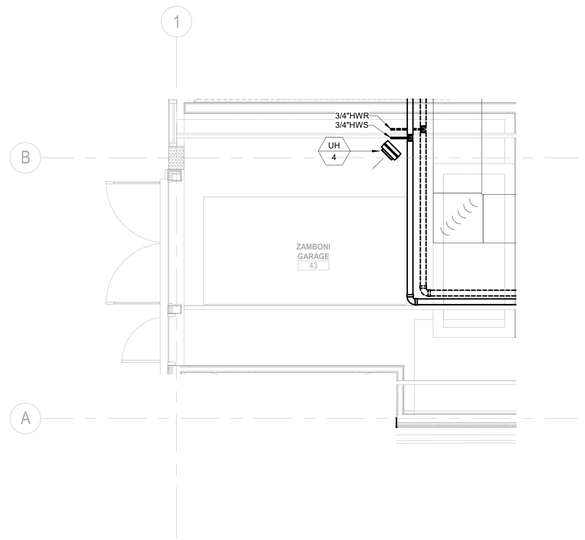
KEY PLAN





1 MECHANICAL/ICE PLANT ROOM

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



2 ZAMBONI GARAGE - LEVEL 01 PLAZA

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

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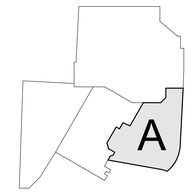
KEYNOTES

M1	REFRIGERANT LEAK DETECTION SYSTEM REMOTE MONITORING SYSTEM.
M2	REFRIGERANT LEAK DETECTION SYSTEM REMOTE MONITORING PANEL.
M3	REFRIGERANT LEAK MONITORING SYSTEM. RE: SPECIFICATION 13 10 61 ICE RINK REFRIGERATION AND PIPING.

KEY PLAN



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Seal / Signature

COLORADO LICENSED
MATTHEW E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

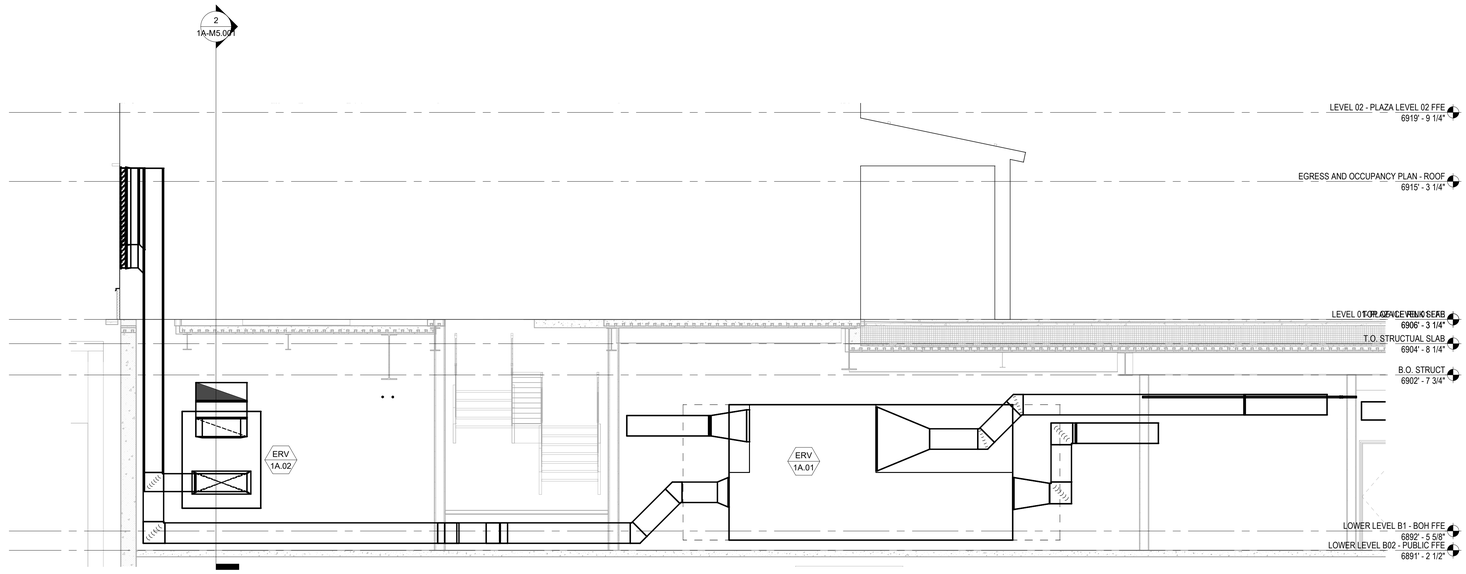
Description

PROMENADE - MECHANICAL ENLARGED PLANS

Scale

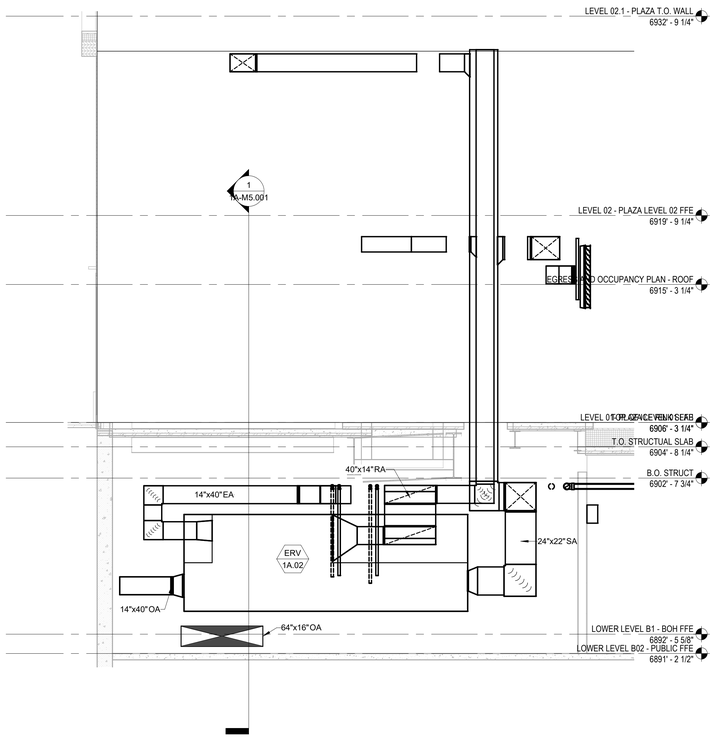
1/4" = 1'-0"

1A-M1.400



1 PROMENADE MECHANICAL SECTION 1

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



2 PROMENADE MECHANICAL SECTION 2

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

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COLORADO LICENSED
MARWIN E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

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SSRC | BASE AREA IMPROVEMENTS

Project Number

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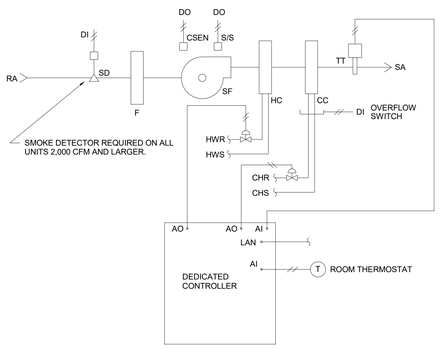
Description

PROMENADE - MECHANICAL SECTIONS

Scale

1/4" = 1'-0"

1A-M5.001



D ICE PLANT FAN COIL UNIT CONTROL
NONE

SEQUENCE OF OPERATION:

A. GENERAL:
1. THE FOLLOWING SEQUENCE OF OPERATION INCLUDES REQUIRED FUNCTIONALITY OF THE FAN COIL UNIT. POINTS REQUIRED TO EXECUTE THIS SEQUENCE SHALL BE COORDINATED BETWEEN THE EQUIPMENT PROVIDER AND TEMPERATURE CONTROLS CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. SUBMIT LIST OF ITEMS TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR IN ORDER TO EXECUTE THIS SEQUENCE.

B. OCCUPIED MODE:
1. WHEN THE UNIT IS IN THE OCCUPIED MODE, THE SUPPLY FAN SHALL OPERATE INTERMITTENTLY. THE SUPPLY FAN SHALL DELIVER CONSTANT AIRFLOW. COOLING VALVE AND HEATING VALVE (WHERE APPLICABLE) SHALL MODULATE IN SEQUENCE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
2. UNITS ARE INTENDED TO REMAIN IN OCCUPIED MODE 24 HOURS PER DAY, 7 DAYS PER WEEK, YEAR-ROUND.

C. UNOCCUPIED MODE:
1. WHEN THE UNIT ENTERS UNOCCUPIED MODE THE SUPPLY FAN SHALL BE OFF, COOLING CONTROL VALVE SHALL CLOSE, AND HEATING CONTROL VALVE SHALL CLOSE.

D. FAN SAFETY CONTROLS:
1. DE-ENERGIZE THE SUPPLY FAN WHENEVER THE OVERFLOW SENSOR HAS TRIPPED OR SUPPLY FAN STATUS INDICATES A FAILURE (AFTER A TWO-MINUTE DELAY). MANUAL RESET REQUIRED FOR ALL FAILURES.
2. ALARM THE BMS WITH THE APPROPRIATE ALARM MESSAGE.

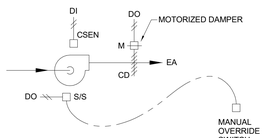
E. SMOKE DETECTION SHUTDOWN:
1. UNITS 2,000 CFM AND LARGER: WHEN SMOKE IS DETECTED AT THE RETURN AIR INLET, THE SUPPLY FAN SHALL BE DE-ENERGIZED, THE COOLING SHALL BE DISABLED, AND HEATING SHALL BE DISABLED.

F. REFRIGERANT LEAK DETECTION:
1. WHEN A REFRIGERANT LEAK IS DETECTED IN THE ROOM, THE UNIT SHALL CONTINUE IN CURRENT OPERATING MODE.

G. SPACE TEMPERATURE CONTROL:
1. PROVIDE A DISCHARGE AIR TEMPERATURE SENSOR FOR EQUIPMENT MONITORING.
2. PROVIDE A DEAD-BAND BETWEEN COOLING AND HEATING WHERE THE COOLING AND HEATING ARE DISABLED AND THE SUPPLY FAN SHALL BE OFF.

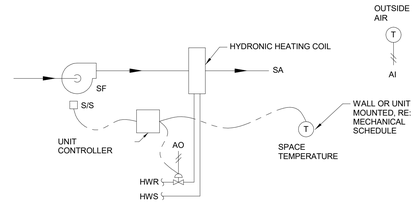
H. HEATING CONTROL:
1. THE HEATING CONTROL VALVE SHALL MODULATE TO MAINTAIN SPACE HEATING SETPOINT. HEATING CONTROL VALVE SHALL CLOSE IF THE FANS ARE OFF.

I. COOLING CONTROL:
1. THE COOLING CONTROL VALVE SHALL MODULATE TO MAINTAIN SPACE COOLING SETPOINT. COOLING CONTROL VALVE SHALL CLOSE IF THE FANS ARE OFF.



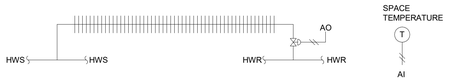
E LOADING DOCK EXHAUST FAN CONTROL
NONE

A. FAN SHALL BE INTERLOCKED WITH ENERGY RECOVERY VENTILATOR SERVING SAME AREA. MOTORIZED DAMPER SHALL OPEN AND FAN SHALL BE ENERGIZED WHENEVER ASSOCIATED ENERGY RECOVERY VENTILATOR IS OPERATING.
B. PROVIDE WALL MOUNTED OVERRIDE SWITCH TO MANUALLY START THE FAN AND OPEN THE MOTORIZED DAMPER. WALL MOUNTED OVERRIDE SWITCH TO BE LOCATED IN LOADING/TRASH AREA NEAR EXTERIOR ENTRY DOOR. SWITCH SHALL BE LABELED WITH TWO POSITIONS: "MANUAL ON" AND "AUTO-BMS CONTROL".



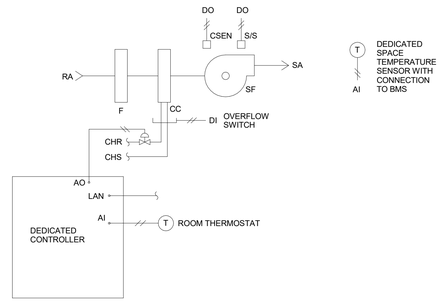
A HYDRONIC CABINET UNIT HEATER/ HYDRONIC UNIT HEATER CONTROL
NONE

A. THERMOSTAT SHALL CYCLE FAN & OPEN HEATING WATER VALVE TO MAINTAIN SPACE SETPOINT. HEATING VALVE POSITION TO BE REPORTED TO THE BMS AS PERCENTAGE OPEN.
B. WHERE REMOTE MOUNTED THERMOSTAT IS INDICATED, PROVIDE CONTROL TRANSFORMER AND LOW VOLTAGE THERMOSTAT BY TEMPERATURE CONTROLS CONTRACTOR.
C. ALL HEATERS SERVING BUILDING ENTRY VESTIBULES SHALL BE PROVIDED WITH BMS RELAY TO INTERRUPT POWER AND PREVENT UNIT OPERATION WHEN OUTSIDE AIR IS ABOVE 45 DEGREES F. EACH VESTIBULE THERMOSTAT SHALL BE CONFIGURED TO HEAT THE VESTIBULE TO NO HIGHER THAN 60 DEGREES F.



B HYDRONIC FIN TUBE CONTROL
NONE

A. 2-WAY MODULATING CONTROL VALVE SHALL OPEN TO MAINTIAIN SPACE TEMPERATURE HEATING SETPOINT. MULTIPLE SECTIONS MAY BE CONTROLLED VIA THE SAME VALVE WITHIN THE SAME TEMPERATURE ZONE (EXPOSURE). UP TO 50 LINEAL FEET OF FIN TUBE MAY BE CONNECTED TO A SINGLE HEATING WATER CONTROL VALVE. HEATING WATER CONTROL VALVES SHALL OPERATE AS THE FIRST STAGE OF HEATING FOR ASSOCIATED ZONE. HEATING VALVE POSITION TO BE REPORTED TO THE BMS AS PERCENTAGE OPEN.



C WALL MOUNTED FAN COIL UNIT CONTROL
NONE

SEQUENCE OF OPERATION:

A. GENERAL:
1. THE FOLLOWING SEQUENCE OF OPERATION INCLUDES REQUIRED FUNCTIONALITY OF THE WALL MOUNTED FAN COIL UNIT. POINTS REQUIRED TO EXECUTE THIS SEQUENCE SHALL BE COORDINATED BETWEEN THE EQUIPMENT PROVIDER AND TEMPERATURE CONTROLS CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. SUBMIT LIST OF ITEMS TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR IN ORDER TO EXECUTE THIS SEQUENCE.

B. OCCUPIED MODE:
1. WHEN THE UNIT IS IN THE OCCUPIED MODE, THE SUPPLY FAN SHALL OPERATE INTERMITTENTLY. THE SUPPLY FAN SHALL DELIVER CONSTANT AIRFLOW. COOLING VALVE SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.

C. UNOCCUPIED MODE:
1. WHEN THE FCU ENTERS UNOCCUPIED MODE THE SUPPLY FAN SHALL BE OFF AND THE COOLING CONTROL VALVE SHALL CLOSE..

D. FAN SAFETY CONTROLS:
1. ALARM THE BMS WHEN SPACE TEMPERATURE RISES ABOVE 95F (ADJ.). ALARM THE BMS WITH APPROPRIATE MESSAGE.

E. COOLING CONTROL:
1. THE COOLING CONTROL VALVE SHALL MODULATE TO MAINTAIN SPACE COOLING SETPOINT. COOLING CONTROL VALVE SHALL CLOSE IF THE FANS ARE OFF.

CONTROL LEGEND

ABBR	DESCRIPTION	ABBR	DESCRIPTION	ABBR	DESCRIPTION
AI	ANALOG INPUT	FR	FREEZESTAT	PHC	PREHEAT COIL
AO	ANALOG OUTPUT	FRN	FURNACE	PT	PRESSURE TRANSMITTER
BDD	BACKDRAFT DAMPER	FS	FLOW SWITCH	PZ	PIEZOMETER RING
BTU	BTU METER	FSCP	FIREFIGHTER SMOKE CONTROL PANEL	RA	RETURN AIR
C	CONTROLLER	FSPD	FAN SPEED	RF	RETURN FAN
CC	COOLING COIL	FT	FLOW TRANSMITTER	S	SPACE TEMPERATURE SENSOR
CD	CONTROL DAMPER	H	HUMIDITY OR HIGH	S/S	START/STOP
CFM	AIRFLOW MEASURING SENSOR	HC	HEATING COIL	SA	SUPPLY AIR
CHR	CHILLED WATER RETURN	H/L	HIGH/LOW	SC	SPEED CONTROL
CHS	CHILLED WATER SUPPLY	HH	HIGH LIMIT HUMIDITY SWITCH	SD	SMOKE DETECTOR
CO2	CARBON DIOXIDE	HS	HUMIDITY SENSOR	SF	SUPPLY FAN
COND	CONDENSATE OVERFLOW	HT	HUMIDITY TRANSMITTER	SPT	STATIC PRESSURE TRANSMITTER
COV	CHANGE OF VALUE	HWR	HOT WATER RETURN	SR	SWITCHING RELAY
CSEN	CURRENT SENSOR	HWS	HOT WATER SUPPLY	T	THERMOSTAT
DI	DIGITAL INPUT	IR	INTERLOCK RELAY	TM	THERMAL MASS METER
DO	DIGITAL OUTPUT	L	LEVEL OR LOW	TO	TIMED OVERRIDE SWITCH
DP	DIFFERENTIAL PRESSURE	LAN	LOCAL AREA NETWORK CONNECTION	TS	TEMPERATURE SENSOR
EA	EXHAUST AIR	M	MOTORIZED CONTROL	TT	TEMPERATURE TRANSMITTER
ES	END SWITCH	MIN	MINIMUM	TTAB	TEMPERATURE TRANSMITTER W/AVERAGING BULB
F	FILTER ASSEMBLY OR FAIL	ND	NITROGEN DIOXIDE	V	VALVE
FACP	FIRE ALARM CONTROL PANEL	OA	OUTSIDE AIR	VFD	VARIABLE FREQUENCY DRIVE
FAS	FIRE ALARM SYSTEM	OS	OCCUPANCY SENSOR	VP	VIRTUAL POINT
FC	FAIL CLOSED	P	SPACE STATIC PRESSURE	VS	VELOCITY SENSOR
FCU	FAN COIL UNIT	P-E	PNEUMATIC ELECTRIC SWITCH	WBT	WET BULB TEMPERATURE
FM	FLOW METER			TRANSMITTER	
FO	FAIL OPEN				

MISCELLANEOUS NON-DDC CONTROL:

A. CHEMICAL TREATMENT: PROVIDE REQUIRED FIELD WIRING INTERLOCKS.

B. MISCELLANEOUS PUMPS: PUMPS SHALL OPERATE PER SCHEDULE AND DRAWINGS. FOR EXAMPLE, RECIRCULATION PUMPS CYCLE TO MAINTAIN DHW TEMPERATURE.

MISCELLANEOUS DDC CONTROL:

A. AUTOMATED INTERFACE: PROVIDE WEB-BASED INTERFACE FOR REMOTE ACCESS TO THE BMS. INTERFACE SHALL BE PASSWORD PROTECTED AND SHALL ALLOW FOR FULL CONTROL OF ALL BMS FUNCTIONALITY.

B. FIRE ALARM SYSTEM INTERFACE: PROVIDE CONNECTION TO FIRE ALARM SYSTEM AND REPORT FIRE ALARM CONDITION AT BMS OPERATOR STATION.

C. PUMPS SHALL OPERATE PER OTHER APPLICABLE CONTROL SECTIONS. BMS SHALL MONITOR ALL PUMPS INCLUDING GLYCOL FEED PUMPS. DOMESTIC HOT WATER RECIRCULATION PUMP(S) ARE EXCLUDED.

D. REFERENCE MECHANICAL EQUIPMENT SCHEDULES (ESPECIALLY "FANS") FOR ADDITIONAL CONTROL SEQUENCES.

E. FANS:
1. UNLESS NOTED OTHERWISE, PROVIDE START, STOP, AND STATUS AT BMS OPERATOR STATION FOR ALL FANS. PROVIDE STATUS ONLY FOR FANS OPERATED VIA LINE VOLTAGE THERMOSTAT, MANUAL SWITCH, OR LOCAL TIMER. FAN STATUS SHALL BE INDICATED VIA CURRENT SENSOR AT FAN ELECTRICAL CONNECTION.
2. RE: MECHANICAL SCHEDULES FOR ADDITIONAL REQUIREMENTS.

F. ELECTRICAL AND DATA ROOM TEMPERATURE MONITORING:
1. PROVIDE SPACE TEMPERATURE SENSOR IN EACH ELECTRICAL ROOM AND DATA ROOM FOR BMS TEMPERATURE MONITORING AND HIGH/LOW ALARMING.

G. ELECTRIC HEAT TRACE SYSTEMS:
1. EACH HEAT TRACE SYSTEM SHALL OPERATE UNDER ITS OWN SELF CONTAINED CONTROLS. ALARM BMS WHEN FAILURE US DETECTED AT EACH HEAT TRACE CONTROLLER. ALARMS SHALL BE ADDRESSABLE TO EACH HEAT TRACE SYSTEM.
2. HEAT TRACE SYSTEMS:
2.1. PLAZA LEVEL CHILLED WATER SUPPLY/RETURN PIPING TO CHILLER

H. EXHAUST, RELIEF, AND INTAKE DAMPERS:
1. EXHAUST, RELIEF, AND INTAKE LOCATIONS THAT CONTAIN MOTORIZED DAMPERS SHALL INTERLOCK THE POSITION OF THE DAMPER WITH THE OPERATION OF THE ASSOCIATED EQUIPMENT. WHEN THE EQUIPMENT IS ENABLED, THE DAMPER SHALL BE OPEN. WHEN THE EQUIPMENT IS DISABLED, THE DAMPER SHALL BE CLOSED. ALL DAMPERS TO BE FAST-ACTING OR AN EQUIPMENT DELAY SHALL BE PROVIDED TO PREVENT FULL AIRFLOW PRIOR TO DAMPER REACHING FULL OPEN POSITION.

H. SUMP LEVEL ALARMS:
1. PROVIDE LEVEL ALARM AT EACH PLUMBING SUMP. ALARM THE BMS WHEN AN OVERFLOW CONDITION EXISTS. ALARM MAY BE EITHER A DEDICATED LEVEL ALARM OR CONNECTION TO THE ASSOCIATED SUMP PUMP.
2. SUMP LEVEL ALARMS:
2.1. ELEVATOR SUMPS
2.2. SUMP PUMPS
2.3. SEWAGE EJECTORS

I. ICE SYSTEM:
1. PROVIDE THE FOLLOWING POINTS FROM THE ICE SYSTEM CONTROLS AT THE BMS OPERATOR STATION: SLAB TEMPERATURE (2 LOCATIONS), BRINE SUPPLY TEMPERATURE, REFRIGERANT LEAK DETECTION ALARM.

CONTROL SYSTEM GENERAL NOTES:

DESIGN INTENT:

A. THE CONTROL DRAWINGS AND SEQUENCES ARE PROVIDED TO COMMUNICATE A DESIGN INTENT FOR CONTROL OF INDICATED SYSTEMS. ALTERNATIVE CONTROL METHODS MAY BE USED WHERE PRACTICAL OR WHERE NECESSARY TO MEET REQUIRED SYSTEM PERFORMANCE. WHERE ALTERNATIVE CONTROL METHODS ARE USED TO MEET THE DESIGN INTENT, THESE METHODS SHALL BE INDICATED IN SUBMITTAL TO ENGINEER FOR EVALUATION. ENGINEER SHALL DETERMINE IF A SUBMITTED ALTERNATIVE CONTROL METHOD MEETS THE DESIGN INTENT.

B. ALTHOUGH THE MECHANICAL DRAWINGS MAY INDICATE A PRODUCT AS BASIS OF DESIGN, THE CONTROL DRAWINGS AND SEQUENCES ARE PROVIDED TO INDICATE A DESIGN INTENT FOR THE COMPLETE SYSTEM THAT IS APPLICABLE TO MULTIPLE POTENTIAL PRODUCTS OR MANUFACTURERS. CONTROL METHODS SHALL BE DEVELOPED BY THE TEMPERATURE CONTROLS CONTRACTOR AND/OR EQUIPMENT PROVIDER IN ORDER TO ACHIEVE THE REQUIRED SYSTEM PERFORMANCE.

REQUIRED COORDINATION:

A. THE DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN EQUIPMENT PROVIDERS AND TEMPERATURE CONTROLS CONTRACTOR IN ORDER TO FULLY SATISFY THE DESIGN INTENT. INTERFACE BETWEEN THE BMS AND CONTROLLED EQUIPMENT, INCLUDING ITEMS PROVIDED BY EACH ENTITY, COMMUNICATION PROTOCOL, SIGNAL TYPE, ETC., SHALL BE COORDINATED PRIOR TO RELEASE OF EQUIPMENT FOR PRODUCTION.

B. THE TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE SUBMITTAL DRAWINGS AND PRODUCT DATA FOR THE ENTIRE CONTROL SYSTEM TO ENGINEER FOR REVIEW. THE DIVISION 230900 SUBMITTAL SHALL DISTINGUISH WHERE SPECIFIC SEQUENCE ELEMENTS ARE PROVIDED WITHIN THE BUILDING MANAGEMENT SYSTEM OR WITHIN PACKAGED EQUIPMENT CONTROLLERS. RE: SPECIFICATIONS FOR REQUIREMENTS.

C. REFER TO SPECIFICATION SECTION 23 05 01 MECHANICAL AND ELECTRICAL COORDINATION.

SEQUENCE OF OPERATION GENERAL NOTES:

GENERAL:

A. ALTHOUGH EACH SEPARATE CONTROL DIAGRAM MAY INDICATE AN OUTDOOR AIR TEMPERATURE SENSOR, OUTDOOR AIR HUMIDITY SENSOR, AND/OR OUTSIDE AIR CARBON DIOXIDE SENSOR, TEMPERATURE CONTROLS CONTRACTOR MAY UTILIZE ONE OF EACH SENSOR AS A COMMON INPUT TO THE SYSTEM FOR USE IN MULTIPLE SEQUENCES. COORDINATE LOCATION WITH ARCHITECT/ENGINEER PRIOR TO INSTALLATION.

B. PROVIDE INDIVIDUAL INPUTS OR OUTPUTS FOR EACH POINT LISTED IN THE POINTS LISTS OR CONTROL DIAGRAM. PROVIDE ANY ADDITIONAL POINTS NOT LISTED IN THE POINTS LIST OR CONTROL DIAGRAM, BUT REQUIRED TO MEET THE SEQUENCE OF OPERATION, AT NO ADDITIONAL COST TO THE OWNER. ALL ANALOG OUTPUTS SHALL BE 4-20MA, 0-10VDC OR 0-20VDC UNLESS OTHERWISE INDICATED.

C. ALL SETPOINTS SHALL BE FULLY ADJUSTABLE AT THE OPERATOR WORKSTATION UNLESS NOTED OTHERWISE.

D. PROVIDE OVERRIDE CONTROL OF ALL POINTS AT THE OPERATOR WORKSTATION UNLESS NOTED OTHERWISE OR WHERE PROHIBITED BY EQUIPMENT PACKAGED CONTROLLERS.

E. IN THE EVENT OF A POWER OUTAGE OR OTHER MALFUNCTION, THE CURRENTLY ENABLED CONTROLS SEQUENCES SHALL BE MAINTAINED. RE: SPECIFICATIONS. IN ADDITION, CHILLED WATER VALVES SHALL FAIL CLOSED AND HEATING WATER VALVES SHALL FAIL OPEN.

OCCUPANCY SCHEDULES:

A. THE FOLLOWING SPECIAL OCCUPANCY SCHEDULE MODES ARE HEREBY DEFINED:
1. OCCUPIED MODE
2. UNOCCUPIED MODE

B. ANY DEVICE UTILIZING ON/OFF CONTROL OR SCHEDULING VIA BMS SHALL BE CAPABLE OF BEING PROGRAMMED TO CONFORM TO ANY OF THE ABOVE SEQUENCES.

C. THE BMS SHALL STAGE AIR HANDLERS TO/FROM OCCUPIED MODE TO MINIMIZE SUDDEN CHANGES IN SYSTEM FLOW REQUIREMENTS.

INITIAL SPACE THERMOSTAT SEPOINTS

A. INITIAL SPACE THERMOSTAT SETPOINTS SHALL BE AS FOLLOWS:

1. OCCUPIED SPACES:
COOLING: 76F
HEATING: 70F
2. MECHANICAL AND ELECTRICAL ROOMS:
COOLING: 80F
HEATING: 65F
3. BUILDING ENTRY VESTIBULES:
HEATING: 60F
4. MISCELLANEOUS HEATING-ONLY AREAS:
HEATING: 65F

ALL SPACE THERMOSTAT SETPOINTS CORRESPONDING TO EQUIPMENT CONTROLLED BY THE BMS SHALL BE ADJUSTABLE FROM THE BMS OPERATOR STATION.

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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

COLORADO LICENSED
MARVIN E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

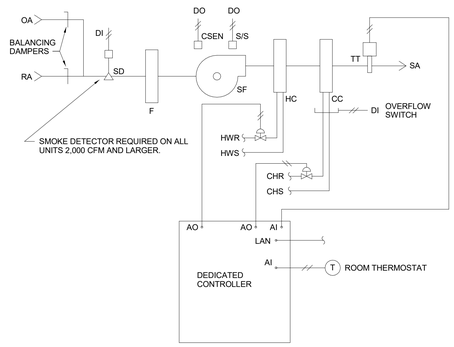
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - MECHANICAL CONTROLS

Scale
NOT TO SCALE

1A-M7.001



A FAN COIL UNIT CONTROL
NONE

SEQUENCE OF OPERATION:

A. GENERAL:
1. THE FOLLOWING SEQUENCE OF OPERATION INCLUDES REQUIRED FUNCTIONALITY OF THE FAN COIL UNIT. POINTS REQUIRED TO EXECUTE THIS SEQUENCE SHALL BE COORDINATED BETWEEN THE EQUIPMENT PROVIDER AND TEMPERATURE CONTROLS CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. SUBMIT LIST OF ITEMS TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR IN ORDER TO EXECUTE THIS SEQUENCE.

B. OCCUPIED MODE:
1. WHEN THE FCU IS IN THE OCCUPIED MODE, THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY. THE SUPPLY FAN SHALL DELIVER CONSTANT AIRFLOW. COOLING VALVE AND HEATING VALVE SHALL MODULATE IN SEQUENCE TO MAINTAIN DISCHARGE AIR TEMPERATURE. DISCHARGE AIR TEMPERATURE SHALL BE RESET AS NECESSARY TO MAINTAIN SPACE TEMPERATURE.

C. UNOCCUPIED MODE:
1. WHEN THE FCU ENTERS UNOCCUPIED MODE THE SUPPLY FAN SHALL BE OFF, COOLING CONTROL VALVE SHALL CLOSE. AND HEATING CONTROL VALVE SHALL CLOSE.
2. SPACE TEMPERATURE SHALL BE SETBACK AND MAINTAINED BELOW A 5F (ADJ.) OFFSET TO OCCUPIED MODE COOLING SETPOINT AND ABOVE A 10F (ADJ.) OFFSET TO OCCUPIED MODE HEATING SETPOINT.
3. WHEN COOLING IS REQUIRED IN THE SPACE, THE SUPPLY FAN SHALL CYCLE ON AND COOLING SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE.
4. WHEN HEATING IS REQUIRED IN THE SPACE, THE SUPPLY FAN SHALL CYCLE ON AND HEATING SHALL MODULATE TO FULL.
5. UPON SPACE TEMPERATURE REACHING UNOCCUPIED MODE SETPOINT, UNIT SHALL CYCLE OFF.

D. OPTIMUM START WARM-UP MODE:
1. PRIOR TO SCHEDULED OCCUPANCY, IF THE SPACE TEMPERATURE IS LESS THAN THE MORNING WARM-UP SETPOINT OF 70F (ADJ.), THE OPTIMUM START WARM-UP SEQUENCE SHALL BE INITIATED.
2. THE CONTROL SYSTEM SHALL CALCULATE THE REQUIRED TIME TO BRING SPACE TEMPERATURE TO OCCUPIED HEATING SETPOINT BASED ON THE CURRENT SPACE TEMPERATURE AND THE CURRENT OUTSIDE AIR TEMPERATURE WHEN THE SEQUENCE IS INITIATED.
3. UPON INITIATING OPTIMUM START WARM-UP MODE, THE SUPPLY FAN AND HEATING SHALL MODULATE AS OUTLINED IN OCCUPIED MODE SEQUENCE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
4. COOLING SHALL BE LOCKED OUT.
5. REVERT TO OCCUPIED MODE WHEN SPACE TEMPERATURE HAS REACHED OCCUPIED HEATING SETPOINT.

E. OPTIMUM START COOL-DOWN MODE:
1. PRIOR TO SCHEDULED OCCUPANCY, IF THE SPACE TEMPERATURE IS MORE THAN THE MORNING COOL-DOWN SETPOINT OF 78F (ADJ.), THE OPTIMUM START COOL-DOWN SEQUENCE SHALL BE INITIATED.
2. THE CONTROL SYSTEM SHALL CALCULATE THE REQUIRED TIME TO BRING SPACE TEMPERATURE TO OCCUPIED COOLING SETPOINT BASED ON THE CURRENT SPACE TEMPERATURE AND THE CURRENT OUTSIDE AIR TEMPERATURE WHEN THE SEQUENCE IS INITIATED.
3. UPON INITIATING OPTIMUM START COOL-DOWN MODE, THE SUPPLY FAN AND COOLING SHALL MODULATE AS OUTLINED IN OCCUPIED MODE SEQUENCE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
4. HEATING SHALL BE LOCKED OUT.
5. REVERT TO OCCUPIED MODE WHEN SPACE TEMPERATURE HAS REACHED OCCUPIED COOLING SETPOINT.

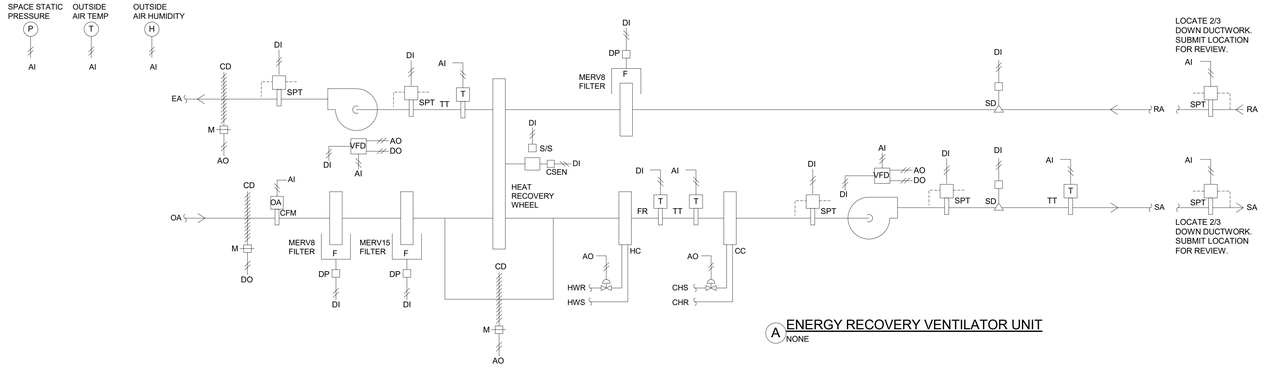
F. FAN SAFETY CONTROLS:
1. DE-ENERGIZE THE SUPPLY FAN WHENEVER THE OVERFLOW SENSOR HAS TRIPPED OR SUPPLY FAN STATUS INDICATES A FAILURE (AFTER A TWO-MINUTE DELAY). MANUAL RESET REQUIRED FOR ALL FAILURES.
2. ALARM THE BMS WITH THE APPROPRIATE ALARM MESSAGE.

G. SMOKE DETECTION SHUTDOWN:
1. UNITS 2,000 CFM AND LARGER: WHEN SMOKE IS DETECTED AT THE RETURN AIR INLET, THE SUPPLY FAN SHALL BE DE-ENERGIZED, THE COOLING SHALL BE DISABLED, AND HEATING SHALL BE DISABLED.
2. WHEN A FAN COIL UNIT HAS SHUT DOWN DUE TO SMOKE DETECTION, THE ASSOCIATED VENTILATION SYSTEM SERVING THE UNIT SHALL BE SHUT DOWN. PROVIDE ADDRESSABLE ALARM AT THE BMS OPERATOR STATION.
3. WHEN THE VENTILATION SYSTEM SERVING THE UNIT HAS SHUT DOWN DUE TO SMOKE DETECTION, THE FCU SUPPLY FAN SHALL BE DE-ENERGIZED, COOLING SHALL BE DISABLED, AND HEATING SHALL BE DISABLED.

H. DISCHARGE AIR TEMPERATURE:
1. PROVIDE A CASCADE RESET (VIA PID LOOP) OF DISCHARGE AIR TEMPERATURE TO MAINTAIN SPACE TEMPERATURE.
2. PROVIDE A DEAD-BAND BETWEEN COOLING AND HEATING WHERE THE COOLING AND HEATING ARE DISABLED AND THE SUPPLY FAN SHALL REMAIN ENERGIZED.

I. HEATING CONTROL:
1. THE HEATING CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DAT. HEATING CONTROL VALVE SHALL CLOSE IF THE FANS ARE OFF.

J. COOLING CONTROL:
1. THE COOLING CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DAT. COOLING CONTROL VALVE SHALL CLOSE IF THE FANS ARE OFF.



A ENERGY RECOVERY VENTILATOR UNIT
NONE

SEQUENCE OF OPERATION:

A. CONFIGURATION, RE: SCHEDULE

B. OCCUPIED MODE:
1. WHEN THE ERV IS IN THE OCCUPIED MODE, THE SUPPLY AND RETURN FANS SHALL OPERATE CONTINUOUSLY. THE SUPPLY FAN VFD SHALL MODULATE TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE AND THE EXHAUST FAN VFD SHALL MODULATE TO MAINTAIN THE EXHAUST DUCT STATIC PRESSURE. CHILLED WATER CONTROL VALVE, HEATING WATER CONTROL VALVE, AND HEAT RECOVERY WHEEL SHALL MODULATE IN SEQUENCE TO MAINTAIN DISCHARGE AIR TEMPERATURE (DAT). THE ERV SHALL ENTER OCCUPIED MODE BASED ON TIME OF DAY SCHEDULE AT BMS OPERATOR STATION.

C. UNOCCUPIED MODE:
1. WHEN THE ERV IS IN THE UNOCCUPIED MODE THE SUPPLY AND EXHAUST FANS SHALL BE OFF, THE HEAT WHEEL SHALL STOP, CHILLED WATER CONTROL VALVE SHALL CLOSE, HEATING WATER CONTROL VALVE SHALL CLOSE, THE OUTSIDE AIR DAMPER SHALL CLOSE, AND THE EA DAMPER SHALL CLOSE.
2. WHEN TEMPERATURE DOWNSTREAM OF THE HEATING COIL FALLS TO 45F (ADJ.), HEATING WATER VALVE SHALL MODULATE TO FULL OPEN AND REMAIN OPEN UNTIL TEMPERATURE DOWNSTREAM OF THE HEATING COIL RISES ABOVE SETPOINT.

D. FAN SAFETY CONTROLS:
1. DE-ENERGIZE THE SUPPLY AND EXHAUST FANS WHENEVER EITHER SMOKE DETECTOR HAS TRIPPED, HEAT RECOVERY ROTATION DETECTION FAILS, OR A FAN STATUS INDICATES A FAILURE (AFTER A TWO-MINUTE DELAY). SMOKE DETECTORS AND FAN FAILURES REQUIRE A MANUAL RESET.
2. DE-ENERGIZE THE SUPPLY AND EXHAUST FANS WHEN THE SUPPLY FAN DISCHARGE STATIC PRESSURE HIGH-LIMIT REACHES 4.0 INCHES WC (ADJ.).
3. DE-ENERGIZE THE SUPPLY AND EXHAUST FANS WHEN THE EXHAUST FAN DISCHARGE STATIC PRESSURE HIGH-LIMIT REACHES 2.0 INCHES WC (ADJ.).
4. PROVIDE SUCTION STATIC PRESSURE SWITCH AT INLET OF SUPPLY FAN. SWITCH TO BE TIED TO SUPPLY FAN START CIRCUIT. DE-ENERGIZE SUPPLY AND EXHAUST FAN WHEN SUCTION SUPPLY FAN STATIC PRESSURE HIGH-LIMIT REACHES 3.0 INCHES WC (ADJ.)
5. ALARM THE BMS WITH THE APPROPRIATE ALARM MESSAGE.

E. VFD CONTROL:
1. WHEN THE SUPPLY AND EXHAUST FANS ARE TURNED ON, EACH VFD SHALL SLOWLY RAMP UP TO SETPOINT AND MODULATE TO MAINTAIN THE CORRESPONDING DUCT STATIC PRESSURE. THE STATIC PRESSURE SENSORS SHALL BE LOCATED BY THIS DIVISION.
2. SUBMIT SENSOR LOCATIONS TO ENGINEER FOR REVIEW.
3. SENSING DEVICE SHALL BE MULTIPLE POINT, NON-PULSATING STATIC SENSING SECTION WITH SELF AVERAGING MANIFOLD.

F. OUTSIDE AIR MONITORING AND TRENDING:
1. MEASURE AND TREND THE OUTDOOR AIRFLOW THROUGH THE OUTDOOR AIRFLOW MEASURING STATION LOCATED AT THE INTAKE OF THE UNIT.

G. BUILDING PRESSURE CONTROL:
1. ZONE LEVEL EXHAUST AND VENTILATION:
1.1. EACH EXHAUSTED AREA IS PROVIDED WITH A CONSTANT VOLUME EAV BOX FOR PRESSURE INDEPENDENT EXHAUST AIRFLOW CONTROL. EACH VENTILATED AREA IS PROVIDED WITH EITHER A CONSTANT VOLUME OR A VARIABLE VOLUME VAV BOX FOR PRESSURE INDEPENDENT VENTILATION AIRFLOW CONTROL AND BUILDING PRESSURE CONTROL.
1.2. ALL EXHAUST EAV BOXES SHALL MODULATE TO MAINTAIN FIXED EXHAUST AIRFLOW RATES INDICATED.
1.3. SUPPLY VAV BOXES LOCATED IN THE SAME SPACE AS EAV BOXES SHALL BE CONSTANT VOLUME AND SHALL MODULATE TO MAINTAIN FIXED VENTILATION SUPPLY AIRFLOW.
1.4. SUPPLY VAV BOXES LOCATED IN AREAS THAT ARE NOT PROVIDED WITH EAV BOXES (HEALTH CLINIC, FOOD STORAGE, ETC.) SHALL MODULATE TOGETHER TO MAINTAIN POSITIVE BUILDING STATIC PRESSURE SETPOINT OF 0.03" W.C. AS MEASURED IN THE HEALTH CLINIC SPACE. SUPPLY VAV BOXES SHALL MODULATE AS A PERCENTAGE OF DESIGN AIRFLOW UP TO A MAXIMUM OF 125% OF DESIGN CFM.
2. SYSTEM STARTUP:
2.1. PRIOR TO EQUIPMENT STARTUP, ENSURE VENTILATION SYSTEM HAS ADEQUATE OPENINGS ONTO EACH AREA TO ALLOW FOR VENTILATION SUPPLY AIR FOR TESTING. DO NOT OPERATE THE ERV AT AIRFLOWS HIGHER THAN THE CONNECTED VAV BOXES CAN WITHSTAND.

H. DISCHARGE AIR CONDITIONS:
1. COOLING MODE: WHEN OUTSIDE AIR RISES ABOVE 65F (ADJ.), THE UNIT SHALL ENTER COOLING MODE.
1.1. DISCHARGE AIR DRY BULB TEMPERATURE SHALL FLOAT FROM A MINIMUM OF 65F (ADJ.) TO A MAXIMUM DISCHARGE AIR DRY BULB TEMPERATURE SETPOINT OF 70F (ADJ.). WHEN DISCHARGE AIR IS BETWEEN MINIMUM AND MAXIMUM, CHILLED WATER CONTROL VALVE SHALL CLOSE, THE HEAT WHEEL SHALL BE DISABLED, AND THE OUTSIDE AIR BYPASS DAMPER SHALL BE OPEN. IF DISCHARGE AIR TEMPERATURE RISES ABOVE SETPOINT, THE COOLING CONTROL VALVE SHALL MODULATE TO MAINTAIN DISCHARGE AIR DRY BULB TEMPERATURE SETPOINT.
1.2. CHILLED WATER COOLING AND HEAT WHEEL SHALL BE ENABLED TOGETHER IN STAGES.

2. HEATING MODE: WHEN OUTSIDE AIR FALLS BELOW 65F (ADJ.), THE UNIT SHALL ENTER HEATING MODE.
2.1. THE BMS SHALL CONTROL HEATING WATER CONTROL VALVE TO ENSURE UNIT DISCHARGE AIR DRY BULB TEMPERATURE DOES NOT FALL BELOW 65F (ADJ.) MINIMUM.
2.2. THE BMS SHALL RESET DISCHARGE AIR DRY BULB TEMPERATURE SETPOINT ACCORDING TO THE FOLLOWING RESET STRATEGY:

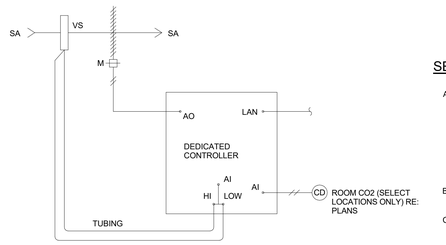
OUTSIDE AIR DRY BULB TEMPERATURE	DISCHARGE AIR DRY BULB TEMPERATURE
20 DEGREES F	75 DEGREES F (ADJ.)
50 DEGREES F	65 DEGREES F (ADJ.)
BETWEEN 20-50 DEGREES F	RAMP LINEARLY BETWEEN 75-65 F

2.3. HEATING WATER CONTROL VALVE AND HEAT WHEEL SHALL BE ENABLED TOGETHER IN STAGES.
2.4. 3. IF DISCHARGE AIR DRY BULB TEMPERATURE DROPS BELOW 40F (ADJ.), DE-ENERGIZE FANS AND CLOSE OA AND RELIEF AIR DAMPERS. ALARM BMS.

I. COOLING CONTROL:
1. STAGE 1 - CHILLED WATER CONTROL VALVE:
1.1. WHEN DISCHARGE AIR DRY BULB TEMPERATURE RISES ABOVE SETPOINT, CHILLED WATER COOLING SHALL BE ENABLED AND SHALL MODULATE TO MAINTAIN DISCHARGE AIR DRY BULB TEMPERATURE SETPOINT.
2. STAGE 2 - HEAT WHEEL CONTROL:
2.1. WHEN OUTSIDE AIR TEMPERATURE IS GREATER THAN EXHAUST AIR TEMPERATURE, THE HEAT WHEEL SHALL ROTATE AT CONSTANT SPEED AND THE OUTSIDE AIR BYPASS DAMPER SHALL BE CLOSED.
2.2. WHEN HEAT WHEEL IS DISABLED, HEAT WHEEL SHALL STOP AND THE OUTSIDE AIR BYPASS DAMPER SHALL BE OPEN.
3. STAGE 1 AND STAGE 2 SHALL BE ENABLED TOGETHER WHEN STAGE 2 CONDITIONS ARE MET.
4. COOLING SHALL BE DISABLED IF THE UNIT IS IN HEATING MODE. EITHER THE SUPPLY OR EXHAUST FAN IS OFF, OR THE DISCHARGE AIR SENSORS HAVE FAILED.

J. HEATING CONTROL:
1. STAGE 1 - HEAT WHEEL CONTROL:
1.1. UPON A CALL FOR HEATING, THE HEAT WHEEL SHALL ROTATE AT CONSTANT SPEED AND THE OUTSIDE AIR BYPASS DAMPER SHALL BE CLOSED.
1.2. FROST CONTROL: WHEN THE EXHAUST AIR TEMPERATURE LEAVING THE HEAT WHEEL FALLS TO THE FROST PROTECTION SETPOINT OF 25F (ADJ.), THE HEAT WHEEL SHALL CONTINUE TO ROTATE AT CONSTANT SPEED AND THE OUTSIDE AIR BYPASS DAMPER SHALL SLOWLY OPEN AND MODULATE TO MAINTAIN EXHAUST AIR FROST PROTECTION SETPOINT. WHEN THE OUTSIDE AIR BYPASS DAMPER HAS MODULATED TO FULL OPEN POSITION AND THE EXHAUST AIR TEMPERATURE LEAVING THE HEAT WHEEL FALLS BELOW 20F (ADJ.) FOR 5 MINUTES, THE HEAT WHEEL SHALL STOP AND THE OUTSIDE AIR BYPASS DAMPER SHALL CLOSE. WHEN THE OUTSIDE AIR TEMPERATURE RISES TO 20F (ADJ.), THE HEAT WHEEL SHALL RUN AT CONSTANT SPEED AND FROST CONTROL MODE SHALL BE RE-INITIATED.
2. STAGE 2 - HEATING WATER CONTROL VALVE:
2.1. WHEN STAGE 1 - HEAT WHEEL CONTROL IS ENABLED AND DISCHARGE AIR DRY BULB TEMPERATURE SETPOINT IS NOT MET, THE HEATING WATER CONTROL VALVE SHALL OPEN AND MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.
3. HEATING SHALL BE DISABLED IF EITHER THE SUPPLY OR EXHAUST FAN IS OFF.

K. ADDITIONAL ALARMS:
1. ALARM THE BMS WHEN FILTER PRESSURE DROP EXCEEDS DIRTY FILTER SETPOINT. FILTER ALARMS SHALL BE ADDRESSABLE TO EACH FILTER.



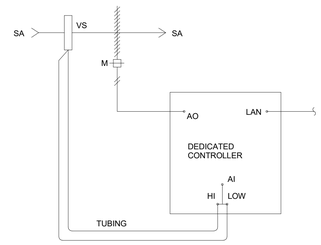
A VENTILATION SUPPLY VARIABLE AIR VOLUME (VAV) BOX
NONE

SEQUENCE OF OPERATION:

A. OCCUPIED MODE:
1. CONSTANT VOLUME UNITS: WHEN AIR HANDLING SYSTEM IS IN OCCUPIED MODE, UNIT SHALL MODULATE TO MAINTAIN CONSTANT AIRFLOW.
2. UNIT SHALL REPORT CONTROL DAMPER POSITION AND PRIMARY AIRFLOW AS SEPARATE VALUES TO THE BMS. REPORT DAMPER POSITION AS PERCENTAGE OPEN. REPORT PRIMARY AIRFLOW IN CFM.

B. UNOCCUPIED MODE:
1. UNIT VOLUME DAMPER SHALL BE FULLY CLOSED.

C. ALARMS:
1. ALARM THE TIME, VAV BOX DESIGNATION, AND DURATION OF ALL VAV OVER-RIDES.



EXHAUST & VENTILATION RELIEF VARIABLE AIR VOLUME (VAV) BOXES
A NONE

SEQUENCE OF OPERATION:

A. OCCUPIED MODE:
1. CONSTANT VOLUME UNITS: WHEN AIR HANDLING SYSTEM IS IN OCCUPIED MODE, UNIT SHALL MODULATE TO MAINTAIN CONSTANT AIRFLOW.
2. UNIT SHALL REPORT CONTROL DAMPER POSITION AND PRIMARY AIRFLOW AS SEPARATE VALUES TO THE BMS. REPORT DAMPER POSITION AS PERCENTAGE OPEN. REPORT PRIMARY AIRFLOW IN CFM.

B. UNOCCUPIED MODE:
1. UNIT VOLUME DAMPER SHALL BE FULLY CLOSED.

C. ALARMS:
1. ALARM THE TIME, VAV BOX DESIGNATION, AND DURATION OF ALL VAV OVER-RIDES.

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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

COLORADO LICENSED
MATTHEW E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

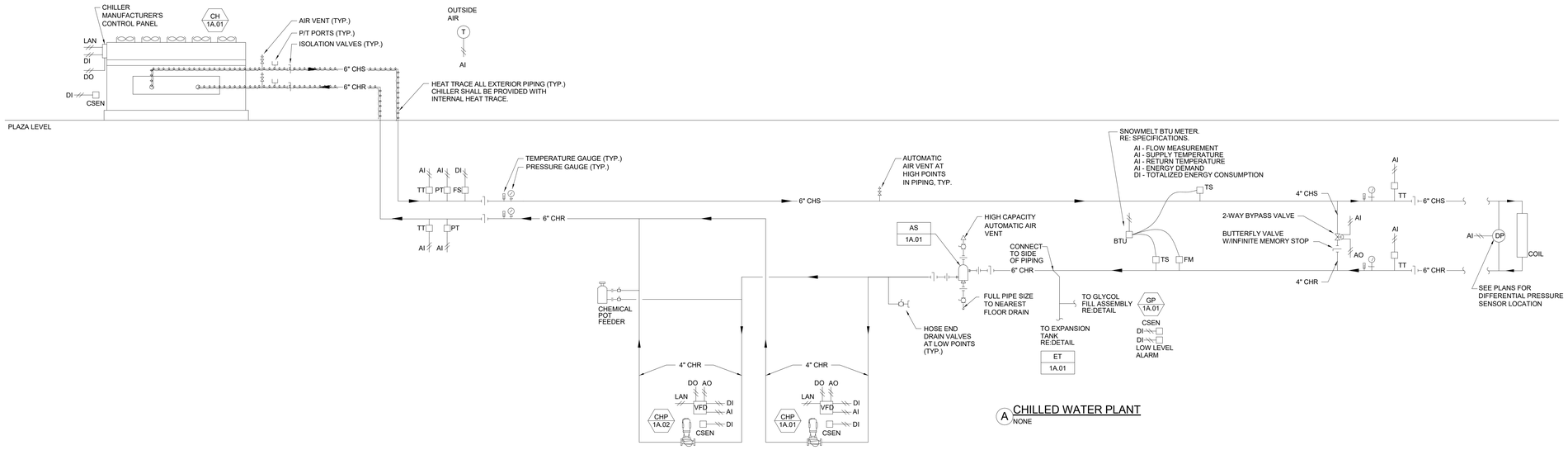
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

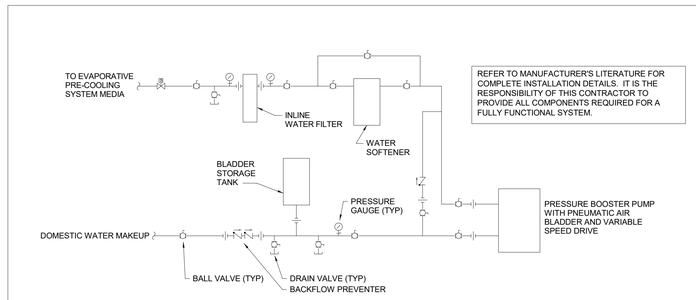
Description
PROMENADE - MECHANICAL CONTROLS

Scale
NOT TO SCALE

1A-M7.002



A CHILLED WATER PLANT
NONE



B EVAPORATIVE PRE-COOLING SYSTEM CONTROL
NONE

SEQUENCE OF OPERATION:

A. GENERAL:
1. THE PROJECT INCLUDES ONE EVAPORATIVE PRE-COOLING SYSTEM WHICH SERVES THE PROMENADE BUILDING AIR-COOLED CHILLER.
2. CONTROL FOR THE EVAPORATIVE PRE-COOLING SYSTEM SHALL BE INTERLOCKED WITH CHILLER PACKAGED CONTROLS.
3. PROVIDE SLOW CLOSING SOLENOID VALVE TO MINIMIZE RAPID PRESSURE CHANGE IN THE SYSTEM.

B. OPERATION:
1. ON A CALL FOR COOLING AT THE CHILLER, THE BOOSTER PUMP SHALL ENERGIZE AND THE SOLENOID VALVE SHALL OPEN TO DELIVER COOLING WATER TO THE EVAPORATIVE PRE-COOLING MEDIA AT THE UNIT CONDENSER. WHEN THE CHILLER NO LONGER HAS A CALL FOR COOLING, THE BOOSTER PUMP SHALL BE DE-ENERGIZED AND THE SOLENOID VALVE SHALL CLOSE.

CHILLED WATER PLANT SEQUENCE OF OPERATION:

A. GENERAL
1. THE BMS SHALL INDEPENDENTLY MONITOR POINTS INDICATED ON THE CHILLER CONTROL DIAGRAM AND ALL POINTS REQUIRED TO PERFORM THE FOLLOWING SEQUENCES AND MONITORING FUNCTIONS.
2. THE BMS SHALL ENABLE/DISABLE THE CHILLED WATER SYSTEM BASED UPON:
   A. OUTDOOR AIR TEMPERATURE - ENABLE CHILLER SYSTEM WHEN OUTSIDE AIR TEMPERATURE IS ABOVE 55F (ADJ.)
   B. SYSTEM LOAD
   C. MANUAL OR FORCED

B. SEQUENCE OF OPERATION:
1. INTENT: THE BMS SHALL CONTROL THE CHILLED WATER SYSTEM INCLUDING PUMPS, VALVES, AND THE PACKAGED CHILLER MICROPROCESSOR. THE BMS SHALL PERFORM ALL START/STOP, TEMPERATURE SETPOINT, AND SCHEDULING FUNCTIONS. THE PACKAGED CHILLER MICROPROCESSOR WILL PERFORM ALL INTERNAL CHILLER TEMPERATURE CONTROL FUNCTIONS, ECONOMIZER FUNCTIONS, AND CHILLER SAFETY FUNCTIONS AND SHALL COMMUNICATE WITH THE BMS VIA A SERIAL COMMUNICATION INTERFACE.
2. START SEQUENCE: UPON SIGNAL TO ENABLE AT THE BMS OPERATOR STATION, THE BMS SHALL:
   A. ENABLE THE VARIABLE SPEED DISTRIBUTION PUMPING SYSTEM. BYPASS VALVE POSITION OPEN.
   B. START AND PROVE BOTH CHILLED WATER PUMPS.
   C. CONTINUALLY MONITOR THE PRESSURE IN THE SUPPLY AND RETURN PIPING MAINS TO THE CHILLER AND DISPLAY BOTH PRESSURE AND PRESSURE DIFFERENTIAL AT THE BMS OPERATOR'S WORKSTATION. CONTINUALLY MONITOR FLOW TO THE CHILLER VIA FLOW METER AND DISPLAY AT THE BMS OPERATOR'S WORKSTATION. DISPLAY BOTH MINIMUM AND OPERATING EVAPORATOR FLOW FOR THE CHILLER AT BMS OPERATOR'S WORKSTATION.
   D. MODULATE BYPASS VALVE, AS NECESSARY, TO MAINTAIN PLANT MINIMUM FLOW (ADJ.) AS MEASURED AT THE PLANT BTU METERING STATION. WHEN FLOW IS ABOVE REQUIRED MINIMUM CHILLER FLOW, BYPASS VALVE SHALL MODULATE CLOSED.
   E. ENABLE THE CHILLER VIA SIGNAL TO THE PACKAGED CHILLER MICROPROCESSOR ONCE MINIMUM FLOW TO THE CHILLER IS PROVEN.
3. STOP SEQUENCE: UPON SIGNAL TO DISABLE AT THE BMS OPERATOR STATION, THE BMS SHALL:
   A. DISABLE THE CHILLERS VIA SIGNAL TO THE PACKAGED CHILLER MICROPROCESSOR.
   B. CONFIRM THE CHILLER HAS STOPPED VIA COMMUNICATION INTERFACE WITH THE PACKAGED CHILLER MICROPROCESSOR.
   C. DISABLE ALL CHILLED WATER PUMPS.
   D. OPEN BYPASS VALVE.
   E. CHILLER SHALL NOT BE RESTARTED FOR A FIVE MINUTE DELAY (ADJ.).
4. TEMPERATURE CONTROL: UPON SUCCESSFUL STARTUP, PACKAGED CHILLER MICROPROCESSOR SHALL MAINTAIN CHILLED WATER SUPPLY TEMPERATURE SETPOINT ADJUSTABLE AT THE BMS OPERATOR STATION.
   A. INITIAL CHILLED WATER SUPPLY TEMPERATURE SETPOINT SHALL BE 44 DEGREES F.
   B. CHILLED WATER SUPPLY TEMPERATURE SETPOINT SHALL BE RESET BY THE BMS ACCORDING TO THE FOLLOWING RESET SCHEDULE:

OUTSIDE AIR DRY BULB TEMPERATURE	CHILLED WATER LEAVING TEMPERATURE
80 DEGREES F (ADJ.)	44 DEGREES F (ADJ.)
60 DEGREES F (ADJ.)	50 DEGREES F (ADJ.)
BETWEEN 80-60 DEGREES F	RAMP LINEARLY BETWEEN 44-50F

   C. WHEN CHILLED WATER SUPPLY TEMPERATURE IS RESET ABOVE INITIAL SETPOINT AND ANY ZONE SERVED IS ABOVE COOLING SETPOINT FOR MORE THAN 10 CONSECUTIVE MINUTES (ADJ.), CHILLED WATER SETPOINT SHALL BE RETURNED TO INITIAL CHILLED WATER SETPOINT. AFTER DELAY OF 1 HOUR (ADJ.), CHILLED WATER SUPPLY TEMPERATURE RESET SHALL BE ENABLED.
   D. CHILLER ECONOMIZER MODE: WHEN OUTSIDE AIR IS 5 DEGREES F (ADJ.) LOWER THAN THE CHILLED WATER SUPPLY TEMPERATURE SETPOINT, THE PACKAGED CHILLER MICROPROCESSOR SHALL ENABLE ECONOMIZER MODE. WHEN ECONOMIZER MODE IS ENABLED, THE PACKAGED CHILLER MICROPROCESSOR SHALL STOP COMPRESSOR COOLING AND DIVERT WATER AS REQUIRED FOR FREE COOLING. ALARM BMS IF ECONOMIZER MODE IS ENABLED AND CHILLED WATER SUPPLY TEMPERATURE IS ABOVE SETPOINT FOR 15 MINUTES (ADJ.).
5. PUMP CONTROL: ONCE CHILLER START SEQUENCE IS COMPLETE, THE PUMP VFD'S SHALL MODULATE THEIR RESPECTIVE PUMPS IN PARALLEL TO MAINTAIN SYSTEM DIFFERENTIAL PRESSURE SETPOINT. REQUIRED MINIMUM SYSTEM FLOW SHALL BE 200 GPM (ADJ.) VFD HZ SETPOINTS TO MAINTAIN MINIMUM FLOW SHALL BE DETERMINED DURING TESTING AND BALANCING AND SHALL BE DETERMINED AND PROGRAMMED FOR TWO PUMPS RUNNING IN PARALLEL AND ONLY ONE PUMP RUNNING DURING MINIMUM FLOW CONDITION. THE BMS SHALL BE CAPABLE OF ENABLING AND DISABLING INDIVIDUAL PUMP VFD'S SEPARATELY AT THE BMS OPERATOR STATION. IN RESPONSE TO LOW-LOAD, THE VFD'S SHALL MODULATE THEIR RESPECTIVE PUMPS IN PARALLEL TO MAINTAIN A SYSTEM DIFFERENTIAL PRESSURE SETPOINT.
   A. INITIAL DIFFERENTIAL PRESSURE SETPOINT SHALL BE DETERMINED UPON SYSTEM TESTING AND BALANCING.
13. BYPASS VALVE CONTROL: ONCE CHILLED WATER FLOW APPROACHES PLANT MINIMUM FLOW (AS INDICATED VIA DIRECT MEASUREMENT AT CHILLED WATER FLOW METER), THE BYPASS VALVE SHALL MODULATE OPEN TO MAINTAIN MINIMUM SYSTEM FLOW. AS BYPASS VALVE APPROACHES FULL OPEN, PUMP VFD'S SHALL INCREASE, IF NECESSARY, TO ENSURE CHILLED WATER FLOW DOES NOT DECREASE BELOW MINIMUM SYSTEM FLOW.
14. CHILLED WATER PUMP FAILURE: UPON FAILURE OF ONE OF THE CHW PUMPS, RESET SEQUENCE TO UTILIZE REMAINING PUMP AND GENERATE AN APPROPRIATE ALARM AT THE BMS OPERATOR STATION.
15. CHILLER FAILURE: UPON CHILLER FAILURE, THE BMS SHALL ALARM AND SHALL AUTOMATICALLY INITIATE A CHILLED WATER PLANT SHUT DOWN.
16. COMMUNICATION FAILURE: UPON A LOSS OF SIGNAL FROM THE PACKAGED CHILLER MICROPROCESSOR, THE BMS SHALL ALLOW THE SYSTEM TO CONTINUE TO RUN AND SHALL GENERATE AN APPROPRIATE ALARM AT THE BMS OPERATOR STATION.
18. SYSTEM SOFT START: THE CHILLER SEQUENCING SOFTWARE SHALL PROVIDE OPERATOR ADJUSTABLE CHILLED WATER TEMPERATURE RAMP RATES TO ENSURE THAT THE SYSTEM WATER TEMPERATURE DOES NOT APPROACH SETPOINT TOO QUICKLY OR TOO SLOWLY AT SYSTEM START-UP. THIS PREVENTS THE UNNECESSARY OPERATION OF CHILLERS AND LIMITS SYSTEM ELECTRICAL DEMAND DURING DISTRIBUTION LOOP TEMPERATURE PULL DOWN. THE MAXIMUM COOL DOWN RATE IN THE CHILLED WATER LOOP SHALL NOT EXCEED 2F PER MINUTE (ADJ.).
21. CHILLER STATUS DISPLAY: THE BMS SHALL PROVIDE AN OPERATING STATUS REPORT FOR THE CHILLER INCLUDING THE FOLLOWING:
   A. CHILLER OPERATING MODE (COOLING MODE, ECONOMIZER MODE, OFF)
   B. CHILLER LEAVING WATER TEMPERATURE SETPOINT.
   C. CHILLED WATER ENTERING AND LEAVING TEMPERATURES.
   D. CHILLED WATER ENTERING AND LEAVING PRESSURES.
   E. CHILLER DIFFERENTIAL PRESSURE.
   F. CHILLER WATER FLOW.
   G. CHILLER LOAD AS MEASURED AT BTU METERING STATION.
   H. CHILLER LOAD IN PERCENTAGE OF TOTAL CHILLER CAPACITY.
22. DIAGNOSTIC/PROTECTION: THE BMS SHALL BE ABLE TO ALARM FROM ALL SENSED POINTS AND DIAGNOSTIC ALARMS SENSED BY THE PACKAGED CHILLER MICROPROCESSOR. ALARM LIMITS SHALL BE DESIGNED FOR ALL SENSED ANALOG POINTS.
23. CHILLER PLANT STATUS DISPLAY: THE BMS SHALL PROVIDE A PLANT STATUS REPORT. THE DISPLAY SHALL INCLUDE THE FOLLOWING:
   A. ON/OFF STATUS OF CHILLER.
   B. ON/OFF STATUS AND SPEED OF EACH PUMP.
   C. SYSTEM DIFFERENTIAL PRESSURE AND SETPOINT.
   D. CHILLER DIFFERENTIAL PRESSURE AND FLOW.
   E. BYPASS VALVE POSITION.
   F. PLANT EWT AND LWT.
   G. CALCULATED TOTAL PLANT TONNAGE PRODUCTION.
24. SYSTEM DIAGNOSTIC AND ALARM INDICATION: THE PACKAGED CHILLER MICROPROCESSOR SHALL DISPLAY LOCALLY ALL THE ALARM, MONITORING, AND OPERATION CONDITIONS AS DESCRIBED IN SPECIFICATIONS. IT SHALL ALSO SUPPLY TO THE BMS A COMMON BINARY STATUS FOR ANY OF THESE ALARM CONDITIONS.
25. FREEZE PROTECTION: UPON A DROP IN OUTDOOR AIR TEMPERATURE TO 0F, ONE PRIMARY CHILLED WATER PUMP SHALL ENERGIZE, PUMP VARIABLE FREQUENCY DRIVE SHALL MODULATE TO MINIMUM SPEED, AND BYPASS VALVE SHALL OPEN FOR A PERIOD OF 2 MINUTES (ADJ.) EVERY 2 HOURS (ADJ.) FOR SUPPLEMENTARY FREEZE PROTECTION.
26. HEAT TRACE: MONITOR HEAT TRACE ON EXTERIOR PIPING. ALARM BMS UPON FAILURE OF HEAT TRACE SYSTEM.

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

COLORADO LICENSED MATTHEW E. EDWARDS 56806 PROFESSIONAL ENGINEER
05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - MECHANICAL CONTROLS

Scale
NOT TO SCALE

1A-M7.003

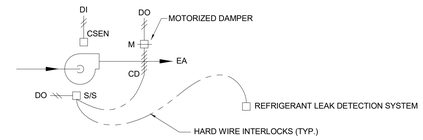
ENERGY METER SCHEDULE/POINTS LIST

SYSTEM: ENERGY METERING SYSTEM

POINT DESCRIPTION	TYPE	LOAD CATEGORY	ENERGY DEMAND UNIT	ENERGY DEMAND HOURLY PEAK	ENERGY DEMAND DAILY PEAK	ENERGY DEMAND MONTHLY PEAK	ENERGY DEMAND ANNUAL PEAK	ENERGY CONSUMPTION UNIT	ENERGY CONSUMPTION HOURLY TOTAL	ENERGY CONSUMPTION DAILY TOTAL	ENERGY CONSUMPTION MONTHLY TOTAL	ENERGY CONSUMPTION ANNUAL TOTAL	REMARKS
BUILDING MAIN ELECTRICAL SERVICE METER	E	MAIN	kW	X	X	X	X	kWh	X	X	X	X	
PANEL L1N2 - LIGHTING	E	LTG	kW	X	X	X	X	kWh	X	X	X	X	
PLAZA BUILDING KITCHEN PODS - POD-1	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	DATA FOR EACH KITCHEN POD DERIVED VIA SINGLE CONNECTION TO KITCHEN POD METERING SYSTEM.
PLAZA BUILDING KITCHEN PODS - POD-2	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	DATA FOR EACH KITCHEN POD DERIVED VIA SINGLE CONNECTION TO KITCHEN POD METERING SYSTEM.
PLAZA BUILDING KITCHEN PODS - POD-3	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	DATA FOR EACH KITCHEN POD DERIVED VIA SINGLE CONNECTION TO KITCHEN POD METERING SYSTEM.
PLAZA BUILDING KITCHEN PODS - POD-4	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	DATA FOR EACH KITCHEN POD DERIVED VIA SINGLE CONNECTION TO KITCHEN POD METERING SYSTEM.
PLAZA BUILDING KITCHEN PODS - POD-5	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	DATA FOR EACH KITCHEN POD DERIVED VIA SINGLE CONNECTION TO KITCHEN POD METERING SYSTEM.
PLAZA BUILDING KITCHEN PODS - POD-6	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	DATA FOR EACH KITCHEN POD DERIVED VIA SINGLE CONNECTION TO KITCHEN POD METERING SYSTEM.
PANEL L1N1 - LIGHTING	E	LTG	kW	X	X	X	X	kWh	X	X	X	X	OBTAIN PANEL LOAD BY DEDUCTING PANEL R3N1 METERED USAGE FROM PANEL L1N1 METERED USAGE.
PANEL R3N1 - PLUG LOADS	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	
CHILLER ELECTRICITY METER	E	MECH	kW	X	X	X	X	kWh	X	X	X	X	
PANEL R1N1 - PLUG LOADS	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	
PANEL R1N3 - PLUG LOADS	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	
PANEL M1N3 - MECHANICAL LOADS	E	MECH	kW	X	X	X	X	kWh	X	X	X	X	OBTAIN PANEL LOAD BY DEDUCTING ZAMBONI ROOM METERED USAGE FROM PANEL M1N3 METERED USAGE.
ZAMBONI ROOM - MECHANICAL LOADS	E	MECH	kW	X	X	X	X	kWh	X	X	X	X	
PANEL M1N2 - MECHANICAL LOADS	E	MECH	kW	X	X	X	X	kWh	X	X	X	X	OBTAIN PANEL LOAD BY DEDUCTING PANEL R1N4 METERED USAGE FROM PANEL M1N2 METERED USAGE.
PANEL R1N4 - PLUG LOADS	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	
PANEL M1N1 - MECHANICAL LOADS	E	MECH	kW	X	X	X	X	kWh	X	X	X	X	
ICE PLANT ELECTRICITY METER	E	MECH	kW	X	X	X	X	kWh	X	X	X	X	
BUILDING LIGHTING	VIR		kW	X	X	X	X	kWh	X	X	X	X	OBTAIN BY ADDING ALL BUILDING LTG METERS
BUILDING HVAC/PLUMBING	VIR		kW	X	X	X	X	kWh	X	X	X	X	OBTAIN BY ADDING ALL BUILDING MECH METERS. DO NOT DOUBLE COUNT SUB-METERS.
BUILDING PLUG LOAD	VIR		kW	X	X	X	X	kWh	X	X	X	X	OBTAIN BY ADDING ALL BUILDING PLUG LOAD METERS. DO NOT DOUBLE COUNT SUB-METERS.
CHILLER PLANT BTU METER	BTU	MECH	TONS	X	X	X	X	TON-HRS	X	X	X	X	
CHILLER PLANT EFFICIENCY	VIR		kW/TON										SEE NOTE 10 BELOW.
PROMENADE BUILDING MAIN NATURAL GAS SERVICE METER	NG	MAIN	TH/H	X	X	X	X	THERMS	X	X	X	X	
NATURAL GAS SERVICE TO PLAZA BUILDING KITCHENS	NG	MECH	TH/H	X	X	X	X	THERMS	X	X	X	X	
NATURAL GAS SERVICE TO PLAZA FIRE PITS	NG	MECH	TH/H	X	X	X	X	THERMS	X	X	X	X	
MAIN DOMESTIC WATER SERVICE	DW	MAIN	GAL/H	X	X	X	X	GAL	X	X	X	X	
ICE PLANT PROCESS WATER	DW	PLB	GAL/H	X	X	X	X	GAL	X	X	X	X	
IRRIGATION WATER	DW	PLB	GAL/H	X	X	X	X	GAL	X	X	X	X	

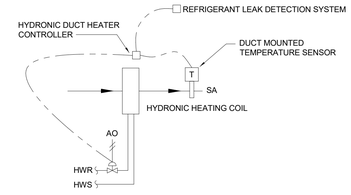
GENERAL NOTES:

1. TYPE CODES:
   - E: ELECTRICITY
   - NG: NATURAL GAS
   - DW: DOMESTIC WATER
   - BTU: BTU METER
   - VIR: VIRTUAL METER OBTAINED VIA ADDITION OR SUBTRACTION
2. LOAD CATEGORIES:
   - MAIN: MAIN BUILDING METER
   - MECH: MECHANICAL
   - LTG: LIGHTING
   - PLB: PLUMBING
   - PLUG: PLUG LOAD
   - PROC: PROCESS
3. ALL METERS SHALL RECORD AT INTERVALS OF ONE HOUR OR LESS.
4. ALL METERS SHALL REPORT BOTH DEMAND (kW OR BTU/h) AND CONSUMPTION (kWh OR THERMS) UNLESS OTHERWISE NOTED.
5. MAIN ELECTRICAL SERVICE ENTRANCE METERS SHALL RECORD POWER FACTOR AND REPORT HOURLY. RECORD HOURLY VALUES FOR A MINIMUM OF THREE YEARS.
6. ALL METERS INDICATED SHALL HAVE DIRECT CONNECTION TO THE BMS VIA SERIAL COMMUNICATION UNLESS OTHERWISE NOTED.
7. RECORDED DATA FOR EACH METER SHALL INCLUDE HOURLY, DAILY, MONTHLY, AND ANNUAL PEAK DEMAND AND TOTAL CONSUMPTION. INFORMATION FOR EACH METER POINT INDICATED SHALL BE REPORTED AT THE BMS OPERATOR STATION IN CALENDAR FORMAT. DATA SHALL BE STORED FOR A MINIMUM OF THREE YEARS.
8. METERED DATA SHALL BE REMOTELY ACCESSIBLE THROUGH THE BMS.
9. METERING SYSTEM SHALL BE EXPANDABLE TO INCLUDE ADDITIONAL METERS FOR SHELL AREAS INDICATED ON ARCHITECTURAL DRAWINGS.
10. REPORT HOURLY CHILLER PLANT kW/TON USING 1 HOUR MEASUREMENT OF TOTAL ELECTRICITY CONSUMED (kWh) DIVIDED BY SAME 1 HOUR MEASUREMENT OF TOTAL COOLING ENERGY PRODUCED (TON-HRS). REPORT MONTHLY MAXIMUM AND MINIMUM CHILLER kW/TON. DATA SHALL BE STORED FOR A MINIMUM OF THREE YEARS.
11. WHERE METERED CATEGORY VIRTUAL POINTS ARE INDICATED, DO NOT DOUBLE COUNT SUB-METERS. FOR METERS IN SERIES, COUNT ONLY THE UPSTREAM METER IN THE CATEGORY TOTAL.



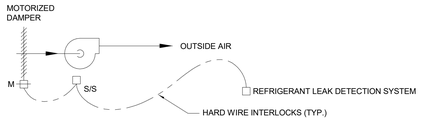
A ICE PLANT EXHAUST FAN CONTROL
NONE

A. FAN SHALL BE INTERLOCKED WITH SUPPLY FAN SERVING SAME AREA. FAN TO RUN CONTINUOUSLY AT A LOW SPEED OF 700CFM. UPON REFRIGERANT LEAK DETECTION SYSTEM ACTIVATION, MODULATE FAN TO HIGH SPEED OF 2500CFM.



B HYDRONIC REHEAT COIL CONTROL
NONE

A. INTERLOCK HYDRONIC DUCT HEATER WITH VENTILATION SUPPLY FAN SERVING SAME AREA. MODULATE CONTROL VALVE TO MAINTAIN VENTILATION SUPPLY AIR TEMPERATURE OF 65F (ADJ.) CONTINUOUSLY.



C ICE PLANT SUPPLY FAN VENTILATION CONTROL
NONE

A. FAN SHALL BE INTERLOCKED WITH EXHAUST FAN SERVING SAME AREA. FAN TO RUN CONTINUOUSLY AT A LOW SPEED OF 700CFM. UPON REFRIGERANT LEAK DETECTION SYSTEM ACTIVATION, MODULATE FAN TO HIGH SPEED OF 2500CFM.

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Seal / Signature

COLORADO LICENSED MATTHEW E. EDWARDS 56806 PROFESSIONAL ENGINEER
05/18/2021

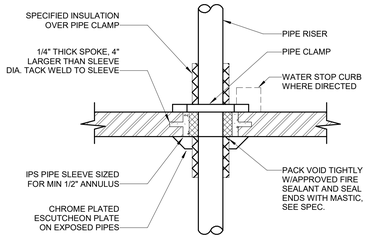
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

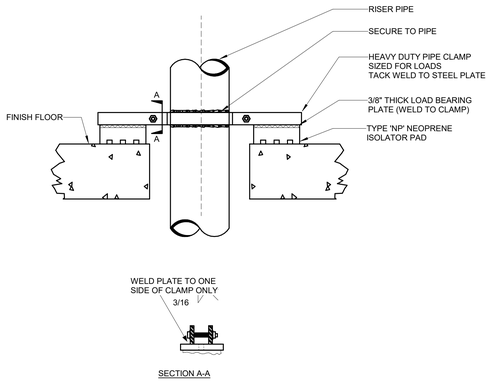
Description
PROMENADE - MECHANICAL CONTROLS

Scale
NOT TO SCALE

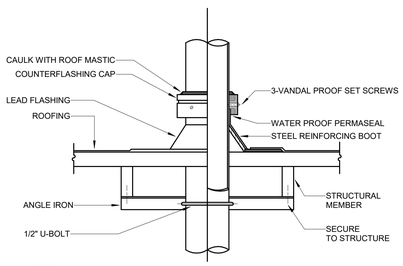
1A-M7.004



8 PIPE THROUGH FLOOR SLAB DETAIL
NO SCALE



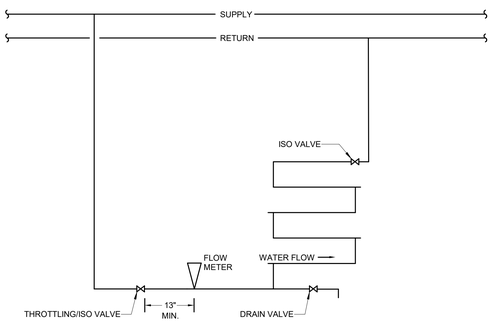
9 RISER ISOLATION SUPPORT
NO SCALE



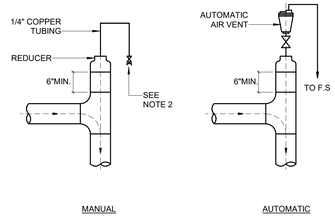
NOTES:

1. OMIT ANGLE IRON AND 1/2" U-BOLT FOR PIPE 1-1/2" AND SMALLER.

10 PIPE THROUGH ROOF
NO SCALE



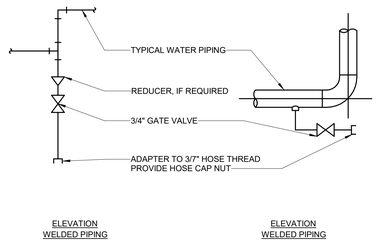
11 CORROSION COUPON RACK
NO SCALE



NOTE:

1. INSTALL MANUAL AIR VENT AT HIGH POINTS WHERE FLOW CHANGES DIRECTION. INSTALL AUTOMATIC AIR VENT TO PIPING WHICH INSTALLED IN EXPOSED AREA INCLUDING FAN ROOM AND MECHANICAL ROOM.
2. INSTALL HOSE VALVE ABOVE CEILING IN AN ACCESSIBLE LOCATION.
3. WELDED PIPE FITTING SHOWN. SCREWED FITTING SIMILAR.

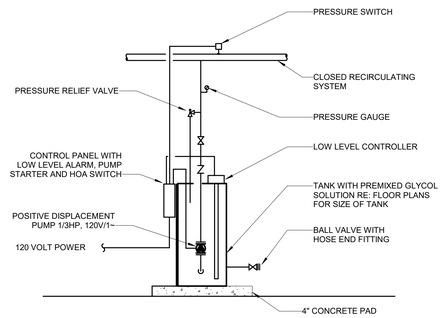
4 AIR VENT DETAIL
NO SCALE



NOTES:

1. PROVIDE DRAIN VALVES AT LOW POINTS OF WATER SYSTEM.
2. WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF SCALE POCKET.

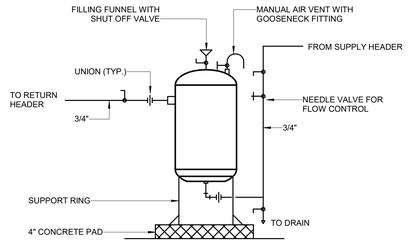
5 DRAIN VALVE CONNECTION DETAIL
NO SCALE



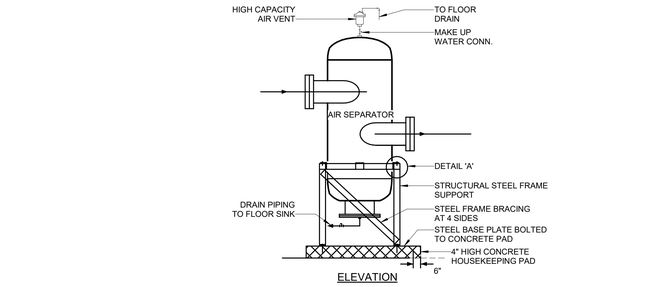
NOTE:

1. GLYCOL FEEDER SHALL BE A PACKAGED SYSTEM PROVIDED BY THE WATER TREATMENT SUPPLIER. H.O.H OR EQUIVALENT.

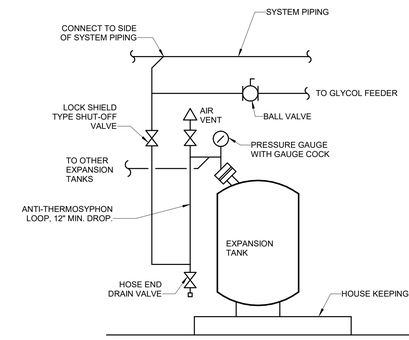
6 GLYCOL FEED ASSEMBLY DETAIL
NO SCALE



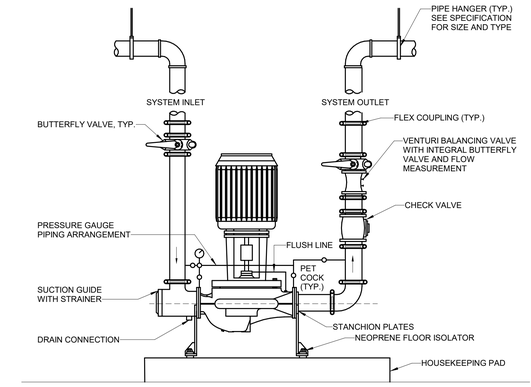
7 CHEMICAL POT FEEDER
NO SCALE



1 AIR SEPARATOR MOUNTING
NO SCALE



2 EXPANSION TANK DETAIL
NO SCALE



3 INLINE PUMP DETAIL - 5HP AND LARGER
NO SCALE

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△	Date	Description
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Seal / Signature

COLORADO LICENSED MARNEE E. EDWARDS 56806 PROFESSIONAL ENGINEER

05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
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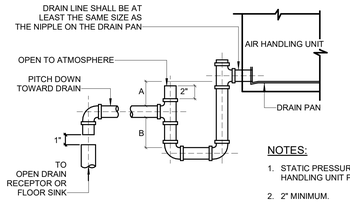
Scale
NO SCALE

1A-M8.000

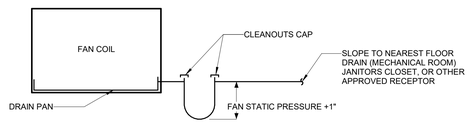


NOTES:

1. STATIC PRESSURE OF AIR HANDLING UNIT PLUS 1".
2. 2" MINIMUM.

DRAW THROUGH COIL		BLOW THROUGH COIL	
A	B	A	B
SEE NOTE 1	SEE NOTE 2	SEE NOTE 2	SEE NOTE 1

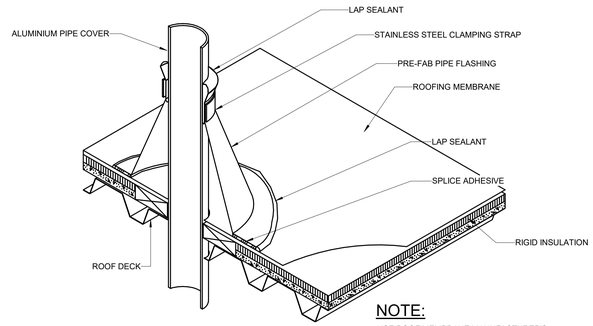
8 DRAIN AND TRAP FROM AIR HANDLING UNIT
NO SCALE



NOTE:

1. INSULATE CONDENSATE DRAIN WHEN ABOVE CEILINGS.

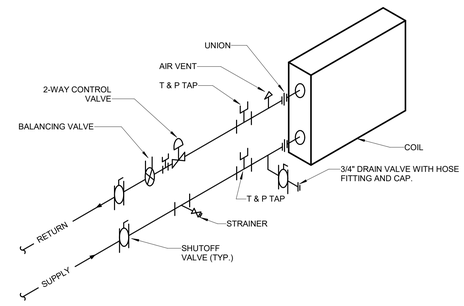
9 FAN COIL UNIT CONDENSATE DRAIN DETAIL
NO SCALE



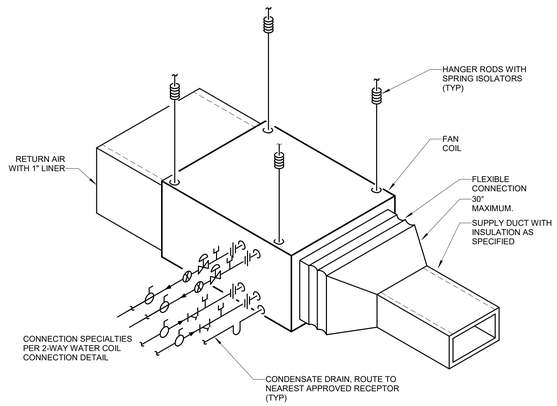
NOTE:

USE ROOF MEMBRANE MANUFACTURER'S MATERIALS. PATCH AND REPAIR ROOF TO COMPLY WITH ALL ROOF WARRANTIES.

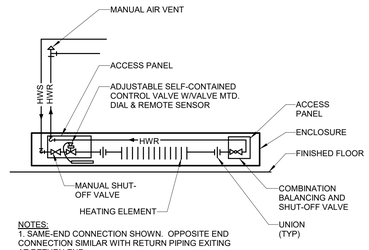
10 REFRIGERANT PIPING COVER PENETRATION
NO SCALE



4 TYPICAL WATER COIL CONNECTION DETAIL (2 WAY CONTROL)
NO SCALE



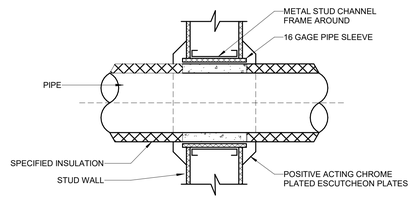
5 FAN COIL DETAIL
NO SCALE



NOTES:

1. SAME-END CONNECTION SHOWN. OPPOSITE END CONNECTION SIMILAR WITH RETURN PIPING EXITING AT RETURN END.

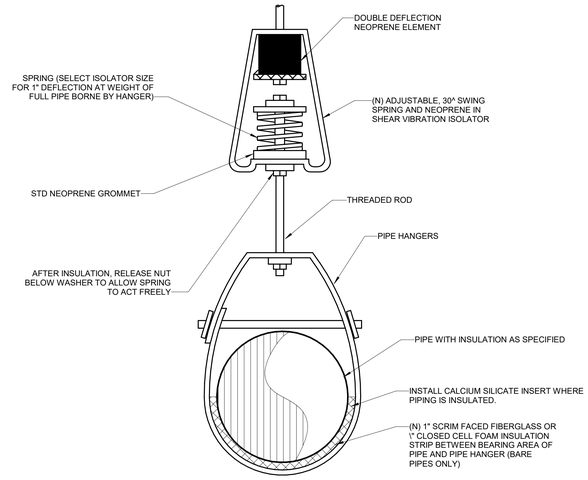
6 HOT WATER BASEBOARD DETAIL
NO SCALE



NOTE:

1. OMIT ESCUTCHEON PLATES FOR CONCEALED PIPES.

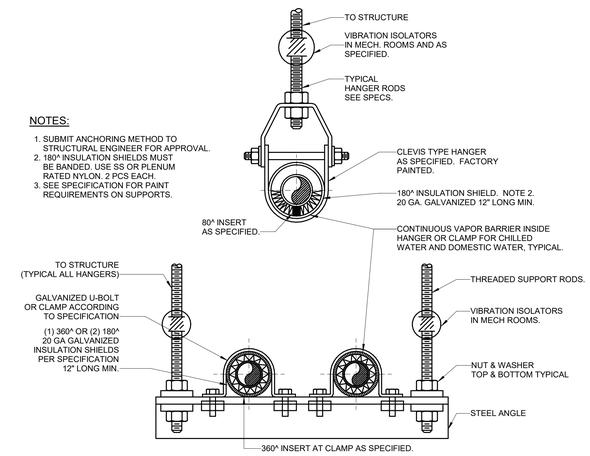
7 PIPE THROUGH STUD WALL DETAIL
NO SCALE



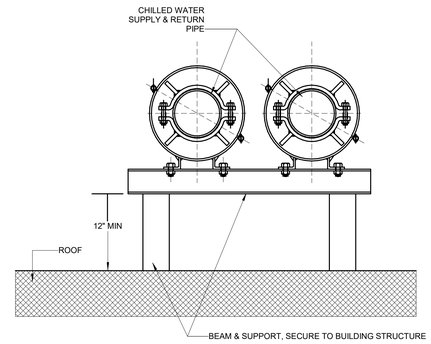
1 VIBRATION ISOLATION HANGER DETAIL
NO SCALE

NOTES:

1. SUBMIT ANCHORING METHOD TO STRUCTURAL ENGINEER FOR APPROVAL.
2. 180^ INSULATION SHIELDS MUST BE BANDED. USE SS OR PLENUM RATED NYLON. 2 PCS EACH.
3. SEE SPECIFICATION FOR PAINT REQUIREMENTS ON SUPPORTS.



2 TYPICAL PIPE HANGER DETAIL
NO SCALE



3 ROOF PIPE SUPPORT
1/8" = 1'-0"

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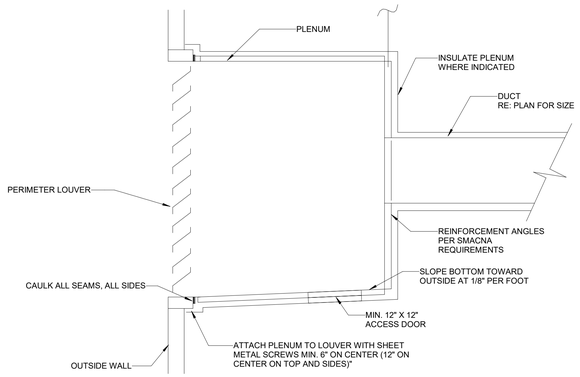
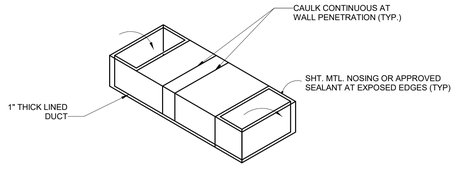
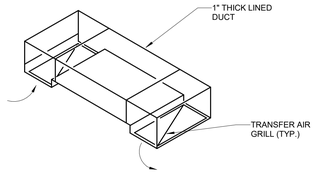
1A-M8.001



14 EXTERIOR LOUVER PLENUM BOX DETAIL
NO SCALE

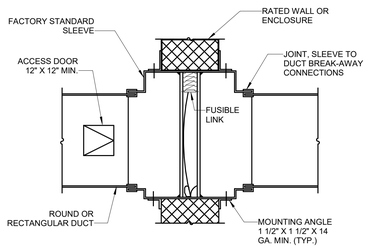


RETURN AIR TRANSFER BOOT



TRANSFER AIR DUCT

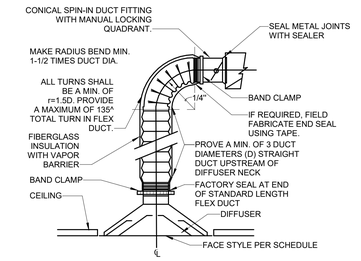
10 RETURN AIR TRANSFER BOOT AND AIR DUCT
NO SCALE



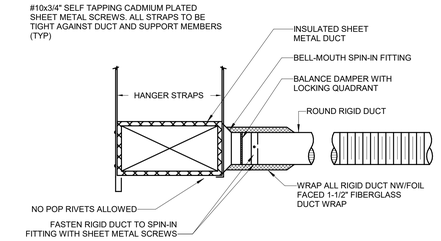
NOTES:

1. DYNAMIC FIRE DAMPER SHALL BE USED.
2. FIRE DAMPERS SHALL BE INSTALLED STRICTLY PER MANUFACTURER'S PRINTED INSTRUCTIONS.
3. FIRE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE.
4. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE MADE AVAILABLE TO INSPECTING AUTHORITIES.

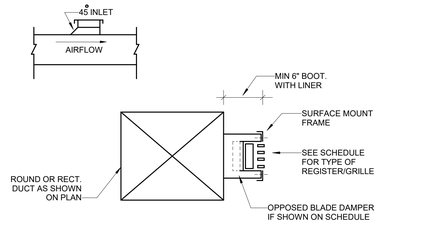
6 FIRE DAMPER
NO SCALE



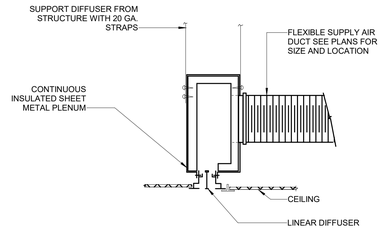
1 CEILING DIFFUSER DETAIL
NO SCALE



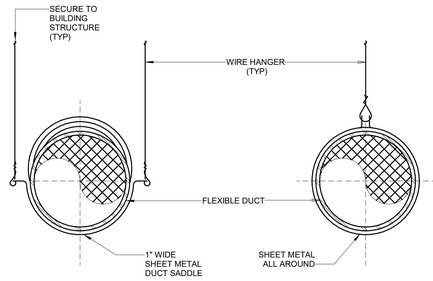
2 FLEX DUCT/ SPIN-IN FITTING DETAIL
NO SCALE



3 DUCT MOUNTED AIR DEVICE DETAIL
NO SCALE



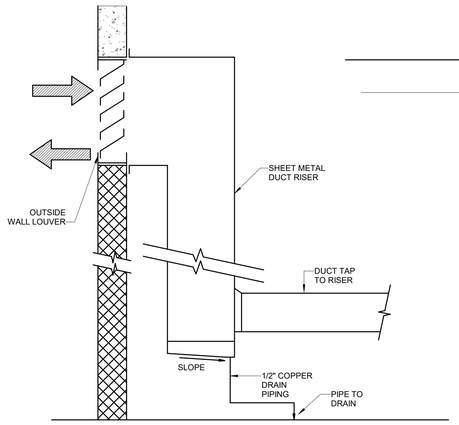
4 LINEAR DIFFUSER AND PLENUM DETAIL
NO SCALE



NOTE:

1. SUPPORT AT 3' MAX.

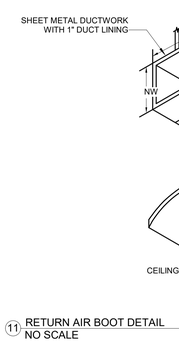
5 FLEXIBLE DUCT SUPPORT
NO SCALE



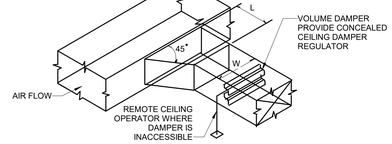
NOTE:

1. DOUBLE BASE OF PLENUM TO DRAIN INLET.

15 OUTSIDE WALL LOUVER DUCT CONNECTION
NO SCALE

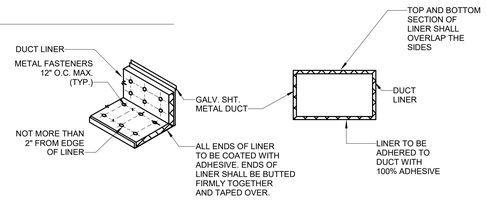


11 RETURN AIR BOOT DETAIL
NO SCALE

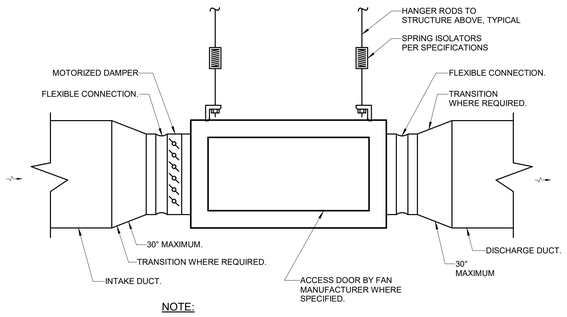


7 COMBINATION FIRE SMOKE DAMPER DETAIL
NO SCALE

8 BRANCH DUCT TAKE-OFF DETAIL
NO SCALE



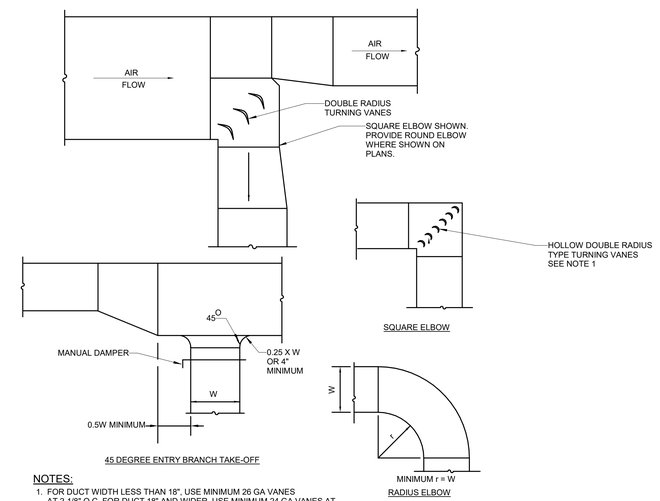
12 DUCT LINER DETAIL
NO SCALE



NOTE:

1. INSTALL FAN WITH PROPER SERVICE CLEARANCE TO MOTOR AND ALL PARTS FOR PROPER AIR MOVEMENT AS RECOMMENDED BY THE MANUFACTURER.

13 INLINE FAN DETAIL
NO SCALE



NOTES:

1. FOR DUCT WIDTH LESS THAN 18", USE MINIMUM 26 GA VANES AT 2-1/8" O.C. FOR DUCT 18" AND WIDER, USE MINIMUM 24 GA VANES AT 3-1/4" O.C.
2. FITTINGS TO BE 2 GAGES HEAVIER THAN CONNECTED DUCT.

9 RECTANGULAR DUCT FITTINGS AND TAKE-OFF
NO SCALE

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Seal / Signature

COLORADO LICENSED MATHEW E. EDWARDS 56806 PROFESSIONAL ENGINEER

05/18/2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

Description

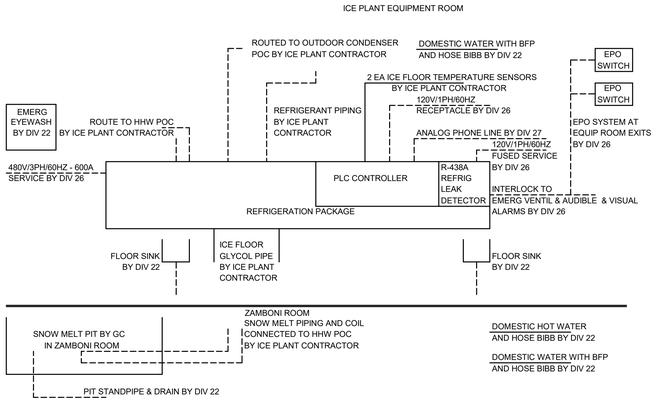
PROMENADE - MECHANICAL DETAILS

Scale

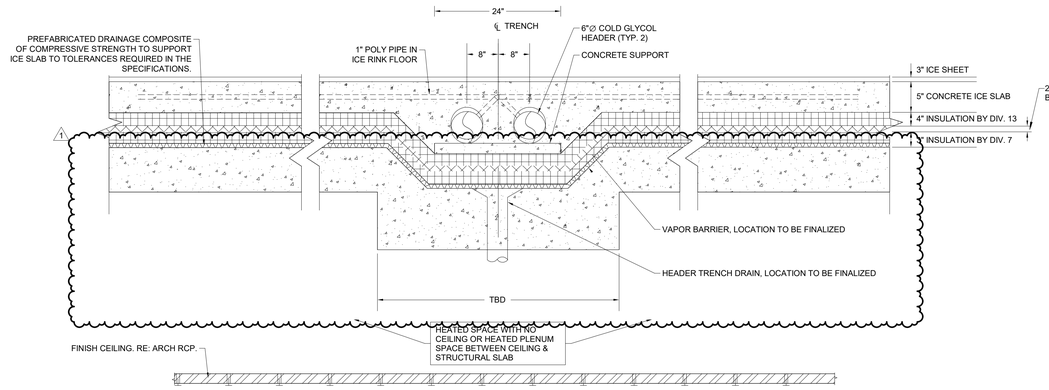
NO SCALE

1A-M8.002

ICE REFRIGERATION SYSTEM SCOPING DIAGRAM



1 ICE SYSTEM COORDINATION
NO SCALE



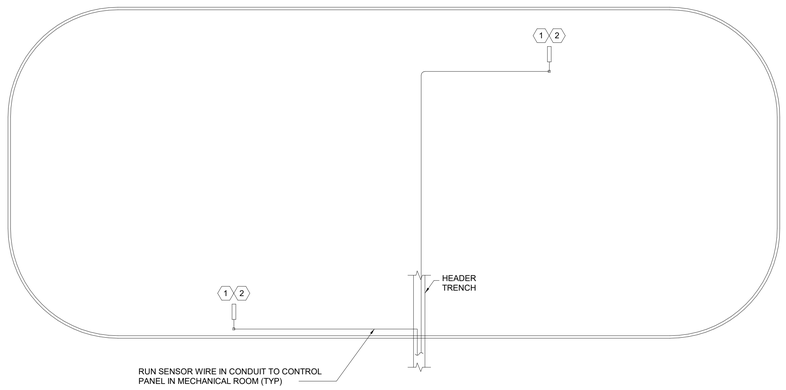
NOTES:
1. EXAMPLE HEADER DETAIL IS SHOWN TO IDENTIFY PERFORMANCE CRITERIA. ULTIMATELY, THE ICE SHEET CONTRACTOR SHALL WORK WITH THE DESIGN TEAM TO DEVELOP THE FINAL CONFIGURATION TO MEET THE OWNER'S REQUIREMENTS IN A MANNER SUITABLE FOR LONG-TERM WARRANTY AND PERFORMANCE. MINIMIZING EFFECTS OF DEFLECTION, CONDENSATION, AND POTENTIAL WATER MIGRATION ARE EXAMPLES OF CRITICAL VARIABLES THIS EXAMPLE ATTEMPTS TO ADDRESS.
2. FINAL HEADER CONFIGURATION, SLAB PENETRATION DETAIL, WATER-PROOFING, INSULATION, AND DRAINAGE CONFIGURATION WILL BE CONFIRMED IN CONSULTATION WITH SELECTED ICE SYSTEM CONTRACTOR DURING FINAL DESIGN PROCESS.
3. ICE SHEET CONTRACTOR TO NOTE IMPORTANCE OF DETERMINING EFFECTIVE WATER CONTROL METHODS ABOVE AND BELOW STRUCTURAL SLAB. DESIGN-ASSIST ROLE WILL INCLUDE CONSULTATION ON THESE SYSTEMS FOR A FINAL CONFIGURATION SUITABLE FOR WARRANTY BY ICE SHEET CONTRACTOR.

2 SECTION AT HEADER TRENCH
NO SCALE

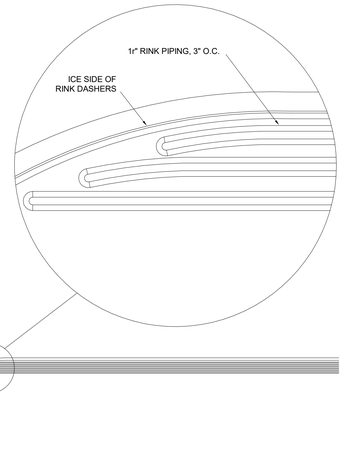
NOTES:

1 RINK FLOOR TEMPERATURE RTD.

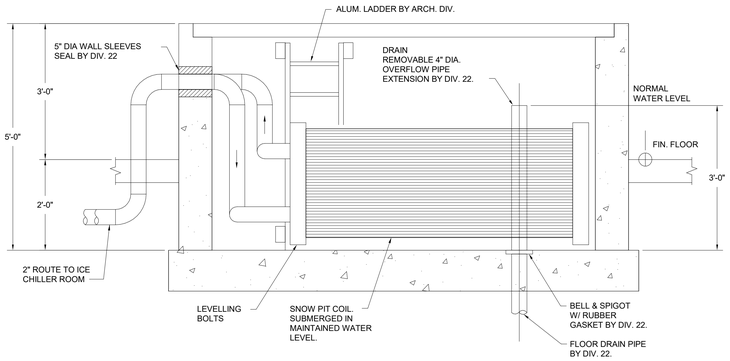
2 RUN RTD IN DEDICATED CONDUIT TO CONTROL PANEL IN REFRIGERATION ROOM.



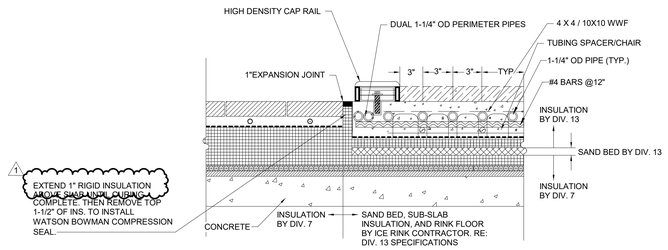
3 RINK TEMPERATURE SENSOR PLAN VIEW
NO SCALE



4 ENLARGED VIEW OF ICE RINK PIPING AT DASHER BOARD
NO SCALE



5 SNOW MELT PIT COIL DETAIL
NO SCALE



6 THRESHOLD AT ICE RINK - OVER STRUCTURE
NO SCALE

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1	2021.07.01	BP3: PROMENADE - BULLETIN 03 - PERMIT RESPONSES

Seal / Signature

COLORADO LICENSED
MARWIN E. EDWARDS
56806
PROFESSIONAL ENGINEER
07/01/2021

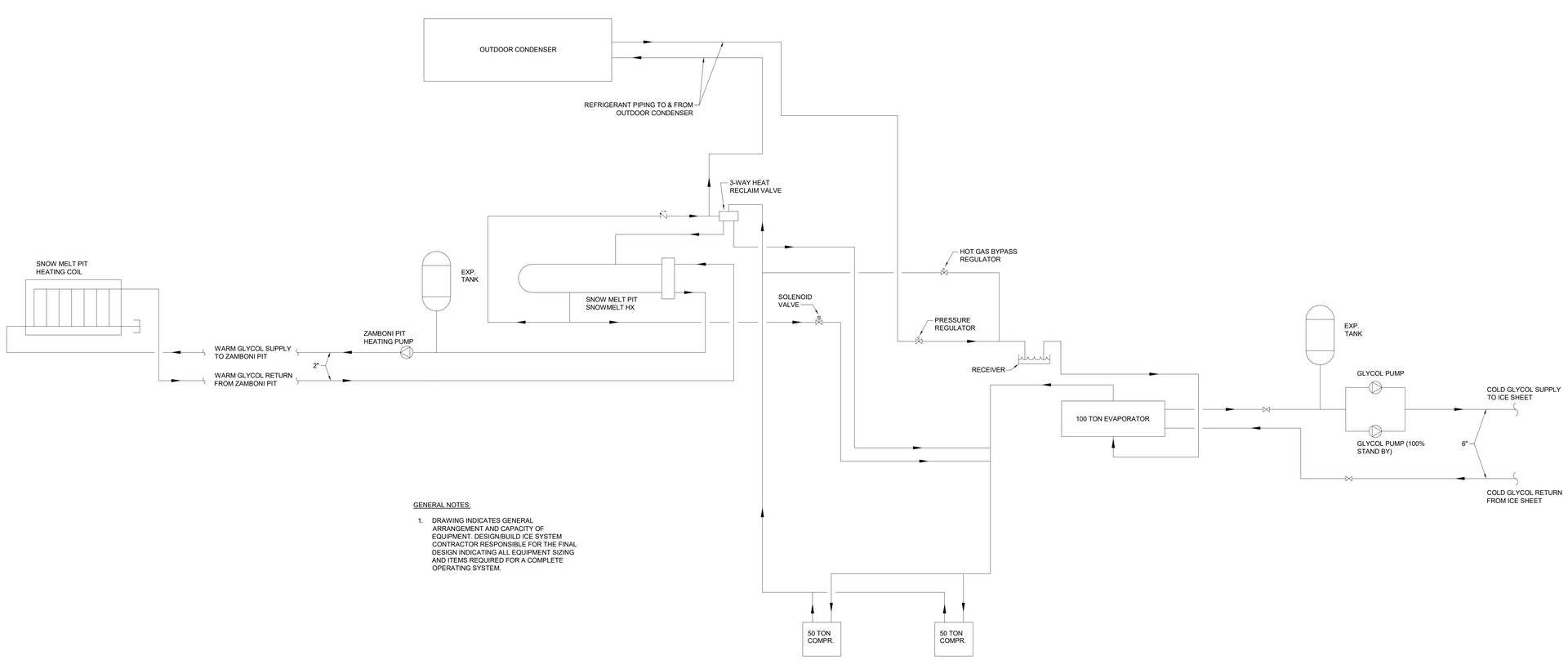
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ICE PLANT DETAILS

Scale
NO SCALE

1A-M9.000



GENERAL NOTES:

1. DRAWING INDICATES GENERAL ARRANGEMENT AND CAPACITY OF EQUIPMENT. DESIGN/BUILD ICE SYSTEM CONTRACTOR RESPONSIBLE FOR THE FINAL DESIGN INDICATING ALL EQUIPMENT SIZING AND ITEMS REQUIRED FOR A COMPLETE OPERATING SYSTEM.

A ICE SHEET SYSTEM SCHEMATIC FLOW DIAGRAM – R438A SYSTEM

NO SCALE

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Seal / Signature

COLORADO LICENSED MATTHEW E. EDWARDS 56806 PROFESSIONAL ENGINEER
05/18/2021

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Description

PROMENADE - ICE PLANT DETAILS

Scale

1/8" = 1'-0"

1A-M9.001

AIR-COOLED CHILLER SCHEDULE

CODE (CH)	MANUFACTURER/ MODEL NO.	CAPACITY NOM. (TONS)	CAPACITY ACTUAL (MBH)	CHILLED WATER DATA EWT (F)	LWT (F)	GPM	WPD (FT)	DESIGN DB (F)	ELECTRICAL CHILLER SCCR	VOLT	PH	MCA	MOP	FUSE	DISCON.	FEEDER	ELECTRICAL HEAT TRACE VOLT	PH	MOP	FUSE	DISCON.	FEEDER	EER	NPLV EER	KW/TON AT DESIGN CONDITIONS	HEIGHT (IN)	WIDTH (IN)	LENGTH (IN)	OPERATING WEIGHT (LBS)	REMARKS
2A.01	TRANE/RTAF	170	1740	54	44	374	40	88	65	460	3	321	450	RE: ONE-LINES			277	1	20	-	$.T.O.	(2#12, #12G) 3/4"C	9.7	15.3	0.934	98.0	98.0	274.0	12,500	

GENERAL NOTES:
1. FLUID CONTAINS 30% PROPYLENE GLYCOL.
2. JOB SITE ELEVATION = 6,700 FT.
3. PROVIDE FREE COOLING COIL WITH INTERNAL DIVERTING VALVE.
4. PROVIDE MANUFACTURER'S STANDARD ROOF CURB, 14" CURB HEIGHT. PROVIDE 2" DEFLECTION SPRING ISOLATORS PER MECHANICAL SPECIFICATIONS.
5. PROVIDE 115V CONVENIENCE OUTLET.
6. PROVIDE SINGLE POINT POWER CONNECTION FOR CHILLER. PROVIDE CONTROL TRANSFORMER AS REQUIRED. HEAT TRACE CONNECTION SHALL BE VERIFIED BY MANUFACTURER FOR SINGLE POINT OR DEDICATED HEAT TRACE CONNECTION.
7. PROVIDE VARIABLE SPEED COMPRESSORS FOR CAPACITY CONTROL.
8. PROVIDE EVAPORATIVE PRE-COOLING SYSTEM, EVAPORCOOL OR EQUAL. PROVIDE BOOSTER PUMP, WATER TREATMENT, EXPANSION TANK, MEDIA AT CHILLER AIR INTAKES, AND COMPLETE PIPING SYSTEM TO PROVIDE DOMESTIC WATER TO EVAPORATIVE PRE-COOLING MEDIA. INTERLOCK WITH CHILLER TO OPERATE ON CALL FOR COOLING.

PUMP SCHEDULE

CODE	MANUFACTURER/ MODEL NO.	SERVICE	PUMP TYPE	GPM	HEAD (FT)	NPSHR (FT)	IMPELLER DIA (IN)	BHP	ELECTRICAL HP	VOLT	PH	FLA	FUSE	DISCON.	FEEDER	REMARKS
CWP-1A.01	TACO/SKV 3006D	PRIMARY CHILLED WATER LOOP	INLINE	200	75	12	5.2	5.14	7.5	460	3	11	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	A,B,C
CWP-1A.02	TACO/SKV 3006D	PRIMARY CHILLED WATER LOOP	INLINE	200	75	12	5.2	5.14	7.5	460	3	11	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	A,B,C
GP-1B.01	NEPTUNE/G-50	GLYCOL FEEDER	POS. DISP.	--	--	--	--	--	0.5	120	1	10	-	CORD & PLUG	(2#12, #12G) 3/4"C	C,D

GENERAL NOTES:
1. PROVIDE MAGNETIC STARTER WITH AUXILIARY CONTACTS AND HOA SWITCH ON ALL THREE PHASE MOTORS.
2. PROVIDE PREMIUM EFFICIENCY MOTORS FOR MOTORS 1 HP AND OVER PER NEMA STANDARD MG1-2003, TABLES 12-12 AND 12-13.
3. FOR PARALLEL PUMP APPLICATIONS MANUFACTURER SHALL REVIEW SINGLE PUMP OPERATION SUCH THAT PUMP CAN OPERATE AND NOT EXCEED THE END OPERATION POINT ON THE PUMP CURVE AND MOTOR HP IS PROPERLY SELECTED TO PREVENT OVERLOADING.
4. NPSHR AT SCHEDULED OPERATING POINT SHALL NOT EXCEED 0.8*NPSHA.
5. REFER TO DRAWINGS TO DETERMINE REQUIRED PUMP ROTATION. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO ORDERING.

REMARK NOTES:
A. PROVIDE WITH VARIABLE FREQUENCY DRIVE WITH INTEGRAL OVER-CURRENT PROTECTION AND GROUND FAULT PROTECTION PER NEC 430.
B. 50% CAPACITY (PARALLEL PUMP APPLICATION).
C. FLUID CONTAINS 30% PROPYLENE GLYCOL. ALL PUMP COMPONENTS IN CONTACT WITH FLUID SHALL BE COMPATIBLE WITH GLYCOL. ADJUST STANDARD CATALOG PERFORMANCE TO ACCOUNT FOR USE OF GLYCOL.
D. ELECTRICAL CONNECTION TO 120V WALL RECEPTACLE.

EVAPORATIVE PRE-COOLING BOOSTER PUMP SCHEDULE

CODE (EBP)	MANUFACTURER/ MODEL NO.	SERVICE	CAPACITY GPM	CAPACITY PSI	ELECTRICAL HP	VOLT	PH	AMPS	FUSE	DISCON.	FEEDER	OPERATING WEIGHT (LBS)	REMARKS
1A.01	TOWLE WHITNEY/TW1000-15W-40	CHILLER EVAPORATIVE PRE-COOLING SYSTEM	15	40	1/2	480	3	3	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	100	

GENERAL NOTES:
1. PUMP SHALL BE PROVIDED BY EVAPORATIVE PRE-COOLING SYSTEM MANUFACTURER. REFER TO SPECIFICATIONS.
2. PUMP SHALL BE CENTRIFUGAL TYPE WITH FACTORY WIRED VARIABLE FREQUENCY DRIVE.
3. PROVIDE PUMP WITH INTEGRAL DIAPHRAGM EXPANSION TANK SIZED BY EVAPORATIVE PRE-COOLING SYSTEM MANUFACTURER.
4. PROVIDE THE FOLLOWING PUMP COMPONENTS: RELIEF VALVE, CHECK VALVE, STEEL FRAME, PRESSURE GAUGE, TANK TEE, BRASS NIPPLE, AND COPPER FITTINGS.
5. REFER TO MECHANICAL CONTROLS DRAWINGS FOR REQUIRED EVAPORATIVE PRE-COOLING SYSTEM PIPING AND CONTROL FUNCTIONS.

EXPANSION TANK

CODE (ET)	MANUFACTURER/ MODEL NO.	SERVICE	DESIGN PARAMETERS SYSTEM VOLUME	MIN. TEMPERATURE (F)	MAX. TEMPERATURE (F)	OPERATING PARAMETERS MIN. PRESSURE (PSIG)	MAX. PRESSURE (PSIG)	CONFIG.	TYPE	MIN. ACCEPT. (GAL)	PRECHARGE (PSIG)	REMARKS
1A.01	TACO/CA300-125	CHILLED WATER	3,000	40	90	20	67.5	VERTICAL	B	79.0	20.0	

GENERAL NOTES:
1. TYPE: B=FULL ACCEPTANCE BLADDER.
2. LOCATE GLYCOL FEEDER CONNECTION AT EXPANSION TANK CONNECTION TO HYDRONIC SYSTEM. REFER TO DETAIL.
3. PROVIDE MAKEUP WATER WITH FILL PRESSURE NO HIGER THAN 20 PSI.
4. PROVIDE PRESSURE RELIEF VALVE SET AT 75 PSIG.
5. FLUID CONTAINS 30% PROPYLENE GLYCOL.

AIR SEPARATOR

CODE (AS)	SERVICE	DESIGN PARAMETERS SYSTEM FLOW (GPM)	PIPE SIZE (IN)	MAX PD (FT. HD.)	MANUFACTURER/ MODEL NO.	DIMENSIONS DIAMETER (IN.)	HEIGHT (IN.)	WEIGHT (LBS)	REMARKS
1A.01	CHILLED WATER	385	6	1	TACO/ACT06F	20	41	800.0	

GENERAL NOTES:
1. FLUID CONTAINS 30% PROPYLENE GLYCOL.
2. PROVIDE WITH STRAINER.
3. PROVIDE FLOOR STAND SUPPORT.

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Description
PROMENADE - MECHANICAL SCHEDULES

Scale

1A-MEP0.000

ENERGY RECOVERY VENTILATOR SCHEDULE

CODE (ERV)	LOCATION	MANUFACTURER/ MODEL NO.	SUPPLY FAN MAX CFM	SUPPLY FAN MIN CFM	SUPPLY FAN ESP "W.C. (ALT.)	SUPPLY FAN HP	EXHAUST FAN MAX CFM	EXHAUST FAN MIN CFM	EXHAUST FAN ESP "W.C. (ALT.)	EXHAUST FAN HP	COOLING CAPACITY (CHILLED WATER) EAT (°F) DB	EAT (°F) WB	UNIT LAT (°F) DB	UNIT LAT (°F) WB	TOTAL (MBH)	SENSIBLE (MBH)	GPM	WPD (FT)	HEATING CAPACITY (HEATING HOT WATER) EAT (°F)	LAT (°F)	CAP (MBH)	GPM	WPD (FT)
1A.01	ERV 1	CSAA021	10,000	5,000	1.50	10	10,000	5,000	1.50	10	79.1	59.6	55.0	51.0	211.4	211.4	45.7	3.5	35.4	90	465	48.9	2.4
1A.02	ERV 2	CSAA010	4,700	2,350	1.50	5	4,700	2,350	1.50	5	79.0	59.6	55.0	51.0	100.0	100.0	22.0	1.6	35.4	90	220	23	1.0

CODE (ERV)	LOCATION	MANUFACTURER/ MODEL NO.	SENSIBLE WHEEL HEAT RECOVERY COOLING OSA EAT (F) DB	OSA EAT (F) WB	OSA LAT (F) DB	OSA LAT (F) WB	EXH EAT (F) DB	EXH EAT (F) WB	SENSIBLE EFF.	LATENT EFF.	HEATING OSA EAT (F) DB	OSA EAT (F) WB	OSA LAT (F) DB	OSA LAT (F) WB	EXH EAT (F) DB	EXH EAT (F) WB	EXH LAT (F) DB	EXH LAT (F) WB	SENSIBLE EFF.	LATENT EFF.	UNIT WEIGHT (LBS)	REMARKS
1A.01	ERV 1	CSAA021	88.0	56.2	79.1	59.6	75.0	61.5	67%	63%	-10.0	-2.0	14.1	19.1	65.0	51.5	41.6	39.0	67%	63%	7,000	A,B,C,D,E
1A.02	ERV 2	CSAA010	88.0	56.2	79.0	59.6	75.0	61.5	68%	64%	-10.0	-2.0	14.0	19.1	65.0	51.5	41.6	39.0	68%	64%	4,500	A,B,C,D,E

CODE (ERV)	LOCATION	MANUFACTURER/ MODEL NO.	ELECTRICAL SINGLE POINT CONNECTION VOLT	PH	MCA	E-POW	FUSE	DISCONNECT	FEEDER	FILTERS SUPPLY PRE FILTER TYPE	APD ("W.C.)	SUPPLY FINAL FILTER TYPE	APD ("W.C.)	EXHAUST PRE FILTER TYPE	APD ("W.C.)
1A.01	ERV 1	CSAA021	460	3	33.67	N	40A LPS-RK	60A/3P	(3#8, #10G) 3/4"C	MERV 8	0.55	MERV 15	0.55	MERV 8	0.64
1A.02	ERV 2	CSAA010	460	3	19.76	N	30A LPS-RK	30A/3P	(3#10, #10G) 3/4"C	MERV 8	0.56	MERV 15	0.56	MERV 8	0.65

GENERAL NOTES:
1. PROVIDE NEMA PREMIUM EFFICIENCY MOTORS.
2. INSTALL UNITS WITH ADEQUATE CLEARANCE FOR COIL PULL, FILTER REPLACEMENT AND TO FULLY OPEN ACCESS DOORS.
3. PROVIDE MINIMUM CLEARANCE IN FRONT OF DISCONNECTS SWITCHES AND CONTROL PANELS AS REQUIRED AND TO COMPLY FULLY WITH NEC 110.26.
4. UNIT STATIC PRESSURE CAPABILITY SHALL INCLUDE SCHEDULED EXTERNAL STATIC PRESSURE PLUS ALL SCHEDULED INTERNAL PRESSURE DROPS.
5. SCHEDULED FAN VALUES (CFM, SP AND HP) ARE ACTUAL AT ALTITUDE. MOTOR HP HAS BEEN ADJUSTED FROM SEA LEVEL CONDITIONS FOR OPERATION AT JOB SITE ELEVATION. JOB SITE ELEVATION = 6700 FT.
6. PROVIDE DUCT SMOKE DETECTOR IN THE SUPPLY AIR DUCT AND RETURN AIR DUCT. RE: MECHANICAL CONTROLS DRAWINGS.
7. MAXIMUM COOLING COIL FACE VELOCITY = 500 FPM
8. ERV-1A.02 UNIT TO BE MOUNTED ON STRUCTURAL SUPPORTS. RE: STRUCTURAL DRAWINGS.
8. ERV-1A.01 PROVIDE STEEL BASE RAILS.
10. PROVIDE SINGLE POINT POWER CONNECTION.
11. CHILLED WATER: EWT = 44F, LWT = 54F, 30% PROPYLENE GLYCOL.
12. HEATING WATER: EWT = 150F, LWT = 130F, 30% PROPYLENE GLYCOL.

REMARKS:
A. 100% OUTSIDE AIR UNIT WITH 2-POSITION OUTSIDE AIR DAMPER AND 2-POSITION EXHAUST AIR DAMPERS.
B. PROVIDE VARIABLE FREQUENCY DRIVES ON ALL SUPPLY AND EXHAUST FANS. UNIT SHALL BE CONFIGURED TO CONTROL SUPPLY AIR AND EXHAUST AIR DUCT STATIC PRESSURE WITHIN THE BUILDING.
C. PROVIDE MODULATING 2-WAY CONTROL VALVES FOR CHILLED WATER AND HEATING HOT WATER.
D. PROVIDE CONVENIENCE RECEPTACLE POWERED FROM UNIT SINGLE POINT POWER CONNECTION. PROVIDE STEP-DOWN TRANSFORMER.
E. PROVIDE INTERNAL ISOLATION OF ALL FANS AND MOTORS. REFER TO SPECIFICATIONS.

HORIZONTAL FAN COIL SCHEDULE (HYDRONIC)

CODE (HFCU)	MANUFACTURER/ MODEL NO.	AREA SERVED	FAN SUPPLY CFM	FAN ESP (IN.)	COOLING COIL EAT (°F) DB	EAT (°F) WB	TOTAL MBH	SENS MBH	MAX LAT(°F)	GPM	ROW	WPD (FT)	HEATING COIL EAT (°F)	MIN MBH	MIN LAT(°F)	GPM	ROW	WPD (FT)	ELECTRICAL HP	VOLT	PH	FLA	DISCON.	FEEDER	FUSE	REMARKS
1	ENGINEERED COMFORT/D35FHZW-08	1 TON	600	0.3	75	62	12.8	10.2	55	2.7	4	1.2	65	11.5	85	1.3	1	4.6	1/8	120	1	3.3	$.T.O.	(2#12, #12G) 3/4"C	-	
2	ENGINEERED COMFORT/D35FHZW-16	2 TON	1100	0.3	75	62	25.7	19.7	55	5.4	5	2.7	65	19.6	85	2.2	1	2.5	1/4	120	1	7.2	$.T.O.	(2#12, #12G) 3/4"C	-	
3	ENGINEERED COMFORT/D35FHZW-24	3 TON	1800	0.3	75	62	38.7	31.1	55	8.1	5	3.6	65	31.1	85	3.5	1	6.5	1/2	120	1	11.8	$.T.O.	(2#12, #12G) 3/4"C	-	
4	ENGINEERED COMFORT/D35FHZW-30	4 TON	2300	0.3	75	62	49.5	39.8	55	10.4	5	2.3	65	40.5	85	4.6	1	3.2	1/2	120	1	12.6	$.T.O.	(2#12, #12G) 3/4"C	-	A

GENERAL NOTES:
1. CHILLED WATER: EWT = 44˚F, LWT = 54˚F, 30% PROPYLENE GLYCOL.
2. HEATING WATER: EWT = 150˚F, LWT = 130˚F, 30% PROPYLENE GLYCOL.
3. PROVIDE 2" MERV 8 THROW AWAY FILTERS.
4. SCHEDULED FAN VALUES (CFM, SP AND HP) ARE ACTUAL AT ALTITUDE. MOTOR HP HAS BEEN ADJUSTED FROM SEA LEVEL CONDITIONS FOR OPERATION AT JOBSITE ELEVATION. JOB SITE ELEVATION = 6700 FT.
5. PROVIDE PREMIUM EFFICIENCY MOTORS FOR MOTORS 1 HP AND OVER PER MENA STANDARD MG1-2003, TABLES 12-12 AND 12-13.
6.PROVIDE CONDENSATE PUMP POWERED FROM EQUIPMENT. PUMP SHALL BE PROVIDED WITH VOLTAGE MATCHING FAN COIL UNIT. IF TRANSFORMER IS PROVIDED FOR CONDENSATE PUMP OPERATION, PROVIDE LINE ITEM COST. GRAVITY DRAINAGE ACCEPTABLE WHERE POSSIBLE.
7. DESIGN OUTSIDE AIR CONDITIONS:
COOLING: 88F dB/56.2F wB
HEATING: -10F dB

REMARK NOTES:
A. PROVIDE DUCT SMOKE DETECTORS PER CODE FOR ALL UNITS 2000 CFM OR GREATER.

HIGH WALL FAN COIL SCHEDULE (HYDRONIC)

CODE (WFCU)	MANUFACTURER/ MODEL NO.	AREA SERVED	FAN SUPPLY CFM	FAN ESP (IN.)	COOLING COIL EAT (°F) DB	EAT (°F) WB	TOTAL MBH	SENS MBH	MAX LAT(°F)	GPM	ROW	WPD (FT)	ELECTRICAL HP	VOLT	PH	FLA	DISCON.	FEEDER	FUSE	REMARKS
1A.01	MULTIAQUA/MHWW-36-H-3	MAIN ELEC	850	0	80	67	36.0	22.0	55	9.5	1	24.5	1/12	120	1	0.9	$.T.O.	(2#12, #12G) 3/4"C	-	A
1A.02	MULTIAQUA/MHWW-36-H-3	IDF/IT	850	0	80	67	36.0	22.0	55	9.5	1	24.5	1/12	120	1	0.9	$.T.O.	(2#12, #12G) 3/4"C	-	A
1A.03	MULTIAQUA/MHWW-36-H-3	IDF/IT RM	850	0	80	67	36.0	22.0	55	9.5	1	24.5	1/12	120	1	0.9	$.T.O.	(2#12, #12G) 3/4"C	-	A
1A.04	MULTIAQUA/MHWW-36-H-3	MAIN ELEC	850	0	80	67	36.0	22.0	55	9.5	1	24.5	1/12	120	1	0.9	$.T.O.	(2#12, #12G) 3/4"C	-	A
1A.05	MULTIAQUA/MHWW-36-H-3	ELEC	850	0	80	67	36.0	22.0	55	9.5	1	24.5	1/12	120	1	0.9	$.T.O.	(2#12, #12G) 3/4"C	-	A
1A.06	MULTIAQUA/MHWW-36-H-3	ELEC	850	0	80	67	36.0	22.0	55	9.5	1	24.5	1/12	120	1	0.9	$.T.O.	(2#12, #12G) 3/4"C	-	A
3A.01	MULTIAQUA/MHWW-36-H-3	ELEC	850	0	80	67	36.0	22.0	55	9.5	1	24.5	1/12	120	1	0.9	$.T.O.	(2#12, #12G) 3/4"C	-	A

GENERAL NOTES:
1. CHILLED WATER: EWT = 44˚F, LWT = 54˚F, 30% PROPYLENE GLYCOL.
2. SCHEDULED FAN VALUES (CFM, SP AND HP) ARE ACTUAL AT ALTITUDE. MOTOR HP HAS BEEN ADJUSTED FROM SEA LEVEL CONDITIONS FOR OPERATION AT JOBSITE ELEVATION. JOB SITE ELEVATION = 6700 FT.
3. PROVIDE PREMIUM EFFICIENCY MOTORS FOR MOTORS 1 HP AND OVER PER MENA STANDARD MG1-2003, TABLES 12-12 AND 12-13.
4.PROVIDE CONDENSATE PUMP POWERED FROM EQUIPMENT. PUMP SHALL BE PROVIDED WITH VOLTAGE MATCHING FAN COIL UNIT. IF TRANSFORMER IS PROVIDED FOR CONDENSATE PUMP OPERATION, PROVIDE LINE ITEM COST. GRAVITY DRAINAGE ACCEPTABLE WHERE POSSIBLE.
5. DESIGN OUTSIDE AIR CONDITIONS:
COOLING: 88F dB/56.2F wB
HEATING: -10F dB

REMARK NOTES:
A. PROVIDE REMOTE THERMOSTAT.

CABINET UNIT HEATER SCHEDULE (HYDRONIC)

CODE (CUH)	MANUFACTURER/ MODEL NO.	AREA SERVED	CONFIG	CAP. (MBH)	CFM	GPM	ROW	WPD (FT)	ELECTRICAL WATTS	VOLT	PH	FLA	DISC	FUSE	FEEDER	CONN. SIZE	REMARKS
1	TRANE/FORCEFLO-02	SEE PLANS	HORIZONTAL RECESSED	18	315	1.3	2	7.2	84	120	1	3.1	$.T.O.	-	(2#12, #12G) 3/4"C	3/4"	A,C,D
2	TRANE/FORCEFLO-04	SEE PLANS	HORIZONTAL RECESSED	25	410	1.7	2	2.85	110	120	1	3.1	$.T.O.	-	(2#12, #12G) 3/4"C	3/4"	A,C,D
3	TRANE/FORCEFLO-06	SEE PLANS	HORIZONTAL RECESSED	41	700	2.8	2	8.6	162	120	1	3.1	$.T.O.	-	(2#12, #12G) 3/4"C	3/4"	A,C,D
4	TRANE/FORCEFLO-06	SEE PLANS	VERTICAL CABINET	41	700	2.8	2	8.6	162	120	1	3.1	$.T.O.	-	(2#12, #12G) 3/4"C	3/4"	A,B,D

GENERAL NOTES:
1. EAT = 65˚F, LAT = 95˚F.
2. HEATING WATER: EWT = 150˚F, LWT = 130˚F, 30% PROPYLENE GLYCOL.
3. JOB SITE ELEVATION = 6,700 FT.

REMARK NOTES:
A. PROVIDE UNIT MOUNTED DISCONNECT SWITCH.
B. PROVIDE FRONT STAMPED INLET AND FRONT STAMPED OUTLET LOUVERS.
C. PROVIDE BOTTOM STAMPED INLET AND BOTTOM STAMPED OUTLET LOUVERS.
D. PROVIDE WALL MOUNTED THERMOSTAT.

VERTICAL FAN COIL SCHEDULE (HYDRONIC)

CODE (VFCU)	MANUFACTURER/ MODEL NO.	AREA SERVED	FAN SUPPLY CFM	FAN ESP (IN.)	COOLING COIL EAT (°F) DB	EAT (°F) WB	TOTAL MBH	SENS MBH	MAX LAT(°F)	GPM	ROW	WPD (FT)	HEATING COIL EAT (°F)	MIN MBH	MIN LAT(°F)	GPM	ROW	WPD (FT)	ELECTRICAL HP	VOLT	PH	FLA	DISCON.	FEEDER	FUSE	REMARKS
1	ENGINEERED COMFORT/ D39MUZW-06	1 TON	500	0.3	75	62	12.1	9.1	55	2.5	4	6.6	65	9.3	85	1	1	2.68	1/6	120	1	3.6	$.T.O.	(2#12, #12G) 3/4"C	-	A
2	ENGINEERED COMFORT/ D39MUZW-15	2 TON	1000	0.3	75	62	24.5	18.3	55	5.2	4	4.2	65	22.0	85	2.5	1	3.97	1/4	120	1	8.7	$.T.O.	(2#12, #12G) 3/4"C	-	A
3	ENGINEERED COMFORT/ D39MUZW-19	3 TON	1550	0.3	75	62	35.5	27.5	55	7.5	4	6.1	65	35.2	85	4	1	11.8	1/2	120	1	12.7	$.T.O.	(2#12, #12G) 3/4"C	-	A
4	ENGINEERED COMFORT/ E39MUZW-21	4 TON	1960	0.3	75	62	39.9	33.0	55	8.4	4	7.7	65	39.1	85	4.4	1	14.5	1	120	1	16	$.T.O.	(2#12, #12G) 3/4"C	-	B

GENERAL NOTES:
1. CHILLED WATER: EWT = 44˚F, LWT = 54˚F, 30% PROPYLENE GLYCOL.
2. HEATING WATER: EWT = 150˚F, LWT = 130˚F, 30% PROPYLENE GLYCOL.
3. PROVIDE 2" MERV 8 THROW AWAY FILTERS.
4. SCHEDULED FAN VALUES (CFM, SP AND HP) ARE ACTUAL AT ALTITUDE. MOTOR HP HAS BEEN ADJUSTED FROM SEA LEVEL CONDITIONS FOR OPERATION AT JOBSITE ELEVATION. JOB SITE ELEVATION = 6700 FT.
5. PROVIDE PREMIUM EFFICIENCY MOTORS FOR MOTORS 1 HP AND OVER PER MENA STANDARD MG1-2003, TABLES 12-12 AND 12-13.
6.PROVIDE CONDENSATE PUMP POWERED FROM EQUIPMENT. PUMP SHALL BE PROVIDED WITH VOLTAGE MATCHING FAN COIL UNIT. IF TRANSFORMER IS PROVIDED FOR CONDENSATE PUMP OPERATION, PROVIDE LINE ITEM COST. GRAVITY DRAINAGE ACCEPTABLE WHERE POSSIBLE.
7. DESIGN OUTSIDE AIR CONDITIONS:
COOLING: 88F dB/56.2F wB
HEATING: -10F dB

REMARK NOTES:
A. PROVIDE WITH AN ECM MOTOR.
B. PROVIDE WITH ECM 3-SPEED MOTOR.

UNIT HEATER SCHEDULE (HYDRONIC)

CODE (UH)	MANUFACTURER/ MODEL NO.	SERVICE	CAPACITY (MBH)	WATER SIDE GPM	WATER SIDE WPD (FT)	AIR SIDE EAT (F)	AIR SIDE LAT (F)	AIR SIDE CFM	ELECTRICAL WATTS	VOLT	PH	FLA	DISC	FUSE	FEEDER	REMARKS
1	TRANE / UHSB08	SEE PLANS	8	0.8	0.8	60	95	250	16	120	1	1	$.T.O.	-	(2#12, #12G) 3/4" C	A,B
2	TRANE / UHSB18	SEE PLANS	18	1.9	2.2	60	95	500	16	120	1	1	$.T.O.	-	(2#12, #12G) 3/4" C	A,B
3	TRANE / UHSB25	SEE PLANS	24	2.5	2.2	60	95	580	25	120	1	1	$.T.O.	-	(2#12, #12G) 3/4" C	A,B
4	TRANE / UHSB36	SEE PLANS	35	3.6	3	60	95	850	1/20 HP	120	1	1	$.T.O.	-	(2#12, #12G) 3/4" C	A,B

GENERAL NOTES
1. EWT =150F, LWT = 130F.
2. WATER CONTAINS 30% PROPYLENE GLYCOL.
3. JOB SITE ELEVATION = 6700 FT.

REMARK NOTES
A. PROVIDE WALL MOUNTED THERMOSTAT.
B. HORIZONTAL DISCHARGE W/ LOUVER.

BASEBOARD RADIATION SCHEDULE (HYDRONIC)

CODE (BBR)	MANUFACTURER/ MODEL NO.	CAPACITY (BTUH/LF)	GPM/ FT	ROWS	ENCLOSURE HEIGHT (IN)	REMARKS
BBR-1	ZEHNDER RITTLING/FTR 3/4C	570	0.057	2	14	A,B

GENERAL NOTES:
1. EWT= 150˚F, LWT= 130˚F, 30% GLYCOL.
2. MINIMUM FLOW FOR CIRCUIT IS 1 GPM.
3. PROVIDE WALL TO WALL ENCLOSURE UNLESS OTHERWISE NOTED.
4. ENCLOSURE COLOR SELECTED BY ARCHITECT.
5. TUBE MATERIAL IS COPPER, FIN MATERIAL ALUMINUM UNLESS OTHERWISE NOTED.

REMARK NOTES:
A. PROVIDE ZEHNDER RITTLING TYPE PIBG5 BAR GRILLE ENCLOSURE, 16GA CONSTRUCTION WITH BOTTOM OPEN INLET, TOP OUTLET, SURFACE MOUNTED, AND ENCLOSED BACK.
B. INTERLOCK CONTROL WITH HVAC ZONE SERVING SAME SPACE. BASEBOARD SHALL ACT AS FIRST STAGE HEATING.

REHEAT COIL

CODE (RH)	AREA SERVED	MANUFACTURER/ MODEL NO.	MAX CFM	MIN CFM	APD "W.C.	HEATING COIL EAT	LAT	MBH	GPM	ROW	WPD (FT)	INLET SIZE	OUTLET SIZE	REMARKS
1A.01	LEVEL 00	GREENHECK/HW58S02B06	2500	700	0.29	-10.0	25.0	90.0	9.7	2.0	1.6	26"X15"	26"X15"	A,B

GENERAL NOTES
1. MOUNT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS INCLUDING ALL UL LISTING REQUIREMENTS.
2. HEATING COIL DISCHARGE TEMPERATURES SHALL NOT EXCEED 100F OR HAVE A TEMPERATURE RISE GREATER THAN 45F.
3. EWT =150F, LWT = 130F.
4. WATER CONTAINS 30% PROPYLENE GLYCOL.
5. JOB SITE ELEVATION = 6700 FT.

REMARK NOTES
A. PROVIDE LINE VOLTAGE DUCT MOUNTED THERMOSTAT DOWNSTREAM OF HEATER. CONTROL TO 65F LEAVING AIR TEMP.
B. INTERLOCK HEATER WITH ICE PLANT VENTILATION SYSTEM.

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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 07/10/2021

Seal / Signature

COLORADO LICENSED MATTHEW E. EDWARDS 56806 PROFESSIONAL ENGINEER
05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - MECHANICAL SCHEDULES

Scale

1A-MEP0.001

ENVIRONMENTAL FAN SCHEDULE

CODE	MANUFACTURER/ MODEL NO.	SERVICE	LOCATION	TYPE	MAX CFM	LOW CFM	ESP "W.C. (ALT.)	DRIVE	ELECTRICAL HP	VOLT	PH	FLA	DISC.	FEEDER	FUSE	MTG	CTRL	SOUND POWER LwA	DECIBEL LEVEL dBA	REMARKS
EF 1A.01	GREENHECK/SE1-14-440-VG	LOADING/TRASH	LOWER LEVEL	PROPELLOR	900	-	0.3	B	1/2	120	1	9.8	S.T.O.	(2#12, #12G) 3/4"C	-	2	1	68	57	A,B,D
SF 1A.02	GREENHECK/BSQ140	MECHANICAL/ICE PLANT SUPPLY	LOWER LEVEL	INLINE	2500	700	1	VFD(B)	1	460	3	2.1	20A/3P	(3#12, #12G) 3/4"C	15A LPS-RK	1	II	-	-	A,B,C
EF 1A.03	GREENHECK/BSQ160	MECHANICAL/ICE PLANT EXHAUST	LOWER LEVEL	INLINE	2500	700	0.5	VFD(B)	1/2	120	1	9.6	S.T.O.	(2#12, #12G) 3/4"C	-	1	II	-	-	A,B

GENERAL NOTES:
1. DRIVE TYPE: VFD(B) = BELT DRIVE FAN WITH VARIABLE FREQUENCY DRIVE.
   B = BELT-PROVIDE ADJUSTABLE SHEAVE UNLESS OTHERWISE NOTED.
2. SCHEDULED FAN VALUES (CFM, SP AND HP) ARE ACTUAL AT ALTITUDE. MOTOR HP HAS BEEN ADJUSTED FROM SEA LEVEL CONDITIONS FOR OPERATION AT JOB SITE ELEVATION. JOB SITE ELEVATION = 6,700 FT.
3. PROVIDE MAGNETIC STARTER WITH AUXILARY CONTACTS AND HOA SWITCH ON ALL THREE PHASE UNITS EXCEPT WHEN SERVED FROM MOTOR CONTROL CENTER.
3. PROVIDE PREMIUM EFFICIENCY MOTORS FOR MOTORS 1 HP AND OVER PER NEMA STANDARD MG1-2003, TABLES 12-12 AND 12-13.

MOUNTING (MTG):
1. INSTALL FAN WITH FLEXIBLE CONNECTIONS AT DUCT INLET AND OUTLET AND WITH HANGING VIBRATION ISOLATORS.
2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

CONTROL (CTRL):
I. INTERLOCK WITH ENERGY RECOVERY VENTILATOR SERVING THE SAME AREA. MONITOR VIA BMS AND PROVIDE MANUAL OVERRIDE SWITCH.
II. RUN CONTINUOUSLY AT LOW SPEED FOR ROOM VENTILATION AND PROVIDE MAX CFM OVERRIDE IN REFRIGERANT PURGE MODE, CONTROL VIA DDC SYSTEM.

REMARK NOTES:
A. PROVIDE BELT AND MOTOR GUARD.
B. PROVIDE MOTORIZED BACKDRAFT DAMPER AT ROOF OR WALL PENETRATION.
C. PROVIDE A 2" MERV 8 FILTER
D. PROVIDE WITH WALL HOUSING, WEATHERHOOD AND OSHA WIRE GUARD.

100% Outdoor air

ERV 1A.01

System name and number	ERV 1A.01
Condition analyzed (impacts Ez)	Heating

Zone Name and Number	Occupancy Category	Zone Floor Area *Az* (sq ft)	Are you using default value for zone population?	Zone Population *Pz* (people)	People Outdoor Air Rate *Rp* (cfm per person)	Area Outdoor Air Rate *Ra* (cfm per sq ft)	Breathing Zone Outdoor Airflow (people related... (cfm)	Breathing Zone Outdoor Airflow (area related... (cfm)	Breathing Zone Outdoor Airflow *Vbz* (cfm)	Zone Air Distribution Effectiveness *Ez*	Zone Outdoor Airflow *Voz* (cfm)	Zone Outdoor Airflow Provided *(measured or design)* (cfm)
							Rp Pz	Ra Az	(Rp Pz + Ra Az)*1.3		Vbz / Ez	
					0.00	0.00	0.00	0.00	0.00		0.00	
HALLWAY	Common corridors	335	Yes	0.00	0.00	0.06	0.00	20.09	20.09	0.50	40.18	60
RETAIL / L & F	Reception areas	165	Yes	49.50	5.00	0.06	247.50	9.90	257.39	0.80	321.73	60
CIRCULATION LOBBY	Lobbies / prefunction	915	Yes	274.50	7.50	0.06	2,058.75	54.90	2,113.65	0.80	2,642.06	450
UC HEALTH + SKI PATROL	Office space	2,450	Yes	122.50	5.00	0.06	612.50	147.00	759.50	0.80	949.37	500
FOOD STORAGE 114	Occupiable storage rooms for dry...	230	Yes	4.60	5.00	0.06	23.00	13.80	36.79	0.80	45.98	50
CORRIDOR 114	Common corridors	1,025	Yes	0.00	0.00	0.06	0.00	61.50	61.50	0.80	76.87	100
FOOD STORAGE 110	Occupiable storage rooms for dry...	2,720	Yes	54.40	5.00	0.06	272.00	163.19	435.19	0.80	543.98	850
					0.00	0.00	0.00	0.00	0.00		0.00	

System area (sq ft)	*As*	(sq ft)	7,840.00	∑Az
System population	*Ps*	(people)	505.50	∑Pz
Outdoor air intake flow (30% above 62.1 requirement)	*Vot*	(cfm)	4,620	∑Voz
Outdoor air intake flow provided (measured or design)		(cfm)	10,000	

REFRIGERANT CALCULATIONS

ROOM	REFRIGERANT TYPE	REFRIGERANT CLASSIFICATION	ESTIMATED TOTAL REFRIGERANT CHARGE (LBS) (NOTE 2)	ROOM AREA (SF)	ROOM VOLUME (CF)	NORMAL VENTILATION RATE (CFM)	EMERGENCY VENTILATION RATE (CFM)
ICE PLANT	R-438A	A1	600	1200	14400	700	2,500

GENERAL NOTES
1. INFORMATION ABOVE IS BASED ON THE BASIS OF DESIGN AND THE 2018 INTERNATIONAL MECHANICAL CODE.
2. ESTIMATED TOTAL REFRIGERANT CHARGE IS THE MAXIMUM CHARGE ANTICIPATED WITHIN THE ICE PLANT SKID.

GRILLE REGISTER DIFFUSER SCHEDULE

CODE	MANUFACTURER/ MODEL NO.	SERVICE	TYPE	ACCESSORIES	FACE SIZE	REMARKS
A1	PRICE / 520L	SUPPLY	LOUVERED		NECK +2"	
A2	PRICE / 620L	SUPPLY	LOUVERED		NECK +2"	A
A3	PRICE / 520	SUPPLY	DOUBLE...		NECK +2"	
B1	PRICE / SDS	SUPPLY	LINEAR SLOT	48" FACTORY PLENUM	(1) 1" SLOT, 48" LENGTH	
B2	PRICE / SDS	SUPPLY	LINEAR SLOT	48" FACTORY PLENUM	(2) 1" SLOT, 48" LENGTH	
B3	PRICE / SDS	SUPPLY	LINEAR SLOT	48" FACTORY PLENUM	(3) 1" SLOT, 48" LENGTH	
C1	PRICE / SDS	SUPPLY	LINEAR SLOT	60" FACTORY PLENUM	(1) 1" SLOT, 60" LENGTH	
C2	PRICE / SDS	SUPPLY	LINEAR SLOT	60" FACTORY PLENUM	(2) 1" SLOT, 60" LENGTH	
C3	PRICE / SDS	SUPPLY	LINEAR SLOT	60" FACTORY PLENUM	(3) 1" SLOT, 60" LENGTH	
D	PRICE / SDGE	SUPPLY	SPIRAL MOUNT	AIR SCOOP		A
E	PRICE / SDGE	EXHAUST/RETURN	SPIRAL MOUNT	PERFORATED		A
F1	PRICE / PDDR	EXHAUST/RETURN	PERFORATED		12"x12"	
F2	PRICE / PDDR	EXHAUST/RETURN	PERFORATED		24"x24"	
G1	PRICE / 510L	EXHAUST/RETURN	LOUVERED		SEE PLANS	
G2	PRICE / 530L	EXHAUST/RETURN	LOUVERED		SEE PLANS	
H	PRICE / SPD	SUPPLY	SQUARE CEILING		24"x24"	
J1	PRICE / SDR	RETURN	LINEAR SLOT	48" FACTORY PLENUM	(1) 1" SLOT, 48" LENGTH	
J2	PRICE / SDR	RETURN	LINEAR SLOT	48" FACTORY PLENUM	(2) 1" SLOT, 48" LENGTH	
J3	PRICE / SDR	RETURN	LINEAR SLOT	48" FACTORY PLENUM	(3) 1" SLOT, 48" LENGTH	

GENERAL NOTES:
1. SEE PLANS FOR CFM AND NECK SIZE.
2. MAXIMUM NOISE CRITERIA (NC) SHALL BE 30 UNLESS OTHERWISE NOTED.
3. COLOR TO BE COORDINATED WITH ARCHITECT.
4. MATERIAL IS STEEL UNLESS OTHERWISE NOTED.
5. PROVIDE A REMOTE, THROUGH FACE, CABLE OPERATED BALANCING DAMPER WHEN INSTALLED IN AN INACCESSIBLE CEILING.
6. PROVIDE FRAME AND TRIM COMPATIBLE WITH CEILING SYSTEM. RE: ARCHITECTURAL RCP DRAWINGS.
7. PROVIDE SQUARE TO ROUND ADAPTER FOR RECTANGULAR FACE GRILLES CONNECTED TO ROUND BRANCH DUCTS.

REMARK NOTES:
A. ALUMINUM CONSTRUCTION.

VAV BOX SCHEDULE

CODE (VAV)	AREA SERVED	MANUFACTURER/ MODEL NO.	DESIGN CFM AIRFLOW (CFM)	DESIGN CFM DESIGN (CFM)	CAPACITY (CFM) MAX.	CAPACITY (CFM) MIN.	MAX. NC @ DESIGN MAX.	INLET SIZE	OUTLET SIZE	REMARKS
1A.01	EMPLOYEE LOCKER	TITUS DESV 14	2200	2200	3000	450	-	14	20 X 17.5	A
1A.02	FOOD STORAGE	TITUS DESV 12	1000	1000	2000	325	-	12	16 X 15	A
1A.03	VISITORS LOCKER/RESTROOMS	TITUS DESV 14	2650	2650	3000	450	-	14	20 X 17.5	A
1A.04	VISITORS LOCKER/RESTROOMS	TITUS DESV 14	2650	2650	3000	450	-	14	20 X 17.5	A
1A.05	UC HEALTH + SKI PATROL	TITUS DESV 8	500	500	900	145	-	8	12 X 10	A
1A.06	LOADING/TRASH	TITUS DESV 12	1000	1000	2000	325	-	12	16 X 15	A

GENERAL NOTES
1. MOUNT WITH 5 STRAIGHT DUCT DIAMETERS UPSTREAM OF THE BOX.
2. MAXIMUM OUTLET S.P.= 0.75".
3. MAXIMUM NC LEVELS ARE RADIATED SOUND DATA AND BASED ON THE MAXIMUM BOX CFM LISTED AND AT A PRESSURE DROP ACROSS THE BOX OF 2.0".
4. JOBSITE ELEVATION = 6700FT.

REMARK NOTES
A. PROVIDE CONSTANT VOLUME BOX.

EAV BOX SCHEDULE

CODE (EAV)	AREA SERVED	MANUFACTURER/ MODEL NO.	DESIGN CFM AIRFLOW (CFM)	DESIGN CFM DESIGN (CFM)	CAPACITY (CFM) MAX.	CAPACITY (CFM) MIN.	MAX. NC @ DESIGN MAX.	INLET SIZE	OUTLET SIZE	REMARKS
1A.01	EMPLOYEE LOCKER	TITUS DESV 14	2700	2700	3000	450	-	14	20 X 17.5	A
1A.02	VISITORS LOCKER	TITUS DESV 12	1800	1800	2000	325	-	12	16 X 15	A
1A.03	RESTROOMS	TITUS DESV 12	1800	1800	2000	325	-	12	16 X 15	A
1A.04	RESTROOMS	TITUS DESV 6	350	350	500	80	-	6	12 X 8	A
1A.05	VISITORS LOCKER	TITUS DESV 14	2500	2500	3000	450	-	14	20 X 17.5	A

GENERAL NOTES
1. MOUNT WITH 5 STRAIGHT DUCT DIAMETERS UPSTREAM OF THE BOX.
2. MAXIMUM OUTLET S.P.= 0.5".
3. MAXIMUM NC LEVELS ARE RADIATED SOUND DATA AND BASED ON THE MAXIMUM BOX CFM LISTED AND AT A PRESSURE DROP ACROSS THE BOX OF 2.0".
4. JOBSITE ELEVATION = 6700FT.

REMARK NOTES
A. PROVIDE CONSTANT VOLUME BOX.

LOUVER SCHEDULE

CODE (LV)	MANUFACTURER/ MODEL NO.	SERVICE	AIRFLOW (CFM)	MINIMUM FREE AREA (SF)	FACE DIMENSIONS WIDTH (IN) X HEIGHT (IN)	REMARKS
2A.01	RUSKIN/ELF6375DX	PROMENADE ERV	10,000	20	64 X 78	
2A.02	RUSKIN/ELF6375DX	PROMENADE ERV	10,000	13.4	50 X 70	
2A.03	RUSKIN/ELF6375DX	PLAZA F&B ERV	4,700	9.4	40 X 60	
2A.04	RUSKIN/ELF6375DX	PLAZA F&B ERV	4,700	6.3	40 X 48	
2A.05	RUSKIN/ELF6375DX	ICE PLANT INTAKE	2,500	5	36 X 42	
3A.01	RUSKIN/ELF6375DX	ICE PLANT EXHAUST	2,500	5	36 X 42	

GENERAL NOTES:
1. LOUVERS ARE PROVIDED BY DIVISION 23.
2. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DETAILS.
3. PROVIDE EXTERIOR INSULATION ON ALL LOUVER PLENUMS AND SHEET METAL BETWEEN LOUVER AND MOTORIZED DAMPER. REFER TO MECHANICAL INSULATION SPECIFICATION.

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

COLORADO LICENSED
MARIEN E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - MECHANICAL SCHEDULES

Scale

1A-MEP0.002

GENERAL DRAWING NOTES

1. WHERE DIFFERENCES APPEAR BETWEEN PLUMBING DRAWINGS AND ARCHITECTURAL DRAWINGS IN THE QUANTITIES AND LOCATIONS OF PLUMBING FIXTURES, THE ARCHITECTURAL DRAWINGS SHALL BE USED FOR PRICING. WHERE NECESSARY, THE CONTRACTOR SHALL USE UNIT PRICING FOR WASTE AND VENT PIPING TO EACH PLUMBING FIXTURE.

GENERAL PLUMBING CONTRACT REQUIREMENTS

1. PREPARE SHOP DRAWINGS OF ALL NEW WORK (INCLUDING SLEEVE LOCATIONS) TO VERIFY LOCATIONS AND COORDINATION OF WORK BETWEEN TRADES PRIOR TO INSTALLATION.
2. ALL DRAIN GRATES, CLEANOUT COVERS, AND OTHER FINISHED OR EXPOSED COMPONENTS SHALL BE PROTECTED FROM DAMAGE. DAMAGED COMPONENTS SHALL BE REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
3. COORDINATE ROUTING OF ALL PLUMBING PIPING BELOW SLAB WITH STRUCTURAL GRADE BEAMS, TIE BEAMS, ETC. ALLOW FOR REROUTING OF PIPING AS REQUIRED.
4. PIPING ROUTING ON DRAWINGS IS GENERALLY DIAGRAMMATIC WITH EFFORTS DURING DESIGN TO AVOID STRUCTURAL CONFLICTS. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING THROUGH BUILDING WITH STRUCTURAL CONDITIONS. CONTRACTOR COORDINATION DRAWINGS SHALL REFLECT ALL PIPE ROUTING AND PIPING THAT MAY HAVE TO BE SHIFTED OR MOVED TO AVOID CONFLICTS. SHIFTED OR MOVED PIPING SHALL REFLECT NO ADDITIONAL COST TO THE PROJECT.
5. ALL REQUIRED OPENINGS IN CONCRETE BEAMS AND STRUCTURAL WALLS ARE TO BE ACCOMPLISHED USING SLEEVES PROPERLY SIZED FOR THE PIPE THEY SERVE. CORE DRILLING IN BEAMS IS NOT ALLOWED. CORE DRILLING IN PANS IS ALLOWED UPON PRIOR APPROVAL OF ARCHITECT AND STRUCTURAL ENGINEER.
6. ALL HORIZONTAL SANITARY PIPING 2-1/2" AND SMALLER WHETHER BELOW OR ABOVE GRADE SHALL SLOPE AT 1/4"/FT. ALL PIPING 3" AND LARGER SHALL SLOPE AT 1/8"/FT UNLESS OTHERWISE NOTED. ALL STORM AND OVERFLOW PIPING SHALL SLOPE AT 1/8"/FT UNLESS OTHERWISE NOTED. ALL GREASE WASTE PIPING SHALL SLOPE AT 1/4"/FT.
7. REFERENCE CIVIL DIVISION DRAWINGS FOR REQUIRED POINT OF CONNECTION AND INVERT REQUIREMENTS. IN GENERAL, THE POINT OF CONNECTION IS AT A POINT 5 FEET OUTSIDE OF BUILDING FOOTPRINT. CONFORM WORK TO MEET INVERT ELEVATIONS ON CIVIL PLANS.
8. CAP ALL SANITARY AND STORM TEES FOR FUTURE BRANCH PIPING AND STAKE LOCATION OF PIPING FOR CONNECTION TO FUTURE BRANCH LINES.
9. WHERE SHOWN, MINIMIZE THE NUMBER OF JOINTS ON ANY PRESSURIZED PIPING BELOW CONCRETE SLABS. ALL BELOW GRADE PIPING TO BE PRESSURE TESTED AND WITNESSED BY ARCHITECT PRIOR TO BACKFILLING.
10. ALL CLEANOUTS FOR HORIZONTAL STORM DRAINAGE SYSTEM SHALL BE PIPE SIZE OR MAXIMUM 6" FOR LARGER PIPE.
11. IN ADDITION TO THE CLEANOUT LOCATIONS SHOWN ON DRAWINGS, CLEANOUTS SHALL BE PROVIDED IN ACCORDANCE WITH THE LOCAL GOVERNING CODE. ADDITIONAL CLEANOUTS SHALL BE PROVIDED AS FOLLOWS:
    - A. EACH RUN OF PIPING WHICH IS MORE THAN 75 FEET IN LENGTH OR FRACTION THEREOF.
    - B. HORIZONTAL LINES 5 FEET OR MORE.
    - C. HORIZONTAL LINES FOR EACH AGGREGATE CHANGE OF DIRECTION EXCEEDING 135 DEGREES.
    - D. AT THE BASE OF ALL SANITARY AND STORM RISERS. ALL VERTICAL CLEANOUTS SHALL BE SIZED TO ACCOMMODATE THE LARGEST PIPE ON THAT BRANCH LINE, BUT NEVER LARGER THAN 4".
    - E. ALL GREASE WASTE PIPING SHALL HAVE CLEANOUTS EVERY 50 FEET OR FRACTION THEREOF AND AS NOTED ABOVE.
    - F. AT THE END OF FIXTURE BANKS TO INCLUDE WATER CLOSETS, URINALS AND LAVATORIES. CLEAOUT PLUG SHALL BE A MINIMUM OF 24" AFF
12. NO GAS LINES SHALL BE LOCATED BELOW BUILDING SLAB. ALL GAS PIPING IN AIR PLENUMS SHALL BE WELDED.
13. PROVIDE ISOLATION VALVES ON ALL PIPING SERVING HOSE BIBBS.
14. STANDARD ROOF DRAINAGE IS SIZED AT 3"/HR. OVERFLOW DRAINAGE IS ACCOMPLISHED THROUGH ARCHITECTURAL ROOF SCUPPERS. WHERE OVERFLOW DRAINS ARE USED, THEY WILL BE SIZED USING 3"/HR RATE.
15. WATER HAMMER ARRESTORS (SHOCK ABSORBERS) SHALL BE INSTALLED BETWEEN THE LAST 2 FLUSH VALVE FIXTURES. WHEN THE COLD WATER HEADER IS 20 FEET OR LONGER, A SECOND ARRESTOR SHALL BE INSTALLED HALFWAY DOWN THE HEADER. THE SIZES OF THE ARRESTORS SHALL BE BASED ON PDI SIZING.
16. ALL FLOOR DRAINS IN BUILDING EXCEPT DRAINS IN SHOWERS AND SHOWER AREAS SHALL BE INSTALLED WITH A PROSET TRAP GUARD.
17. ALL DOMESTIC WATER PIPING SERVING TOILET OR RESTROOM GROUPS SHALL BE INSTALLED WITH ISOLATION VALVES IN ORDER TO ISOLATE THESE AREAS WITHOUT CLOSING DOWN ANY OTHER PORTION OF THE BUILDING WATER SUPPLY SYSTEMS. ALL ISOLATION VALVES SHALL BE ACCESSIBLE WITH ACCESS PANELS. MINIMUM ACCESS PANEL SIZE SHALL BE 12"x12". ACCESS PANELS SHALL BE OF THE SAME RATING AS THE STRUCTURAL ELEMENT IN WHICH THEY ARE INSTALLED.
18. ALL GAS PRESSURE REDUCING VALVES SHALL BE PROVIDED WITH VENT PIPING TO ATMOSPHERE.
19. THROUGHOUT THE DRAWINGS, NUMBERS ARE SHOWN IN BRACKETS TO INDICATE QUANTITIES OF UNITS CARRIED WITHIN THE DIFFERENT PIPING SYSTEMS. THEY REPRESENT THE FOLLOWING:

    CW (X)/[X] = (GPM)/[GPM]
    GAS (X)/[X] = (CFH)/[CFH]
    SAN (X)/[X] = (DFU)/[DFU]
    VENT (X)/[X] = (DFU)/[DFU]
    ST/OD (X)/[X] = (FT2)/(FT2)

    FOR CALCULATION PURPOSES OF ALL PIPE SIZES, VALUES SHOWN ARE WITHIN 10 PERCENT OF ACTUAL LOAD VALUES.
20. ALL EQUIPMENT AND PIPING SHALL BE BRACED FOR SEISMIC REQUIREMENTS APPLICABLE FOR SEISMIC ZONE REQUIREMENTS FOR THIS PROJECT.
21. REFER TO GENERAL MECHANICAL CONTRACT REQUIREMENT NOTES ON MECHANICAL DRAWINGS FOR GENERAL PIPING HEAT TRACE INSTALLATION REQUIREMENTS.
22. PROVIDE DIELECTRIC FITTINGS AT ALL CONNECTIONS BETWEEN DISSIMILAR METALS AND AS SHOWN ON DRAWINGS.
23. ALL TEMPERING VALVES TO BE SET FOR 110° F WATER TEMPERATURE MAXIMUM UNLESS OTHERWISE NOTED.
24. PROVIDE HEAT TRACE IN LOCATIONS SHOWN, AS REQUIRED BY SPECIFICATIONS, AND TO THE FOLLOWING SYSTEMS WHEN EXPOSED TO FREEZING CONDITIONS:

    A. DOMESTIC COLD WATER
    B. DOMESTIC HOT WATER
    C. DOMESTIC HOT WATER RECIRC
    D. SANITARY
    E. STORM

    ALL HEAT TRACED PIPE SHALL BE INSULATED PER SPECIFICATIONS. COORDINATE ALL HEAT TRACING AND REQUIRED CIRCUITS WITH ELECTRICAL DRAWINGS AND ELECTRICAL CONTRACTOR.
25. PROVIDE WATER HAMMER ARRESTORS FOR ALL FIXTURES/EQUIPMENT THAT HAVE QUICK CLOSING VALVES TO INCLUDE:

    A. WATER CLOSETS AND URINAL FLUSH VALVES
    B. ELECTRONIC FAUCETS
    C. REFRIGERATOR ICE MAKERS
    D. DISHWASHERS
    E. MECHANICAL MAKE-UP
26. REFER TO MECHANICAL PLANS FOR ALL EQUIPMENT REQUIRING MAKE-UP WATER. PROVIDE A REDUCED PRESSURE BACKFLOW FOR EACH REQUIRED LINE.
27. REFER TO LANDSCAPE PLANS FOR IRRIGATION REQUIREMENTS. WHEN AN IRRIGATION TAP IS REQUIRED OFF THE DOMESTIC WATER SERVICE, PROVIDE THE RECCOMENDED LINE SIZE WITH A REDUCED PRESSURE BACKFLOW PREVENTER.

PLUMBING LEGEND

(NOT ALL SYMBOLS LISTED BELOW ARE BEING USED IN THIS SET OF PLUMBING DRAWINGS)

SYMBOL	ABBR	DESCRIPTION
MEDICAL		
MA	MA	MEDICAL AIR
O	O	OXYGEN
VAC	VAC	VACUUM
NO	NO	NITROUS OXIDE
G	G	NAT. GAS OUTLET
O	O	OXYGEN OUTLET
V	V	VACUUM OUTLET
MA	MA	MEDICAL AIR OUTLET
MA	MA	MED AIR OUTLET
SPRINKLER HEADS		
		EXISTING SPRINKLER HEAD TO REMAIN
		EXISTING SPRINKLER HEAD TO RELOCATED
A		EXISTING SPRINKLER HEAD TO NEW LOCATION
A		NEW SPRINKLER HEAD TO MATCH EXISTING
PIPING:		
(E)	(E)	EXISTING PIPING
(E)		EXISTING PIPING TO BE REMOVED
CW	CW	DOMESTIC COLD WATER
HW	HW	DOMESTIC HOT WATER
T	T	TEMPERED WATER
HWC	HWC	DOMESTIC HOT WATER CIRCULATING
SAN	SAN	SANITARY WASTE ABOVE FLOOR
SAN	SAN	SANITARY WASTE BELOW FLOOR
GW	GW	GREASE WASTE BELOW FLOOR
V	V	SANITARY VENT
ST	ST	STORM PIPING ABOVE FLOOR
ST	ST	STORM PIPING BELOW FLOOR
OD	OD	STORM OVERFLOW ABOVE FLOOR
OD	OD	STORM OVERFLOW BELOW FLOOR
G	G	NATURAL GAS
F	F	FIRE
DR	DR	EQUIP. DRAIN
A	A	COMPRESSED AIR
2"SAN		PIPE SIZE/ PIPE TYPE
FITTINGS:		
EJ	EJ	EXPANSION JOINT
U	U	UNION
		THERMOMETER W/THERMOWELL
	AV	AIR VENT
	FC	FLEXIBLE PIPE CONNECTOR
FS	FS	FLOW SWITCH
PS	PS	PRESSURE SWITCH
	PG	PRESSURE GAUGE W/GAUGE COCK

SYMBOL	ABBR	DESCRIPTION
FITTINGS:		
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		PIPE CAP OR PLUG
	GC	GAS COCK
	CO	CLEANOUT PLUG
	HB WH	HOSE BIBB WALL HYDRANT
	VB	VACUUM BREAKER
	RD	ROOF DRAIN
	OD	OVERFLOW ROOF DRAIN
	DSN	DOWNSPOUT NOZZLE
	SA	SHOCK ARRESTOR W/BALL VALVE
	FD	FLOOR DRAIN
	AD	AREA DRAIN
	FCO GCO	FLOOR CLEANOUT GRADE CLEANOUT
	WCO CO	WALL CLEANOUT CLEANOUT PLUG
	VTR	VENT THRU ROOF
VALVES:		
	GV	GATE VALVE
	OS&Y	OUTSIDE STEM AND YOKE
	DV	DRAIN VALVE W/ HOSE END CONN.
		BALL VALVE W/ HOSE CONNECTION
	CV	CHECK VALVE WITH FLOW DIRECTION
	PRV	PRESSURE REDUCING VALVE
S	SV	SOLENOID VALVE
FC	FCV	AUTO FLOW CONTROL VALVE W/ TEST PORT
	CS	CIRCUIT SETTER
	GLV	GLOBE VALVE (STRAIGHT PATTERN)
	GLV	GLOBE VALVE (ANGLE PATTERN)
	BFV	BUTTERFLY VALVE
	BV	BALL VALVE
	TCV	AUTO TEMP CONTROL VALVE, 2-WAY
	TCV	AUTO TEMP CONTROL VALVE, 3-WAY
	PV	PLUG VALVE
	TPR	TEMP/PRESSURE RELIEF VALVE
		VALVE IN RISER
	STR	STRAINER W/ BLOW-OFF & CAPPED HOSE-END CONNECTION
		STEAM TRAP

SYMBOL	ABBR	DESCRIPTION
SYMBOLS:		
1 / P1		SECTION NO. / SECTION VIEW SHEET NO.
F / M1		DETAIL DESIGNATION
F / 1 / F / 1		EQUIPMENT DESIGNATION
1		SHEET KEY NOTES
	POC	POINT OF CONN. (CONN. NEW TO EXISTING)
	POD	POINT OF DISCONNECTION
		ARROW INDICATES DIRECTION OF FLOW
UP		RISE IN DIRECTION OF FLOW
DN		DROP IN DIRECTION OF FLOW
	TB	THRUST BLOCK
	DN	DOWN
	AFF	ABOVE FIN. FLOOR
	AFG	ABOVE FIN. GRADE
	TOP	TOP OF PIPE (AFF)
	BOP	BOT. OF PIPE (AFF)
	I.E.	INVERT ELEVATION
	VBF	VENT BELOW FLOOR
	NTS	NOT TO SCALE
(E)	(E)	EXISTING
(N)	(N)	NEW
(R)	(R)	REMOVE OR RELOCATE

EQUIPMENT DESIGNATIONS

XXX – INDICATES TYPE OF EQUIPMENT

\# – INDICATES EQUIPMENT NUMBER

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Seal / Signature

COLORADO LICENSED MARION E. EDWARDS 56806 PROFESSIONAL ENGINEER

05/18/2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

Description

PLUMBING LEGEND

Scale

1/8" = 1'-0"

1A-P0.000

PLUMBING FIXTURE SCHEDULE

GENERAL NOTES:
1. PLUMBING DESIGN AND SIZES ARE BASED ON THE 2018 INTERNATIONAL PLUMBING CODE.
2. ALL EXPOSED PIPING SERVING PLUMBING FIXTURES THAT MAY BE USED FOR ADA PURPOSES SHALL HAVE TRAPS AND SUPPLIES INSULATED PER ADA REQUIREMENTS.
3. ALL FIXTURES ARE WHITE UNLESS OTHERWISE NOTED.
4. ALL PUBLIC ACCESS LAVATORY AND SINKS WILL HAVE AN ASSE 1070 APPROVED TEMPERING VALVE INSTALLED.

CODE	FIXTURE	DESCRIPTION	MIN CW CONN	MIN HW CONN	MIN SAN CONN	MIN VENT CONN	MANUFACTURER	FIXTURE MODEL NUMBER	MANUFACTURER	FAUCET / FLUSH VALVE MODEL NUMBER	REMARKS
GH-1	GROUND HYDRANT	SELF DRAINING, FREEZELESS GROUND HYDRANT WITH BRASS BOX WITH DRAIN HOLE, VACUUM BREAKER, AND LOOSE KEY OPERATION.	3/4"	-	-	-	WOODFORD	Y95	-	-	ANTI-SIPHON, LOOSE KEY; AUTO DRAINING, ASSE 1052; COORDINATE STEM LENGTH WITH INSTALLATION LOCATION.
DWET-1	DOMESTIC WATER EXPANSION TANK	16" DIA. x 19" TALL FLOOR MOUNTED EXPANSION TANK WITH POLYPROPYLENE LINER AND DIAPHRAGM, 55 PSI FACTORY PRE-CHARGE; 14 GALLON WITH 0.64 ACCEPTANCE FACTOR.	3/4"	-	-	-	AMTROL	ST-30VC	-	-	-
AD-1	AREA DRAIN	TWO-STAGE AREA DRAIN; CAST IRON TOP BODY WITH 8" SQUARE NICKEL-BRONZE TOP; PERFORATED STAINLESS STEEL EXTENSION; CAST IRON BOTTOM BODY WITH FLASHING RING AND FLANGE, GRAVEL STOP, AND ALUMINUM DOME.	-	-	-	-	WADE	3358-1-DF-XNH	-	-	COORDINATE REQUIRED EXTENSIONS WITH INSTALLATION LOCATION PRIOR TO ORDERING; COORDINATE OUTLET SIZE WITH EACH LOCATION, RE: PLANS.
FD-1	FLOOR DRAIN	CAST IRON BODY FLOOR DRAIN WITH FLASHING CLAMP WITH WEEP HOLES; 5" ROUND, ADJUSTABLE, NICKEL-BRONZE TOP.	-	-	SEE PLANS	SEE PLANS	JAY R. SMITH	2005Y-A-NB	-	-	-
FS-1	FLOOR SINK	12-1/2" SQUARE x 8" DEEP CAST IRON BODY RECEPTOR WITH ACID RESISTANT COATED INTERIOR AND FLASHING CLAMP WITH WEEP HOLES; SECURED 1/2 GRATE.	-	-	SEE PLANS	SEE PLANS	JAY R. SMITH	3150Y-PDBS-12	-	-	-
HB-1	HOSE BIBB	WALL MOUNTED COLD WATER WALL FAUCET WITH METAL HANDLE, VACUUM BREAKER, AND 3/4" HOSE CONNECTION.	3/4"	-	-	-	WOODFORD	24	-	-	-
MSB-1	MOP SINK	24" x 24" x 10" MOLDED STONE MOP SERVICE BASIN WITH STAINLESS STEEL WALL GUARDS; WALL MOUNTED TWO HANDLE FAUCET WITH VACUUM BREAKER, PAIL HOOK, AND 3/4" HOSE THREAD OUTLET.	3/4"	3/4"	3"	2"	FIAT	MSB2424	FIAT	830AA	PROVIDE FIAT MODEL MSG2424 WALL GUARDS, 832AA HOSE AND BRACKET, AND 889CC MOP HANGER.
TG-1	TRAP GUARD	BUTYL RUBBER, QUAD CLOSE, TRAP SEAL DEVICE; ASSE 1072.	-	-	-	-	JAY R. SMITH	2692 SERIES	-	-	PROVIDE IN ALL FLOOR DRAINS AND FLOOR SINKS CONNECTED TO THE SANITARY WASTE SYSTEM.
WH-1	WALL HYDRANT	AUTOMATIC DRAINING, FREEZELESS, RECESSED BOX WALL HYDRANT WITH LOCKING BOX, LOOSE KEY HANDLE, AND INTEGRAL DUAL CHECK BACKFLOW PREVENTER.	3/4"	-	-	-	WOODFORD	B67	-	-	COORDINATE REQUIRED STEM LENGTH WITH WALL THICKNESS AT EACH INSTALLATION LOCATION.
EEW-1	EMERGENCY EYE WASH STATION	WALL MOUNTED EMERGENCY EYE WASH WITH MANUALLY FILLED 7 GALLON TANK CAPABLE OF FLOWING 0.4 GPM FOR 15 MINUTES.	-	-	-	-	BRADLEY	S19-921	-	-	-

SUMP PUMP SCHEDULE

GENERAL NOTES:
1. PROVIDE CHECK VALVE AND SHUTOFF VALVE ON EACH PUMP.
2. PROVIDE PREMIUM EFFICIENCY MOTORS (RELIANCE E+ OR EQUIVALENT) WITH MAGNETIC STARTER AND DRY CONTACTS.
3. ALL UNITS SHALL HAVE INTEGRAL DISCONNECT AND OVERCURRENT/SHORT CIRCUIT PROTECTION.

REMARK NOTES:
A. PROVIDE POURED IN PLACE SUMP IN BOTTOM OF ELEVATOR SHAFT.
B. PROVIDE TYPE 4X SIMPLEX CONTROL PANEL.
C. PROVIDE STANDARD TETHERED FLOAT SWITCH.

										ELECTRICAL						
CODE	MANUFACTURER	MODEL NUMBER	SERVICE	TYPE	NO. OF PUMPS	FLOW (GPM)	PRESSURE (FT)	DISCHARGE (IN)	RPM	POWER(HP)	VOLT	PH	FLA	FUSE	DISC.	FEEDER	REMARKS
ESP-1	WEIL	1411	ELEVATOR SHAFT	SIMPLEX SUBMERSIBLE	1	50.00	20	2"	1750	0.5	460	3	3.40				

ELECTRIC WATER HEATER SCHEDULE

GENERAL NOTES:
1. ROUTE ALL T&P VALVES TO APPROVED RECEPTORS.

REMARK NOTES:
A. PROVIDE WITH IMMERSION THERMOSTATS WITH CONTACTORS.
B. FOUR 15KW ELEMENTS OPERATING SIMULTANEOUSLY.
C. SET TO 140°F DISCHARGE.

								ELECTRICAL						
CODE	MANUFACTURER	MODEL NUMBER	SERVICE	LOCATION	RECOVERY (GPH@100TR)	CAPACITY (GAL)	POWER(KW)	VOLT	PH	FLA	FUSE	DISC.	FEEDER	REMARKS
EWH-1	BRADFORD WHITE	VR-150-60	ZAMBONI GARAGE	ZAMBONI GARAGE	246	150	60.00	480	3	72.00				
EWH-2	BRADFORD WHITE	VR-150-60	ZAMBONI GARAGE	ZAMBONI GARAGE	246	150	60.00	480	3	72.00				

GREASE INTERCEPTOR SCHEDULE

GENERAL NOTES:
1. GT-1 HAS INTREGRAL FLOW CONTROL
2. UNITS SHALL MEET ALL REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION.

REMARK NOTES:
A. PREFABBED, DESIGN LOAD H-20 TRAFFIC

CODE	DESCRIPTION	SERVICE	MANUFACTURER	MODEL NUMBER	WEIGHT (LBS)	CAPACITY (GAL)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	REMARKS
GI-1	TWO-COMPARTMENT, PRECAST CONCRETE GREASE INTERCEPTOR	PLAZA F&B BUILDING	COPELAND	5000	51300.0	5000	252.0	96.0	84.0	A

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COLORADO LICENSED MAUREEN E. EDWARDS 55806 PROFESSIONAL ENGINEER

05/18/2021

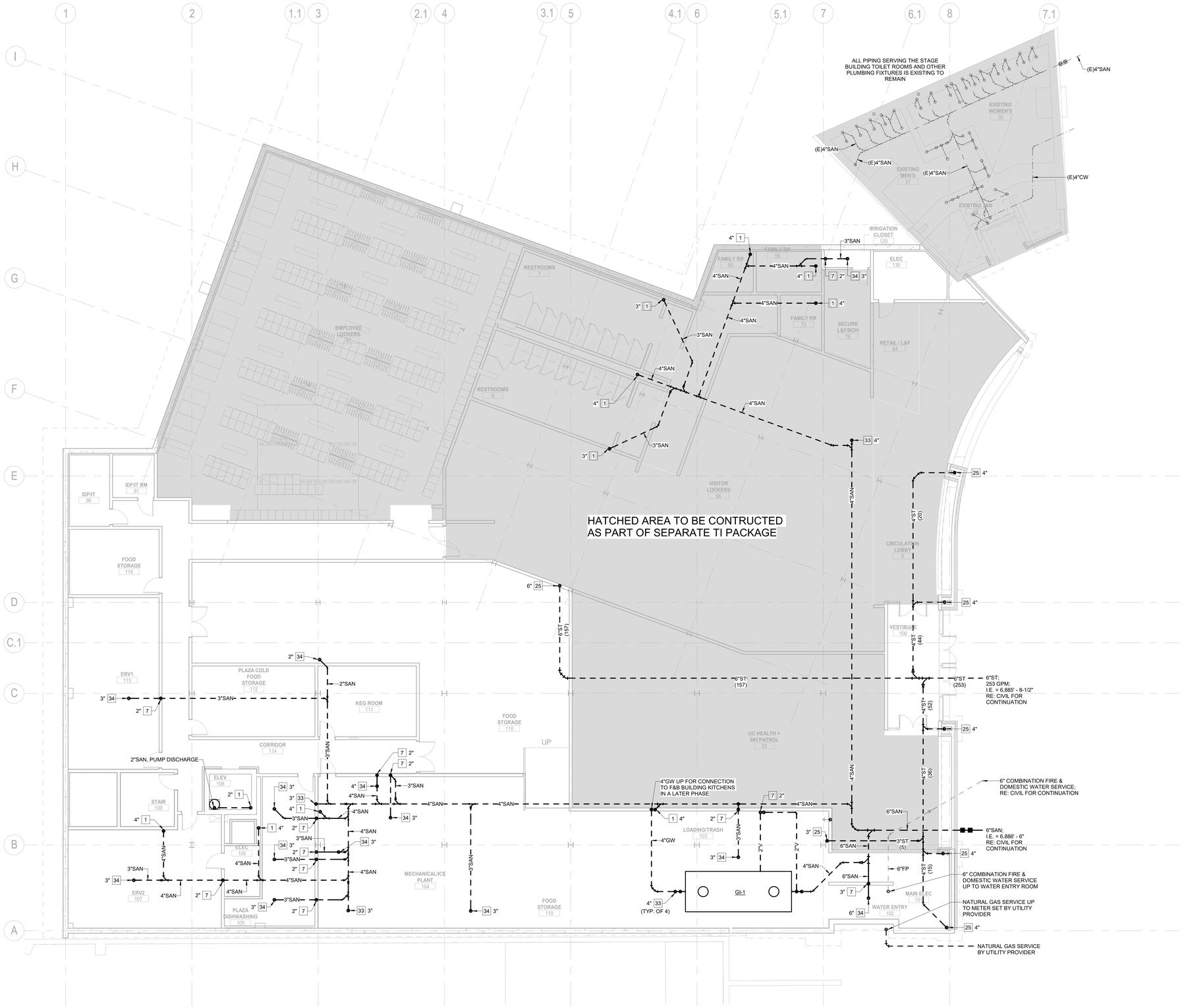
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PLUMBING SCHEDULES

Scale

1A-P0.002



GENERAL NOTES:

1. REQUIRED PIPE SIZES ARE SHOWN NEXT TO KEY NOTE.

2.PROVIDE BALL VALVE SHUTOFF AND 12"X12" ACCESS PANEL AT EACH SHOCK ABSORBER (SA). PANEL LOCATION TO BE VERIFIED AND COORDINATED WITH ARCHITECT.

3. ALL PIPING INSTALLED FOR FUTURE CONNECTION SHALL BE STUBBED UP MINIMUM +16" FOR FUTURE EXTENSION.

4. ALL INVERT ELEVATIONS (IE) SHALL BE FIELD VERIFIED BEFORE ANY PIPING IS INSTALLED.

5. ALL CIRCUIT SETTERS SHALL BE SET AT 1.0 GPM UNLESS NOTED OTHERWISE.

KEY NOTES:

(SOME KEY NOTES MAY NOT APPLY TO THIS SHEET)

1	SANITARY PIPING UP
2	SANITARY PIPING DN
3	SANITARY PIPING UP & DN
4	GW PIPING UP
5	GW PIPING DN
6	GW PIPING UP & DN
7	SANITARY VENT UP
8	SANITARY VENT DN
9	SANITARY VENT UP & DN
10	CW PIPING UP
11	CW PIPING DN
12	CW PIPING UP & DN
13	HW PIPING UP
14	HW PIPING DN
15	HW PIPING UP & DN
16	HWC PIPING UP
17	HWC PIPING DN
18	HWC PIPING UP & DN
19	CW & HW PIPING UP
20	CW & HW PIPING DN
21	CW & HW PIPING UP & DN
22	GAS PIPING UP
23	GAS PIPING DN
24	GAS PIPING UP & DN
25	STORM PIPING UP
26	STORM PIPING DN
27	STORM PIPING UP & DN
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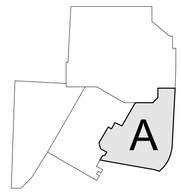
29	OVERFLOW PIPING DN
30	OVERFLOW PIPING UP &DN
31	OVERFLOW PIPING DOWN AND THRU WALL TO DOWNSPOUT NOZZLE +12" AFG
32	SANITARY PIPING UP TO PLUMBING FIXTURES
33	PIPING UP TO CLEANOUT
34	PIPING UP TO DRAIN

KEY PLAN



1 PLUMBING UNDERGROUND PLAN - LOWER LEVEL 00 PROMENADE

SCALE: 1/8" = 1'-0"

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/10/2021

Seal / Signature

COLORADO LICENSED
MATTHEW E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

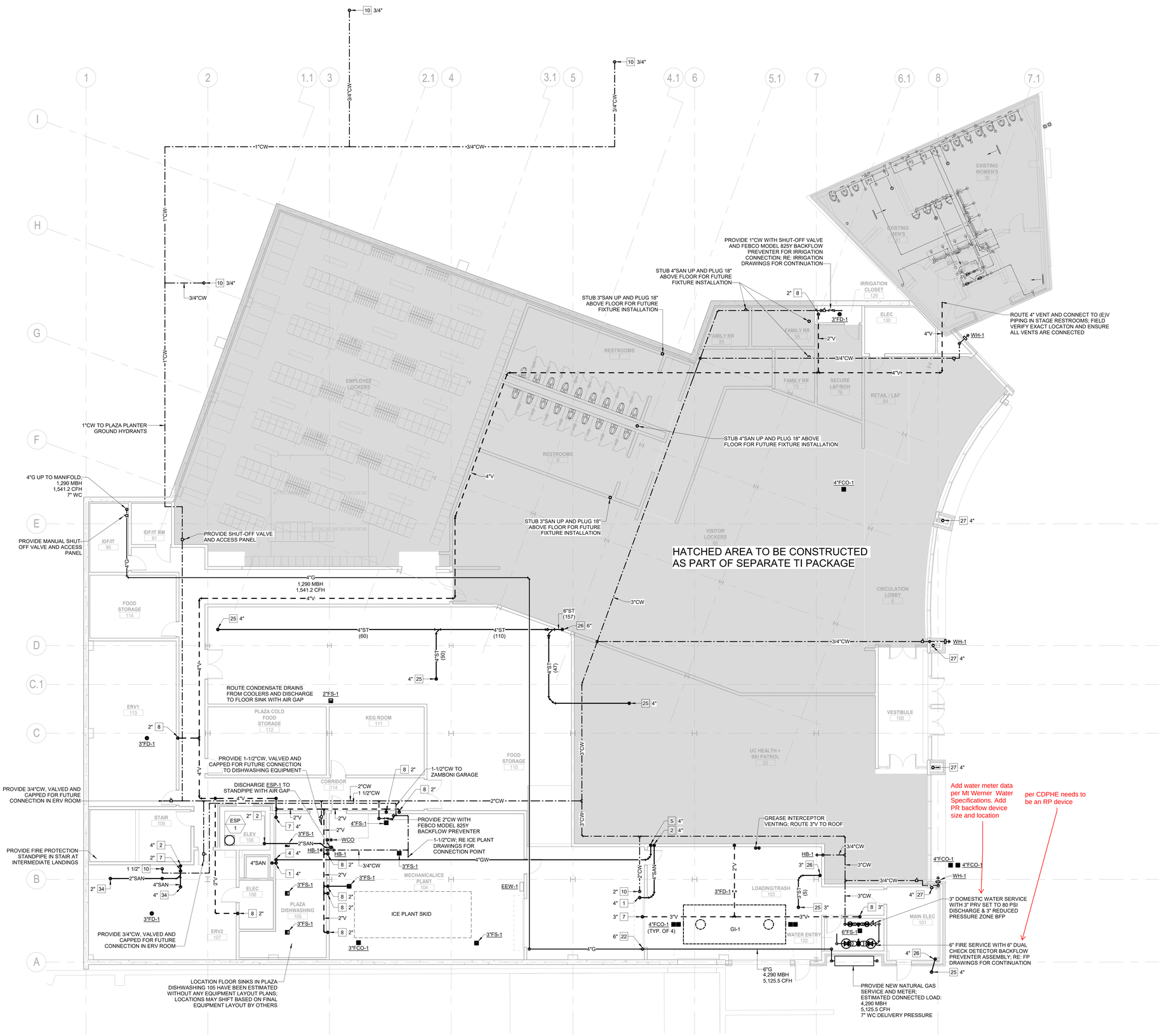
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - PLUMBING UNDERGROUND PLAN - LEVEL 00

Scale
1/8" = 1'-0"

1A-P1.199



1 PLUMBING PLAN - LOWER LEVEL 00 PROMENADE
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REQUIRED PIPE SIZES ARE SHOWN NEXT TO KEY NOTE.

2.PROVIDE BALL VALVE SHUTOFF AND 12"X12" ACCESS PANEL AT EACH SHOCK ABSORBER (SA). PANEL LOCATION TO BE VERIFIED AND COORDINATED WITH ARCHITECT.

3. ALL PIPING INSTALLED FOR FUTURE CONNECTION SHALL BE STUBBED UP MINIMUM +18" FOR FUTURE EXTENSION.

4. ALL INVERT ELEVATIONS (IE) SHALL BE FIELD VERIFIED BEFORE ANY PIPING IS INSTALLED.

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(SOME KEY NOTES MAY NOT APPLY TO THIS SHEET)

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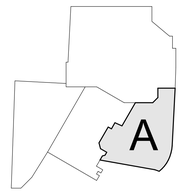
KEY PLAN



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RCRBD Record Set TC 07/10/2021

Seal / Signature

COLORADO LICENSED MARVIN E. EDWARDS 56806 PROFESSIONAL ENGINEER
05/18/2021

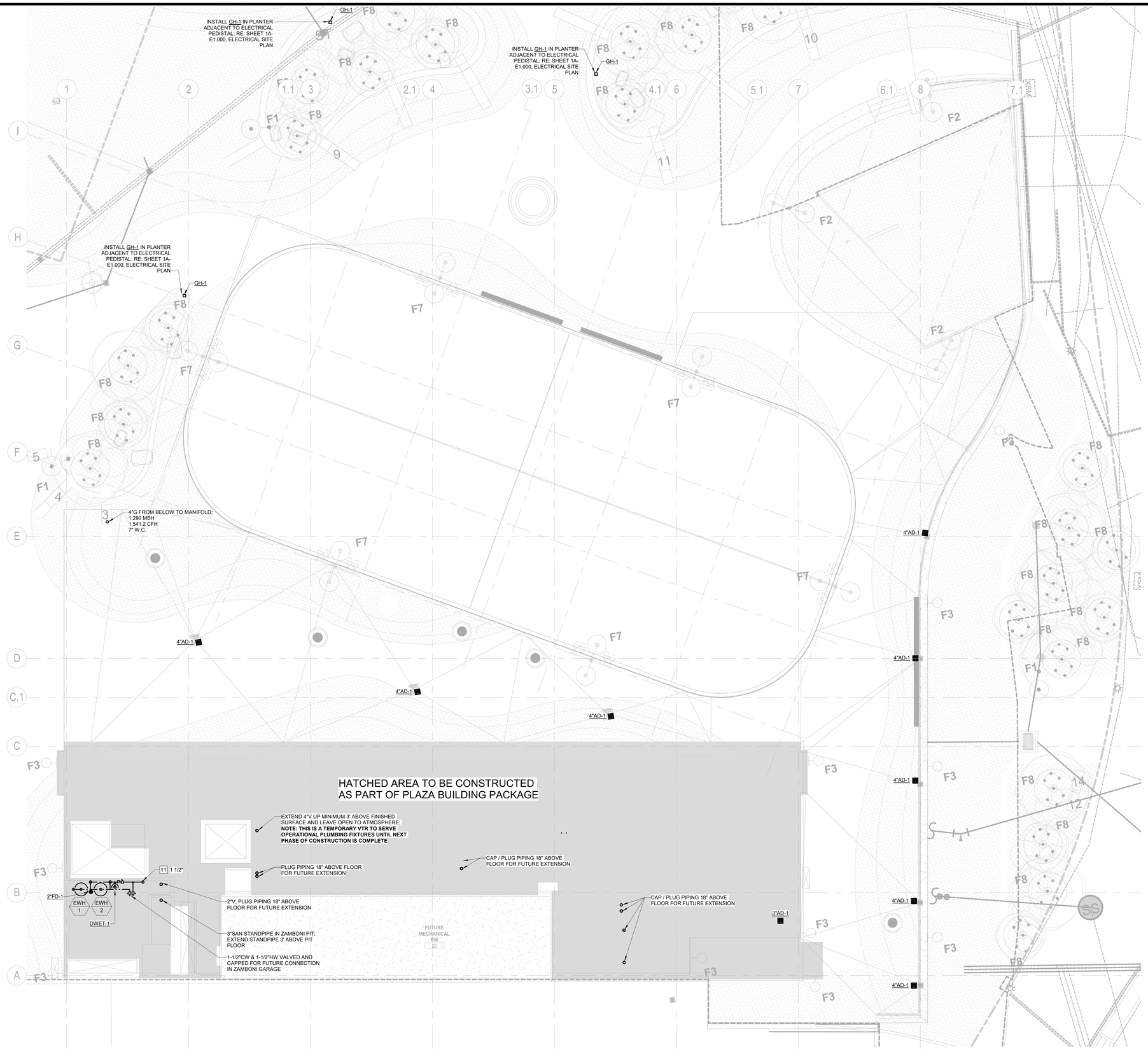
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - PLUMBING PLAN - LEVEL 00

Scale
1/8" = 1'-0"

1A-P1.200



1 PLUMBING PLAN - LEVEL 01 PLAZA

SCALE: 1/8" = 1'-0"

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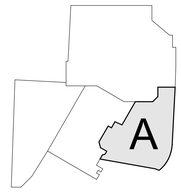
KEY PLAN



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Seal / Signature

COLORADO LICENSED MARNEE E. EDWARDS 56806 PROFESSIONAL ENGINEER

05/18/2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

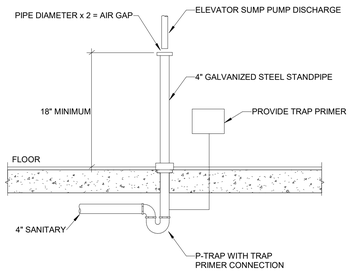
Description

PROMENADE - PLUMBING PLAN - LEVEL 01

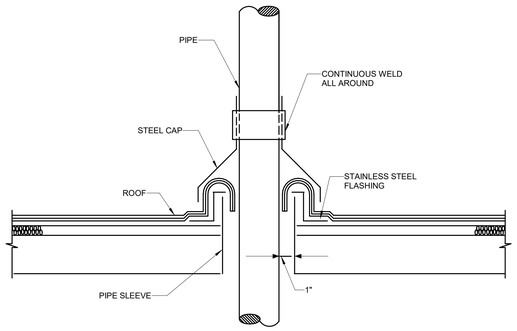
Scale

1/8" = 1'-0"

1A-P1.201



9 STANDPIPE DETAIL
NO SCALE



5 UNINSULATED PIPE THRU ROOF DETAIL
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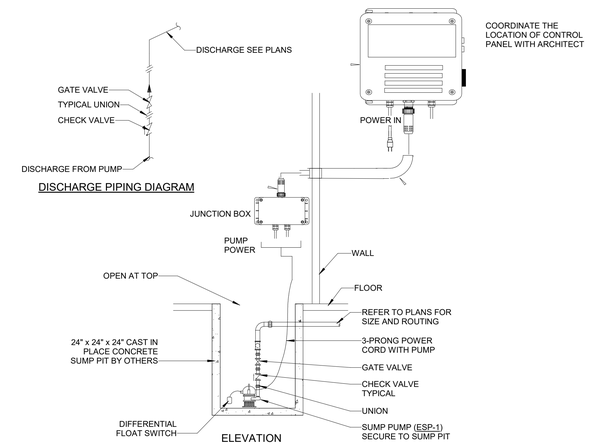
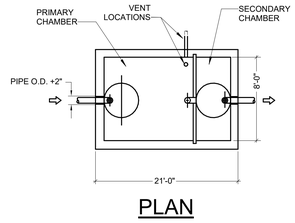


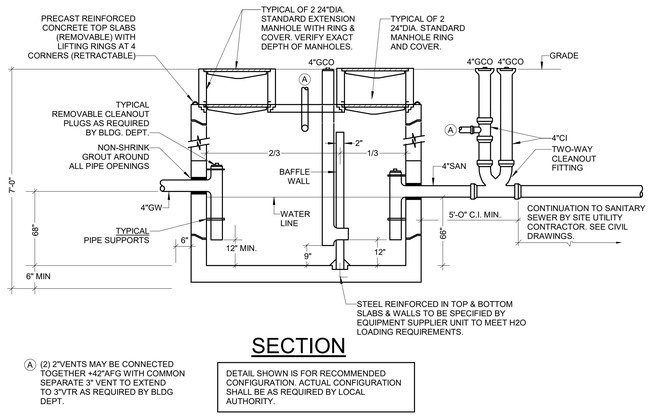
DISCHARGE PIPING DIAGRAM

ELEVATION

1 ELEVATOR SUMP PUMP DETAIL
NO SCALE



PLAN

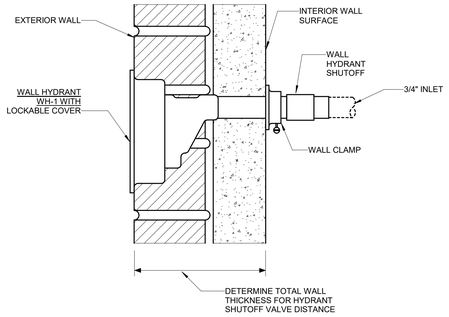


SECTION

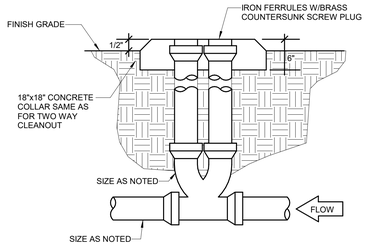
(A) (2) 2"VENTS MAY BE CONNECTED TOGETHER +42"AFG WITH COMMON SEPARATE 3" VENT TO EXTEND TO 3'VTR AS REQUIRED BY BLDG DEPT.

DETAIL SHOWN IS FOR RECOMMENDED CONFIGURATION. ACTUAL CONFIGURATION SHALL BE AS REQUIRED BY LOCAL AUTHORITY.

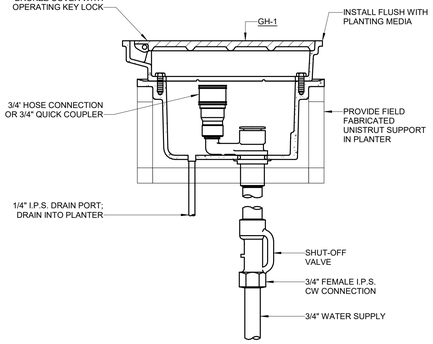
10 TWO COMPARTMENT GREASE INTERCEPTOR DETAIL
NO SCALE



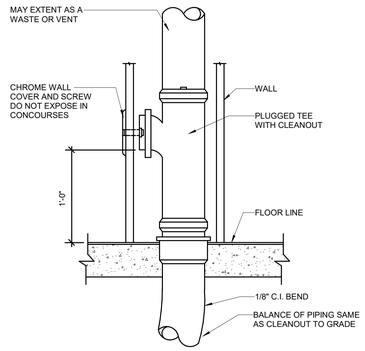
6 FREEZEPROOF WALL HYDRANT DETAIL
NO SCALE



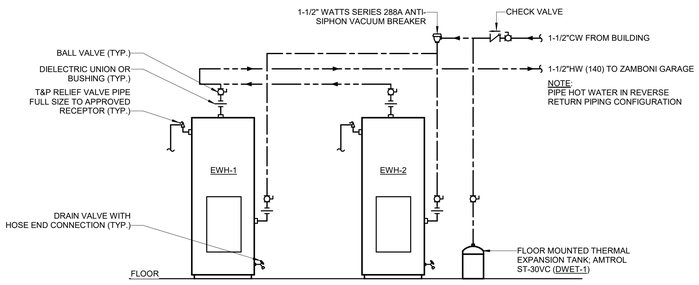
2 TWO-WAY EXTERIOR GRADE CLEANOUT DETAIL
NO SCALE



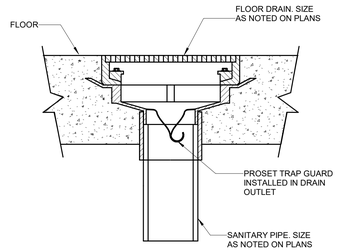
7 GROUND HYDRANT DETAIL (IN PLANTER INSTALLATION)
NO SCALE



3 WALL CLEANOUT DETAIL
NO SCALE



8 ELECTRIC WATER HEATER DETAIL
NO SCALE



4 TRAP GUARD DETAIL
NO SCALE

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COLORADO LICENSED
MARION E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PLUMBING DETAILS

Scale
NO SCALE

1A-P8.000

NOTES

1. ALL EXPOSED RACEWAYS ARE TO BE INSTALLED PARALLEL OR PERPENDICULAR TO WALLS OR STRUCTURAL MEMBERS SUCH THAT THEY FOLLOW STRUCTURAL SURFACE CONTOURS AND SHALL BE INSTALLED SUCH THAT THEY DO NOT OBSTRUCT PASSAGEWAYS OR ACCESS TO EQUIPMENT. MULTIPLE RACEWAYS SHOULD BE INSTALLED GROUPED TOGETHER. THE LOCATION OF PUBLICLY VISIBLE RACEWAYS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION. (EXTRA TIME SHOULD BE ALLOWED FOR THIS REVIEW AND APPROVAL.)
2. THE DISCONNECTING MEANS FOR ALL MECHANICAL EQUIPMENT SHALL BE ACCESSIBLE AND HAVE THE CLEARANCE IN FRONT AS REQUIRED BY NEC AMENDMENTS.
3. ALL CEILING ATTACHED OBJECTS AND FLOOR ATTACHED EQUIPMENT INCLUDING BUT NOT LIMITED TO PENDANT LIGHTING FIXTURES, GENERAL LIGHTING, MULTIPLE RACEWAYS, GENERATOR, TRANSFORMER ELECTRICAL SWITCHGEAR, AND SWITCHBOARDS SHALL BE INSTALLED IN ACCORDANCE WITH SUPPORTING OBJECTS FOR SEISMIC ZONE AS REQUIRED BY STATE AND LOCAL CODES.
4. ALL SWITCHGEAR, SWITCHBOARDS AND TRANSFORMERS SHALL HAVE A 4 INCH HOUSE KEEPING PAD. UNDER NO CONDITION SHALL THE HIGHEST SWITCH OR BREAKER EXCEED 6'-6" AFF.
5. DATA GIVEN ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED. ABSOLUTE ACCURACY IS NOT GUARANTEED AND THE CONTRACTOR SHALL OBTAIN AND VERIFY EXACT LOCATIONS, MEASUREMENTS, LEVELS, SPACE REQUIREMENTS, POTENTIAL CONFLICTS WITH OTHER TRADES, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT THEIR WORK TO ACTUAL CONDITIONS AT THE BUILDINGS. THE DRAWINGS ARE DIAGRAMMATICAL IN NATURE AND SHALL NOT BE SCALED. HOWEVER THIS DOES NOT RELIEVE ANY SUB-CONTRACTOR FROM COORDINATING THEIR WORK WITH ALL OTHER TRADES AND FROM ADJUSTING THEIR WORK AS REQUIRED BY THE ACTUAL CONDITIONS OF THE PROJECT. THE CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING COSTS TO BECOME THOROUGHLY FAMILIAR WITH THE ACTUAL CONDITIONS OF THE PROJECT.
6. COORDINATE AND ADJUST ALL WORK BETWEEN TRADES AND EXISTING CONDITIONS IN ORDER TO ACCOMPLISH A NEAT, INTEGRATED AND EFFICIENT INSTALLATION WHICH INCLUDE BUT ARE NOT LIMITED TO:

   a. EXAMINE THE CONTRACT DOCUMENTS OF ALL TRADES (IE. THE ARCHITECTURAL REFLECTED CEILING PLAN, MECHANICAL HVAC DRAWINGS, ELECTRICAL LIGHTING PLAN, FIRE PROTECTION PLAN, ETC.).

   b. COORDINATE NECESSARY EQUIPMENT, FIXTURES, ETC. SO THAT THE FINAL INSTALLATION IS COMPATIBLE WITH THE MATERIALS AND EQUIPMENT OF THE OTHER TRADES.

   c. THIS CONTRACTOR SHALL ASSIST THE DIVISION 23 CONTRACTOR IN PREPARING SHOP DRAWINGS FOR COORDINATING INSTALLATION OF ALL WORK (IE. LOCATING ALL LIGHTING FIXTURES IN CEILING WITH CEILING CLEARANCES, RACEWAYS, PIPING, EQUIPMENT FOR CLEARANCE THROUGHOUT).

   d. THE ELECTRICAL DRAWINGS INDICATE THE ELECTRICAL REQUIREMENTS FOR A SIGNIFICANT PORTION OF THE MECHANICAL AND PLUMBING SYSTEMS. ADDITIONAL MECHANICAL AND PLUMBING EQUIPMENT IS INDICATED ON THE DIVISION 23 DRAWINGS. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE COMPLETE WIRING AND FUSIBLE DISCONNECTING MEANS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT.
7. DEFINITIONS:

   a. "FURNISH" MEANS TO "SUPPLY" AND USUALLY REFERS TO AN ITEM OF EQUIPMENT.

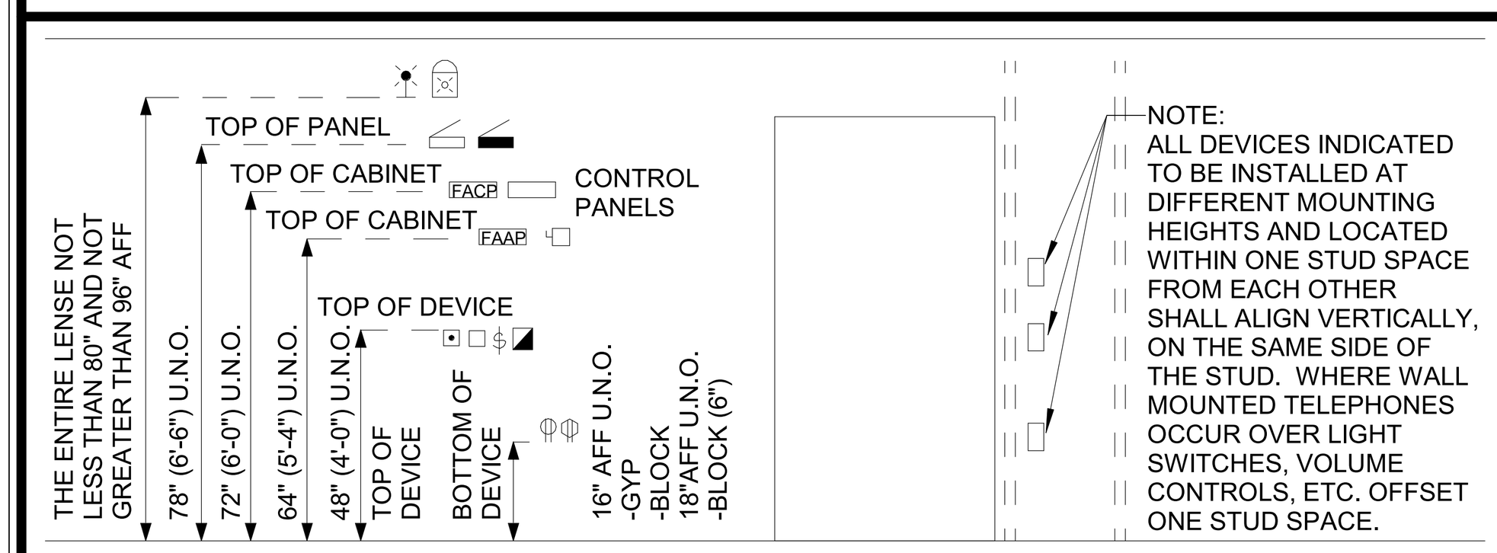
   b. "INSTALL" MEANS TO "SET IN PLACE, CONNECT AND PLACE IN FULL OPERATIONAL ORDER".

   c. "PROVIDE" MEANS TO "FURNISH AND INSTALL".

   d. "EQUIVALENT" MEANS "MEETS THE SPECIFICATIONS OF THE REFERENCE PRODUCT OR ITEM IN ALL SIGNIFICANT ASPECTS." SIGNIFICANT ASPECTS SHALL BE DETERMINED BY THE ENGINEER.

   e. "RE:_____DIVISION", AND SIMILAR EXPRESSIONS MEANS WORK TO BE PERFORMED UNDER THE CONTRACT DOCUMENTS, BUT NOT NECESSARILY UNDER THE DIVISION OR SECTION OF THE WORK ON WHICH THE NOTE APPEARS. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO COORDINATE THE WORK OF THE CONTRACT BETWEEN THEIR SUPPLIERS, SUBCONTRACTORS, AND EMPLOYEES. IF CLARIFICATION IS REQUIRED, CONSULT ARCHITECT.
8. "FIRESTOPPING" REQUIREMENT. ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE SEALED WITH MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR FIRE STOPS ASTM-E-814. ALL PENETRATIONS SHALL MEET F AND T RATINGS AS REQUIRED BY THE BUILDING CODE.
9. WHERE DISCONNECTS ARE INDICATED ON DRAWINGS CONTRACTOR SHALL PROVIDE FINAL CONNECTION FROM DISCONNECT TO EQUIPMENT BEING SERVED.
10. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTS AS REQUIRED FOR A COMPLETE OPERABLE ELECTRICAL INSTALLATION INCLUDING MISCELLANEOUS STEEL, UNI-STRUT, ALL-THREAD, AIRCRAFT CABLE, ETC.
11. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR ALL SINGLE PHASE CIRCUITS. A SHARED NEUTRAL CONDUCTOR IS NOT ACCEPTABLE ON SINGLE PHASE CIRCUITS.
12. EQUIPMENT INTERRUPTING RATINGS INDICATED ON THE DRAWINGS ARE BASED ON PRELIMINARY INFORMATION AND ARE SHOWN FOR BIDDING PURPOSES ONLY. VERIFY EQUIPMENT INTERRUPTING CAPACITY REQUIREMENTS PRIOR TO ORDERING ANY RELATED ELECTRICAL DISTRIBUTION EQUIPMENT.
13. PROVIDE NEW TYPE WRITTEN DIRECTORIES FOR ALL PANELBOARDS INSTALLED OR MODIFIED UNDER THIS CONTRACT.
14. ALL CIRCUIT BREAKER LUGS SHALL BE RATED FOR A MINIMUM OF 75 DEGREES CELSIUS.
15. ALL MATERIALS IN CEILING PLENUMS NOT ENCLOSED IN METALLIC CONDUIT SHALL HAVE CLASS, FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS AS REQUIRED FOR USE IN OPEN PLENUMS.
16. VOLTAGE DROP: THE ELECTRICAL CONTRACTOR SHALL ENSURE THAT VOLTAGE DROP FOR FEEDERS TO DISTRIBUTION EQUIPMENT DOES NOT EXCEED 2% AND VOLTAGE DROP IN BRANCH CIRCUITING DOES NOT EXCEED 3% FOR OVERALL VOLTAGE DROP OF 5% (MAXIMUM). FEEDERS LISTED ON SCHEDULES AND THE ELECTRICAL ONE-LINE DIAGRAM ARE A BASE FEEDER/BRANCH CIRCUIT SIZE AND SHALL BE ADJUSTED AS NEEDED BASED ON ACTUAL LENGTH OF CONDUCTORS.
17. REFER TO GENERAL NOTES FOR NUMBER OF PANEL SECTIONS AND QUANTITY OF CIRCUIT BREAKERS PANEL SCHEDULES SUPERCEDE ALL NOTES.
18. REFER TO SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS.

TYPICAL DEVICE MOUNTING HEIGHTS



NOTES:

1. MOUNTING HEIGHTS SHOWN ON ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE.
2. CONTRACTOR SHALL ENSURE THAT ALL MOUNTING HEIGHTS COMPLY WITH CURRENT ADA AND A117.1 REQUIREMENTS.
3. WHERE EVER DEVICES ARE INDICATED TO BE ABOVE DOORS, DEVICE SHALL BE CENTERED BETWEEN TOP OF DOOR TRIM AND CEILING LINE.
4. ALL ABOVE COUNTER (DESIGNATED BY "AC") SHALL BE MOUNTED 8" ABOVE COUNTER OR MAXIMUM HEIGHT OF 44" TO TOP OF DEVICE. VERIFY HEIGHTS WITH ARCHITECT.
5. FOR CEILINGS BELOW 7'-4", FIRE ALARM STROBE OR HORN/STROBES SHALL BE WALL MOUNTED 6" BELOW FINISHED CEILING.
6. RESIDENTIAL LOAD CENTER TO BE INSTALLED WITH BREAKERS BETWEEN 15" AND 48" ABOVE FINISHED FLOOR.
7. SWITCH TO BE MOUNTED ON LATCH SIDE OF THE DOOR WITHIN 12" OF THE DOOR.
8. DEVICES AT SAME HEIGHT LOCATED NEXT TO EACH OTHER TO BE ALIGNED VERTICALLY TO THE BOTTOM OF THE DEVICE.

CODES AND STANDARDS

DESIGNED UNDER THE FOLLOWING CODES AND STANDARDS:
2020 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL BUILDING CODE
2018 STEAMBOAT SPRINGS AMENDMENTS TO THE 2018 INTERNATIONAL BUILDING CODES
2019 ASHRAE 90.1
2018 INTERNATIONAL FIRE CODE
2009 ANSI A117.1, ACCESSIBILITY REQUIREMENTS
ANSI/ASME A17.1, SAFETY CODE FOR ELEVATORS
NFPA 72 NATIONAL FIRE ALARM CODE

ABBREVIATIONS

A
A/AMP AMPERE
AC ABOVE COUNTER
AF AMPERE FUSE/FRAME
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AHU AIR HANDLING UNIT
AIC AVAILABLE INTERRUPT CURRENT
AL ALUMINUM
AM AMMETER
ANN ANNUNCIATOR
ANT ANTENNA
ASC AVAILABLE SHORT-CIRCUIT CURRENT
ATS AUTOMATIC TRANSFER SWITCH
AUTO AUTOMATIC
AUX AUXILIARY
AWG AMERICAN WIRE GAUGE

B
BCST BROADCAST
BFC BELOW FINISHED CEILING
BFG BELOW FINISHED GRADE
BKR BREAKER
BOH BACK OF HOUSE
BW BUS-WAY

C
C CONDUIT
CAB CABINET
CAM CAMERA
CB CIRCUIT BREAKER
CCTV CLOSED CIRCUIT TELEVISION
CKT CIRCUIT
CO CONDUIT ONLY
COMB COMBINATION
COMP COMPUTER
COND CONDUCTOR
CT CURRENT TRANSFORMER
CU COPPER

D
D DEMOLISH
DAS DISTRIBUTED ANTENNA SYSTEM
dB DECIBEL
DEMARC DEMARCATION
DISC DISCONNECT
DL DAMP LABEL
DP DISTRIBUTION PANEL
DPDT DOUBLE POLE, DOUBLE THROW
DWG DRAWING
DVR DIGITAL VIDEO RECORDER

E
E/EX EXISTING
EA EACH
EC ELECTRICAL CONTRACTOR
EF EXHAUST FAN
EG EQUIPMENT GROUND
EHC ELECTRIC HEATING COIL
ELEC ELECTRIC OR ELECTRICAL
ELEV ELEVATOR
EM EMERGENCY
EMT ELECTRIC METALLIC TUBING
ENG ELECTRONIC NEWS GATHERING
EOL F/A END OF LINE RESISTOR
EQP EQUIPMENT
ER EXISTING TO BE REMOVED/RELOCATED
EV ELECTRIC VEHICLE
EWC ELECTRIC WATER COOLER
EWH ELECTRIC WATER HEATER
EXH EXHAUST

F
F FUSE
F/A FIRE ALARM
FACP FIRE ALARM CONTROL PANEL
FAPS FIRE ALARM POWER SUPPLY
FATC FIRE ALARM TERMINAL CABINET
FBO FURNISHED BY OTHERS
FC FOOTCANDLES
FDR FEEDER
FCU FAN COIL UNIT
FLA FULL LOAD AMPS
FLEX FLEXIBLE
FLR FLOOR
FPB FAN POWERED BOX
FUT FUTURE

G
GALV GALVANIZED
GB GROUNDING BUS
GEN GENERATOR
GFCI GROUND FAULT CIRCUIT INTERRUPTER
GND GROUND

H
HC HORIZONTAL CROSS CONNECT
HD HEAVY DUTY
HH HAND HOLE
HOA HAND-OFF-AUTO
HP HORSEPOWER
HPF HIGH POWER FACTOR
HTR HEATER

I
IC INTERMEDIATE CROSS CONNECT
ID INSIDE DIAMETER
IDF INTERMEDIATE DISTRIBUTION FRAME
IMC INTERMEDIATE GRADE METALLIC CONDUIT

J
J-BOX JUNCTION BOX
JBA AUDIO CONNECTION BOX
JBC COACHES JUNCTION BOX
JBE ENG BROADCAST BOX
JBT NETWORK BROADCAST CONNECTION BOX

K
KCMIL/MCM THOUSAND OF CIRCULAR MILLS
KVA KILOVOLT AMPERE
KW KILOWATT
KWH KILOWATT HOUR

L
LA LIGHTNING ARRESTOR
LAN LOCAL AREA NETWORK
LCP LIGHTING CONTROL PANEL
LED LIGHT EMITTING DIODE
LFC LIQUID TIGHT FLEXIBLE CONDUIT
LT LOW TEMPERATURE RATED DEVICES OR SIMILAR
LTG LIGHTING
LV LOW VOLTAGE

M
MA MILLIAMPERE
MAX MAXIMUM
MB MAIN BREAKERS
MC MECHANICAL CONTRACTOR OR METAL CLAD
MCC MOTOR CONTROL CENTER
MCP MOTOR CIRCUIT PROTECTOR
MDF MAIN DISTRIBUTION FRAME
MDP MAIN DISTRIBUTION PANEL
MECH MECHANICAL
MFR MANUFACTURER
MH MANHOLE
MIN MINIMUM
MLO MAIN LUGS ONLY
MOCP MAXIMUM OVERCURRENT PROTECTION
MOV MOTOR OPERATED VALVE
MPOE MAIN POINT OF ENTRY
MTG MOUNTING HEIGHT
MTS MANUAL TRANSFER SWITCH
MS MOTOR STARTER
MSB MAIN SWITCHBOARD
MTD MOUNTED
MTG MOUNTING
MTGB MAIN TELECOMMUNICATIONS GROUND BUS
MTR MAIN TELECOM ROOM
MV MEDIUM VOLTAGE

N
N NEUTRAL
NEC NATIONAL ELECTRICAL CODE
NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF NON FUSED
NIC NOT IN CONTRACT
NC NORMALLY CLOSED
NL NIGHT LIGHT
NO NORMALLY OPEN
NTS NOT TO SCALE

O
OC ON CENTER
OCP OVERCURRENT PROTECTION
OD OUTSIDE DIAMETER
OH OVERHEAD

P
P POLE
PA PUBLIC ADDRESS
PB PUSH BUTTON
PE PHOTOELECTRIC
PF POWER FACTOR
PH PHASE
PNL PANEL
PR PAIR
PRI PRIMARY
PT POTENTIAL TRANSFORMER
PV PHOTOVOLTAIC
PVC POLYVINYL CHLORIDE
PWR POWER

Q
QE QUADRANT ELECTRICAL (ARENA SPECIFIC)
QT QUADRANT TELECOM (ARENA SPECIFIC)

R
R EXISTING TO RELOCATE
REC RECEPTACLE
RGS RIGID GALVANIZED STEEL
RM ROOM
RPM REVOLUTIONS PER MINUTE

S
SCP SECURITY CONTROL PANEL
SEC SECONDARY/SECOND
SECT SECTION
SHT SHEET
SEC SECONDARY CONNECTION CABINET
SMPOE SECONDARY MAIN POINT OF ENTRY
SP SERVICE PROVIDER
SPD SURGE PROTECTIVE DEVICE
SPDT SINGLE POLE, DOUBLE THROW
ST SHUNT TRIP
STD STANDARD
SW SWITCH
SWBD SWITCHBOARD
SWGR SWITCHEAR

T
T TWIST LOCK
TBB TELECOMMUNICATIONS BONDING BACKBONE
TBD TO BE DETERMINED
TC TIME CLOCK
TEL TELEPHONE
TELCO TELEPHONE COMPANY
TELCOM TELECOMMUNICATIONS
TEMP TEMPERATURE
TGB TELECOMMUNICATIONS GROUND BUS
TO THERMAL OVERLOAD
TR TAMPER RESISTANT
TYP TYPICAL

U
UC UNDER COUNTER
UG UNDERGROUND
UGP UNDERGROUND PRIMARY
UGS UNDERGROUND SECONDARY
UH UNIT HEATER
UL UNDERWRITER LABORATORIES
UNO UNLESS NOTED OTHERWISE
UPS UNINTERRUPTIBLE POWER SUPPLY
USB UNIVERSAL SERIAL BUS

V
V VOLT
VA VOLT-AMPERE
VAV VARIABLE AIR VOLUME
VFD VARIABLE FREQUENCY DRIVE
VM VOLTMETER

W
W WATT
W/ WITH
W/O WITHOUT
WH WATT HOUR
WHM WATT HOUR METER
WLAN WIRELESS-LOCAL AREA NETWORK
WP WEATHERPROOF
WPL WEATHER PROOF LOCKABLE ENCLOSURE.
WT WATERTIGHT

X
XFMR TRANSFORMER
XP EXPLOSION PROOF

SYMBOLS

LIGHTING
STRIP LIGHT
WALL MOUNTED STRIP LIGHT
WALL MOUNTED LINEAR
RECESSED LINEAR
RECESSED LIGHTING FIXTURE W/DOWNLIGHTS
RECESSED 2'X2'
RECESSED 2'X4'
SURFACE MOUNTED 2'X4'
SURFACE MOUNTED 2'X2'
SURFACE MOUNTED 1'X4'
RECESSED WALL / STEP LIGHT
WALL MOUNTED FLOODLIGHT
WALL MOUNTED SCONCE
SURFACE MOUNTED DOWN LIGHT
SURFACE MOUNTED WALL WASH
RECESSED DOWN LIGHT
RECESSED WALL WASH
RECESSED 1X4 WALL WASH
LINEAR PENDANT
LINEAR PENDANT W/DOWNLIGHTS
PENDANT LIGHT
MONOPOINT TRACKHEAD
LINEAR LIGHT
TRACK WITH TRACKHEADS
BURIAL FIXTURE
POLE MOUNTED LIGHT WITH ARM
POLE MOUNTED LIGHT POST TOP MOUNTING/BOLLARD
CEILING MOUNTED EXIT SIGN
EXIT SIGN WITH DIRECTIONAL
WALL MOUNTED EXIT SIGN ARROWS (CHEVRONS)
EMERGENCY LIGHTING UNIT
UL924 EMERGENCY AUTOMATIC TRANSFER DEVICE
POWER SUPPLY
OCCUPANCY SENSOR - CEILING MOUNTED (RE: 8/1A-E8.003)
DAYLIGHT SENSOR - CEILING MOUNTED (RE: 8/1A-E8.003)
OCCUPANCY SENSOR - WALL SWITCH (RE: 9/1A-E8.003)
OCCUPANCY SENSOR - 180° (RE: 7/1A-E8.003)
DIMMER SWITCH / STATION (RE: 2/1A-8.003 OR 5/1A-E8.003 FOR MULTI-ZONE SWITCH)
DS DIMMER / OCCUPANCY SENSOR COMBINATION SWITCH (RE: 3/1A-E8.003)
SC SCENE CONTROL STATION (RE: 4/1A-E8.003)
TP TOUCH PANEL CONTROL STATION (RE: 1/1A-E8.003)
LOW VOLTAGE SWITCH (RE: 6/1A-E8.003)
LV LINE VOLTAGE SWITCH

SHADED SYMBOLS DENOTE EMERGENCY FIXTURES

FIRE ALARM
SMOKE DETECTOR
WALL SMOKE DETECTOR
CO SMOKE/CARBON MONOXIDE DETECTOR
CO WALL SMOKE/CARBON MONOXIDE DETECTOR
HEAT DETECTOR
DUCT DETECTOR
BR BEAM DETECTOR RECEIVER
BT BEAM DETECTOR TRANSMITTER
EVAC VOICE EVAC PANEL
ESR ELEVATOR STATUS PANEL
CEILING MOUNTED HORN [SPEAKER]
WALL MOUNTED HORN [SPEAKER]
CEILING MOUNTED SPEAKER/STROBE
WALL MOUNTED HORN SPEAKER/STROBE
WALL MOUNTED SILENTONE
H FIRE SERVICE PHONE
J FIREMAN'S PHONE JACK
ROTATING BEACON
MANUAL PULL STATION
DH MAGNETIC DOOR HOLD OPEN DEVICE
TAMPER SWITCH
FLOW SWITCH
RTS CEILING MOUNTED REMOTE INDICATOR LIGHT
RTS WALL MOUNTED REMOTE INDICATOR LIGHT
WALL MOUNTED ADA STROBE
CEILING MOUNTED STROBE
IM ADDRESSABLE INPUT MODULE
FR FIRE ALARM ADDRESSABLE RELAY
ALARM BELL
FIRE SMOKE DAMPER
SMOKE CONTROL DAMPER
CO CARBON MONOXIDE DETECTOR
FAAP FIRE ALARM ANNUNCIATOR PANEL
FACP FIRE ALARM CONTROL PANEL
FATP FIRE ALARM TRANSPONDER PANEL
TWC TWO-WAY COMMUNICATION / AREA OF RESCUE ASSISTANCE CALL BUTTON
TWCP TWO-WAY COMMUNICATION / AREA OF RESCUE ASSISTANCE (BASE STATION)

POWER
WALL SIMPLEX RECEPTACLE
WALL DUPLEX RECEPTACLE
U WALL DUPLEX WITH USB
Q WALL DUPLEX WITH CONTROL OF ONE OUTLET
WALL DUPLEX RECEPTACLE (EMERGENCY)
WALL FOURPLEX RECEPTACLE
WALL FOURPLEX RECEPTACLE (EMERGENCY)
X WALL SPECIAL RECEPTACLE (FOR "X" SEE RECEPTACLE MODIFIER TAGS TABLE)
X WALL SPECIAL RECEPTACLE (EMERGENCY) (FOR "X" SEE RECEPTACLE MODIFIER TAGS TABLE)
FLAT PANEL BACK BOX - POWER MOUNTED WITHIN AV BACK BOX
WALL COMBINATION TV / POWER OUTLET
WALL CLOCK RECEPTACLE
WALL JUNCTION BOX
WALL FURNITURE FEED
FLOOR DUPLEX RECEPTACLE
FLOOR FOURPLEX RECEPTACLE (POWER/DATA/COMBO DEVICE. REFER TO TECHNOLOGY DRAWINGS)
AV FLOOR FOURPLEX RECEPTACLE WITH AV (POWER/DATA/AV COMBO DEVICE. REFER TO TECH. DRAWINGS)
CONVENTION CENTER FLOOR BOX.
JUNCTION BOX
FLOOR FURNITURE FEED
CEILING RECEPTACLE
CEILING DUPLEX RECEPTACLE
CEILING FOURPLEX RECEPTACLE
X CEILING / FLOOR SPECIAL RECEPTACLE (FOR "X" SEE RECEPTACLE MODIFIER TAGS TABLE)
CEILING JUNCTION BOX
CEILING TV OUTLET
POWER POLE
SINGLE TOGGLE SWITCH
PLUGMOLD
EPO EMERGENCY POWER OFF
SINGLE PUSH BUTTON
DUPLEX PUSH BUTTON

DEVICE GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 26 27 26 FOR SPECIFIC FLOOR DEVICE PRODUCT INFORMATION.
2. REFER TO TECHNOLOGY AND/OR AV LEGEND AND FLOOR PLANS TO CONFIRM ALL LOCATIONS THAT HAVE DATA OR DATA/AV REQUIREMENTS COMBINED WITH POWER IN FLOOR BOXES.
3. REFER TO TECHNOLOGY (AND/OR AV) DRAWINGS FOR DEDICATED LOW VOLTAGE CONDUIT AND FLOOR BOX DEVICE MOUNTING PLATE REQUIREMENTS. LOW VOLTAGE CONDUIT REQUIREMENTS ARE NOT DOCUMENTED ON POWER DRAWINGS.
4. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS OF TVS. MOUNT BEHIND TV DISPLAY OR ON TV MOUNTING BRACKET/SUPPORT"

EQUIPMENT
MOTOR
MOTOR AND DISCONNECT
MOTOR AND FUSED DISCONNECT
MOTOR AND CIRCUIT BREAKER DISCONNECT
VARIABLE FREQUENCY DRIVE/MOTOR CONTROLLER
NON-FUSED DISCONNECT
FUSED DISCONNECT
CIRCUIT BREAKER
BRANCH CIRCUIT OR POWER PANEL
LIGHTING CONTROL PANEL
ELECTRICAL EQUIPMENT FREESTANDING OR WALL MOUNT
METER
CURRENT TRANSFORMER
GROUND
DELTA/WYE WITH GROUND
POWER TRANSFORMER
FUSE & SWITCH
CIRCUIT BREAKER
DRAWOUT CIRCUIT BREAKER
KIRK-KEY INTERLOCK
GROUND FAULT INTERRUPTER BREAKER
CIRCUIT MONITORING DEVICE
MECHANICAL EQUIPMENT IDENTIFICATION TAG
SHORT CIRCUIT FAULT CALCULATION TAG REFER TO TABLE ON ONE-LINE DIAGRAM
SPD SURGE PROTECTION DEVICE
TO THERMAL OVERLOAD
TO MOTOR AND THERMAL OVERLOAD
COMPANY SWITCH OR CAM-LOK PANEL
AUTOMATIC TRANSFER SWITCH
GENERATOR DOCKING STATION
NAME (#) ELECTRICAL PLANEL (NUMBER OF SECTIONS)
EQ-# EQUIPMENT IDENTIFICATION TAG REFER TO ELECTRICAL EQUIPMENT SCHEDULE

RACEWAY LEGEND
A2,4 BRANCH CIRCUIT HOMERUN TO PANELBOARD. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS, NUMERICAL INDICATES CIRCUIT NUMBER.
A2,4 A BRANCH CIRCUIT HOMERUN CONTROLLED BY LIGHTING CONTROL SYSTEM. FIRST HEXAGON LETTER CORRESPONDS TO FIRST CIRCUIT NUMBER. (ie. CIRCUIT #2 IS ON ZONE A). REFER TO LIGHTING CONTROL MATRIX FOR LIGHTING ZONES.
MOTOR CONNECTION
UNDERGROUND FEEDER
UNDERGROUND BRANCH CIRCUIT HOMERUN
CONDUIT UP
CONDUIT DOWN
CONDUIT RUNS UNDERFLOOR OR BELOW GRADE
OR CONDUIT RUN CONCEALED IN WALLS OR CEILING, OR EXPOSED WHEN CEILING ARE NOT PRESENT.

RECEPTACLE MODIFIER TAGS

TAG	OUTLET RATING	NEMA/CAT NO	FEEDER (NOTE 1)	WIRING NOTES
A	NOT USED	-	-	-
B	NON-LOCKING, 30A, 125V, 1PH	5-30R	2#10,#10G,3/4"C (60FT)	HOT-NEUT-GND
C	NON-LOCKING, 20A, 250V, 1PH	6-20R	2#12,#12G,3/4"C (100FT)	HOT-HOT-GND
D	NON-LOCKING, 30A, 250V, 1PH	6-30R	2#10,#10G,3/4"C (120FT)	HOT-HOT-GND
E	NON-LOCKING, 50A, 250V, 1PH	6-50R	2#6,#10G,3/4"C (150FT)	HOT-HOT-GND
F	NOT USED	-	-	-
G	NON-LOCKING, 20A, 125/250V, 1PH	14-20R	3#12,#12G,3/4"C (100FT)	HOT-HOT-NEUT-GND
H	NOT USED	-	-	-
I	NOT USED	-	-	-
J	LOCKING, 20A, 125V, 1PH	L5-20R	2#12,#12G,3/4"C (50FT)	HOT-NEUT-GND
K	LOCKING, 30A, 125V, 1PH	L5-30R	2#10,#10G,3/4"C (60FT)	HOT-NEUT-GND
L	LOCKING, 20A, 250V, 1PH	L6-20R	2#12,#12G,3/4"C (100FT)	HOT-HOT-GND
M	LOCKING, 30A, 250V, 1PH	L6-30R	2#10,#10G,3/4"C (120FT)	HOT-HOT-GND
N	NOT USED	-	-	-
O	NOT USED	-	-	-
P	LOCKING, 20A, 125/250V, 1PH	L14-20R	3#12,#12G,3/4"C (100FT)	HOT-HOT-NEUT-GND
Q	LOCKING, 30A, 125/250V, 1PH	L14-30R	3#10,#10G,3/4"C (120FT)	HOT-HOT-NEUT-GND
R	NOT USED	-	-	-
S	LOCKING, 20A, 208Y/120V, 3PH	L21-20R	4#12,#12G,3/4"C (120FT)	HOT-HOT-HOT-NEUT-GND
T	LOCKING, 30A, 208Y/120V, 3PH	L21-30R	4#10,#10G,3/4"C (130FT)	HOT-HOT-HOT-NEUT-GND
V	LOCKING, 50A, 250V, 3PH	HBL CS8369	3#6,#10G,1"C (175FT)	HOT-HOT-HOT-GND
W	PIN & SLEEVE, 60A, 208Y/120V, 3PH	HBL 560R9W	4#4,#10G,1-1/4"C (200FT)	HOT-HOT-HOT-NEUT-GND
X	PIN & SLEEVE, 100A, 208Y/120V, 3PH	HBL 5100R9W	4#1,#8G,1-1/2"C (250FT)	HOT-HOT-HOT-NEUT-GND
Y	NOT USED	-	-	-
Z	LOCKING, 50A, 125/250V, 3PH	CS6369	4#8,#10G, 3/4"C (130FT)	HOT-HOT-HOT-NEUT-GND

NOTE: DISTANCE NOTED IS MAXIMUM RUN LENGTH FOR WIRE SIZE.
INCREASE PER NEC, INCLUDING GROUND, FOR LONGER RUNS OR FOR DERATING FACTORS (AMB TEMP, EXTERIOR, ETC.)

RCRBD
Record Set
Electrical
06/22/2021

Steamboat
ALTERRA MOUNTAIN COMPANY
east west partners
2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler
1225 17th Street
Suite 150
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Tel 303.595.8585
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LANDMARK CONSULTANTS, INC.
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Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED MATTHEW JOHN O'ROURKE 52253 PROFESSIONAL ENGINEER
6/17/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS
Project Number
003.7835.000
Description
ELECTRICAL LEGEND

Scale
1/8" = 1'-0"

1A-E0.000

MSB

LOCATION:			VOLTAGE: 480/277 Wye				BUS: 2500 A	
SUPPLY FROM:			SCCR:				MAIN: 2500 A - MCB	

LOADS SUMMARY	LTG	RECPT	MOTOR	MISC.	KITCHEN	ELECTRIC HEAT	EV CHARGE	Load	
T-R1N1	144	12360	9504			720		22728 VA	27 A
L1N2	3831							3831 VA	5 A
L1N1	6711			180				6891 VA	8 A
T-PBDB								0 VA	0 A
M1N3			33255					33255 VA	40 A
M1N2	1200	51327	951	23520		150		77148 VA	93 A
M1N1			86167	5100		1365		95459 VA	115 A
CH 2A.01			266751					266751 VA	321 A
ICE PLANT MCC			237770					237770 VA	286 A
CONNECTED TOTALS (V-A)	11886	63687	634398	28800		2235		743833 VA	895 A
DIVERSITY FACTORS	100%	58%	111%	100%		100%		--	--
DEMAND TOTAL (V-A)	11886	36844	701086	28800		2235		784384 VA	943 A

TRANSFORMER TABLE - 480V PRIMARY - 208Y/120V SECONDARY

KVA	FL AMPS	BKR SIZE	FDR	TRANSFORMER GROUNDING ELECTRODE	FL AMPS	BKR SIZE	FDR
3PH	480V	(1)	(2)	(WIRE) PIPE	208V	(1)	(2)
15	18	30	F30	(#8 CU) 3/4"C	42	50	FN50A
30	36	50	F50	(#6 CU) 3/4"C	83	100	FN100A
45	54	70	F70	(#6 CU) 3/4"C	125	150	FN150
75	90	125	F125	(#2 CU) 3/4"C	208	250	FN250A
112.5	135	175	F175	(#1/0 CU) 1"C	312	400	FN400A
150	180	225	F225	(#1/0 CU) 1"C	416	500	FN500A
225	271	350	F350	(#2/0 CU) 1"C	626	800	FN800A
300	361	450	F450	(#3/0 CU) 1"C	833	1000	FN1000A
500	601	800	F800	(#250 KCMIL) 1"C	1388	1600	FN1600A

NOTES:

1 USE DEVICE TYPES INDICATED ON SINGLE LINE DIAGRAM.
2 REFERENCE FEEDER TABLE FOR FEEDER SIZE.

SHORT CIRCUIT STUDY

ALL EQUIPMENT MUST BE FULLY RATED FOR SHORT CIRCUIT / FAULT VALUES SHOWN BELOW. SERIES RATING NOT PERMITTED.

KEY	AVAILABLE AMPS
1	23,100
2	21,490
3	7,300
4	6,749
5	15,046
6	13,888
7	14,580
8	13,658
9	17,360
10	5,175
11	11,790
12	10490
13	10892
14	5415

TRANSFORMERS (150KVA OR LESS)
BASED ON INFINITE IMPEDENCE ON THE PRIMARY.
THE AVAILABLE FAULT CURRENTS ON THE SECONDARY OF A TRANSFORMER IS AS FOLLOWS

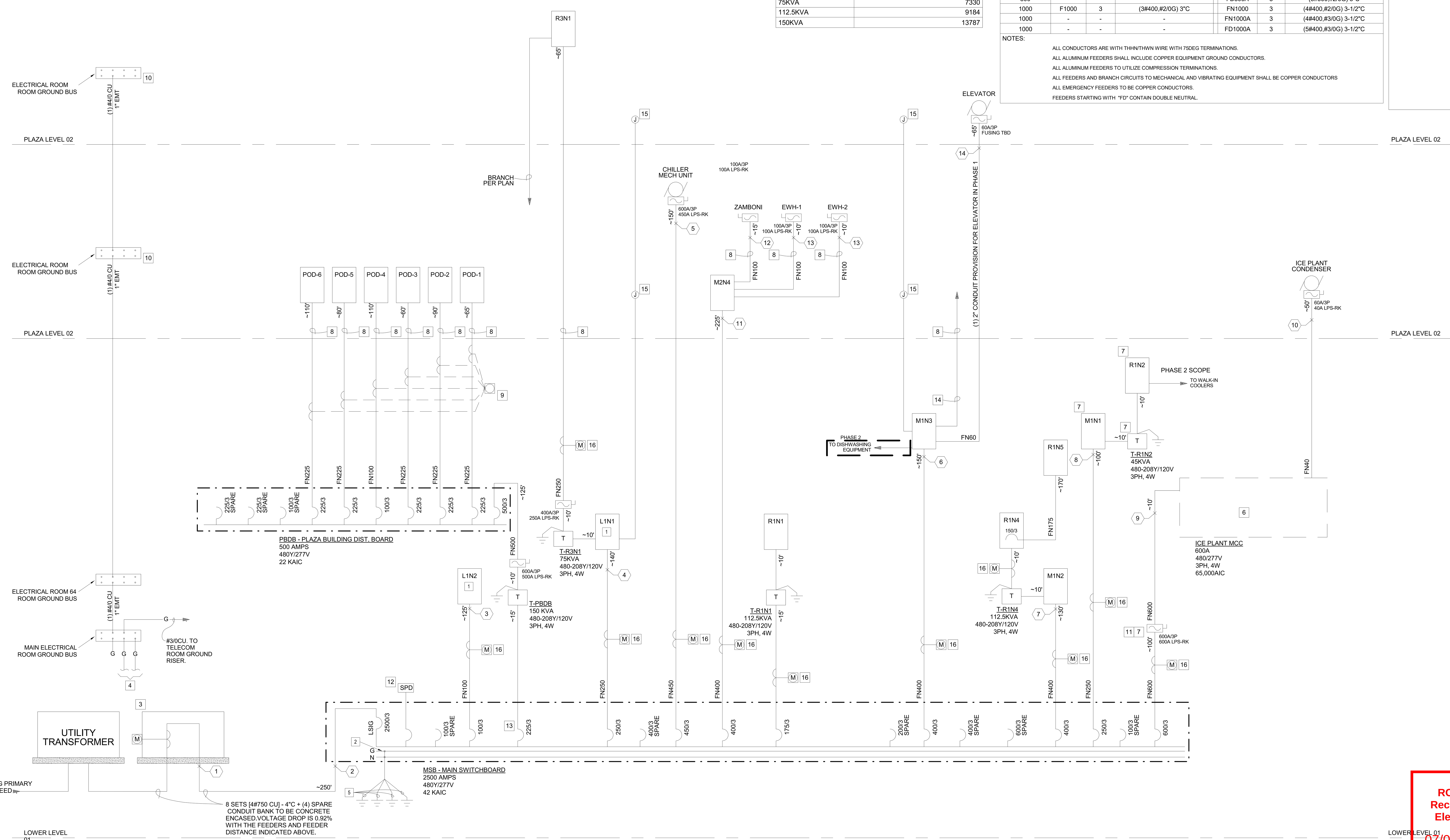
15KVA	1343
30KVA	1665
45KVA	3903
75KVA	7330
112.5KVA	9184
150KVA	13787

ME FEEDER TABLE

			COPPER			COPPER
BKR/OCPD	TAG	SETS	FEEDER/PIPE [3W]	TAG	SETS	FEEDER/PIPE [4W]
20	F20	1	(3#12,#12G) 3/4"C	FN20	1	(4#12,#12G) 3/4"C
30	F30	1	(3#10,#10G) 3/4"C	FN30	1	(4#10,#10G) 3/4"C
40	F40	1	(3#8,#10G) 3/4"C	FN40	1	(4#8,#10G) 3/4"C
50	F50	1	(3#8,#10G) 3/4"C	FN50	1	(4#8,#10G) 3/4"C
50	-	-	-	FN50A	1	(4#8,#8G) 1"C
50				FD50A	1	(5#8,#8G) 1"C
60	F60	1	(3#6,#8G) 1"C	FN60	1	(4#6,#8G) 1"C
70	F70	1	(3#4,#8G) 1-1/4"C	FN70	1	(4#4,#8G) 1-1/4"C
80	F80	1	(3#4,#8G) 1-1/4"C	FN80	1	(4#4,#8G) 1-1/4"C
90	F90	1	(3#3,#8G) 1-1/4"C	FN90	1	(4#3,#8G) 1-1/4"C
100	F100	1	(3#3,#8G) 1-1/4"C	FN100	1	(4#3,#8G) 1-1/2"C
100	-	-	-	FN100A	1	(4#3,#6G) 1-1/2"C
100	-	-	-	FD100A	1	(5#3,#6G) 1-1/2"C
110	F110	1	(3#2,#6G) 1-1/2"C	-	-	-
125	F125	1	(3#1,#6G) 1-1/2"C	FN125	1	(4#1,#6G) 2"C
150	F150	1	(3#1/0,#6G) 1-1/2"C	FN150	1	(4#1/0,#6G) 2"C
175	F175	1	(3#2/0,#6G) 2"C	FN175	1	(4#2/0,#6G) 2"C
200	F200	1	(3#3/0,#6G) 2"C	FN200	1	(4#3/0,#6G) 2-1/2"C
225	F225	1	(3#4/0,#4G) 2-1/2"C	FN225	1	(4#4/0,#4G) 2-1/2"C
250	F250	1	(3#250,#4G) 2-1/2"C	FN250	1	(4#250,#4G) 3"C
250	-	-	-	FN250A	1	(4#250,#2G) 3"C
250	-	-	-	FD250A	1	(5#250,#2G) 3"C
300	F300	1	(3#350,#4G) 3"C	FN300	1	(4#350,#4G) 3"C
350	F350	1	(3#500,#3G) 3"C	FN350	1	(4#500,#3G) 3-1/2"C
400	F400	2	(3#3/0,#3G) 2"C	FN400	2	(4#3/0,#3G) 2-1/2"C
400	-	-	-	FN400A	2	(4#3/0,#1/0G) 2-1/2"C
400	F400B	1	(3#600,#3G) 4"C	FN400B	1	(4#600,#3G) 4"C
400	-	-	-	FD400A	2	(5#3/0,#1/0G) 2-1/2"C
450	F450	2	(3#4/0,#2G) 2-1/2"C	FN450	2	(4#4/0,#2G) 2-1/2"C
500	F500	2	(3#250,#2G) 2-1/2"C	FN500	2	(4#250,#2G) 3"C
500	-	-	-	FN500A	2	(4#250,#1/0G) 3"C
500	-	-	-	FD500A	2	(5#250,#1/0G) 3"C
600	F600	2	(3#350,#1G) 3"C	FN600	2	(4#350,#1G) 3"C
700	F700	2	(3#500,#1/0G) 3"C	FN700	2	(4#500,#1/0G) 3-1/2"C
750	F750	2	(3#500,#1/0G) 3"C	-	-	-
800	F800	3	(3#300,#1/0G) 3"C	FN800	3	(4#300,#1/0G) 3"C
800	-	-	-	FN800A	3	(4#300,#2/0G) 3"C
800	F800B	2	(3#600,#1/0G) 3-1/2"C	FN800B	2	(4#600,#1/0G) 4"C
800	-	-	-	FD800A	3	(5#300,#2/0G) 3"C
1000	F1000	3	(3#400,#2/0G) 3"C	FN1000	3	(4#400,#2/0G) 3-1/2"C
1000	-	-	-	FN1000A	3	(4#400,#3/0G) 3-1/2"C
1000	-	-	-	FD1000A	3	(5#400,#3/0G) 3-1/2"C

NOTES:

ALL CONDUCTORS ARE WITH THHN/THWN WIRE WITH 75DEG TERMINATIONS.
ALL ALUMINUM FEEDERS SHALL INCLUDE COPPER EQUIPMENT GROUND CONDUCTORS.
ALL ALUMINUM FEEDERS TO UTILIZE COMPRESSION TERMINATIONS.
ALL FEEDERS AND BRANCH CIRCUITS TO MECHANICAL AND VIBRATING EQUIPMENT SHALL BE COPPER CONDUCTORS
ALL EMERGENCY FEEDERS TO BE COPPER CONDUCTORS.
FEEDERS STARTING WITH "FD" CONTAIN DOUBLE NEUTRAL.



1 PWR ONE-LINES - PROMENADE BUILDING
SCALE: 1/8" = 1'-0"

RCRBD
Record Set
Electrical
07/01/2021

KEYNOTES:

16 PROVIDE E-GAUGE PRO SERIES METERING FOR PANEL FEEDER. METERING POINT CAN SHARE A COMMON METER PROVIDED ALL LOAD IS MONITORED ON EACH PANEL. REFER TO PLAN FOR METER LOCATIONS WITHIN EACH ROOM.

GENERAL NOTES:

1. ALL FEEDERS AND TERMINATIONS SHALL BE COPPER 75 DEGREE RATED.
2. FEEDER LENGTHS ARE INDICATED FOR CALCULATION PURPOSES ONLY. THIS DRAWING IS NOT TO SCALE, FEEDERS LENGTHS MUST BE CONFIRMED WITH THE CONTRACTOR.
3. ALL CONDUIT RUNS SHALL BE RAN PERPENDICULAR AND PARALLEL TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT RUNS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION.
4. FOR CALCULATION PURPOSES THE FOLLOWING TRANSFORMER (2016 DOE) IMPEDANCES AND MAXIMUM SHORT CIRCUIT VALUES WERE USED
15 KVA-3.1%Z, ISC=1,343A.
30 KVA-2.5%Z, ISC=1,665A.
45 KVA-3.2%Z, ISC=3,903A.
75 KVA-2.8%Z, ISC=7,330A.
112.5 KVA-3.4%Z, ISC=9,184A.
5. PROVIDE FULL BUSSING FOR ALL SPACES INDICATED ON PANEL BOARDS.
6. CONNECT ALL TRANSFORMER GROUNDING ELECTRODES TO GROUND BUS RISER AND COLD WATER PIPE.
7. ALL EQUIPMENT TO BE FULLY RATED FOR THE AVAILABLE FAULT. ASSUME 42,000 AMPS AVAILABLE AT THE MAIN SERVICE.
8. REFER TO DETAIL SHEET E8.001 FOR PANELBOARD AND SWITCHBOARD NAMEPLATE DETAILS.
9. ALL NEW PANELS INDICATED HERE SHALL HAVE INTEGRAL SURGE PROTECTION DEVICES LOCATED INTERNAL TO PANEL SURGE PROTECTION DEVICE TO HAVE ALL MODES OF PROTECTION.
10. UNLESS OTHERWISE NOTED, SCOPE IS TO BE PROVIDED IN PHASE 1 OF THIS PROJECT. PHASE 2 SCOPE HAS BEEN INDICATED ON THIS ONE-LINE DIAGRAM.

KEYNOTES:

1 PROVIDE LIGHTING CONTROL PANEL ADJACENT TO THIS PANEL.
2 NEUTRAL GROUND BOND.
3 PROVIDE CT CABINET AND METERING PER UTILITY REQUIREMENTS.
4 CONNECT TO MAIN SERVICE SWITCHBOARD GROUND BUS WITH 4/0 AWG. COPPER IN A 1" CONDUIT. PVC PERMITTED BELOW GRADE
5 PROVIDE BUILDING GROUNDING SYSTEM WITH CONNECTION TO PERIMETER GROUND LOOP, BUILDING STEEL, COLD WATER PIPE, UFER GROUND, AND ROOM GROUND BUS.
6 EQUIPMENT AND EQUIPMENT CONNECTIONS SHALL BE PROVIDED BY ICE PLANT REFRIGERATION CONTRACTOR UNLESS OTHERWISE NOTED.
7 PROVIDE NEMA 3R (OR GREATER) ENCLOSURE.
8 PROVIDE CONDUIT WITH PULL STRING FOR PHASE 1 SCOPE. WIRING AND TERMINATIONS TO BE PROVIDED AS PHASE 2 SCOPE.
9 PROVIDE E-GAUGE METERING FOR FOOD SERVICE INFRASTRUCTURE. PROVIDE ALL RESPECTIVE SOFTWARE AND START-UP FOR METERING. METER LOCATION PER PLAN. METERING AND CT'S SHALL BE PHASE 2 SCOPE.
10 BOND TO COLD WATER PIPE AT THIS LEVEL.
11 ELECTRICAL CONTRACTOR TO TERMINATE CONDUCTORS ON THE LINE SIDE OF THE DISCONNECT. ICE PLANT CONTRACTOR SHALL BRING CONDUCTORS FROM LOAD SIDE OF DISCONNECT TO MOTOR CONTROL CENTER.
12 PROVIDE EXTERNALLY MOUNTED SPD FOR SERVICE ENTRANCE SWITCHBOARD. MINIMIZE FEEDER DISTANCE. PROVIDE BREAKER SIZE PER MANUFACTURER REQUIREMENTS.
13 PROVIDE LOCKOUT BREAKER AT SWITCHBOARD.
14 PROVIDE (1) 2" CONDUIT FROM THIS PANEL TO EACH POD IN THE PLAZA BUILDING. TOTAL OF (6) 2" CONDUITS / (1) PER POD EXCLUDING POD 7 AT BAR AREA ON PLAZA LEVEL 02.
15 PROVIDE BRANCH CIRCUITS ON THIS LEVEL FROM PANEL INDICATED.

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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ELECTRICAL ONE-LINES

Scale
1/8" = 1'-0"

1A-E0.001

SITE LIGHTING CONTROL SCHEDULE - STEAMBOAT BASE AREA - PROMENADE AND PLAZA BUILDING

THE FOLLOWING CHART OUTLINES AREAS OF ZONING FOR AMBIENT LIGHTING CONTROL SYSTEM.
LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH ZONE AS INDICATED ON PLANS.
THE BELOW CONTROLS ARE INDICATED FOR ENERGY COMPLIANCE USING ASHRAE 90.1 - 2016 AS THE PRESCRIPTIVE PATH. REFER TO LIGHTING PLANS FOR ADDITIONAL CONTROL DEVICES. THIS MATRIX OUTLINES MINIMUM REQUIREMENT AND BUILDING OPERATION MAY GOVERN THE ADDITION OF CONTROLS.

SYMBOL	SPACE TYPE DESCRIPTION	CONTROL TYPE							SCENES						
		DL	DIM	OS	VS	TC	LS	DX	MAINTENANCE	EVENT	WEEKDAY	WEEKEND	USER DEFINED 01	USER DEFINED 02	
SITE AND FAÇADE - PROMENADE/PLAZA															
P.S.1	F1 POLE LIGHTING AT PLAZA/PLANTERS	X	X	-	-	X	-	-							
P.S.2	F1 & F2 POLE LIGHTS AT STAGE	X	X	-	-	X	-	-							
P.S.3	F7 POLE LIGHTS (ONLY) AT ICE RINK	X	X	-	-	X	-	-							
P.S.4	F7 GIMBLE AIMABLE LIGHTS (ONLY) AT ICE RINK	X	X	-	-	X	-	X							
P.S.5	F7 GIMBLE AIMABLE LIGHTS (ONLY) AT ICE RINK	X	X	-	-	X	-	X							
P.S.6	F8 TREE LIGHTING AT PLAZA PLANTERS	X	X	-	-	X	-	-							
P.S.7	F8 TREE LIGHTING AT EAST LOWER PROMEANDE PLANTERS	X	X	-	-	X	-	-							
P.S.8	F1 POLE LIGHTS AT LOWER PROMEANDE ENTRY	X	X	-	-	X	-	-							
P.S.9	S1 FAÇADE LIGHTS AT LOWER PROMEANDE ENTRY FAÇADE	X	X	-	-	X	-	-							
P.S.10	S1 FAÇADE LIGHTS ON FAÇADE AT PLAZA LEVEL	X	X	-	-	X	-	-							
P.S.11	PLAZA FIRE PIT	-	-	-	-	X	-	-							
P.S.12	PLAZA FIRE BOWLS	-	-	-	-	X	-	-							
P.S.13	PLAZA TREE RECEPTACLES FOR HOLIDAY LIGHTING	-	-	-	-	X	-	-							
P.S.14	DUPLEX RECEPTACLES WITHIN POLE BASE	-	-	-	-	X	-	-							
P.S.15	PLAZA SIGNAGE	-	-	-	-	X	-	-							
P.S.16	PLAZA SIGNAGE	-	-	-	-	X	-	-							
P.S.17	PLAZA SIGNAGE	-	-	-	-	X	-	-							
P.S.18	PLAZA SIGNAGE	-	-	-	-	X	-	-							

LEVEL 00 LIGHTING CONTROL SCHEDULE - STEAMBOAT BASE AREA - PROMENADE AND PLAZA BUILDING

THE FOLLOWING CHART OUTLINES AREAS OF ZONING FOR AMBIENT LIGHTING CONTROL SYSTEM.
LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH ZONE AS INDICATED ON PLANS.
THE BELOW CONTROLS ARE INDICATED FOR ENERGY COMPLIANCE USING ASHRAE 90.1 - 2016 AS THE PRESCRIPTIVE PATH. REFER TO LIGHTING PLANS FOR ADDITIONAL CONTROL DEVICES. THIS MATRIX OUTLINES MINIMUM REQUIREMENT AND BUILDING OPERATION MAY GOVERN THE ADDITION OF CONTROLS.

SYMBOL	SPACE TYPE DESCRIPTION	CONTROL TYPE						SCENES						
		DL	DIM	OS	VS	TC	LS	MAINTENANCE	EVENT	WEEKDAY	WEEKEND	USER DEFINED 01	USER DEFINED 02	
LEVEL 00 - PROMENADE/PLAZA														
P.00.1	STAIRS	-	-	X	X	X	-							
P.00.2	MEP ROOMS	-	-	-	-	-	X							
P.00.3	STORAGE ROOMS	-	-	-	X	-	X							
P.00.4	CORRIDORS	-	-	X	-	X	X							
P.00.5	VESTIBULES	-	-	X	-	X	-							
P.00.6	LOADING DOCK / TRASH	-	-	-	X	-	X							
P.00.7	FOOD SERVICE / DISHWASHING	-	-	-	X	-	X							
P.00.8		-	-	-	-	-	-							
P.00.9		-	-	-	-	-	-							
P.00.10		-	-	-	-	-	-							

LEVEL 02 LIGHTING CONTROL SCHEDULE - STEAMBOAT BASE AREA - PROMENADE AND PLAZA BUILDING

THE FOLLOWING CHART OUTLINES AREAS OF ZONING FOR AMBIENT LIGHTING CONTROL SYSTEM.
LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH ZONE AS INDICATED ON PLANS.
THE BELOW CONTROLS ARE INDICATED FOR ENERGY COMPLIANCE USING ASHRAE 90.1 - 2016 AS THE PRESCRIPTIVE PATH. REFER TO LIGHTING PLANS FOR ADDITIONAL CONTROL DEVICES. THIS MATRIX OUTLINES MINIMUM REQUIREMENT AND BUILDING OPERATION MAY GOVERN THE ADDITION OF CONTROLS.

SYMBOL	SPACE TYPE DESCRIPTION	CONTROL TYPE						SCENES						
		DL	DIM	OS	VS	TC	LS	MAINTENANCE	EVENT	WEEKDAY	WEEKEND	USER DEFINED 01	USER DEFINED 02	
LEVEL 02 - PROMENADE/PLAZA														
P.02.1	STAIRS	-	-	X	-	X	-							
P.02.2	MEP ROOMS	-	-	-	-	-	X							
P.02.3		-	-	-	-	-	-							
P.02.4		-	-	-	-	-	-							
P.02.5		-	-	-	-	-	-							

LEVEL 01 LIGHTING CONTROL SCHEDULE - STEAMBOAT BASE AREA - PROMENADE AND PLAZA BUILDING

THE FOLLOWING CHART OUTLINES AREAS OF ZONING FOR AMBIENT LIGHTING CONTROL SYSTEM.
LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH ZONE AS INDICATED ON PLANS.
THE BELOW CONTROLS ARE INDICATED FOR ENERGY COMPLIANCE USING ASHRAE 90.1 - 2016 AS THE PRESCRIPTIVE PATH. REFER TO LIGHTING PLANS FOR ADDITIONAL CONTROL DEVICES. THIS MATRIX OUTLINES MINIMUM REQUIREMENT AND BUILDING OPERATION MAY GOVERN THE ADDITION OF CONTROLS.

SYMBOL	SPACE TYPE DESCRIPTION	CONTROL TYPE						SCENES						
		DL	DIM	OS	VS	TC	LS	MAINTENANCE	EVENT	WEEKDAY	WEEKEND	USER DEFINED 01	USER DEFINED 02	
LEVEL 01 - PROMENADE/PLAZA														
P.01.1	STAIRS	-	-	X	-	X	-							
P.01.2	MEP ROOMS	-	-	-	-	-	X							
P.01.3		-	-	-	-	-	-							
P.01.4		-	-	-	-	-	-							
P.01.5		-	-	-	-	-	-							

LEGEND:

- **DL** = DAYLIGHT CONTROLLED WITH AUTOMATIC TIME CLOCK AND PHOTOCELL
- **DIM** = DIMMING CONTROLS (CONTROL QUANTITY, ZONING, AND TYPE PER PLAN)
- **OS** = OCCUPANCY SENSOR (AUTOMATIC ON TO 100%)
- **VS** = VACANCY SENSOR (MANUAL ON)
- **TC** = AUTOMATIC TIME CLOCK WITH LOW VOLTAGE OVERRIDE (SWITCH OR OCC. SENSOR PER PLAN)
- **LS** = LOW VOLTAGE SWITCH (ON/OFF ONLY)
- **DX** = DMX ADDRESSABLE FIXTURE. VERIFY WITH SPECIFIC FIXTURE SPEC FOR FIXTURE ADDRESS QUANTITY AND EM OVERRIDE REQUIREMENTS.

GENERAL NOTES:

1. REFER TO LIGHTING DRAWINGS FOR OCCUPANCY/VACANCY SENSOR SPACES. PROVIDE QUANTITY AS REQURIED FOR FULL COVERAGE OF ALL SPACES.
2. PROVIDE ADDITIONAL RELAYS AS REQURIED FOR AUTOMATIC RECEPTACLE CONTROL AS INDICATED ON ELECTRICAL DRAWINGS FOR ALL PRIVATE OFFICES, OPEN OFFICES, AND COMPUTER CLASSROOMS.
3. ALL INTERIOR SPACES SHALL HAVE MANUAL LOCAL SWITCH/DIMMING CONTROLS OTHER THAN RESTROOMS AND PUBLIC CORRIDORS.

ELECTRICAL EQUIPMENT CONNECTION SCHEDULE

EQUIPMENT ID	EQUIPMENT NAME	HP	LOAD (VA)	VOLTAGE	PHASE	FLA	DISCONNECT	FUSE	FEEDER	CONDUIT	COMMENTS
EQ-1	OVERHEAD DOOR OPENER	3/4	1656	120 V	1	14 A	30A/1P	FUSE PER MFG	2 #12 & #12 GND	3/4"	
EQ-10	ADA DOOR OPENER	3/4	960	120 V	1	8 A	30A/1P		2 #12 & #12 GND	3/4"	

LED

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
L1	42W LED, 3000 LUMENS PER 4 FEET OF FIXTURE, 3500K, 80+ CRI, 50,000+ HOURS	LED STRIPLIGHT WITH DIFFUSE LENS, PROVIDE SURFACE OR PENDANT MOUNT SUPPORTS PER MOUNTING HEIGHT	WHITE	120-277	PENDANT TO 10 FT. AFF	LITHONIA	CLX-L48-3000LM-SEF-FDL	COOPER METALUX SNLED SERIES	DAYBRITE FSS LED SERIES	ON/OFF	MEP, STORAGE	PROVIDE ADDITIONAL QUANTITY OF COMPLETE LIGHT FIXTURE, WITH A QTY OF 0.25% OF TOTAL QTY AND A MIN. QTY OF 2 FIXTURES.
L2	15 WATT LED, 600 LUMENS, 4000K,	WALL MOUNTED LED 'JELLY JAR' STYLE LIGHT FIXTURE WITH METAL GUARDING AROUND FIXTURE LENSING /LIGHT SOURCE. LOW PROFILE, VAPOR TIGHT, LED LIGHT SOURCE.	STANDARD	MVOLT	WALL	LITHONIA	OLVTWM-	APPROVED ALTERNATE	APPROVED ALTERNATE	ON/OFF	GENERATOR YARD	
L3		NOT USED										
L3A		NOT USED										
L4	23W LED, 1800+ DELIVERED LUMENS, 3500K, 80+ CRI, 50000 HOURS	4" DIAMETER RECESSED FIXED DOWNLIGHT, 73 DEGREE WIDE BEAM DISTRIBUTION, MATTE-DIFFUSE REFLECTOR, 6-9/16" TALL NEW CONSTRUCTION HOUSING, INTEGRAL DRIVER.	STANDARD, TO BE CONFIRMED WITH ARCHITECT	120-277	RECESSED	GOTHAM	EVO4-35/20-AR-WD-LD-MVOLT-GZ10	COOPER PORTFOLIO SERIES	SIGNIFY CALCULITE SERIES	0-10V DIMMING	CORRIDORS	PROVIDE ADDITIONAL QUANTITY OF COMPLETE LIGHT FIXTURE, WITH A QTY OF 0.25% OF TOTAL QTY AND A MIN. QTY OF 2 FIXTURES.
L4A		NOT USED										
L4B		NOT USED										
L5		NOT USED										
L5A		NOT USED										
L6		NOT USED										
L6A	9W/FT, 1250 LUMENS PER FOOT, 3500K, 80+ CRI, 50,000+ HOURS	3.44" WIDE X 2.72" DEEP LED STRIPLIGHT WITH DIFFUSE LENS. PROVIDE SURFACE OR PENDANT MOUNT SUPPORTS PER MOUNTING HEIGHT. LENGTH PER PLAN	WHITE, VERIFY WITH ARCHITECT	120-277	WALL	LITHONIA	CLX L24 2500LM SEF FDL	COOPER METALUX SNLED SERIES	DAYBRITE FSS LED SERIES	0-10V DIMMING	STAIRS/CORRIDORS	
L6B		NOT USED										

SITE FAÇADE

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
S1	5903 LUMENS, 55W, 3000K, 80 CRI	SIMILAR TO F1, EXCEPT WALL MOUNTED	BLACK (VERIFY WITH ARCH)	120/277V	WALL	WE-EF	ASP534 LED655-3526	APPROVED ALTERNATE	APPROVED ALTERNATE	0-10V DIMMING		ARM MOUNTED
S2	7.7W, 807 LUMENS, 3000K, 80 CRI	10.31" WIDE X 9.06" TALL X 4.52" DEEP RECESSED STEP LIGHT WITH TEMPERED GLASS LENS. ASSYMETRIC THROW. WET LOCATION RATED.	GREY METALLIC (VERIFY WITH ARCHITECT)	120-277V	RECESSED	WE-EF	QRI 354 LED - 616 1321	APPROVED ALTERNATE	APPROVED ALTERNATE	ON/OFF	STEPS	
S3	28W, 2951 LUMENS, 3000K, 80 CRI	9.84" DIAMETER ROUND RECESSED LINEAR SPREAD LENSED LED SOFTENING LENS. 7.87" DEEP 11.97" DIAMETER BACK BOX. WET LOCATION RATED.	STAINLESS STEEL	120-277V	RECESSED	WE-EF	ETC330-FS LED+I O - 180'	APPROVED ALTERNATE	APPROVED ALTERNATE	ON/OFF	ESCALATOR CANOPY	

EMERGENCY

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
X1	5W LED GREEN/RED	EDGE LIT EXIT SIGN, PROVIDE WHITE OR MIRROR BACKING BETWEEN PANELS - TBD, MOUNTING AND ARROWS, SINGLE OR DOUBLE FACE, WITH UNIVERSAL MOUNTING FOR ALL CONDITIONS PER PLAN DRAWINGS	BRUSHED ALUMINUM	277	UNIVERSAL	LITHONIA	LRP SERIES	COOPER	SIGNIFY		PREMIUM AREAS	VERIFY LETTER & BACKGROUND COLOR WITH LOCAL AHJ

RCRBD
Record Set
Electrical
07/01/2021

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Tel 303.421.6655

Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED 52253 PROFESSIONAL ENGINEER

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
ELECTRICAL CONNECTION AND LIGHTING SCHEDULES

Scale
1/8" = 1'-0"

1A-E0.002

Steamboat Base Village Redevelopment **ME Engineers Inc.**

PANEL: **L1N1**

480/277 Wye
3 Phase, 4 Wire + Gnd. 60Hz.
SCCR:

BUS: 250 A
MAINS: MLO
GROUND BAR: Copper

ENCLOSURE: Type 1
MOUNTING: Surface
FED FROM: MSB
LEVEL: LOWER LEVEL B02 - PUBLIC FFE
LOCATION:
ISSUE DATE: 12/17/2020

NOTES:

OPTIONS:

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A		B		C		CKT	OCP	P	DESCRIPTION	N
	T-R3N1	3	125	1	400	1808					2	20	1	CORRIDOR, ERV RMS, MECH/ICE, DISHWASHING LTG	
--	--	--	--	3			0	1520			4	20	1	COLD FOOD STORAGE, KEG ROOM, FOOD STORAGE LTG	
--	--	--	--	5					0	120	6	20	1	EXTERIOR MECHANICAL YARD LTG	
	EM LTG WATER ENTRY, MAIN ELEC, VEST. 100	1	20	7	344	0					8	20	1	SPARE	
	EM LTG IDF/IT RM 90 & 91 & CORRIDOR 114	1	20	9			410	0			10	20	1	SPARE	
	EM LTG FOOD STORAGE 110	1	20	11					420	0	12	20	1	SPARE	
	EM LTG ERV1 & ERV 2	1	20	13	420	0					14	20	1	SPARE	
	EM LTG ELEC 106 & PLAZA DISHWASHING	1	20	15			294	0			16	20	1	SPARE	
	EM LTG MECHANICAL/ICE PLANT 104	1	20	17					504	0	18	20	1	SPARE	
	EM LTG FOOD SERVICE, LOADING/TRASH 103	1	20	19	420	0					20	20	1	SPARE	
	EM LTG STAIR 109	1	20	21			216	0			22	20	1	SPARE	
	EXIT SIGNS SOUTH	1	20	23					15	0	24	20	1	SPARE	
	SPARE	1	20	25	0	0					26	20	1	SPARE	
	SPARE	1	20	27			0	0			28	20	1	SPARE	
	SPARE	1	20	29					0	0	30	20	1	SPARE	
	SPARE	1	20	31	0	0					32	20	1	SPARE	
	SPARE	1	20	33			0	0			34	20	1	SPARE	
	SPARE	1	20	35					0	0	36	20	1	SPARE	
	SPARE	1	20	37	0	0					38	20	1	SPARE	
	SPARE	1	20	39			0	0			40	20	1	SPARE	
	SPARE	1	20	41					0	0	42	20	1	SPARE	

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	3392	2440	1059	6891
CNNCTD	3392	2440	1059	6891

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 480/277 Wye
LIGHTING	6711	100%	6711	8
RECEPTACLE				
MOTOR				
MISCELLANEOUS	180	100%	180	0
KITCHEN				
ELECTRIC HEAT				
EV CHARGING				
TOTAL	6891		6891	8

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

Steamboat Base Village Redevelopment **ME Engineers Inc.**

PANEL: **L1N2**

480/277 Wye
3 Phase, 4 Wire + Gnd. 60Hz.
SCCR:

BUS: 100 A
MAINS: MLO
GROUND BAR: Copper

ENCLOSURE: Type 1
MOUNTING: Surface
FED FROM: MSB
LEVEL: LOWER LEVEL B02 - PUBLIC FFE
LOCATION:
ISSUE DATE: 12/17/2020

NOTES:

OPTIONS:

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A		B		C		CKT	OCP	P	DESCRIPTION	N
	SITE LIGHTING F1 & F2 - ZONE P.S.1	1	20	1	605	330					2	20	1	SITE LIGHTING F1 & F2 - ZONE P.S.2	
	SITE LIGHTING F7 - ZONE P.S.3	1	20	3			660	672			4	20	1	SITE LIGHTING F7A - ZONE P.S.4	
	SITE LIGHTING F7A - ZONE P.S.5	1	20	5					672	20	6	20	1	SITE LIGHTING F8 - ZONE P.S.6	
	SITE LIGHTING F8 - ZONE P.S.7	1	20	7	15	55					8	20	1	SITE LIGHTING F1 - ZONE P.S.8	
	SITE LIGHTING F3 - ZONE P.S.9	1	20	9			220	330			10	20	1	SITE LIGHTING F3 - ZONE P.S.10	
	SPARE	1	20	11					0	0	12	20	1	SPARE	
	STAGE BUILDING RESTROOM NORMAL LIGHTING	1	20	13	84	0					14	20	1	SPARE	
	EM LTG - ELEC 130	1	20	15			168	0			16	20	1	SPARE	
	SPARE	1	20	17					0	0	18	20	1	SPARE	
	SPARE	1	20	19	0	0					20	20	1	SPARE	
	SPARE	1	20	21			0	0			22	20	1	SPARE	
	SPARE	1	20	23					0	0	24	20	1	SPARE	
	SPARE	1	20	25	0	0					26	20	1	SPARE	
	SPARE	1	20	27			0	0			28	20	1	SPARE	
	SPARE	1	20	29					0	0	30	20	1	SPARE	
	SPARE	1	20	31	0	0					32	20	1	SPARE	
	SPARE	1	20	33			0	0			34	20	1	SPARE	
	SPARE	1	20	35					0	0	36	20	1	SPARE	
	SPARE	1	20	37	0	0					38	20	1	SPARE	
	SPARE	1	20	39			0	0			40	20	1	SPARE	
	SPARE	1	20	41					0	0	42	20	1	SPARE	

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	1089	2050	692	3831
CNNCTD	1089	2050	692	3831

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 480/277 Wye
LIGHTING	3831	100%	3831	5
RECEPTACLE				
MOTOR				
MISCELLANEOUS				
KITCHEN				
ELECTRIC HEAT				
EV CHARGING				
TOTAL	3831		3831	5

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

Steamboat Base Village Redevelopment **ME Engineers Inc.**

PANEL: **M1N1**

480/277 Wye
3 Phase, 4 Wire + Gnd. 60Hz.
SCCR:

BUS: 250 A
MAINS: MCB
GROUND BAR: Copper

ENCLOSURE: Type 1
MOUNTING: Surface
FED FROM: MSB
LEVEL: LOWER LEVEL B02 - PUBLIC FFE
LOCATION:
ISSUE DATE: 12/17/2020

NOTES:
1. PROVIDE GFPE TYPE BREAKER

OPTIONS:
FEED THROUGH LUGS

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A		B		C		CKT	OCP	P	DESCRIPTION	N
	T-R1N2 (ABOVE)	3	125	1	5851	9324					2	60	3	ERV 1A.01	
--	--	--	--	3			6885	9324			4	--	--	--	--
--	--	--	--	5					7768	9324	6	--	--	--	--
	CWP 1A.01	3	20	7	3810	0					8	30	3	SPARE	
--	--	--	--	9			3810	0			10	--	--	--	--
--	--	--	--	11					3810	0	12	--	--	--	--
	CWP 1A.01	3	20	13	3810	0					14	20	3	SPARE	
--	--	--	--	15			3810	0			16	--	--	--	--
--	--	--	--	17					3810	0	18	--	--	--	--
	EBP 1A.01	3	20	19	1039	0					20	20	3	SPARE	
--	--	--	--	21			1039	0			22	--	--	--	--
--	--	--	--	23					1039	0	24	--	--	--	--
	SF 1A.02	3	20	25	252	1000					26	20	1	SE - HEAT TRACE	1
--	--	--	--	27			252	0			28	20	1	SPARE	
--	--	--	--	29					252	0	30	20	1	SPARE	
	ESP-1	3	20	31	942	0					32	20	1	SPARE	
--	--	--	--	33			942	0			34	20	1	SPARE	
--	--	--	--	35					942	0	36	20	1	SPARE	
	ERV 1A.02	3	40	37	5474	0					38	20	1	SPARE	
--	--	--	--	39			5474	0			40	20	1	SPARE	
--	--	--	--	41					5474	0	42	20	1	SPARE	

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	34044	34080	35034	103158
CNNCTD	31503	31537	32420	95459

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 480/277 Wye
LIGHTING				
RECEPTACLE				
MOTOR	86167	108%	93160	112
MISCELLANEOUS	5100	100%	5100	6
KITCHEN				
ELECTRIC HEAT	1365	100%	1365	2
EV CHARGING				
TOTAL	95459		103158	124

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

Steamboat Base Village Redevelopment **ME Engineers Inc.**

PANEL: **M1N2**

480/277 Wye
3 Phase, 4 Wire + Gnd. 60Hz.
SCCR:

BUS: 400 A
MAINS: MCB
GROUND BAR: Copper

ENCLOSURE: Type 1
MOUNTING: Surface
FED FROM: MSB
LEVEL: LOWER LEVEL B02 - PUBLIC FFE
LOCATION:
ISSUE DATE: 12/17/2020

NOTES:
1. EXISITNG CIRCUIT TO BE REFED

OPTIONS:

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A		B		C		CKT	OCP	P	DESCRIPTION	N
1	RESTROOM LTG	1	20	1	0	0					2	20	2	WH-1	1
1	EXTERIOR LTG	1	20	3			0	0			4	--	--	--	--
	SPARE	1	20	5					0	0	6	20	2	WH-2	1
1	EDH-1	3	30	7	0	0					8	--	--	--	--
--	--	--	--	9			0	0			10	20	2	WH-4	1
--	--	--	--	11					0	0	12	--	--	--	--
1	EDH-2	3	30	13	0	0					14	20	2	WH-5	1
--	--	--	--	15			0	0			16	--	--	--	--
--	--	--	--	17					0	0	18	20	1	SPARE	
	SPARE	1	20	19	0	0					20	20	1	SPARE	
	SPARE	1	20	21			0	0			22	20	1	SPARE	
	SPARE	1	20	23					0	0	24	20	1	SPARE	
	SPARE	1	20	25	0	0					26	20	1	SPARE	
	SPARE	1	20	27			0	0			28	20	1	SPARE	
	SPARE	1	20	29					0	0	30	20	1	SPARE	
	SPARE	1	20	31	0	0					32	20	1	SPARE	
	SPARE	1	20	33			0	0			34	20	1	SPARE	
	SPARE	1	20	35					0	0	36	20	1	SPARE	
	SPARE	1	20	37	0	25749					38	250	3	T-R1N4	
	SPARE	1	20	39			0	26115			40	--	--	--	--
	SPARE	1	20	41					0	25284	42	--	--	--	--

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	18885	19154	18544	56584
CNNCTD	25749	26115	25284	77148

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 480/277 Wye
LIGHTING	1200	100%	1200	1
RECEPTACLE	51327	60%	30664	37
MOTOR	951	110%	1050	1
MISCELLANEOUS	23520	100%	23520	28
KITCHEN				
ELECTRIC HEAT	150	100%	150	0
EV CHARGING				
TOTAL	77148		56584	68

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

Steamboat Base Village Redevelopment **ME Engineers Inc.**

PANEL: **M1N3**

480/277 Wye
3 Phase, 4 Wire + Gnd. 60Hz.
SCCR:

BUS: 400 A
MAINS: MLO
GROUND BAR: Copper

ENCLOSURE: Type 1
MOUNTING: Surface
FED FROM: MSB
LEVEL: LOWER LEVEL B02 - PUBLIC FFE
LOCATION:
ISSUE DATE: 12/17/2020

NOTES:

OPTIONS:

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A		B		C		CKT	OCP	P	DESCRIPTION	N
	ELEVATOR	3	60	1	11085	0					2	60	3	SPARE	
--	--	--	--	3			11085	0			4	--	--	--	--
--	--	--	--	5					11085	0	6	--	--	--	--
	SPARE	3	60	7	0	0					8	60	3	SPARE	
--	--	--	--	9			0	0			10	--	--	--	--
--	--	--	--	11					0	0	12	--	--	--	--
	SPARE	3	60	13	0	0					14	60	3	SPARE	
--	--	--	--	15			0	0			16	--	--	--	--
--	--	--	--	17					0	0	18	--	--	--	--
	SPARE	3	20	19	0	0					20	30	3	SPARE	
--	--	--	--	21			0	0			22	--	--	--	--
--	--	--	--	23					0	0	24	--	--	--	--
	SPARE	1	20	25	0	0					26	20	1	SPARE	
	SPARE	1	20	27			0	0			28	20	1	SPARE	
	SPARE	1	20	29					0	0	30	20	1	SPARE	
	SPARE	1	20	31	0	0					32	20	1	SPARE	
	SPARE	1	20	33			0	0			34	20	1	SPARE	
	SPARE	1	20	35					0	0	36	20	1	SPARE	
	SPARE	1	20	37	0	0					38	20	1	SPARE	
	SPARE	1	20	39			0	0			40	20	1	SPARE	
	SPARE	1	20	41					0	0	42	20	1	SPARE	

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	13856	13856	13856	41569
CNNCTD	11085	11085	11085	33255

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 480/277 Wye
LIGHTING				
RECEPTACLE				
MOTOR	33255	125%	41569	50
MISCELLANEOUS				
KITCHEN				
ELECTRIC HEAT				
EV CHARGING				
TOTAL	33255		41569	50

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

Steamboat Base Village Redevelopment **ME Engineers Inc.**

PANEL: **R1N1**

120/208 Wye
3 Phase, 4 Wire + Gnd. 60Hz.
SCCR:

BUS: 400 A
MAINS: 400 A - MCB
GROUND BAR: Copper

ENCLOSURE: Type 1
MOUNTING: Surface
FED FROM: T-R1N1
LEVEL: LOWER LEVEL B02 - PUBLIC FFE
LOCATION:
ISSUE DATE: 12/17/2020

NOTES:

OPTIONS:
FEED THROUGH LUGS

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A		B		C		CKT	OCP	P	DESCRIPTION	N
	SPARE	1	20	1	0	540					2	20	1	FOOD STORAGE 110 SOUTH RCPTS	
	SPARE	1	20	3			0	1920			4	20	1	LOADING/TRASH 103 DOCK LIGHT	
	SPARE	1	20	5					0	1656	6	20	1	EQ - 1 - INT. OVERHEAD DOOR - MECH/ICE PLANT 104	
	SPARE	1	20	7	0	0					8	20	1	SPARE	
	SPARE	1	20	9			0	540			10	20	1	VESTIBULE 100 RCPT	
	SPARE	1	20	11					0	360	12	20	1	SE EXTERIOR WP GFCI RCPTS	
	SPARE	1	20	13	0	720					14	20	1	CH 2A.01 HEAT TRACE	
	LOADING/TRASH 103 RCPTS	1	20	15			1080	960			16	20	1	VESTIBULE 100 ADA DOOR	
	MAIN ELEC 101 & WATER ENTRY 102 RCPT	1	20	17					540	960	18	20	1	VESTIBULE 100 ADA DOOR	
	EQ - 1 - OVERHEAD DOOR - LOADING/TRASH 103	1	20	19	1656	960					20	20	1	VESTIBULE 100 ADA DOOR	
	EQ - 1 - OVERHEAD DOOR - LOADING/TRASH 103	1	20	21			1656	0			22	20	1	SPARE	
	EQ - 1 - INT. OVERHEAD DOOR - LOADING/TRASH 103	1	20	23					1656	0	24	20	1	SPARE	
	SPARE	1	20	25	0	0					26	20	1	SPARE	
	SPARE	1	20	27			0	0			28	20	1	SPARE	
	SPARE	1	20	29					0	0	30	20	1	SPARE	
	SPARE	1	20	31	0	0					32	20	1	SPARE	
	SPARE	1	20	33			0	0			34	20	1	SPARE	
	SPARE	1	20	35					0	0	36	20	1	SPARE	
	SPARE	1	20	37	0	0					38	20	1	SPARE	
	SPARE	1	20	39			0	0			40	20	1	SPARE	
	SPARE	1	20	41					0	0	42	20	1	SPARE	

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	6354	7862	7746	21962
CNNCTD	6576	8136	8016	22728

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 120/208 Wye
LIGHTING	144	100%	144	0
RECEPTACLE	12360	90%	11180	31
MOTOR	9504	104%	9918	28
MISCELLANEOUS				
KITCHEN				
ELECTRIC HEAT	720	100%	720	2
EV CHARGING				
TOTAL	22728		21962	61

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

RCRBD
Record Set
Electrical
07/01/2021

Steamboat Base Village Redevelopment **ME Engineers Inc.**

PANEL: **R1N1**

120/208 Wye
3 Phase, 4 Wire + Gnd. 60Hz.
SCCR:

BUS: 400 A
MAINS: 400 A - MLO
GROUND BAR: Copper

ENCLOSURE: Type 1
MOUNTING: Surface
FED FROM: R1N1
LEVEL: LOWER LEVEL B02 - PUBLIC FFE
LOCATION:
ISSUE DATE: 12/17/2020

NOTES:

OPTIONS:

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A		B		C		CKT	OCP	P	DESCRIPTION	N
	FOOD STORAGE 110 RCPTS	1	20	43	900	0					44	20	1	SPARE	
	FOOD STORAGE 110 RCPTS	1	20	45			720	0			46	20	1	SPARE	
	KEG ROOM 111 RCPTS	1	20	47					720	0	48	20	1	SPARE	
	PLAZA COLD FOOD STORAGE 112 RCPTS	1	20	49	900	0					50	20	1	SPARE	
	CORRIDOR 114 & ERV1 113 RCPTS	1	20	51			720	0			52	20	1	SPARE	
	MECH/ICE PLANT 104 RCPTS	1	20	53					900	0	54	20	1	SPARE	
	LVL 01 - MECH YARD WP GFCI DUPLEX DEVICES	1	20	55	900	0					56	20	1	SPARE	
	PLAZA DISHWASHING 105 RCPTS	1	20	57			540	0			58	20	1	SPARE	
	STAIR 109 & ERV2 107 RCPTS	1	20	59					720	0	60	20	1	SPARE	
	SPARE	1	20	61	0	0					62	20	1	SPARE	
	SPARE	1	20	63			0	0			64	20	1	SPARE	
	SPARE	1	20	65					0	0	66	20	1	SPARE	
	SPARE	1	20	67	0	0					68	20	1	SPARE	
	SPARE	1	20	69			0	0			70	20	1	SPARE	
	SPARE	1	20	71					0	0	72	20	1	SPARE	
	SPARE	1	20	73	0	0					74	20	1	SPARE	
	SPARE	1	20	75			0	0			76	20	1	SPARE	
	SPARE	1	20	77					0	0	78	20	1	SPARE	
	SPARE	1	20	79	0	0					80	20	1	SPARE	
	SPARE	1	20	81			0	0			82	20	1	SPARE	
	SPARE	1	20	83					0	504	84	20	1	ELEVATOR PIT LTG & RCPT	

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	2700	1980	2844	7524
CNNCTD	2700	1980	2844	7524

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 120/208 Wye
LIGHTING	144	100%	144	0
RECEPTACLE	7380	100%	7380	20
MOTOR	0	Not Computed	0	0
MISCELLANEOUS				
KITCHEN				
ELECTRIC HEAT				
EV CHARGING				
TOTAL	7524		7524	21

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

Steamboat Base Village Redevelopment **ME Engineers Inc.**

PANEL: **R1N2**

120/208 Wye
3 Phase, 4 Wire + Gnd. 60Hz.
SCCR: RE:ONE-LINE

BUS: 150 A
MAINS: 150 A - MCB
GROUND BAR: Copper

ENCLOSURE: Type 1
MOUNTING: Surface
FED FROM: T-R1N2 (ABOVE)
LEVEL: LOWER LEVEL B02 - PUBLIC FFE
LOCATION:
ISSUE DATE: 12/17/2020

NOTES:

OPTIONS:
FEED THROUGH LUGS

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A		B		C		CKT	OCP	P	DESCRIPTION	N
	VFCU 4	1	20	1	1500	150					2	20	1	UH 3	
	VFCU 4	1	20	3			1500	150			4	20	1	UH 3	
	VFCU 4	1	20	5					1500	285	6	20	1	WFCU 1A.01 & 1A.06	
	HFCU 1	1	20	7	396	1680					8	20	1	MISC MECH CONTROLS	
	HFCU 3	1	20	9			1770	0			10	20	1	SPARE	
	HFCU 3	1	20	11					1416	180	12	20	1	ICE PLANT CONTROLS	
	UH 4	1	20	13	150	180					14	20	1	ICE PLANT CONTROLS	
	CUH 4	1	20	15			465	180			16	20	1	ICE PLANT CONTROLS	
	UH 4	1	20	17					150	180	18	20	1	ICE PLANT CONTROLS	
	CUH 4	1	20	19	465	180					20	20	1	ICE PLANT CONTROLS	
	EF 1A.01	1	20	21			1470	200			22	20	1	ICE PLANT CONTROLS	
	HFCU 3	1	20	23					1770	500	24	20	1	COLD FOOD STORAGE - WALK-IN COOLER SYSTEM	
	UH 4	1	20	25	150	500					26	20	1	KEG ROOM - WALK-IN COOLER SYSTEM	
	UH 4	1	20	27			150	500			28	20	1	FOOD STORAGE - WALK-IN COOLER SYSTEM	
	WFCU 1A.05	1	20	29					135	1152	30	20	1	ME-Motor	
	COLD FOOD STOR EVAP #1	2	20	31	250	0					32	20	1	SPARE	
--	--	--	--	33			250	0			34	20	1	SPARE	
	COLD FOOD STOR EVAP #2	2	20	35					250	0	36	20	1	SPARE	
--	--	--	--	37	250	0					38	20	1	SPARE	
	KEG RM 111 EVAP	2	20	39			250	0			40	20	1	SPARE	
--	--	--	--	41					250	0	42	20	1	SPARE	

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	5977	7034	7936	20947
CNNCTD	5851	6885	7768	20504

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 120/208 Wye
LIGHTING				
RECEPTACLE				
MOTOR	15039	103%	15482	43
MISCELLANEOUS	4100	100%	4100	11
KITCHEN				
ELECTRIC HEAT	1365	100%	1365	4
EV CHARGING				
TOTAL	20504		20947	58

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

L1N1	L1N2	M1N1
M1N2	M1N3	R1N1
R1N1	R1N2	

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

MATTHEW JOHN O'BOYLE
52253
5/19/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
ELECTRICAL PANEL SCHEDULES

Scale

1A-E0.003

Steamboat Base Village Redevelopment — ME Engineers Inc. — PANEL: R1N4

120/208 Wye	BUS: 400 A	ENCLOSURE:	Type 1
3 Phase, 4 Wire + Gnd. 60Hz.	MAINS: 400 A - MCB	MOUNTING:	Surface
SCCR:	GROUND BAR: Copper	FED FROM:	T-R1N4
NOTES: 1. EXISTING CIRCUIT TO BE REFED FROM NEW PANEL	OPTIONS: FEED THROUGH LUGS	LEVEL:	LOWER LEVEL B02 - PUBLIC FFE
		LOCATION:	
		ISSUE DATE:	12/17/2020

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A	A	B	B	C	C	CKT	OCP	P	DESCRIPTION	N
1	EF-1	1	20	1	0	0					2	20	3	EWH-1	1
1	SF-1	1	20	3			0	0			4	--	--	--	--
1	SF-2	1	20	5					0	0	6	--	--	--	--
1	WH-3	1	20	7	0	0					8	20	1	SPARE	
1	RECEPTACLES	1	20	9			0	0			10	20	1	SPARE	
1	RECEPTACLES	1	20	11					0	0	12	20	1	SPARE	
1	RECEPTACLES	1	20	13	0	0					14	20	1	SPARE	
1	HAND DRYERS	1	20	15			0	0			16	20	1	SPARE	
1	HAND DRYERS	1	20	17					0	1800	18	20	1	PLAZA FIRE PIT CONNECTION	
1	HAND DRYERS	1	20	19	0	540					20	20	1	DUPLEXES IN LTG FIXTURE POLES	
1	HAND DRYERS	1	20	21			0	720			22	20	1	DUPLEXES IN LTG FIXTURE POLES	
1	HAND DRYERS	1	20	23					0	0	24	20	1	SPARE	
1	HAND DRYERS	1	20	25	0	540					26	20	1	DUPLEXES IN LTG FIXTURE POLES	
1	MECH TIME CLOCK	1	20	27			0	540			28	20	1	DUPLEXES IN LTG FIXTURE POLES	
1	SOLENOID VALVE	1	20	29					0	0	30	20	1	SPARE	
	SPARE	1	20	31	0	0					32	20	1	SPARE	
	SPARE	1	20	33			0	0			34	20	1	SPARE	
	SPARE	1	20	35					0	0	36	20	1	SPARE	
	SPARE	1	20	37	0	12347					38	150	3	R1N5	
	SPARE	1	20	39			0	11348			40	--	--	--	--
	SPARE	1	20	41					0	12647	42	--	--	--	--

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	18885	19154	18544	56584
CNNCTD	25749	26115	25284	77148

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 120/208 Wye
LIGHTING	1200	100%	1200	3
RECEPTACLE	51327	60%	30664	85
MOTOR	951	110%	1050	3
MISCELLANEOUS	23520	100%	23520	65
KITCHEN				
ELECTRIC HEAT	150	100%	150	0
EV CHARGING				
TOTAL	77148		56584	157

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

Steamboat Base Village Redevelopment — ME Engineers Inc. — PANEL: R1N4

120/208 Wye	BUS: 400 A	ENCLOSURE:	Type 1
3 Phase, 4 Wire + Gnd. 60Hz.	MAINS: 400 A - MLO	MOUNTING:	Surface
SCCR:	GROUND BAR: Copper	FED FROM:	R1N4
NOTES: 1. PROVIDE GFCI BREAKER	OPTIONS:	LEVEL:	LOWER LEVEL B02 - PUBLIC FFE
		LOCATION:	
		ISSUE DATE:	12/17/2020

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A	A	B	B	C	C	CKT	OCP	P	DESCRIPTION	N
	DUPLEX AT LTG FIXTURE POLE BASE - LOWER PROM.	1	20	43	180	360					44	20	1	SITE POWER PEDESTAL NEMA 5-20R QUAD	
	DUPLEX AT BASE OF TREES - LOWER PROM.	1	20	45			720	360			46	20	1	SITE POWER PEDESTAL NEMA 5-20R QUAD	
	DUPLEX AT BASE OF TREES - LOWER PROM.	1	20	47					360	360	48	20	1	SITE POWER PEDESTAL NEMA 5-20R QUAD	
	DUPLEX AT BASE OF TREES - PLAZA	1	20	49	540	360					50	20	1	SITE POWER PEDESTAL NEMA 5-20R QUAD	
	DUPLEX AT BASE OF TREES - PLAZA	1	20	51			540	180			52	20	1	SITE POWER PEDESTAL NEMA 5-20R	
	SPARE	1	20	53					0	4803	54	50	3	SITE POWER PEDESTAL CS6369	1
	PLAZA SIGNAGE ELEMENT NEAR STAGE (P.S.15)	1	20	55	300	4803					56	--	--	--	--
	SPARE	1	20	57			0	4803			58	--	--	--	--
	SPARE	1	20	59					0	0	60	20	1	SPARE	
	PLAZA SIGNAGE ELEMENT NEAR ESCALATOR (P.S.18)	1	20	61	300	180					62	20	1	SITE POWER PEDESTAL NEMA 5-20R	
1	SPARE	3	50	63			0	180			64	20	1	SITE POWER PEDESTAL NEMA 5-20R	
--	--	--	--	65					0	4803	66	50	3	SITE POWER PEDESTAL CS6369	1
--	--	--	--	67	0	4803					68	--	--	--	--
	SPARE	1	20	69			0	4803			70	--	--	--	--
	SPARE	1	20	71					0	360	72	20	1	ELEC ROOM 130 RCPTS	
	SPARE	1	20	73	0	360					74	20	1	ELEC ROOM 130 & IRRAGATION CLOSET 129 RCPTS	
	SPARE	1	20	75			0	1920			76	20	1	SITE IRRIGATION SYSTEM	
	SPARE	1	20	77					0	150	78	20	1	UH 3	
	SPARE	1	20	79	0	135					80	20	1	WFCU 1A.04	
	SPARE	1	20	81			0	0			82	20	1	SPARE	
	SPARE	1	20	83					0	0	84	20	1	SPARE	

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	8325	9126	7322	24773
CNNCTD	12322	13507	10837	36665

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 120/208 Wye
LIGHTING	600	100%	600	2
RECEPTACLE	33860	65%	21930	61
MOTOR	285	113%	323	1
MISCELLANEOUS	1920	100%	1920	5
KITCHEN				
ELECTRIC HEAT				
EV CHARGING				
TOTAL	36665		24773	69

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

Steamboat Base Village Redevelopment — ME Engineers Inc. — PANEL: R1N5

120/208 Wye	BUS: 150 A	ENCLOSURE:	Type 1
3 Phase, 4 Wire + Gnd. 60Hz.	MAINS: 150 A - MCB	MOUNTING:	Surface
SCCR:	GROUND BAR: Copper	FED FROM:	R1N4
NOTES: 1. PROVIDE GFCI TYPE BREAKER.	OPTIONS:	LEVEL:	LOWER LEVEL B02 - PUBLIC FFE
		LOCATION:	
		ISSUE DATE:	12/17/2020

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A	A	B	B	C	C	CKT	OCP	P	DESCRIPTION	N
	UH 4	1	20	1	150	360					2	20	1	IDF 90 ACP	
	HFCU 1	1	20	3			396	0			4	30	2	SPARE	
	WFCU 1A.03	1	20	5					135	0	6	--	--	--	--
	WFCU 1A.02	1	20	7	135	0					8	30	2	SPARE	
	IDF/IT 90 RCPT	1	20	9			180	0			10	--	--	--	--
	IDF/IT 90 RCPT	1	20	11					180	0	12	20	1	SPARE	
	IDF/IT 90 RCPT	1	20	13	180	0					14	20	1	SPARE	
	IDF/IT 90 RCPT	1	20	15			180	0			16	20	1	SPARE	
	IDF/IT 90 RCPT	1	20	17					180	0	18	20	1	SPARE	
	IDF/IT 90 RCPT	1	20	19	180	0					20	20	1	SPARE	
	IDF/IT 90 RCPT	1	20	21			180	0			22	20	1	SPARE	
	CORRIDOR 114	1	20	23					540	0	24	20	1	SPARE	
	FOOD STORAGE 114 RCPTS	1	20	25	540	0					26	20	1	SPARE	
	PLAZA SIGNAGE ELEMENT NEAR STAIRS (P.S.17)	1	20	27			300	0			28	20	1	SPARE	
	SITE POWER PEDESTAL NEMA 5-20R QUAD	1	20	29					360	0	30	20	1	SPARE	
1	SITE POWER PEDESTAL CS6369	3	20	31	3602	0					32	20	1	SPARE	
--	--	--	--	33			3602	1350			34	30	2	IT RACK L6-30R RCPT	
--	--	--	--	35					3602	1350	36	--	--	--	--
	DUPLEXES IN LTG FIXTURE POLES	1	20	37	720	1350					38	30	2	IT RACK L6-30R RCPT	
	DUPLEX AT BASE OF TREES - PLAZA	1	20	39			360	1350			40	--	--	--	--
	PLAZA FIRE BOWL CONNECTION	1	20	41					1800	1350	42	30	2	IT RACK L6-30R RCPT	
	PLAZA FIRE BOWL CONNECTION	1	20	43	1800	1350					44	--	--	--	--
	PLAZA FIRE BOWL CONNECTION	1	20	45			1800	1350			46	30	2	IT RACK L6-30R RCPT	
	PLAZA FIRE BOWL CONNECTION	1	20	47					1800	1350	48	--	--	--	--
	PLAZA FIRE BOWL CONNECTION	1	20	49	1800	180					50	20	1	SITE POWER PEDESTAL NEMA 5-20R	
	PLAZA SIGNAGE ELEMENT (P.S.16)	1	20	51			300	0			52	20	1	SPARE	
	SPARE	1	20	53					0	0	54	20	1	SPARE	
	SPARE	1	20	55	0	0					56	20	1	SPARE	
	SPARE	1	20	57			0	0			58	20	1	SPARE	
	SPARE	1	20	59					0	0	60	20	1	SPARE	

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	11510	10579	11790	33879
CNNCTD	12347	11348	12647	36343

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 120/208 Wye
LIGHTING	600	100%	600	2
RECEPTACLE	15127	83%	12564	35
MOTOR	666	115%	765	2
MISCELLANEOUS	19800	100%	19800	55
KITCHEN				
ELECTRIC HEAT	150	100%	150	0
EV CHARGING				
TOTAL	36343		33879	94

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

Steamboat Base Village Redevelopment — ME Engineers Inc. — PANEL: M2N4

480/277 Wye	BUS: 400 A	ENCLOSURE:	Type 1
3 Phase, 4 Wire + Gnd. 60Hz.	MAINS: 400 A - MCB	MOUNTING:	Surface
SCCR:	GROUND BAR: Copper	FED FROM:	
NOTES:	OPTIONS:	LEVEL:	TOP OF ICE RINK SLAB
		LOCATION:	
		ISSUE DATE:	12/17/2020

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	DESCRIPTION	P	OCP	CKT	A	A	B	B	C	C	CKT	OCP	P	DESCRIPTION	N
	ZAMBONI CHARGER	3	30	1	4988	0					2	20	3	SPARE	
--	--	--	--	3			4988	0			4	--	--	--	--
--	--	--	--	5					4988	0	6	--	--	--	--
	EWH-2 ZAMBONI	3	100	7	20000	0					8	30	3	SPARE	
--	--	--	--	9			20000	0			10	--	--	--	--
--	--	--	--	11					20000	0	12	--	--	--	--
	EWH-1 ZAMBONI	3	100	13	20000	0					14	30	3	SPARE	
--	--	--	--	15			20000	0			16	--	--	--	--
--	--	--	--	17					20000	0	18	--	--	--	--
	SPARE	3	30	19	0	0					20	20	3	SPARE	
--	--	--	--	21			0	0			22	--	--	--	--
--	--	--	--	23					0	0	24	--	--	--	--
	SPARE	3	40	25	0	0					26	100	3	SPARE	
--	--	--	--	27			0	0			28	--	--	--	--
--	--	--	--	29					0	0	30	--	--	--	--

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	44988	44988	44988	134965
CNNCTD	44988	44988	44988	134965

DOWNSTREAM FEED THROUGH LUG PANELS

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 480/277 Wye
LIGHTING				
RECEPTACLE				
MOTOR				
MISCELLANEOUS	14965	100%	14965	18
KITCHEN				
ELECTRIC HEAT	120000	100%	120000	144
EV CHARGING				
TOTAL	134965		134965	162

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

RCRBD
Record Set
Electrical
07/01/2021

R1N4	R1N4	R1N5
M2N4		

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Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED — MATTHEW JOHN O'ROURKE — 52253

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
ELECTRICAL PANEL SCHEDULES

Scale

1A-E0.004

SITE LIGHTING CONTROL SCHEDULE - STEAMBOAT BASE AREA - PROMENADE AND PLAZA BUILDING

THE FOLLOWING CHART OUTLINES AREAS OF ZONING FOR AMBIENT LIGHTING CONTROL SYSTEM.
LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH ZONE AS INDICATED ON PLANS.
THE BELOW CONTROLS ARE INDICATED FOR ENERGY COMPLIANCE USING ASHRAE 90.1 - 2016 AS THE PRESCRIPTIVE PATH. REFER TO LIGHTING PLANS FOR ADDITIONAL CONTROL DEVICES. THIS MATRIX OUTLINES MINIMUM REQURIEMENT AND BUILDING OPERATION MAY GOVERN THE ADDITION OF CONTROLS.

SYMBOL	SPACE TYPE DESCRIPTION	CONTROL TYPE							SCENES						
		DL	DIM	OS	VS	TC	LS	DX	MAINTENANCE	EVENT	WEEKDAY	WEEKEND	USER DEFINED 01	USER DEFINED 02
SITE AND FAÇADE - PROMENADE/PLAZA														
P.S.1	F1 POLE LIGHTING AT PLAZA/PLANTERS	X	X	-	-	X	-	-						
P.S.2	F1 & F2 POLE LIGHTS AT STAGE	X	X	-	-	X	-	-						
P.S.3	F7 POLE LIGHTS (ONLY) AT ICE RINK	X	X	-	-	X	-	-						
P.S.4	F7 GIMBLE AIMABLE LIGHTS (ONLY) AT ICE RINK	X	X	-	-	X	-	X						
P.S.5	F7 GIMBLE AIMABLE LIGHTS (ONLY) AT ICE RINK	X	X	-	-	X	-	X						
P.S.6	F8 TREE LIGHTING AT PLAZA PLANTERS	X	X	-	-	X	-	-						
P.S.7	F8 TREE LIGHTING AT EAST LOWER PROMEANDE PLANTERS	X	X	-	-	X	-	-						
P.S.8	F1 POLE LIGHTS AT LOWER PROMEANDE ENTRY	X	X	-	-	X	-	-						
P.S.9	S1 FAÇADE LIGHTS AT LOWER PROMEANDE ENTRY FAÇADE	X	X	-	-	X	-	-						
P.S.10	S1 FAÇADE LIGHTS ON FAÇADE AT PLAZA LEVEL	X	X	-	-	X	-	-						
P.S.11	PLAZA FIRE PIT	-	-	-	-	X	-	-						
P.S.12	PLAZA FIRE BOWLS	-	-	-	-	X	-	-						
P.S.13	PLAZA TREE RECEPTACLES FOR HOLIDAY LIGHTING	-	-	-	-	X	-	-						
P.S.14	DUPLEX RECEPTACLES WITHIN POLE BASE	-	-	-	-	X	-	-						
P.S.15	PLAZA SIGNAGE	-	-	-	-	X	-	-						
P.S.16	PLAZA SIGNAGE	-	-	-	-	X	-	-						
P.S.17	PLAZA SIGNAGE	-	-	-	-	X	-	-						
P.S.18	PLAZA SIGNAGE	-	-	-	-	X	-	-						

1 ELECTRICAL SITE PLAN

SCALE: 1" = 10'-0"

GENERAL NOTES:

1. REFER TO LANDSCAPE DRAWINGS FOR LIGHT FIXTURE SPECIFICATIONS.

2. REFER TO LANDSCAPE DRAWINGS FOR ALL SITE FIXTURE LOCATIONS MOUNTED IN HARDSCAPE OR SOFTSCAPE. FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND LANDSCAPE ELEMENTS.

3. ALL LANDSCAPE OR EXTERIOR BUILDING LIGHTING SHALL BE CONTROLLED VIA THE LIGHTING CONTROL SYSTEM.

4. REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR ALL FIXTURE LOCATIONS ON THE EXTERIOR OF THE BUILDING. FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND STRUCTURAL ELEMENTS.

5. PROVIDE A MINIMUM 1" PVC CONDUIT FOR ALL UNDERGROUND BRANCH CIRCUITS. ALL 90DEGREE ELBOWS SHALL BE PVC COATED RIGID.

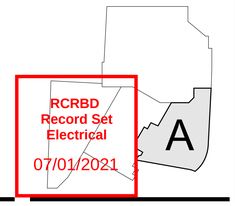
6. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

7. ALL WORK INDICATED ON THIS SHEET IS CONSIDERED PHASE 1 SCOPE OF WORK.

KEYNOTES

E20	PROVIDE 120V/1P ELECTRICAL CONNECTION FOR FIRE PIT/FIRE BOWL ON SITE. REFER TO LANDSCAPE DRAWINGS FOR EXACT CONNECTION REQUIREMENTS AND LOCATION. CONTROL THROUGH THE LIGHTING CONTROL SYSTEM. PROVIDE OVERRIDE ABILITY TO POWER OFF VIA EPO LOCATED ON SITE.
E21	PROVIDE EMERGENCY POWER OFF BUTTON FOR SITE FIRE BOWL GAS CONNECTIONS. REFER TO PLUMBING DRAWINGS FOR EXACT CONNECTION LOCATION FOR VALVE SHUTOFF TO TIE BACK TO EPO. THIS EPO SHALL SHUT OFF ALL FIRE BOWL LOCATIONS.
E22	PROVIDE EMERGENCY POWER OFF BUTTON FOR SITE FIRE PIT GAS CONNECTION. REFER TO PLUMBING DRAWINGS FOR EXACT CONNECTION LOCATION FOR VALVE SHUTOFF TO TIE BACK TO EPO. THIS EPO SHALL SHUT OFF THE LARGE FIRE PIT.
E24	PROVIDE SITE POWER PEDESTAL WITH (1) QUAD NEMA 3R 5-20R RECEPTACLE AND (1) EPO. ELECTRICAL DEVICES SHALL HAVE DEDICATED CIRCUITS. RE: DETAIL 1 ON SHEET 1A-E8.002. COORDINATE EXACT LOCATION WITH LANDSCAPE PRIOR TO INSTALLATION.
E25	PROVIDE SITE POWER PEDESTAL WITH (1) QUAD NEMA 3R 5-20R RECEPTACLE AND (1) CS6369. ELECTRICAL DEVICES SHALL HAVE DEDICATED CIRCUITS. RE: DETAIL 2 ON SHEET 1A-E8.002. COORDINATE EXACT LOCATION WITH LANDSCAPE PRIOR TO INSTALLATION.
E26	PROVIDE SITE POWER PEDESTAL WITH (1) QUAD NEMA 3R 5-20R RECEPTACLE AND (1) CS6369. ELECTRICAL DEVICES SHALL HAVE DEDICATED CIRCUITS. RE: DETAIL 3 ON SHEET 1A-E8.002. COORDINATE EXACT LOCATION WITH LANDSCAPE PRIOR TO INSTALLATION.
E27	PROVIDE SITE POWER PEDESTAL WITH (1) EPO. ELECTRICAL DEVICES SHALL HAVE DEDICATED CIRCUITS. RE: DETAIL 4 ON SHEET 1A-E8.002. COORDINATE EXACT LOCATION WITH LANDSCAPE PRIOR TO INSTALLATION.
E28	PROVIDE SITE POWER PEDESTAL WITH (2) QUAD NEMA 3R 5-20R RECEPTACLES. ELECTRICAL DEVICES SHALL HAVE DEDICATED CIRCUITS. RE: DETAIL 5 ON SHEET 1A-E8.002. COORDINATE EXACT LOCATION WITH LANDSCAPE PRIOR TO INSTALLATION.
E29	PROVIDE 120V/20A CONNECTION TO SIGNAGE ELEMENT. REFER TO ARCHITECTURAL AND LANDSCAPE DRAWINGS FOR EXACT LOCATION. VERIFY ELECTRICAL CONNECTION TYPE WITH MANUFACTURER SIGNAGE SUBMITTALS.
K3	PROVIDE SINGLE ZONE DISTRIBUTED ROOM CONTROLLER FOR LIGHTING CONTROL WITHIN THIS SPACE. ROOM CONTROLLER SHALL HAVE ON/OFF RELAY CONTROL AND DIMMING FUNCTIONALITY. ROOM CONTROLLER SHALL BE MOUNTED INSIDE BUILDING OR WITHIN NEMA 3R ENCLOSURE ON SITE. REFER TO LIGHT FIXTURE SCHEDULE FOR EXACT DIMMING TECHNOLOGY BEING USED ON A PER LIGHT FIXTURE BASIS. PROVIDE NETWORK CONNECTION FOR THIS ROOM CONTROLLER TO THE OVERALL NETWORKED LIGHTING CONTROL SYSTEM. REFER TO DETAIL 13/1A-E8.0003 FOR MORE INFORMATION.
K6	PROVIDE DUPLEX RECEPTACLE MOUNTED IN BASE OF LIGHT POLE LOCATED BEHIND IN-USE COVER. ROUTE CIRCUIT THROUGH LIGHTING CONTROL RELAY FOR RELAY CONTROL OF FIXTURE AT POLE BASE. COORDINATE WITH MANUFACTURER FOR EXACT ORIENTATION OF DEVICE IN RELATION TO SITE ORIENTATION AND POLE HAND HOLE.
K7	PROVIDE WP GFCI DUPLEX RECEPTACLE WITH IN-USE COVER LOCATED AT BASE OF TREE MOUNTED TO UNISTRUT FOR HOLIDAY TREE LIGHTING CONNECTION. PROVIDE (1) DUPLEX PER (2) TREES. ROUTE CIRCUIT THROUGH LIGHTING CONTROL RELAY FOR RELAY CONTROL OF FIXTURE AT DEVICE. COORDINATE WITH LANDSCAPE DESIGNER AND ARCHITECT FOR EXACT ORIENTATION & LOCATION OF DEVICE.

KEY PLAN



RCRBD
Record Set
Electrical
07/01/2021

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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED LANDSCAPE ARCHITECT 52253 07/19/21

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

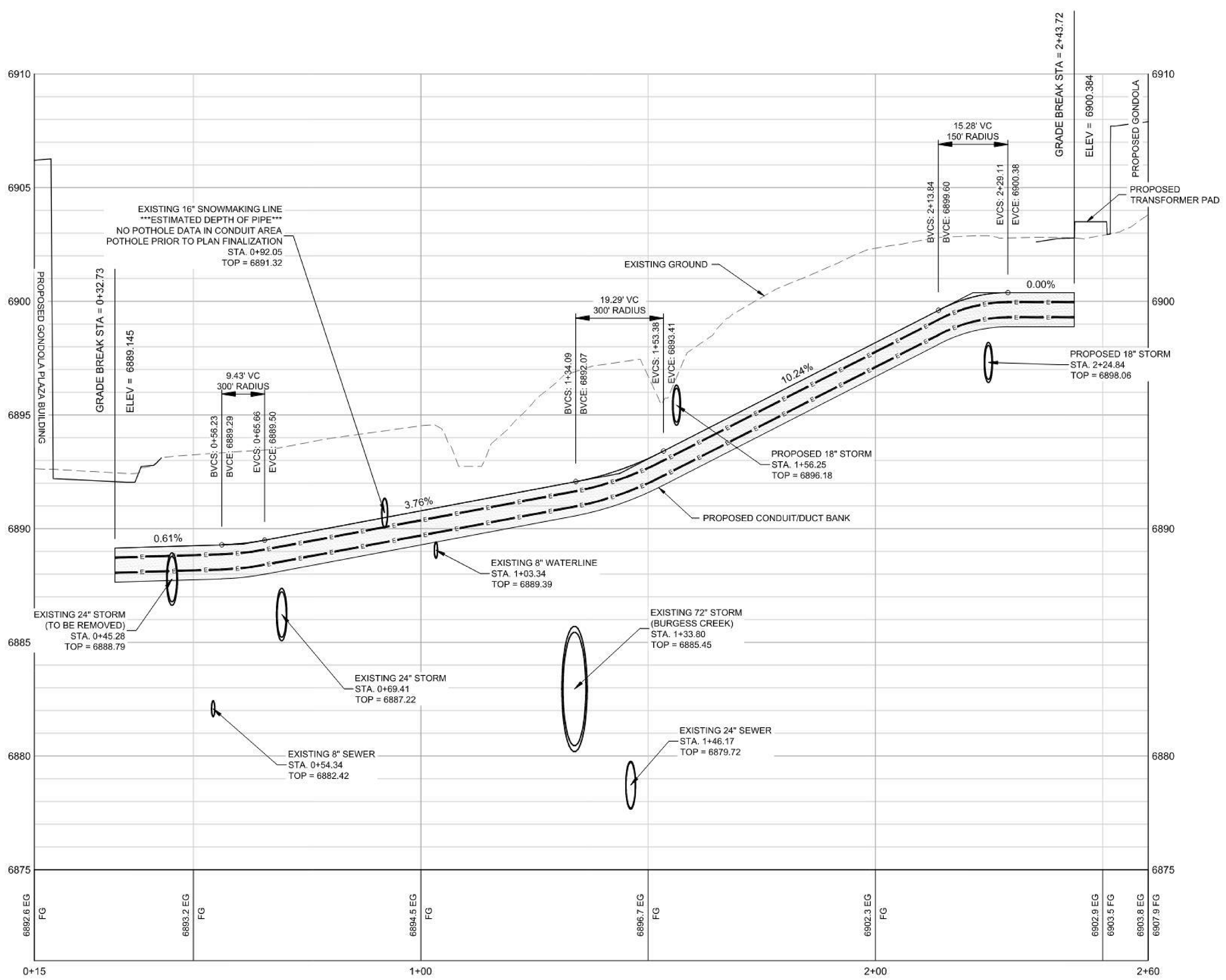
Description

PROMENADE - ELECTRICAL SITE PLAN

Scale

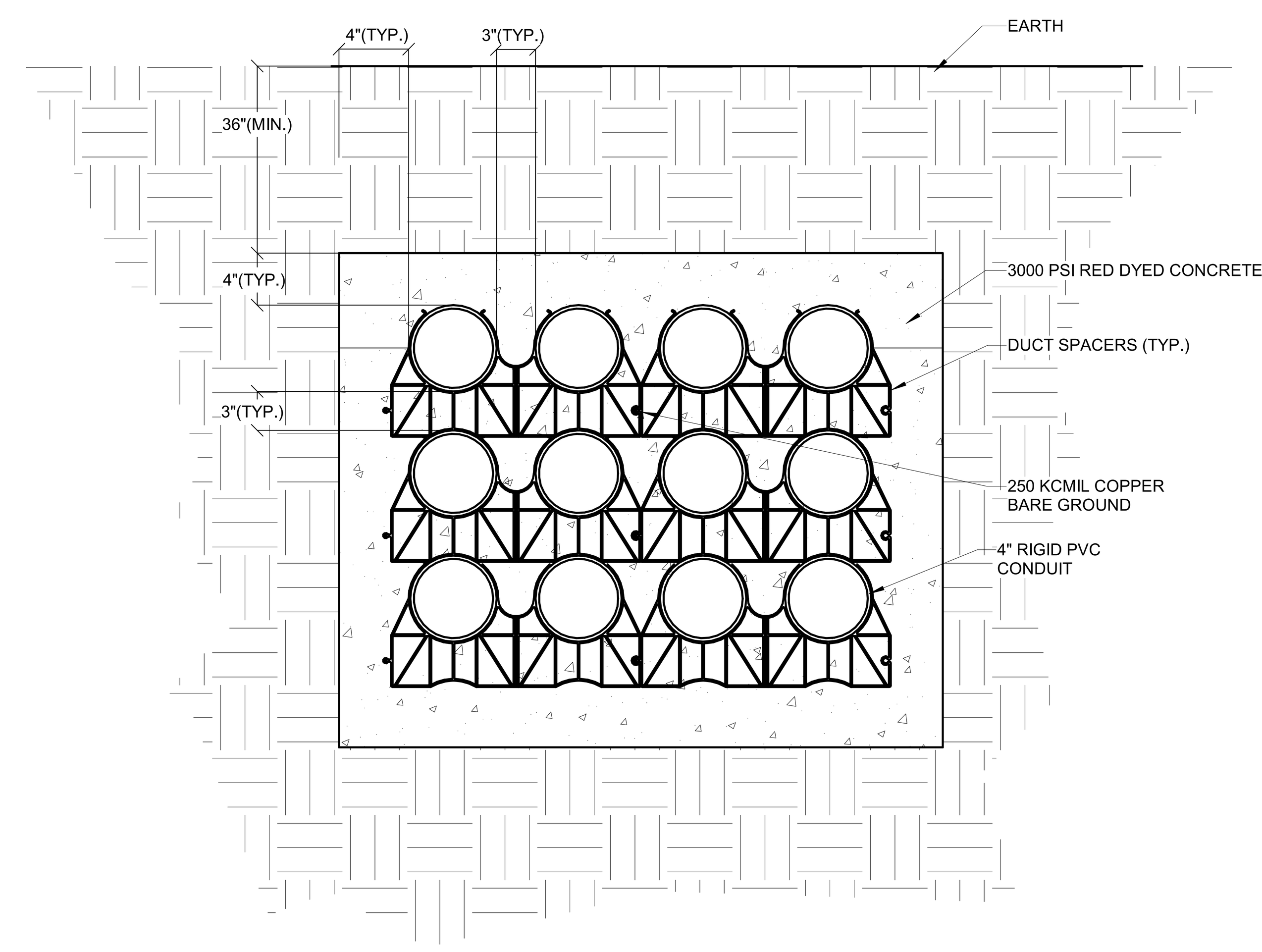
1" = 10'-0"

1A-E1.000



2 SECONDARY DUCT BANK PROFILE (FOR REFERENCE ONLY)

SCALE: 1/8" = 1'-0"

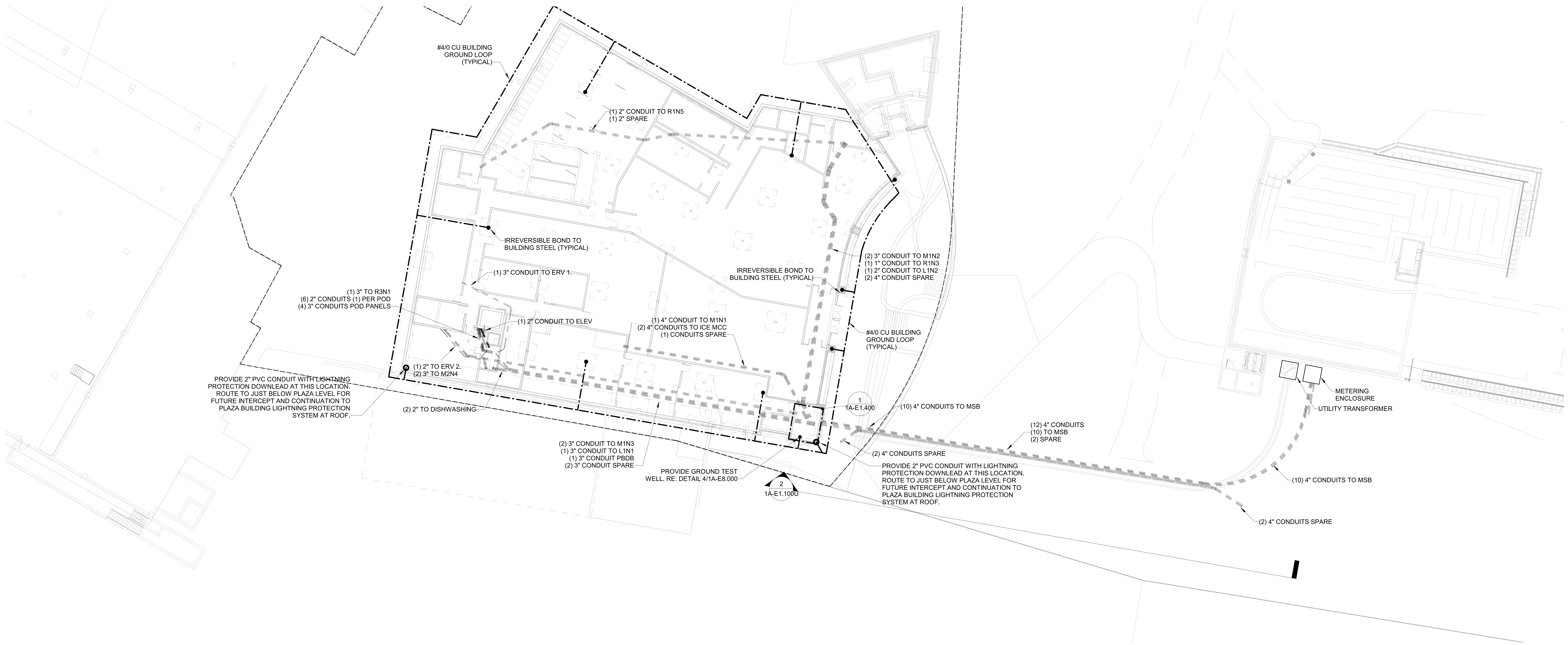


SECTION

1. DUCT BANK SHALL BE CONCRETE ENCASED WITH A MINIMUM OF 4" OF COVER ON ALL OUTSIDE EDGES (MINIMUM 3000 PSI RED DYED CONCRETE).
2. CONTRACTOR SHALL PROVIDE DUCT SPACERS EVERY 2'-6" FOR ALL UNDERGROUND CONDUIT (PVC.)
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER PRIOR TO PROCEEDING WITH WORK.

3 DUCT BANK

SCALE: NO SCALE



1 ELECTRICAL UNDERGROUND SITE PLAN

SCALE: 1" = 20'-0"

GENERAL NOTES:

1. REFER TO SHEET 1A-E0.002 FOR LIGHTING FIXTURE SCHEDULE.
2. REFER TO LANDSCAPE DRAWINGS FOR ALL SITE FIXTURE LOCATIONS MOUNTED IN HARDSCAPE OR SOFTSCAPE. FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND LANDSCAPE ELEMENTS.
3. ALL LANDSCAPE OR EXTERIOR BUILDING LIGHTING SHALL BE CONTROLLED VIA THE LIGHTING CONTROL SYSTEM.
4. REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR ALL FIXTURE LOCATIONS ON THE EXTERIOR OF THE BUILDING. FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND STRUCTURAL ELEMENTS.
5. PROVIDE A MINIMUM 1" PVC CONDUIT FOR ALL UNDERGROUND BRANCH CIRCUITS. ALL 90DEGREE ELBOWS SHALL BE PVC COATED RIGID.
6. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.
7. ALL WORK INDICATED ON THIS SHEET IS CONSIDERED PHASE 1 SCOPE OF WORK.

KEYNOTES

RCRBD
Record Set
Electrical
07/01/2021

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Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED PE MATTHEW JOHN O'BRIEN 52253

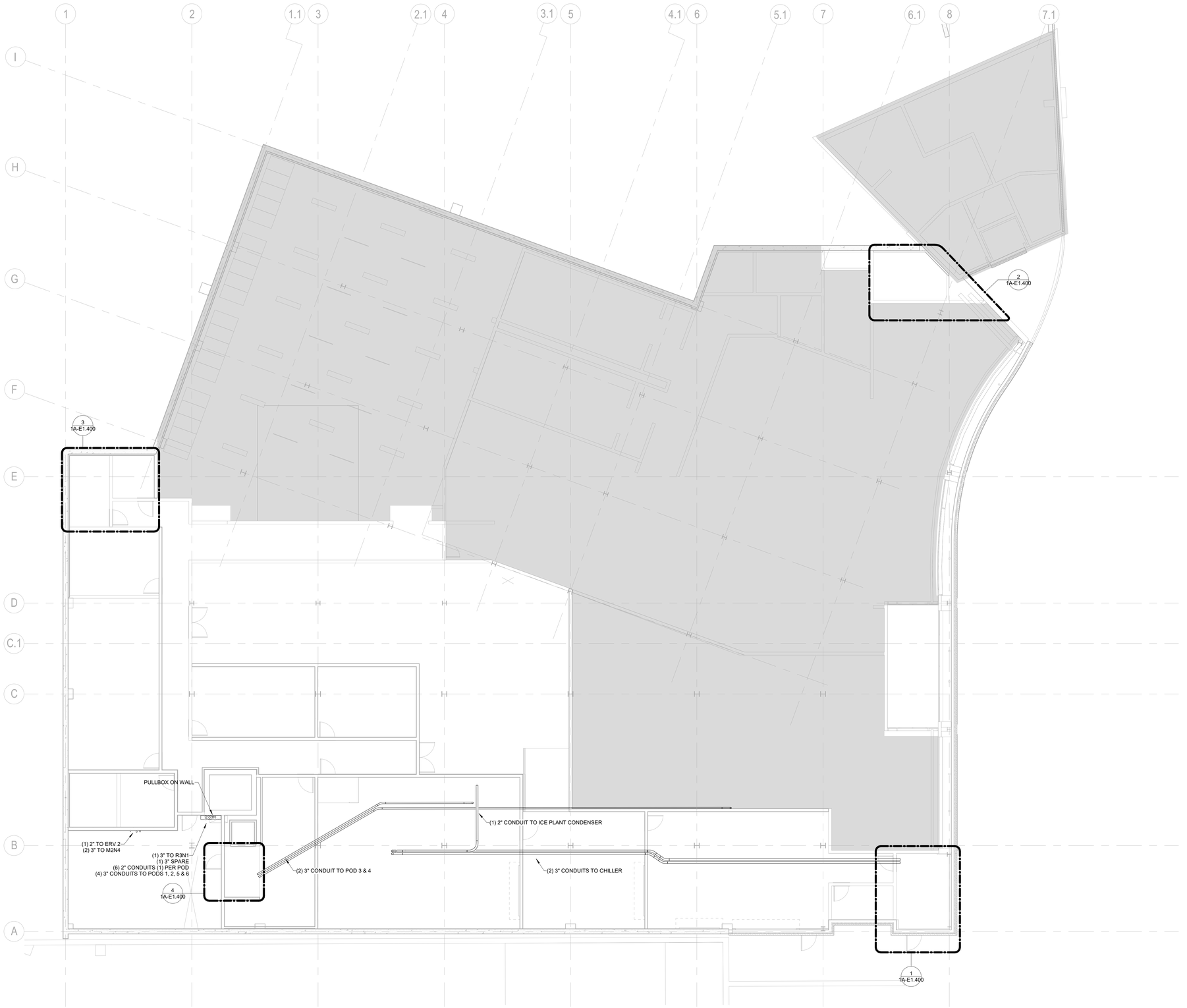
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ELECTRICAL UNDERGROUND CONDUIT PLAN

Scale
As indicated

1A-E1.100U



1 ELECTRICAL CONDUIT PLAN - LOWER LEVEL 00 PROMENADE
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

2. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT. ALL SURFACE MOUNTED CONDUIT WHERE EXPOSED TO PUBLIC AREAS SHALL BE PAINTED. PAINT COLOR TO BE DETERMINED BY THE ARCHITECT. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

6. ALL 277V LIGHTING CIRCUITS TERMINATING AT LIGHTING CONTROL PANELS SHALL HAVE A MINIMUM LENGTH OF 20 FEET BETWEEN LIGHTING CONTROL PANEL AND BRANCH LIGHTING PANEL.

7. REPLACE ALL FIRE ALARM DEVICES IN KIND IN STAGE BUILDING RESTROOM TO ENSURE THE DEVICES INTEGRATE WITH PROMENADE FIRE ALARM SYSTEM.

KEYNOTES

RCRBD Record Set Electrical
07/01/2021

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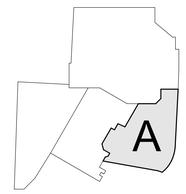
△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

KEY PLAN



Seal / Signature

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ELECTRICAL CONDUIT PLAN - LEVEL 00

Scale
1/8" = 1'-0"

1A-E1.100

1 ELECTRICAL CONDUIT PLAN - LEVEL 01 PLAZA
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

2. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT. ALL SURFACE MOUNTED CONDUIT WHERE EXPOSED TO PUBLIC AREAS SHALL BE PAINTED. PAINT COLOR TO BE DETERMINED BY THE ARCHITECT. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

6. ALL 277V LIGHTING CIRCUITS TERMINATING AT LIGHTING CONTROL PANELS SHALL HAVE A MINIMUM LENGTH OF 20 FEET BETWEEN LIGHTING CONTROL PANEL AND BRANCH LIGHTING PANEL.

7. REPLACE ALL FIRE ALARM DEVICES IN KIND IN STAGE BUILDING RESTROOM TO ENSURE THE DEVICES INTEGRATE WITH PROMENADE FIRE ALARM SYSTEM.

KEYNOTES

RCRBD
Record Set
Electrical
07/01/2021

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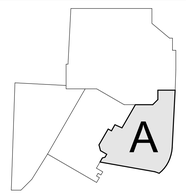
△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

KEY PLAN



Seal / Signature

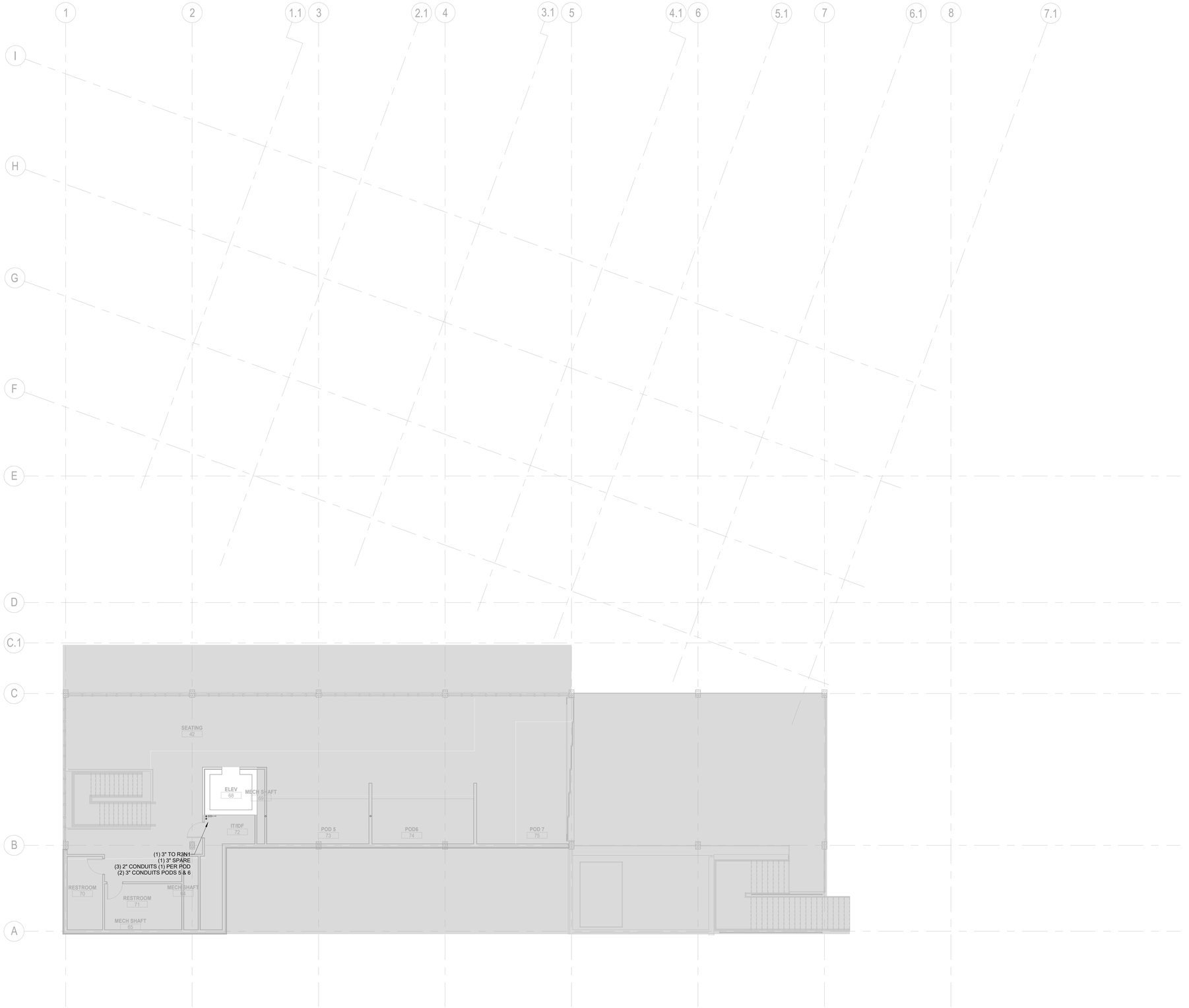
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ELECTRICAL CONDUIT PLAN - LEVEL 01

Scale
1/8" = 1'-0"

1A-E1.101



GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

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3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

6. ALL 277V LIGHTING CIRCUITS TERMINATING AT LIGHTING CONTROL PANELS SHALL HAVE A MINIMUM LENGTH OF 20 FEET BETWEEN LIGHTING CONTROL PANEL AND BRANCH LIGHTING PANEL.

7. REPLACE ALL FIRE ALARM DEVICES IN KIND IN STAGE BUILDING RESTROOM TO ENSURE THE DEVICES INTEGRATE WITH PROMENADE FIRE ALARM SYSTEM.

KEYNOTES

RCRBD
Record Set
Electrical
07/01/2021

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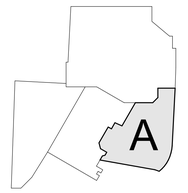
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

KEY PLAN



Seal / Signature

COLORADO LICENSED
JOHN TOM FORD
52253
PROFESSIONAL ENGINEER

Project Name
SSRC | BASE AREA IMPROVEMENTS

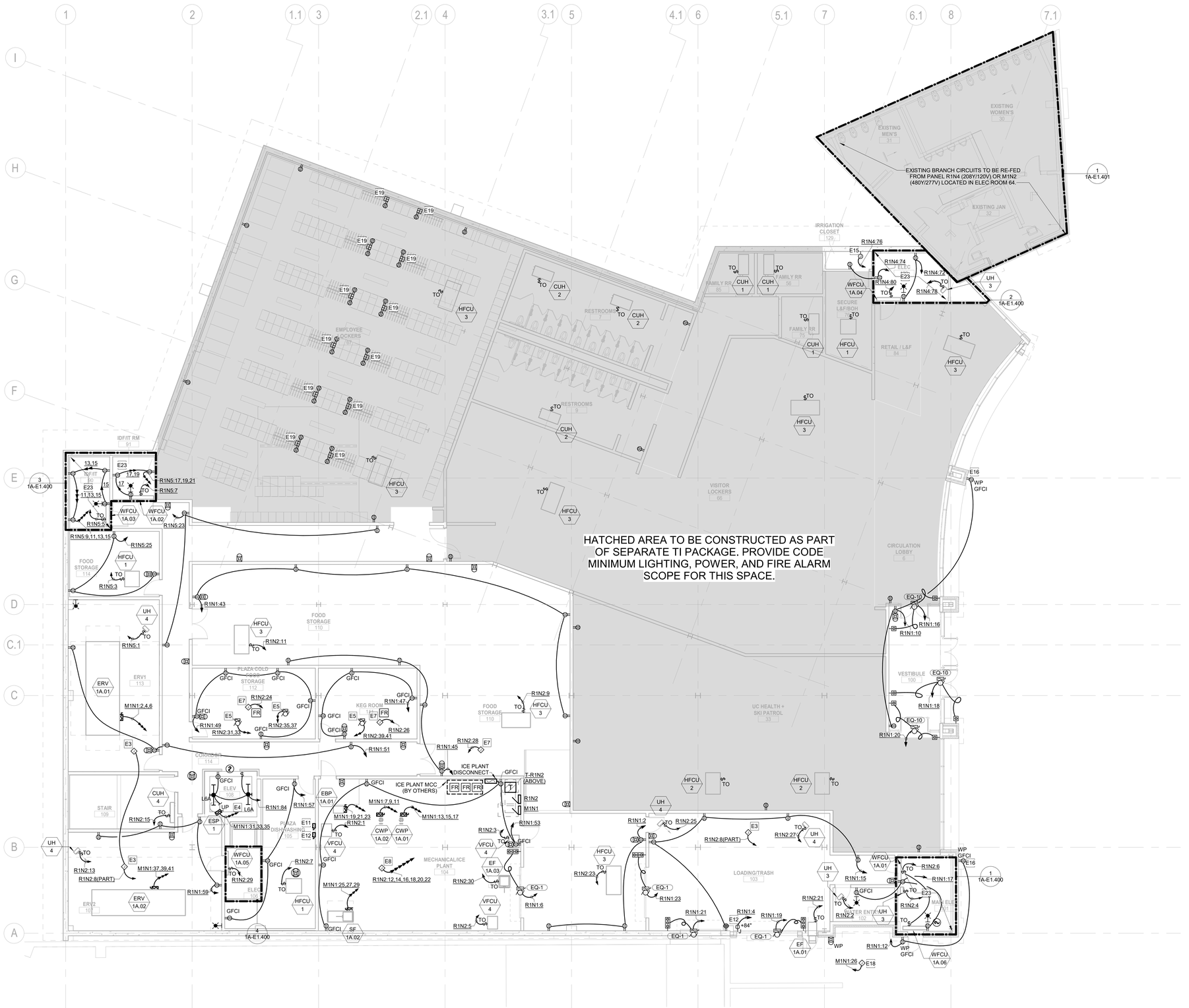
Project Number
003.7835.000

Description
PROMENADE - ELECTRICAL CONDUIT PLAN - LEVEL 02

Scale
1/8" = 1'-0"

1A-E1.102

1 ELECTRICAL CONDUIT PLAN - LEVEL 02 PLAZA
SCALE: 1/8" = 1'-0"



GENERAL NOTES:

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3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

6. ALL 277V LIGHTING CIRCUITS TERMINATING AT LIGHTING CONTROL PANELS SHALL HAVE A MINIMUM LENGTH OF 20 FEET BETWEEN LIGHTING CONTROL PANEL AND BRANCH LIGHTING PANEL.

7. REPLACE ALL FIRE ALARM DEVICES IN KIND IN STAGE BUILDING RESTROOM TO ENSURE THE DEVICES INTEGRATE WITH PROMENADE FIRE ALARM SYSTEM.

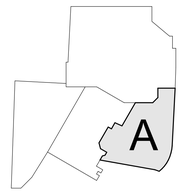
RCRBD Record Set Electrical

07/01/2021

KEYNOTES

E3	PROVIDE 120V/1P ELECTRICAL CONNECTION FOR MISCELLANEOUS MECHANICAL CONTROLS.
E4	PROVIDE 120V CONNECTION FOR ELEVATOR SHAFT LIGHTING AND GFCI RECEPTACLE AT ELEVATOR PIT. RECEPTACLE SHALL NOT BE SWITCHED AND THE LIGHTING SHALL NOT BE INSTALLED ON THE LOAD SIDE OF THE GFCI DEVICE. PIT LIGHTS AND RECEPTACLE SHALL BE COORDINATED WITH ELEVATOR MANUFACTURER AND SHOP DRAWINGS FOR LOCATION WITHIN THE SHAFT.
E5	PROVIDE ELECTRICAL CONNECTION FOR WALK-IN COOLER EVAPORATOR COIL UNIT. COORDINATE EXACT LOCATION AND QUANTITY WITH WALK-IN COOLER MANUFACTURER.
E7	PROVIDE 120V/1P ELECTRICAL CONNECTION FOR WALK-IN COOLER SYSTEM TERMINATED AT DOOR. PREWIRING TO BE PROVIDED INTEGRAL TO WALK-IN UNIT FOR THIS CONNECTION TO POWER ALL ALARMS, LIGHTS, SENSORS, VALVES, ETC. COORDINATE WITH WALK-IN UNIT MANUFACTURER SHOP DRAWINGS FOR EXACT CONNECTION REQUIREMENTS.
E8	PROVIDE (6) DEDICATED 120C/1P ELECTRICAL CONNECTIONS FOR ICE PLANT CONTROLS. COORDINATE EXACT POINT OF TERMINATION WITH ICE PLANT INSTALLER AND MANUFACTURER SHOP DRAWINGS.
E11	PROVIDE LIGHTING INVERTER "IOTA IIS-550-I" OR APPROVED EQUAL FOR BRANCH CIRCUIT EMERGENCY LIGHTING. INVERTER SHALL BE MOUNTED IN ACCESSIBLE LOCATION EITHER ABOVE ACCESSIBLE CEILING OR IN ADJACENT BACK OF HOUSE SPACE HIGH ON WALL. REFER TO 10/1A-E8.003 FOR EXACT WIRING CONFIGURATION WITH LIGHTING CONTROL AND INVERTER SYSTEM.
E12	PROVIDE NEMA L5-20R FOR CONNECTION DOKSTAR LED LOADING DOCK LIGHT DOK-18-L-U-5K-FL-C6720P-IRS-PC-DSD L40 (OR APPROVED EQUAL).
E15	PROVIDE DEDICATED 120V/1P ELECTRICAL CONNECTION FOR SITE IRRIGATION SYSTEM. REFER TO LANDSCAPE DRAWINGS FOR EXACT CONNECTION REQUIREMENTS AND LOCATION.
E16	PROVIDE STAINLESS STEEL RECESSED LOCKABLE ENCLOSURE FOR FAÇADE RECEPTACLE. REFER TO DETAIL 8/1A-E8.002 FOR MORE INFORMATION.
E18	PROVIDE 120V/1P CONNECTION FOR PIPING HEAT TRACE. PROVIDE GFPE TYPE BREAKER AT PANEL. REFER TO PLUMBING/MECHANICAL DRAWINGS FOR EXACT LENGTH AND HEAT TRACE ROUTING.
E19	PROVIDE POWER POLE SERVED FROM ABOVE FOR BOOT DRYER RECEPTACLES. PROVIDE OUTLET ON EACH SIDE OF POWER POLE FOR BOOT DRYER CONNECTION.
E23	THERE SHALL BE NO OVERHEAD DUCT WORK, DRAINS, OR FOREIGN OBJECTS AS DEFINED BY THE NEC IN THIS SPACE.

KEY PLAN



1 ELECTRICAL PLAN - LOWER LEVEL 00 PROMENADE
SCALE: 1/8" = 1'-0"

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-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED
MATTHEW JOHN DOSTER
52253
PROFESSIONAL ENGINEER

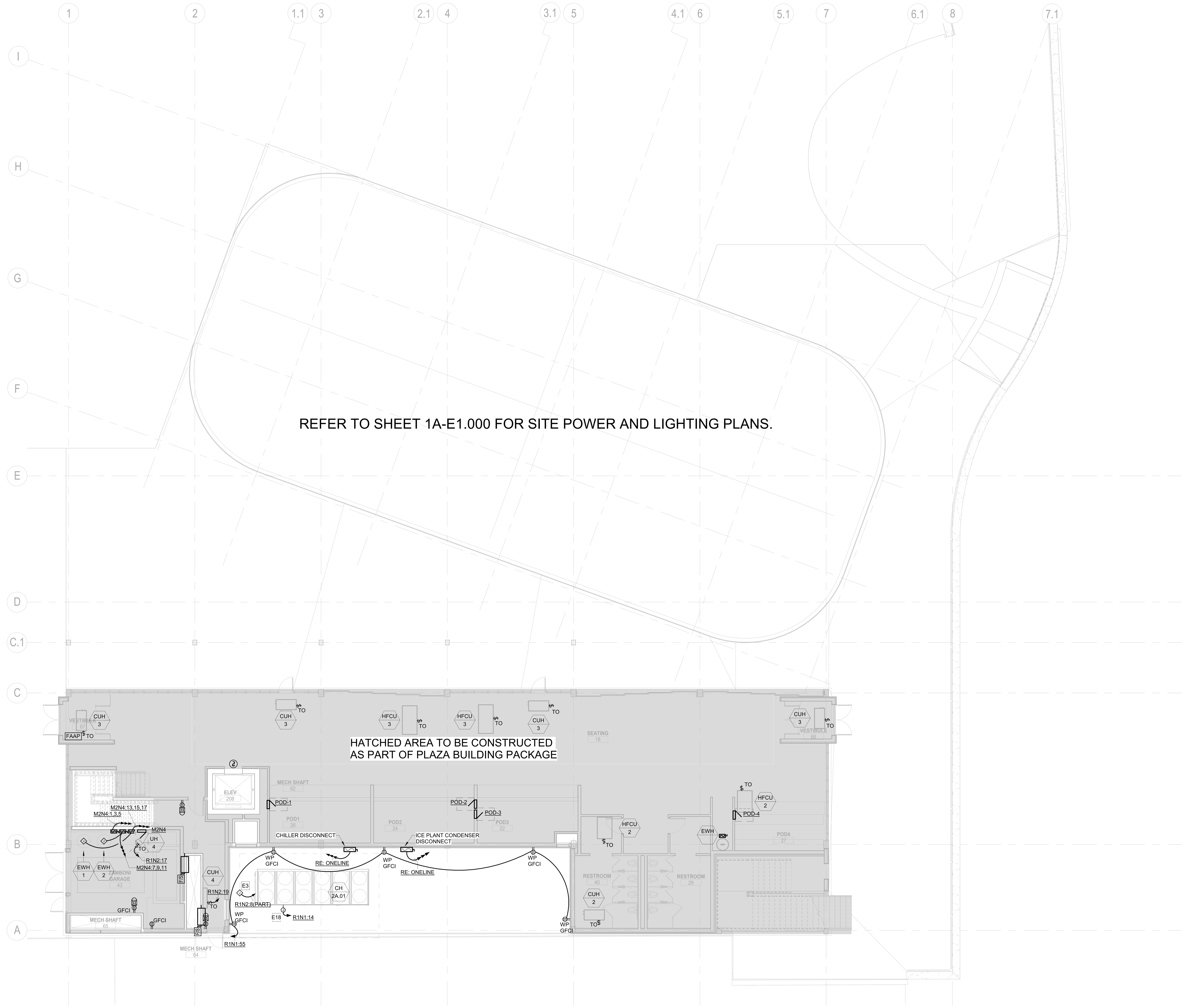
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ELECTRICAL PLAN - LEVEL 00

Scale
1/8" = 1'-0"

1A-E1.200



1 ELECTRICAL PLAN - LEVEL 01 PLAZA
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

2. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT. ALL SURFACE MOUNTED CONDUIT WHERE EXPOSED TO PUBLIC AREAS SHALL BE PAINTED. PAINT COLOR TO BE DETERMINED BY THE ARCHITECT. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

6. ALL 277V LIGHTING CIRCUITS TERMINATING AT LIGHTING CONTROL PANELS SHALL HAVE A MINIMUM LENGTH OF 20 FEET BETWEEN LIGHTING CONTROL PANEL AND BRANCH LIGHTING PANEL.

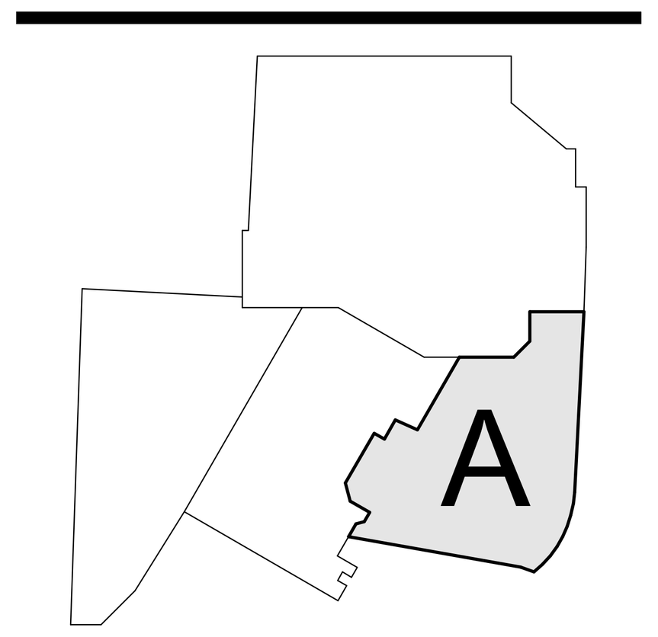
7. REPLACE ALL FIRE ALARM DEVICES IN KIND IN STAGE BUILDING RESTROOM TO ENSURE THE DEVICES INTEGRATE WITH PROMENADE FIRE ALARM SYSTEM.

KEYNOTES

E3	PROVIDE 120V/1P ELECTRICAL CONNECTION FOR MISCELLANEOUS MECHANICAL CONTROLS.
E18	PROVIDE 120V/1P CONNECTION FOR PIPING HEAT TRACE. PROVIDE GFPE TYPE BREAKER AT PANEL. REFER TO PLUMBING/MECHANICAL DRAWINGS FOR EXACT LENGTH AND HEAT TRACE ROUTING.

RCRBD Record Set Electrical
07/01/2021

KEY PLAN



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Date	Description
- 2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

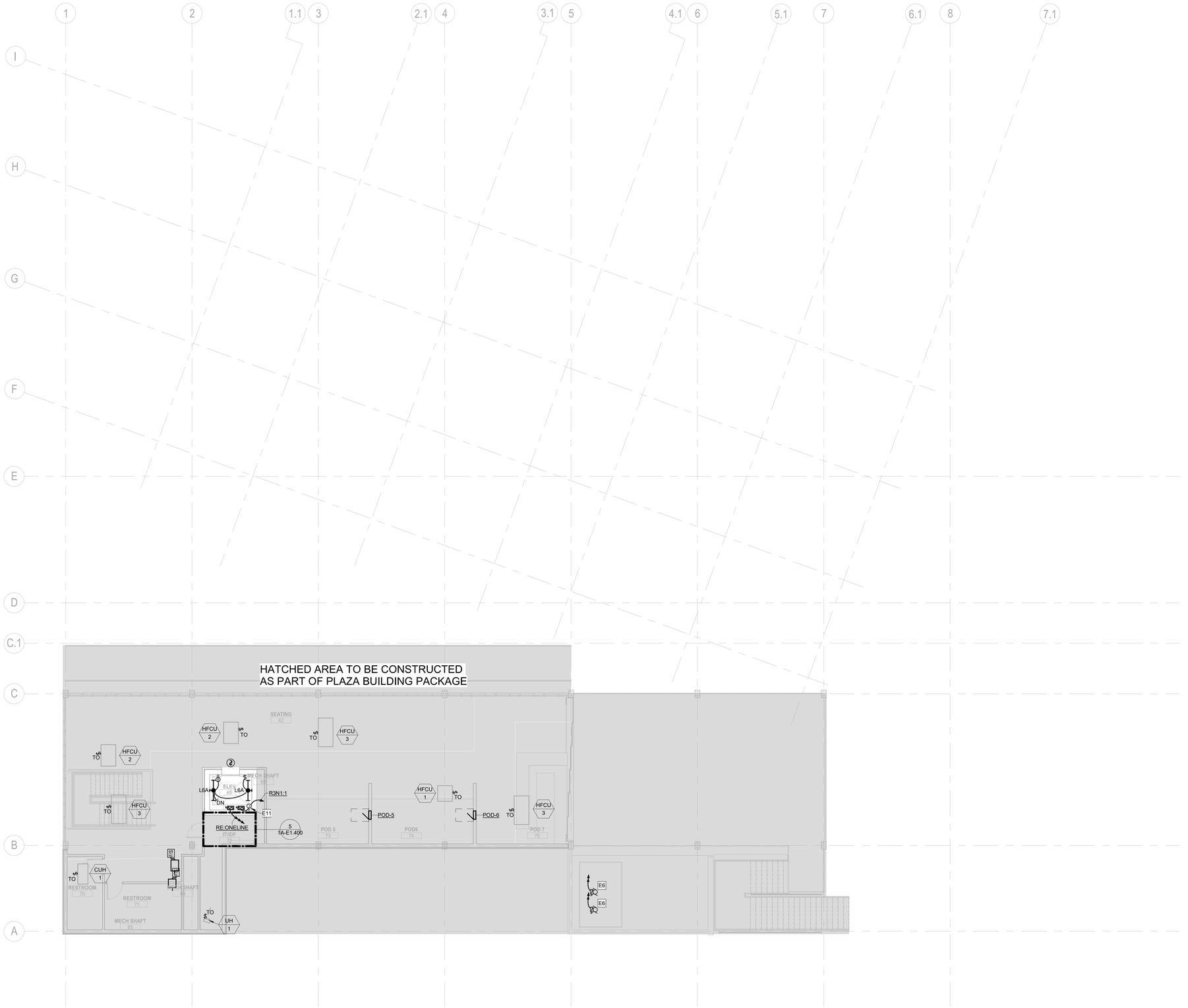
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ELECTRICAL PLAN - LEVEL 01

Scale
1/8" = 1'-0"

1A-E1.201



1 ELECTRICAL PLAN - LEVEL 02 PLAZA

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

2. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT. ALL SURFACE MOUNTED CONDUIT WHERE EXPOSED TO PUBLIC AREAS SHALL BE PAINTED. PAINT COLOR TO BE DETERMINED BY THE ARCHITECT. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

6. ALL 277V LIGHTING CIRCUITS TERMINATING AT LIGHTING CONTROL PANELS SHALL HAVE A MINIMUM LENGTH OF 20 FEET BETWEEN LIGHTING CONTROL PANEL AND BRANCH LIGHTING PANEL.

7. REPLACE ALL FIRE ALARM DEVICES IN KIND IN STAGE BUILDING RESTROOM TO ENSURE THE DEVICES INTEGRATE WITH PROMENADE FIRE ALARM SYSTEM.

KEYNOTES

E6	PROVIDE 208V ELECTRICAL CONNECTION FOR WALK-IN COOLER CONDENSING UNIT. COORDINATE EXACT LOCATION AND QUANTITY WITH WALK-IN COOLER MANUFACTURER.
E11	PROVIDE LIGHTING INVERTER "IOTA IIS-550-I" OR APPROVED EQUAL FOR BRANCH CIRCUIT EMERGENCY LIGHTING. INVERTER SHALL BE MOUNTED IN ACCESSIBLE LOCATION EITHER ABOVE ACCESSIBLE CEILING OR IN ADJACENT BACK OF HOUSE SPACE HIGH ON WALL. REFER TO 10/1A-E8.003 FOR EXACT WIRING CONFIGURATION WITH LIGHTING CONTROL AND INVERTER SYSTEM.

RCRBD
Record Set
Electrical
07/01/2021

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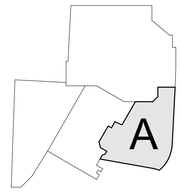
△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

KEY PLAN



Seal / Signature

COLORADO LICENSED
JOHN O'BRIEN
52253
PROFESSIONAL ENGINEER

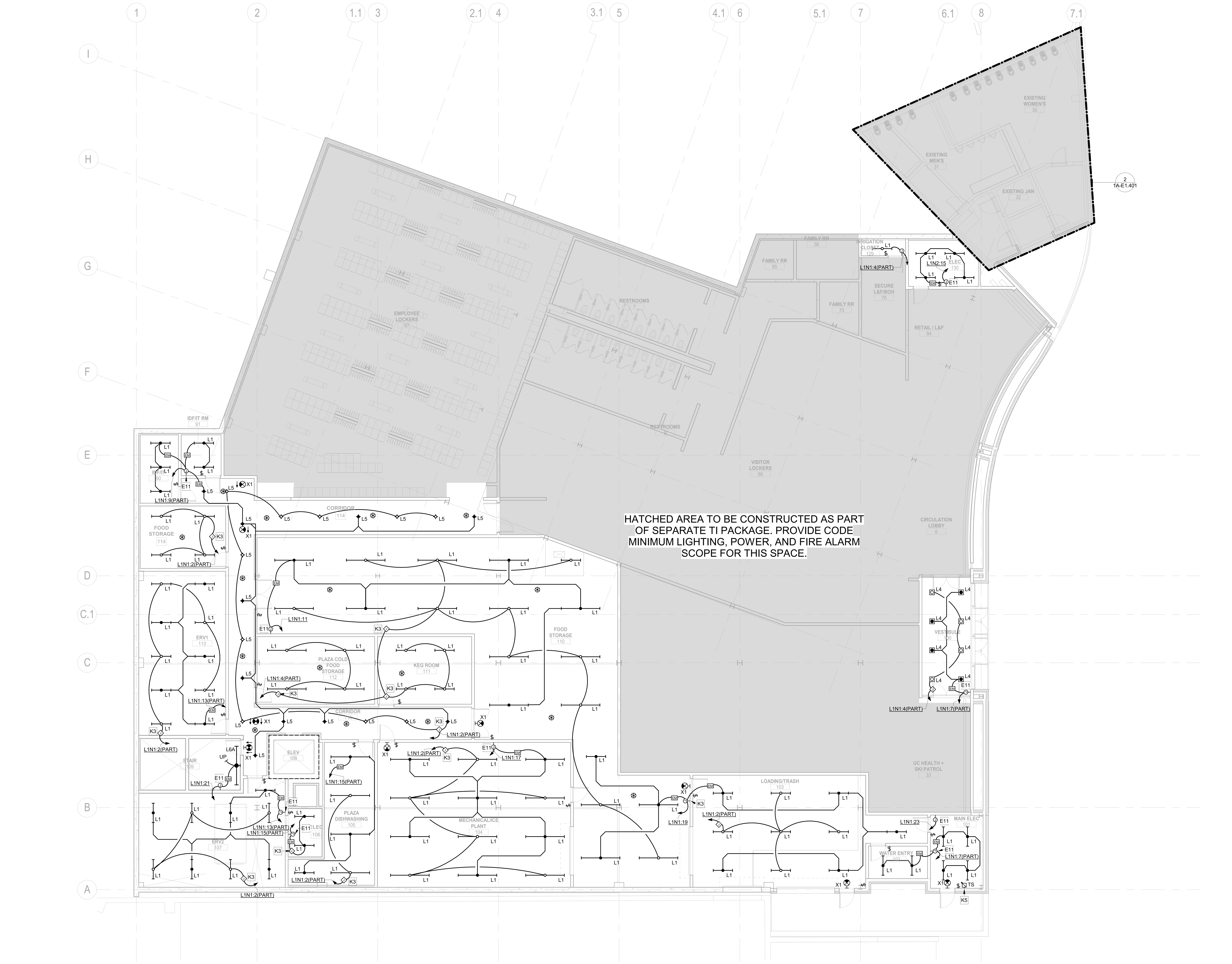
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ELECTRICAL PLAN - LEVEL 02

Scale
1/8" = 1'-0"

1A-E1.202



1 LIGHTING PLAN - LOWER LEVEL 00 PROMENADE

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET 1A-E0.002 FOR LIGHT FIXTURE SCHEDULE.

2. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ALL FIXTURE LOCATIONS WITHIN A CEILING OR CEILING GRID. FOR AREAS WITHOUT CEILINGS, FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND STRUCTURAL ELEMENTS.

3. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT. ALL SURFACE MOUNTED CONDUIT WHERE EXPOSED TO PUBLIC AREAS SHALL BE PAINTED. PAINT COLOR TO BE DETERMINED BY THE ARCHITECT. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

4. PROVIDE DIMMABLE DRIVERS WHERE REQUIRED PER LIGHTING CONTROL.

5. SEE ELECTRICAL NARRATIVE FOR ADDITIONAL INFORMATION REGARDING OVERALL LIGHTING EQUIPMENT ONLY COSTS. SF COST ALLOWANCES SHOWN ARE ESTIMATES OF ALLOCATIONS ONLY, AND WILL BE VALIDATED DURING FUTURE DESIGN PHASES.

6. FIELD VERIFY EXACT FIXTURE LENGTHS FOR CONTINUOUS ILLUMINATION FOR COVES AND LINEAR RUNS. PROVIDE CONTINUOUS ILLUMINATION WITH NO MORE THAN A 6" GAP BETWEEN THE END OF THE EDGE OF THE WALL / CEILING AND THE FIXTURE.

7. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR PLACEMENT OF FIXTURES WITHIN MECHANICAL ROOMS.

8. ALL EXIT LIGHTS OF ALL TYPES SHALL BE MOUNTED AT 8'-0" AFF UNLESS OTHERWISE NOTED. PROVIDE EXIT SIGNS IN ALL PATH OF EGRESS. THERE SHOULD NOT BE MORE THAN 80' SPACING BETWEEN EXIT SIGNS.

9. A MINIMUM OF 30 FOOTCANDLES SHALL BE PROVIDED FOR ALL UNDEFINED SPACES.

10. FIXTURES WITHIN THE FIRE COMMAND CENTER, ELECTRICAL, TELECOMMUNICATION, MECHANICAL AND FIRE PUMP ROOMS SHALL HAVE EMERGENCY POWER BACKUP FROM AN INVERTOR.

12. PROVIDE FIXTURES ON EMERGENCY POWER TO ACHIEVE 1FC AVERAGE AND 0.1 FC MINIMUM IN ALL EGRESS PATHS.

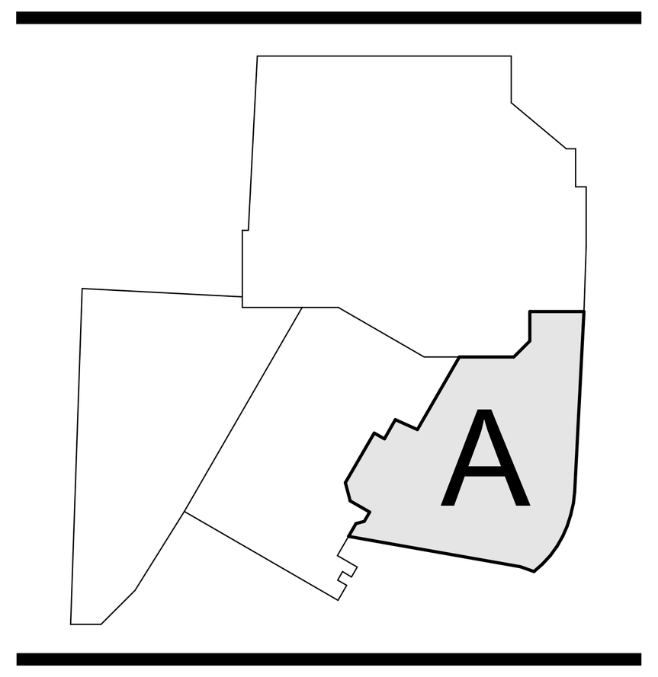
14. ALL 277V LIGHTING CIRCUITS TERMINATING AT LIGHTING CONTROL PANELS SHALL HAVE A MINIMUM LENGTH OF 20 FEET BETWEEN LIGHTING CONTROL PANEL AND BRANCH LIGHTING PANEL.

KEYNOTES

E11	PROVIDE LIGHTING INVERTER "IOTA IIS-550-I" OR APPROVED EQUAL FOR BRANCH CIRCUIT EMERGENCY LIGHTING. INVERTER SHALL BE MOUNTED IN ACCESSIBLE LOCATION EITHER ABOVE ACCESSIBLE CEILING OR IN ADJACENT BACK OF HOUSE SPACE HIGH ON WALL. REFER TO 10/1A-E8.003 FOR EXACT WIRING CONFIGURATION WITH LIGHTING CONTROL AND INVERTER SYSTEM.
K3	PROVIDE SINGLE ZONE DISTRIBUTED ROOM CONTROLLER FOR LIGHTING CONTROL WITHIN THIS SPACE. ROOM CONTROLLER SHALL HAVE ON/OFF RELAY CONTROL AND DIMMING FUNCTIONALITY. ROOM CONTROLLER SHALL BE MOUNTED INSIDE BUILDING OR WITHIN NEMA 3R ENCLOSURE ON SITE. REFER TO LIGHT FIXTURE SCHEDULE FOR EXACT DIMMING TECHNOLOGY BEING USED ON A PER LIGHT FIXTURE BASIS. PROVIDE NETWORK CONNECTION FOR THIS ROOM CONTROLLER TO THE OVERALL NETWORKED LIGHTING CONTROL SYSTEM. REFER TO DETAIL 13/1A-E8.0003 FOR MORE INFORMATION.
K5	PROVIDE BUILDING MASTER LIGHTING CONTROL TOUCHSCREEN FOR ENTIRE CONTROL OF ALL BUILDING LIGHTING.

RCRBD
Record Set
Electrical
07/01/2021

KEY PLAN



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Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED MATTHEW JOHN O'BRIEN 52253 PROFESSIONAL ENGINEER 7/1/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - LIGHTING PLAN - LEVEL 00

Scale
1/8" = 1'-0"

1A-E1.300

GENERAL NOTES:

1. REFER TO SHEET 1A-E0.002 FOR LIGHT FIXTURE SCHEDULE.

2. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ALL FIXTURE LOCATIONS WITHIN A CEILING OR CEILING GRID. FOR AREAS WITHOUT CEILINGS, FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND STRUCTURAL ELEMENTS.

3. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT. ALL SURFACE MOUNTED CONDUIT WHERE EXPOSED TO PUBLIC AREAS SHALL BE PAINTED. PAINT COLOR TO BE DETERMINED BY THE ARCHITECT. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

4. PROVIDE DIMMABLE DRIVERS WHERE REQUIRED PER LIGHTING CONTROL.

5. SEE ELECTRICAL NARRATIVE FOR ADDITIONAL INFORMATION REGARDING OVERALL LIGHTING EQUIPMENT ONLY COSTS. SF COST ALLOWANCES SHOWN ARE ESTIMATES OF ALLOCATIONS ONLY, AND WILL BE VALIDATED DURING FUTURE DESIGN PHASES.

6. FIELD VERIFY EXACT FIXTURE LENGTHS FOR CONTINUOUS ILLUMINATION FOR COVES AND LINEAR RUNS. PROVIDE CONTINUOUS ILLUMINATION WITH NO MORE THAN A 6" GAP BETWEEN THE END OF THE EDGE OF THE WALL / CEILING AND THE FIXTURE.

7. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR PLACEMENT OF FIXTURES WITHIN MECHANICAL ROOMS.

8. ALL EXIT LIGHTS OF ALL TYPES SHALL BE MOUNTED AT 8'-0" AFF UNLESS OTHERWISE NOTED. PROVIDE EXIT SIGNS IN ALL PATH OF EGRESS. THERE SHOULD NOT BE MORE THAN 80' SPACING BETWEEN EXIT SIGNS.

9. A MINIMUM OF 30 FOOTCANDLES SHALL BE PROVIDED FOR ALL UNDEFINED SPACES.

10. FIXTURES WITHIN THE FIRE COMMAND CENTER, ELECTRICAL, TELECOMMUNICATION, MECHANICAL AND FIRE PUMP ROOMS SHALL HAVE EMERGENCY POWER BACKUP FROM AN INVERTOR.

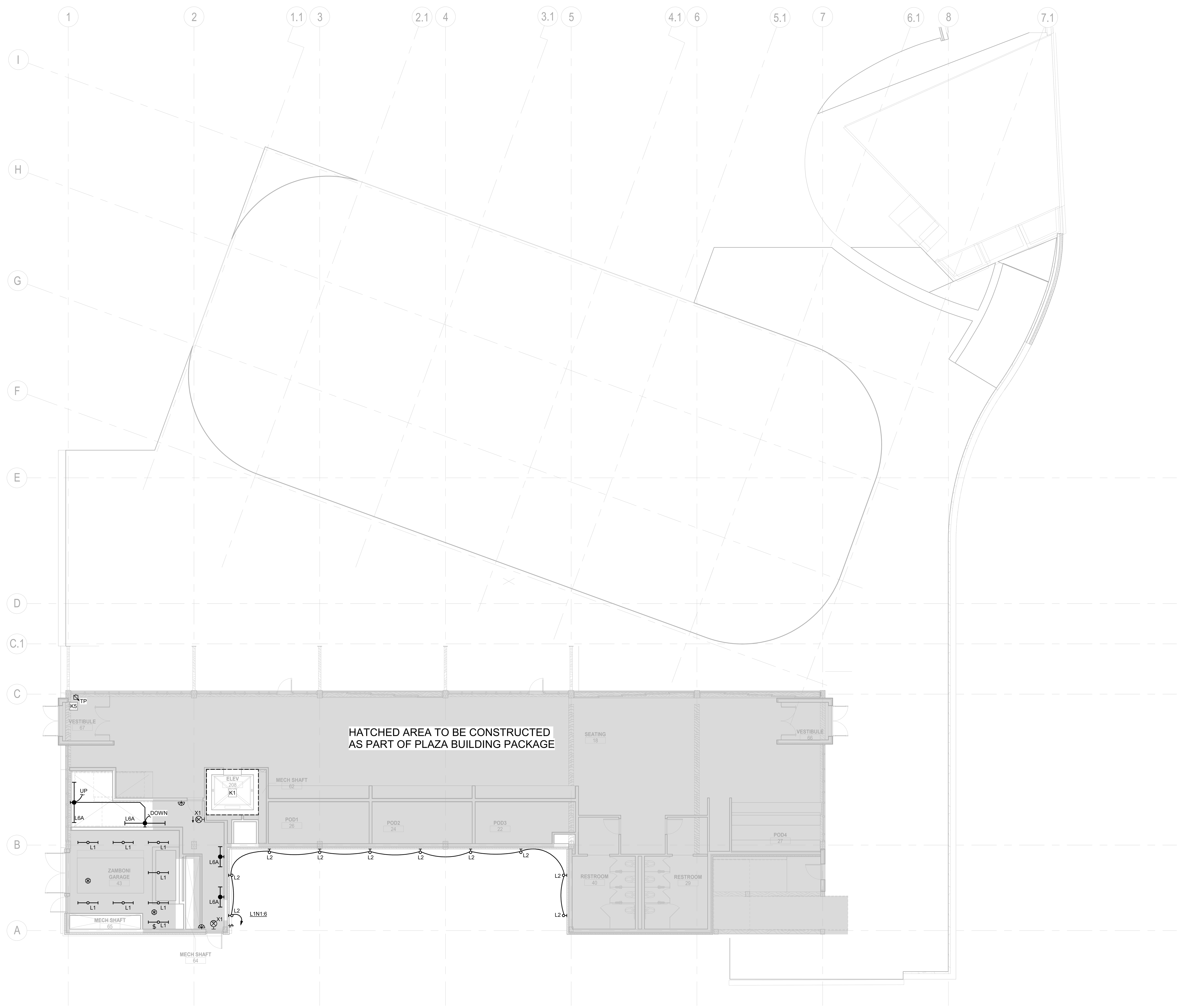
12. PROVIDE FIXTURES ON EMERGENCY POWER TO ACHIEVE 1FC AVERAGE AND 0.1 FC MINIMUM IN ALL EGRESS PATHS.

14. ALL 277V LIGHTING CIRCUITS TERMINATING AT LIGHTING CONTROL PANELS SHALL HAVE A MINIMUM LENGTH OF 20 FEET BETWEEN LIGHTING CONTROL PANEL AND BRANCH LIGHTING PANEL.

KEYNOTES

K1	REFER TO ELECTRICAL POWER PLANS FOR ELEVATOR PIT LIGHTING AT TOP AND BOTTOM OF SHAFT.
K5	PROVIDE BUILDING MASTER LIGHTING CONTROL TOUCHSCREEN FOR ENTIRE CONTROL OF ALL BUILDING LIGHTING.

RCRBD Record Set Electrical
07/01/2021



1 LIGHTING PLAN - LEVEL 01 PLAZA
SCALE: 1/8" = 1'-0"

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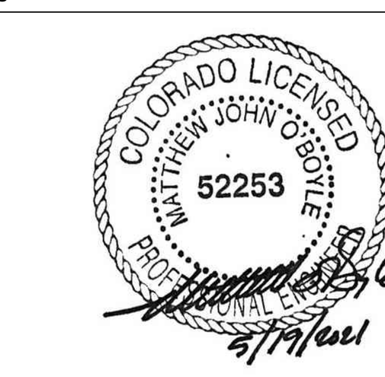
△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature



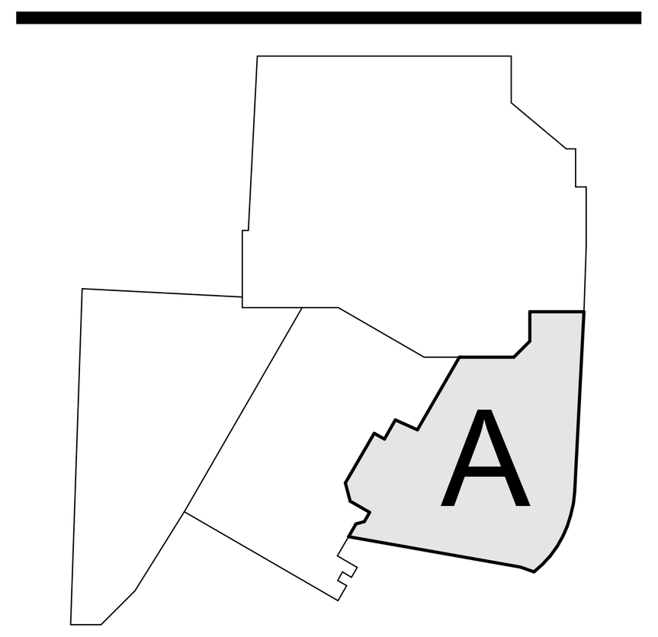
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

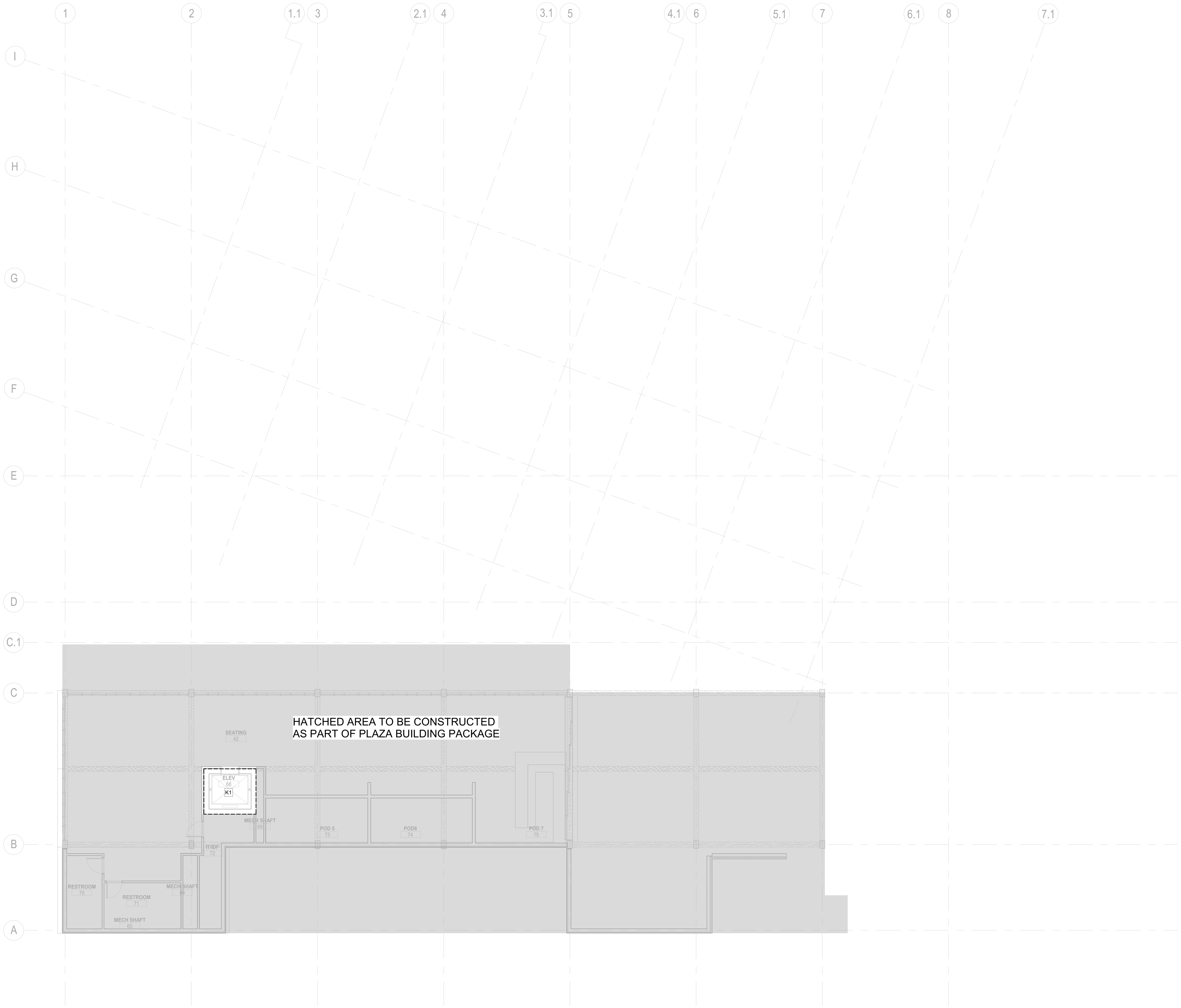
Description
PROMENADE - LIGHTING PLAN - LEVEL 01

Scale
1/8" = 1'-0"

KEY PLAN



1A-E1.301



1 LIGHTING PLAN - LEVEL 02 PLAZA

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET 1A-E0.002 FOR LIGHT FIXTURE SCHEDULE.

2. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ALL FIXTURE LOCATIONS WITHIN A CEILING OR CEILING GRID. FOR AREAS WITHOUT CEILINGS, FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND STRUCTURAL ELEMENTS.

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4. PROVIDE DIMMABLE DRIVERS WHERE REQUIRED PER LIGHTING CONTROL.

5. SEE ELECTRICAL NARRATIVE FOR ADDITIONAL INFORMATION REGARDING OVERALL LIGHTING EQUIPMENT ONLY COSTS. SF COST ALLOWANCES SHOWN ARE ESTIMATES OF ALLOCATIONS ONLY, AND WILL BE VALIDATED DURING FUTURE DESIGN PHASES.

6. FIELD VERIFY EXACT FIXTURE LENGTHS FOR CONTINUOUS ILLUMINATION FOR COVES AND LINEAR RUNS. PROVIDE CONTINUOUS ILLUMINATION WITH NO MORE THAN A 6" GAP BETWEEN THE END OF THE EDGE OF THE WALL / CEILING AND THE FIXTURE.

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12. PROVIDE FIXTURES ON EMERGENCY POWER TO ACHIEVE 1FC AVERAGE AND 0.1 FC MINIMUM IN ALL EGRESS PATHS.

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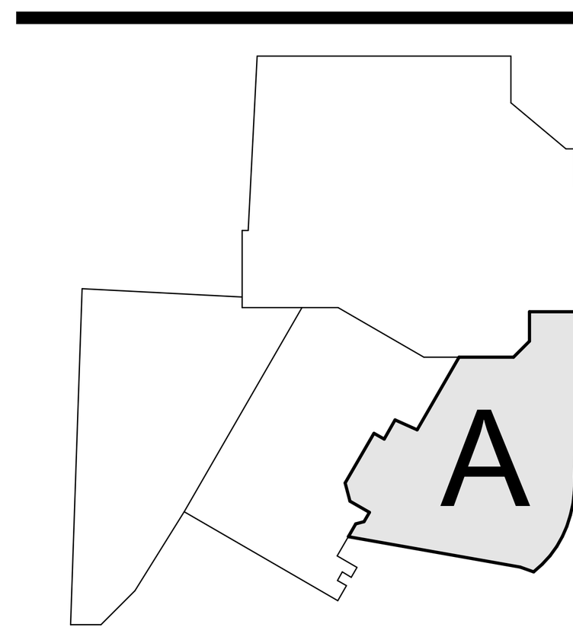
KEYNOTES

K1	REFER TO ELECTRICAL POWER PLANS FOR ELEVATOR PIT LIGHTING AT TOP AND BOTTOM OF SHAFT.

RCRBD
Record Set
Electrical
07/01/2021

KEY PLAN



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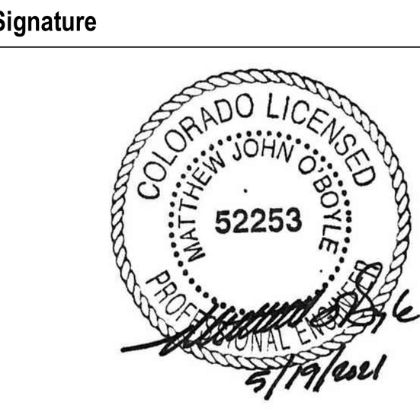
Δ	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature



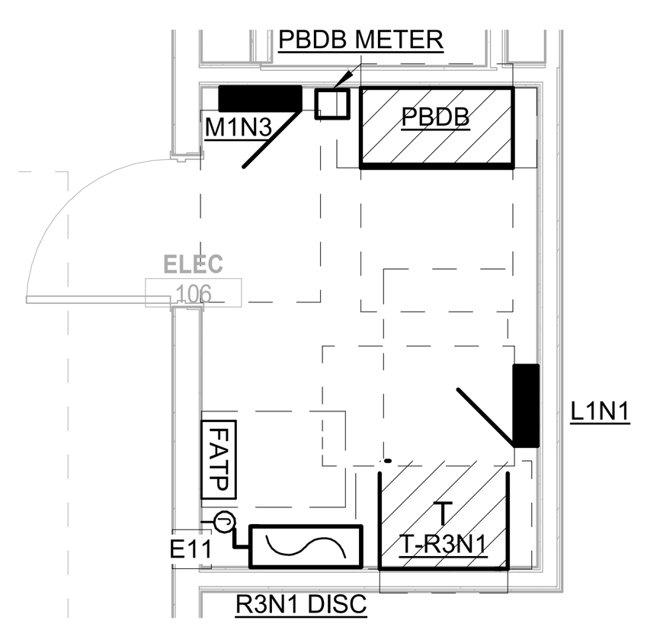
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

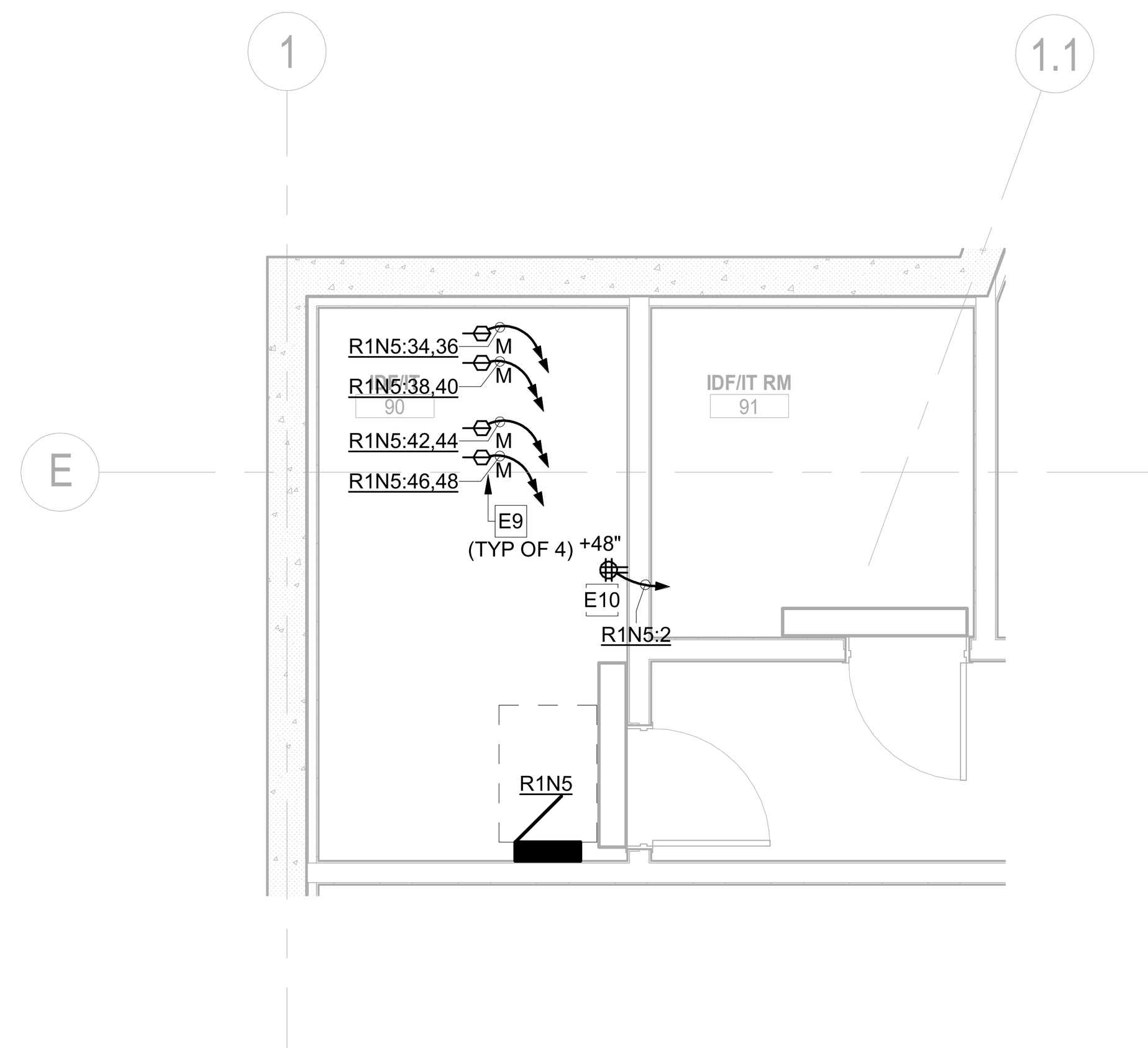
Description
PROMENADE - LIGHTING PLAN - LEVEL 02

Scale
1/8" = 1'-0"

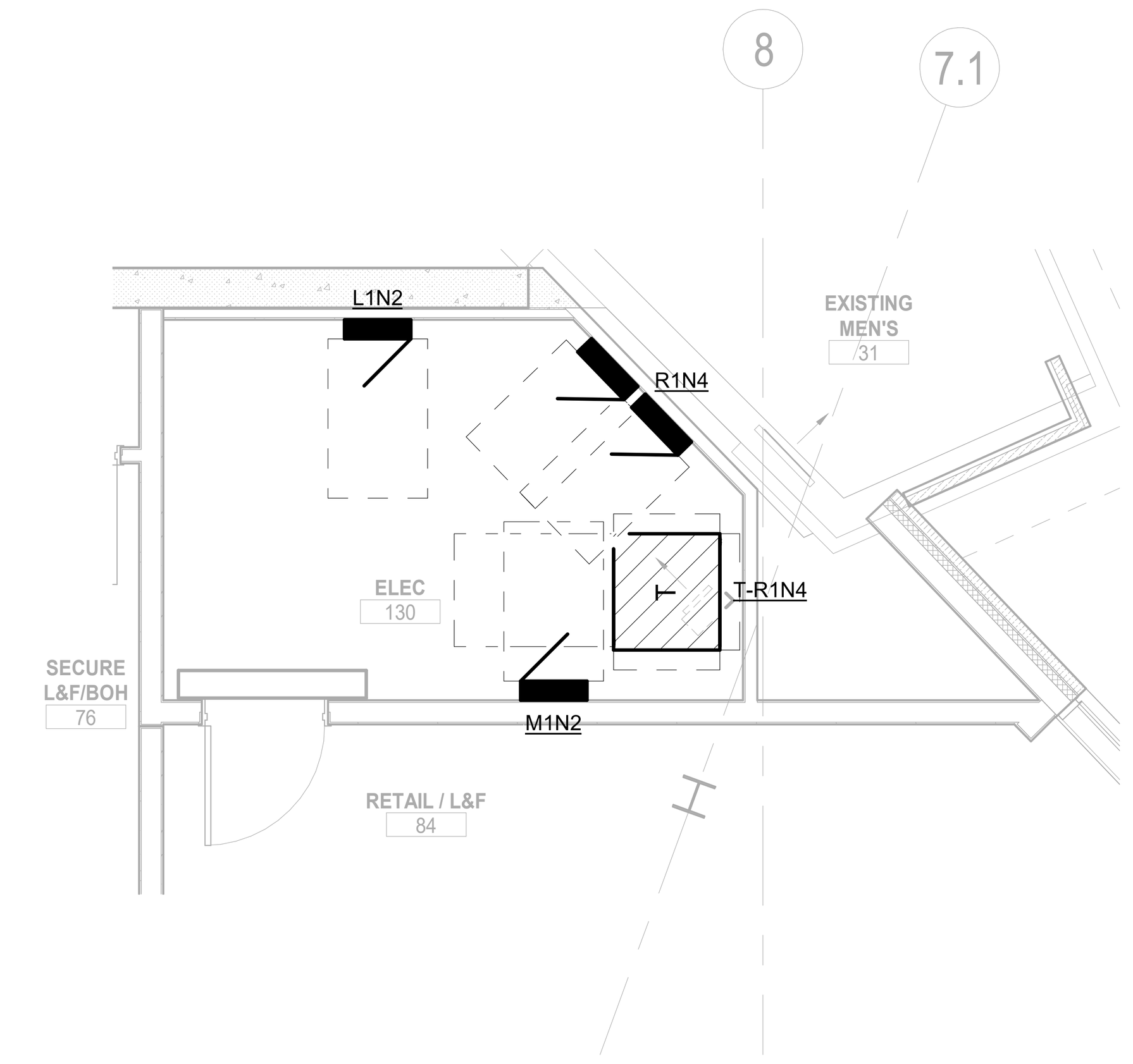
1A-E1.302



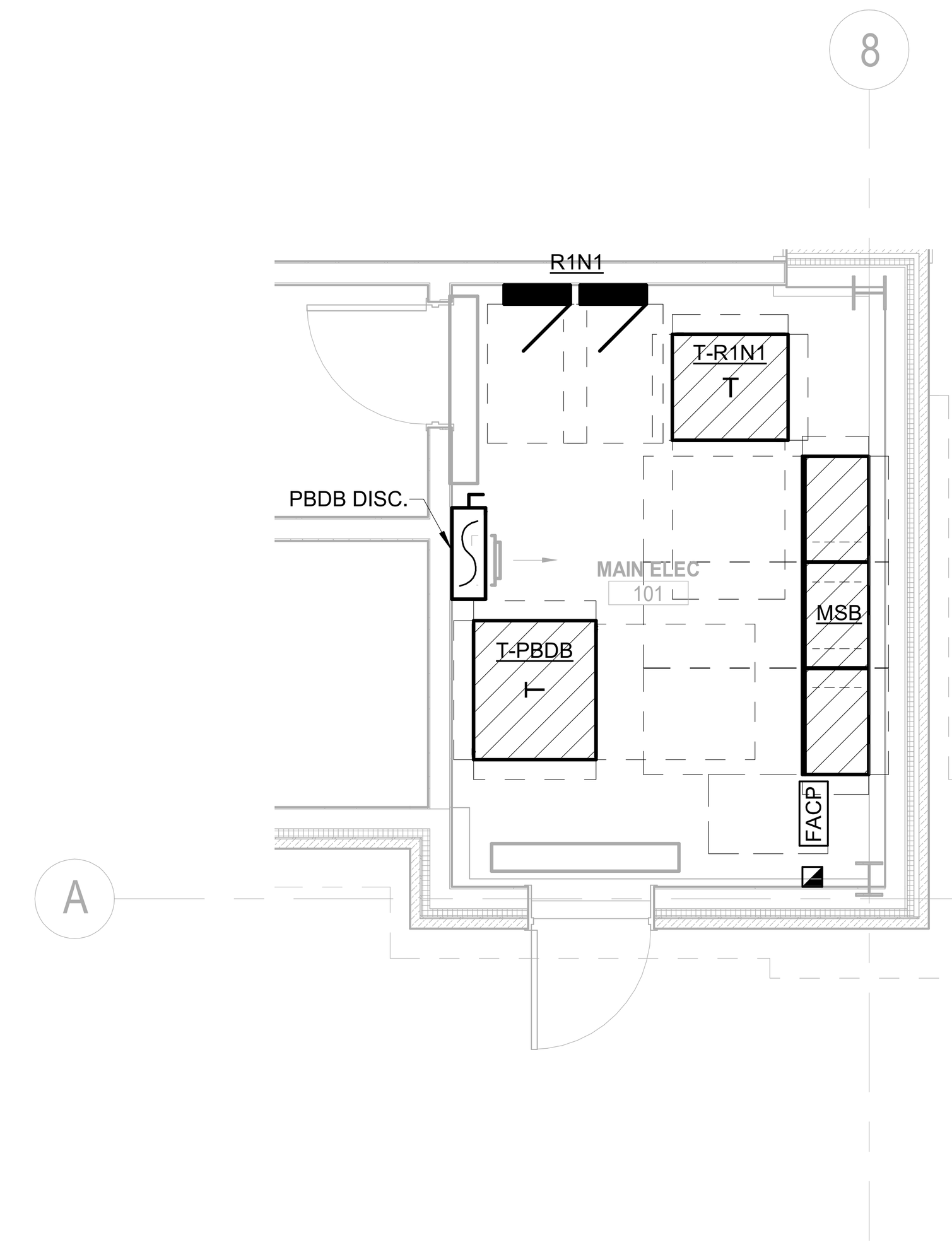
4 ENLARGED LOWER LEVEL ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



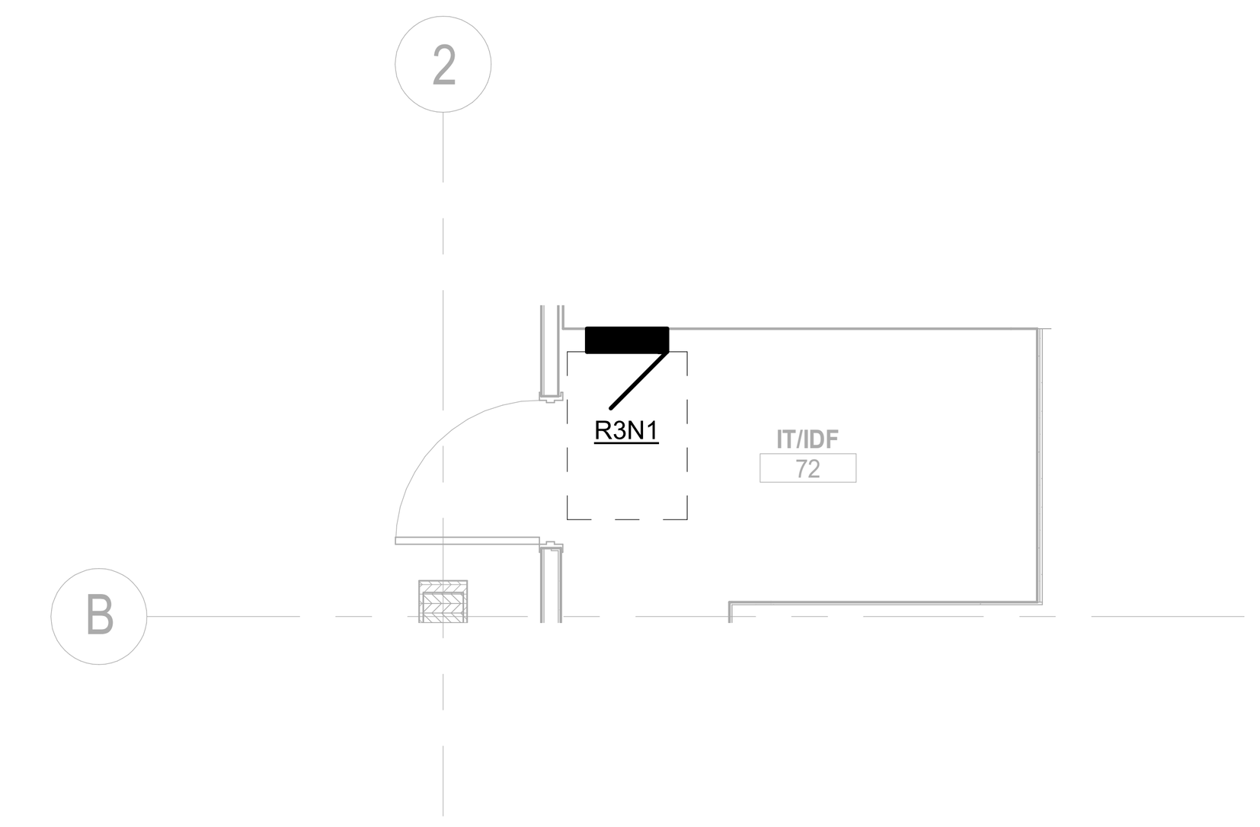
3 ENLARGED IDF ROOM 90 & 91
SCALE: 1/4" = 1'-0"



2 ENLARGED ELECTRICAL ROOM 64
SCALE: 1/4" = 1'-0"



1 ENLARGED MAIN ELECTRICAL ROOM 45
SCALE: 1/4" = 1'-0"



5 ENLARGED IT/IDF ROOM 72
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

2. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT. ALL SURFACE MOUNTED CONDUIT WHERE EXPOSED TO PUBLIC AREAS SHALL BE PAINTED. PAINT COLOR TO BE DETERMINED BY THE ARCHITECT. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

6. ALL 277V LIGHTING CIRCUITS TERMINATING AT LIGHTING CONTROL PANELS SHALL HAVE A MINIMUM LENGTH OF 20 FEET BETWEEN LIGHTING CONTROL PANEL AND BRANCH LIGHTING PANEL.

7. REPLACE ALL FIRE ALARM DEVICES IN KIND IN STAGE BUILDING RESTROOM TO ENSURE THE DEVICES INTEGRATE WITH PROMENADE FIRE ALARM SYSTEM.

KEYNOTES

E9	PROVIDE L6-30R DEVICE AT THE TOP OF THE RACK LOCATED ON THE BACK SIDE. REFER TO TECHNOLOGY DRAWINGS FOR EXACT RACK QUANTITIES AND LOCATIONS WITHIN IT ROOM.
E10	PROVIDE QUAD DEVICE MOUNTED BEHIND ACCESS CONTROL PANEL. REFER TO TECHNOLOGY DRAWINGS FOR EXACT LOCATION OF DEVICE WITH PANEL.
E11	PROVIDE LIGHTING INVERTER "IOTA IIS-550-I" OR APPROVED EQUAL FOR BRANCH CIRCUIT EMERGENCY LIGHTING. INVERTER SHALL BE MOUNTED IN ACCESSIBLE LOCATION EITHER ABOVE ACCESSIBLE CEILING OR IN ADJACENT BACK OF HOUSE SPACE HIGH ON WALL. REFER TO 10/1A-E8.003 FOR EXACT WIRING CONFIGURATION WITH LIGHTING CONTROL AND INVERTER SYSTEM.

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Electrical
07/01/2021

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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED
MATTHEW JOHN O'BRYNE
52253

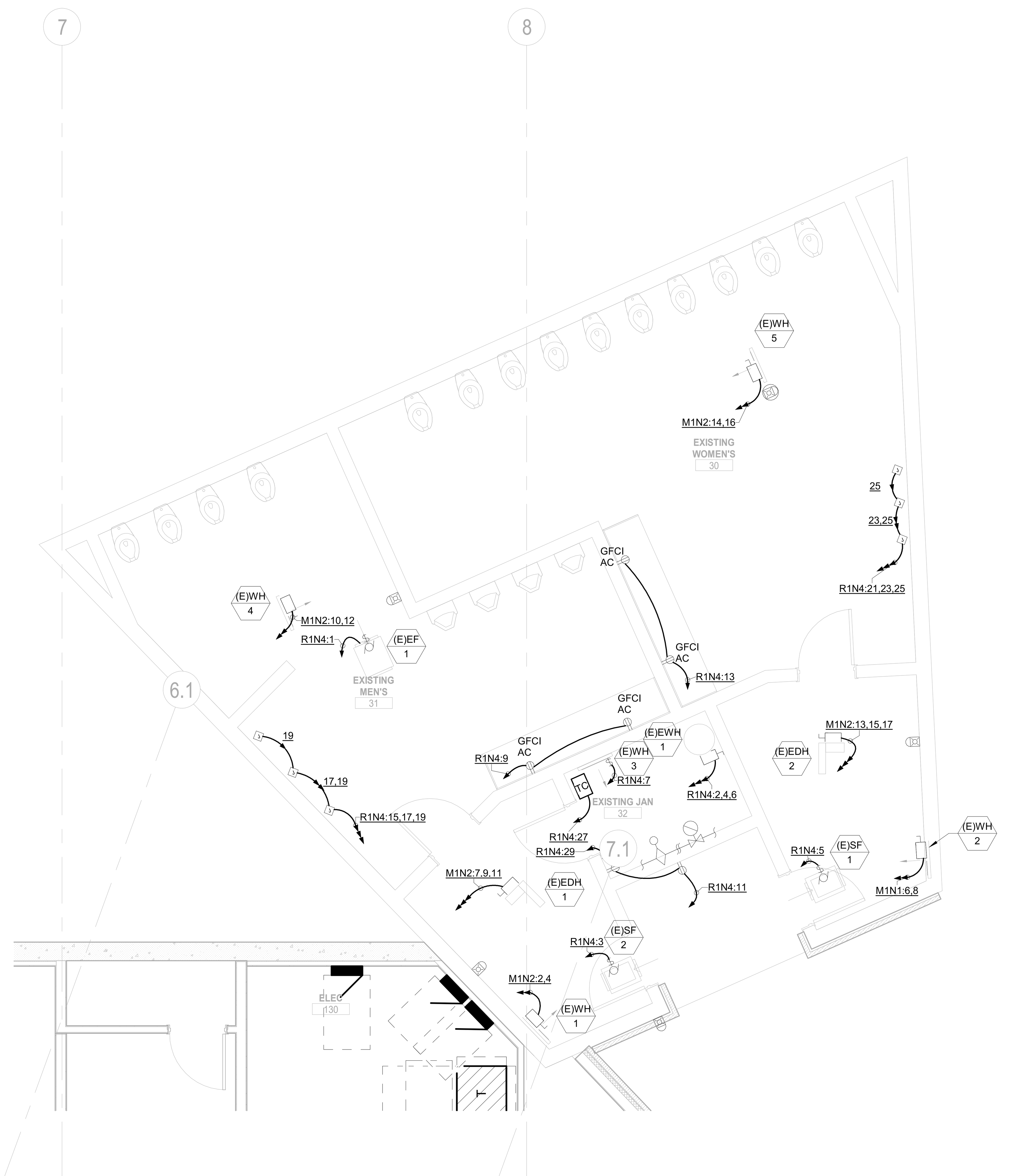
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ENLARGED ELECTRICAL AND IDF ROOMS

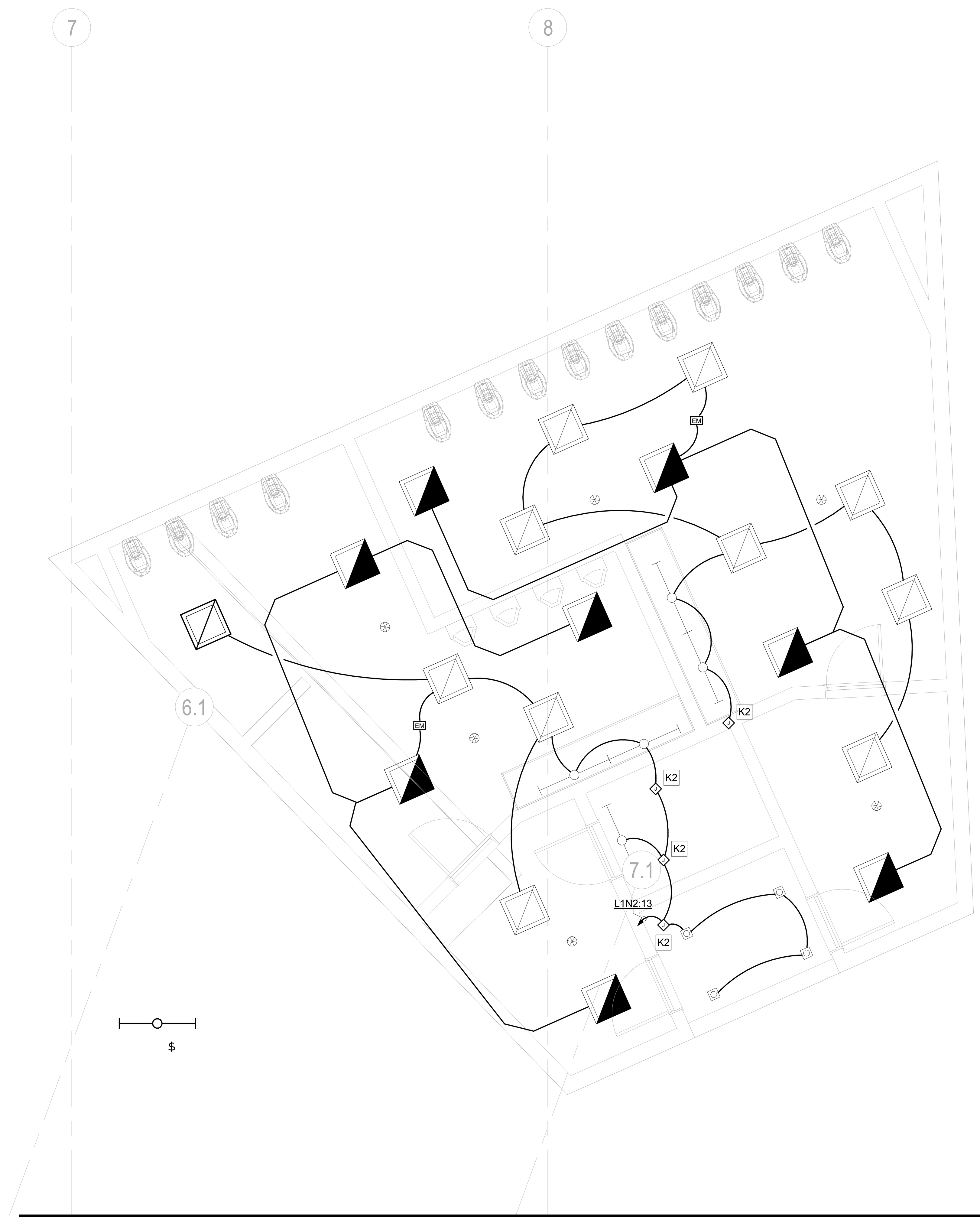
Scale
1/4" = 1'-0"

1A-E1.400



1 ENLARGED STAGE BUILDING LOWER LEVEL 01 - ELECTRICAL PLAN

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



2 ENLARGED STAGE BUILDING LOWER LEVEL 01 - LIGHTING PLAN

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

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

2. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT. ALL SURFACE MOUNTED CONDUIT WHERE EXPOSED TO PUBLIC AREAS SHALL BE PAINTED. PAINT COLOR TO BE DETERMINED BY THE ARCHITECT. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

6. ALL 277V LIGHTING CIRCUITS TERMINATING AT LIGHTING CONTROL PANELS SHALL HAVE A MINIMUM LENGTH OF 20 FEET BETWEEN LIGHTING CONTROL PANEL AND BRANCH LIGHTING PANEL.

7. REPLACE ALL FIRE ALARM DEVICES IN KIND IN STAGE BUILDING RESTROOM TO ENSURE THE DEVICES INTEGRATE WITH PROMENADE FIRE ALARM SYSTEM.

KEYNOTES

K2	PROVIDE SINGLE ZONE DISTRIBUTED ROOM CONTROLLER FOR LIGHTING CONTROL WITHIN THIS SPACE. ROOM CONTROLLER SHALL HAVE ON/OFF RELAY CONTROL AND DIMMING FUNCTIONALITY. REFER TO LIGHT FIXTURE SCHEDULE FOR EXACT DIMMING TECHNOLOGY BEING USED ON A PER LIGHT FIXTURE BASIS. PROVIDE NETWORK CONNECTION FOR THIS ROOM CONTROLLER TO THE OVERALL NETWORKED LIGHTING CONTROL SYSTEM.

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-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED PROFESSIONAL ENGINEER MATTHEW JOHN O'BOYLE 52253

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

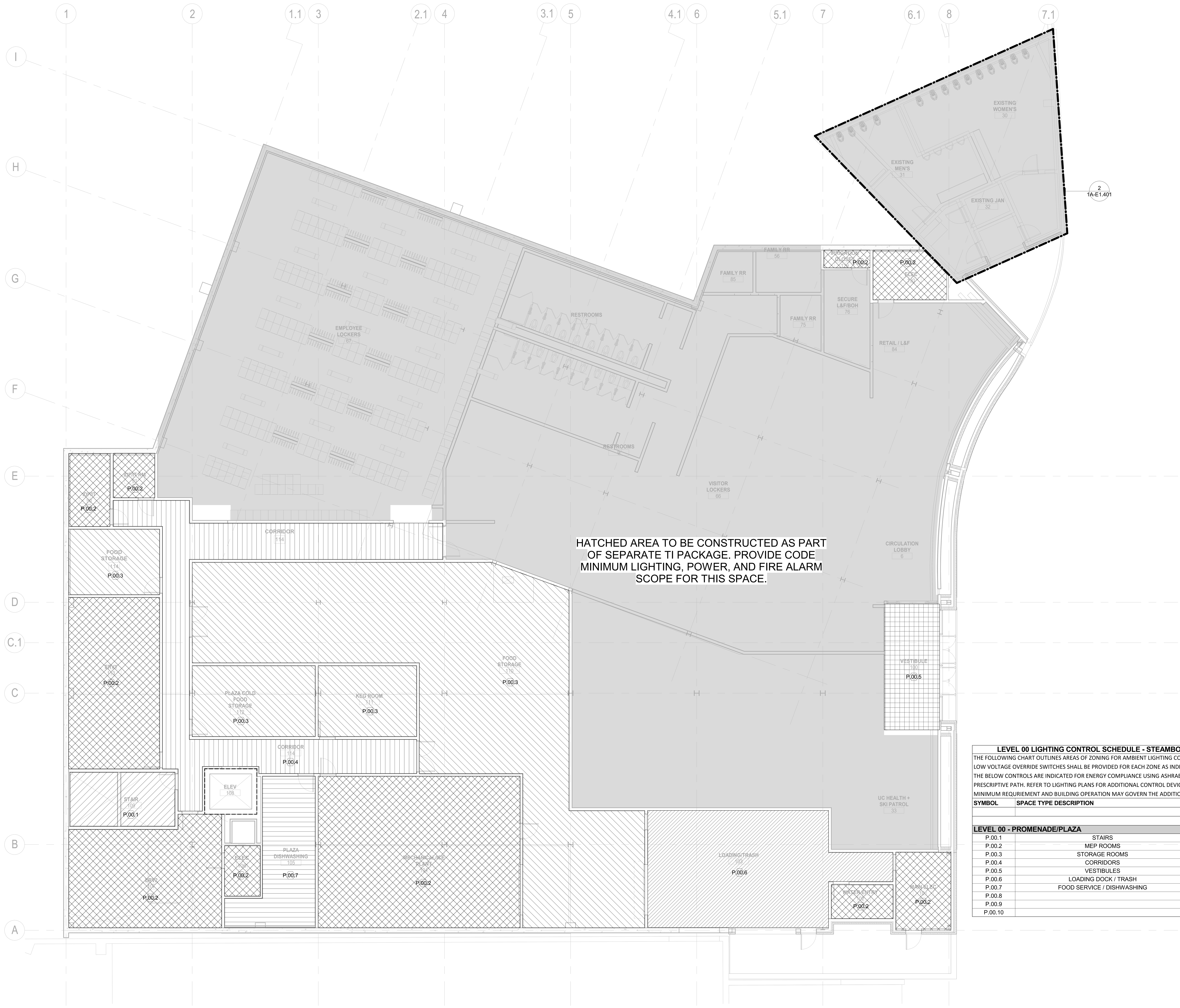
Description

PROMENADE - ENLARGED STAGE BUILDING LOWER LEVEL

Scale

1/4" = 1'-0"

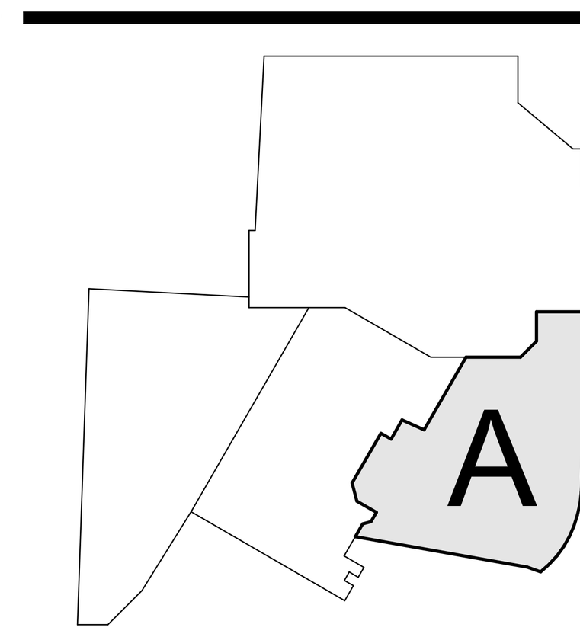
1A-E1.401



LEVEL 00 LIGHTING CONTROL SCHEDULE - STEAMBOAT BASE AREA - PROMENADE AND PLAZA BUILDING														
THE FOLLOWING CHART OUTLINES AREAS OF ZONING FOR AMBIENT LIGHTING CONTROL SYSTEM. LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH ZONE AS INDICATED ON PLANS. THE BELOW CONTROLS ARE INDICATED FOR ENERGY COMPLIANCE USING ASHRAE 90.1 - 2016 AS THE PRESCRIPTIVE PATH. REFER TO LIGHTING PLANS FOR ADDITIONAL CONTROL DEVICES. THIS MATRIX OUTLINES MINIMUM REQURIEMENT AND BUILDING OPERATION MAY GOVERN THE ADDITION OF CONTROLS.									SCENES					
SYMBOL	SPACE TYPE DESCRIPTION	CONTROL TYPE												
		DL	DIM	OS	VS	TC	LS		MAINTENANCE	EVENT	WEEKDAY	WEEKEND	USER DEFINED 01	USER DEFINED 02
LEVEL 00 - PROMENADE/PLAZA														
P.00.1	STAIRS	-	-	X	X	X	-							
P.00.2	MEP ROOMS	-	-	-	-	-	X							
P.00.3	STORAGE ROOMS	-	-	-	X	-	X							
P.00.4	CORRIDORS	-	-	X	-	X	X							
P.00.5	VESTIBULES	-	-	X	-	X	-							
P.00.6	LOADING DOCK / TRASH	-	-	-	X	-	X							
P.00.7	FOOD SERVICE / DISHWASHING	-	-	-	X	-	X							
P.00.8		-	-	-	-	-	-							
P.00.9		-	-	-	-	-	-							
P.00.10		-	-	-	-	-	-							

1 REFERENCE PLAN - LEVEL 00
SCALE: 1/8" = 1'-0"

KEY PLAN



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Seal / Signature

COLORADO LICENSED
MATTHEW JOHN O'BOYLE
52253

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - LIGHTING CONTROLS - LEVEL 00

Scale
1/8" = 1'-0"

1A-E1.500

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Record Set
Electrical
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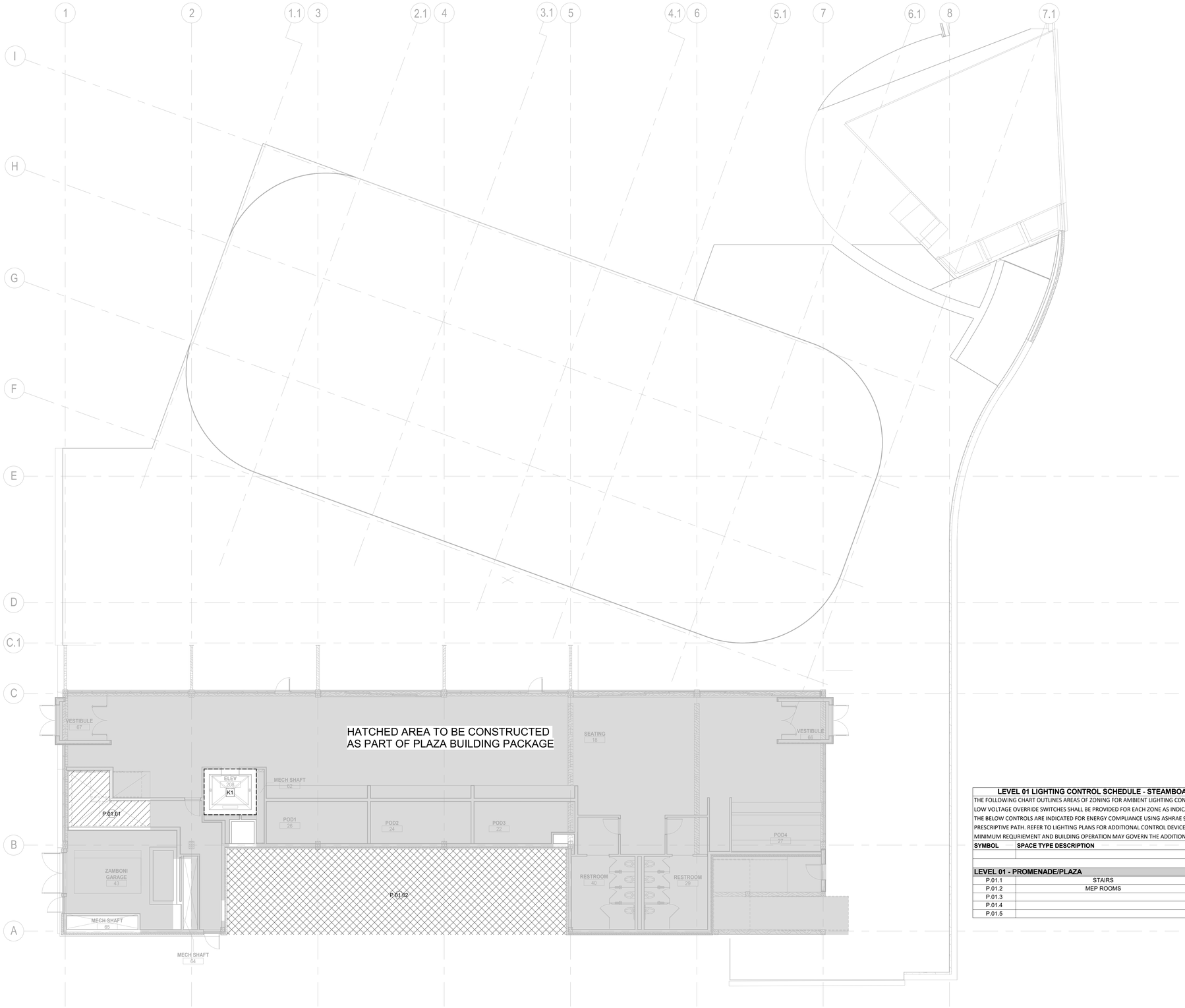


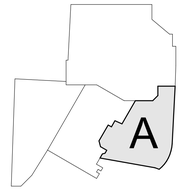
1 LIGHTING CONTROLS REFERENCE PLAN - LEVEL 01
SCALE: 1/8" = 1'-0"

LEVEL 01 LIGHTING CONTROL SCHEDULE - STEAMBOAT BASE AREA - PROMENADE AND PLAZA BUILDING

THE FOLLOWING CHART OUTLINES AREAS OF ZONING FOR AMBIENT LIGHTING CONTROL SYSTEM.
LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH ZONE AS INDICATED ON PLANS.
THE BELOW CONTROLS ARE INDICATED FOR ENERGY COMPLIANCE USING ASHRAE 90.1 - 2016 AS THE PRESCRIPTIVE PATH. REFER TO LIGHTING PLANS FOR ADDITIONAL CONTROL DEVICES. THIS MATRIX OUTLINES MINIMUM REQUIREMENT AND BUILDING OPERATION MAY GOVERN THE ADDITION OF CONTROLS.

SYMBOL	SPACE TYPE DESCRIPTION	CONTROL TYPE						SCENES						
		DL	DIM	OS	VS	TC	LS	MAINTENANCE	EVENT	WEEKDAY	WEEKEND	USER DEFINED 01	USER DEFINED 02	
LEVEL 01 - PROMENADE/PLAZA														
P.01.1	STAIRS	-	-	X	-	X	-							
P.01.2	MEP ROOMS	-	-	-	-	-	X							
P.01.3		-	-	-	-	-	-							
P.01.4		-	-	-	-	-	-							
P.01.5		-	-	-	-	-	-							

KEY PLAN



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Seal / Signature

COLORADO LICENSED
JOHN D'OSTILIO
52253
REGISTERED PROFESSIONAL ENGINEER
07/01/2021

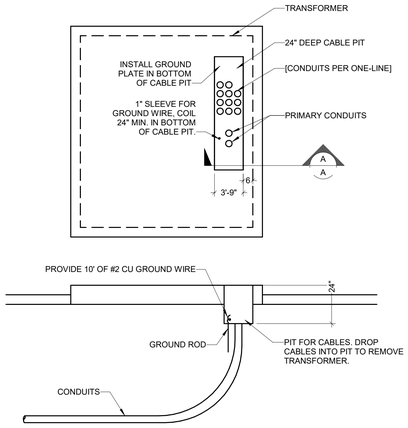
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

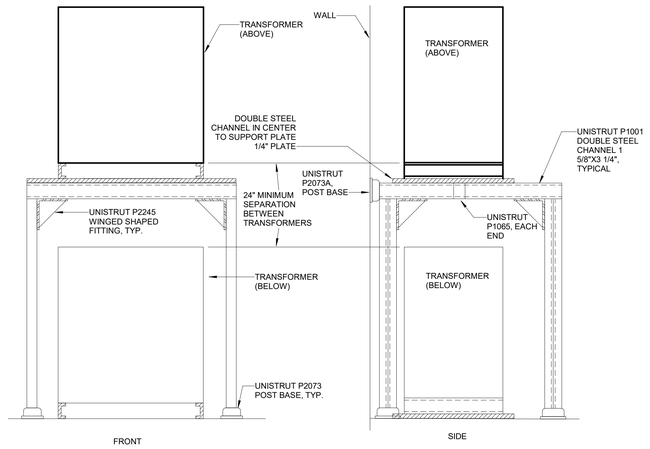
Description
PROMENADE - LIGHTING CONTROLS - LEVEL 01

Scale
1/8" = 1'-0"

1A-E1.501



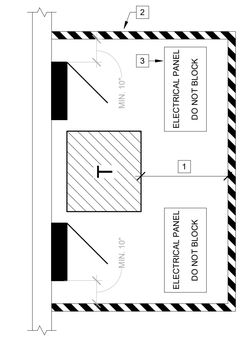
10 TRANSFORMER PAD
NO SCALE



NOTES:

1. THIS DETAIL SHOWS A POSSIBLE METHOD FOR STACKED TRANSFORMER SUPPORT. THIS CONTRACTOR SHALL PROVIDE SUPPORT DESIGNED AS REQUIRED TO MEET SEISMIC AND STRUCTURAL REQUIREMENTS; CONFIRM EXACT REQUIREMENTS WITH STRUCTURAL ENGINEER.
2. THE CONTRACTOR SHALL PROVIDE AND SUBMIT A DESIGN BY A REGISTERED STRUCTURAL ENGINEER FOR SUPPORT OF ACTUAL EQUIPMENT TO BE USED IN THIS CONTRACT.
3. USE STAINLESS MOUNTING HARDWARE. USE WASHERS, SPLIT-LOCK WASHERS UNDER ALL NUTS AND BOLTS.
4. SIZE TRANSFORMER SUPPORT SPACING FOR MINIMUM WORKING CLEARANCES PER NEC 110-16.

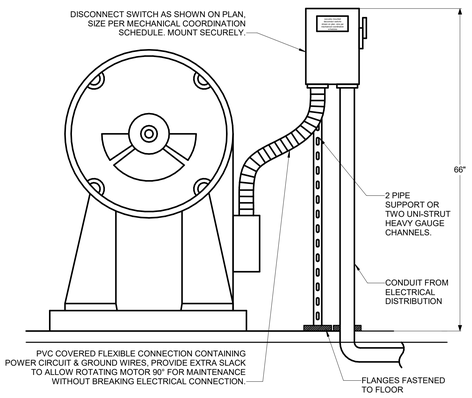
7 STACKED TRANSFORMER MOUNTING
NO SCALE



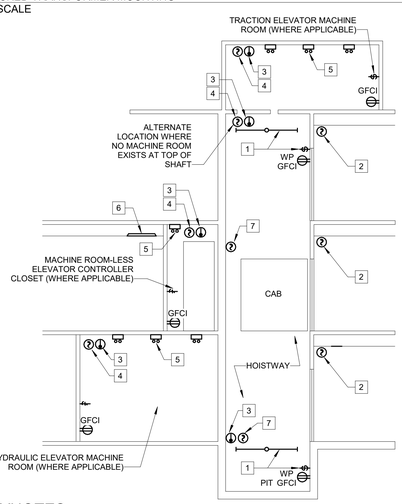
KEYNOTES:

1. REFER TO NEC TABLE 110.26(A)(1) AND OSHA TABLE S-1, FOR WORKING CLEARANCE DISTANCE REQUIREMENTS. MINIMUM 30" FROM DEADFRONT FACE OF ELECTRICAL EQUIPMENT.
2. 3", STRIPED, BLACK AND YELLOW FLOOR MARKING HAZARD TAPE. 3M MODEL 5702 OR APPROVED EQUIVALENT.
3. PERMANENT, WATER RESISTANT "ELECTRICAL PANEL DO NOT BLOCK" VINYL FLOOR LABEL WITH NFPA 170 PANEL SYMBOL. QUANTITY AND SPACING TO BE DETERMINED BY EOR.

11 ELECTRICAL EQUIPMENT CLEARANCE MARKINGS
NO SCALE



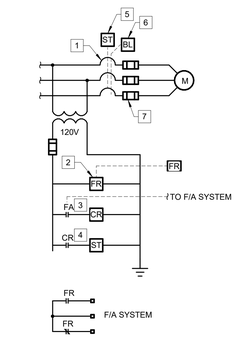
12 CONNECTION TO FLOOR MOUNTED MOTORS
NO SCALE



KEYNOTES:

1. WEATHERPROOF GFCI RECEPTACLE ON DEDICATED CIRCUIT, LED WET LOCATION LENSED STRIPLIGHTS CONTROLLED BY SPST SWITCH. PROVIDE FIXTURES TO ACHIEVE A MINIMUM OF 10FC IN PIT. TYPICAL AT TOP AND BOTTOM OF HOISTWAY.
2. LOBBY SMOKE DETECTOR AT ALL LEVELS, LOBBY, AND EQUIPMENT ROOM SMOKE DETECTORS SHALL INITIATE RECALL, TYPICAL.
3. 135 DEG HEAT DETECTOR ALL HEAT DETECTORS TO AUTOMATICALLY DISCONNECT POWER TO ELEVATOR PRIOR TO THE APPLICATION OF WATER, LOCATE HEAT DETECTOR ADJACENT TO EACH SPRINKLER HEAD.
4. SMOKE DETECTOR FOR FULL COVERAGE PER NFPA, DETECTORS SHALL INITIATE RECALL.
5. PROVIDE LED STRIPLIGHTS WITH WIREGUARD WITHIN MACHINE AND CONTROL ROOMS, PROVIDE FIXTURES TO ACHIEVE A MINIMUM OF 19FC IN ROOM OR CLOSET. COORDINATE LOCATION OF STRIPLIGHTS WITH ELEVATOR EQUIPMENT.
6. PROVIDE ADDITIONAL FIXTURES OUTSIDE OF CLOSET AS NEEDED TO ACHIEVE 19FC AT FRONT OF CONTROLLER. MATCH FIXTURES TYPICAL OF THIS SPACE.
7. PROVIDE SMOKE DETECTOR FOR SMOKE RELIEF DAMPER OR RELIEF HATCH. HATCH TO RELEASE ON SHAFT DETECTOR ALARM.

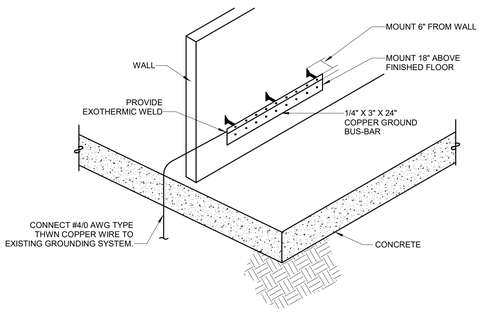
8 ELEVATOR
NO SCALE



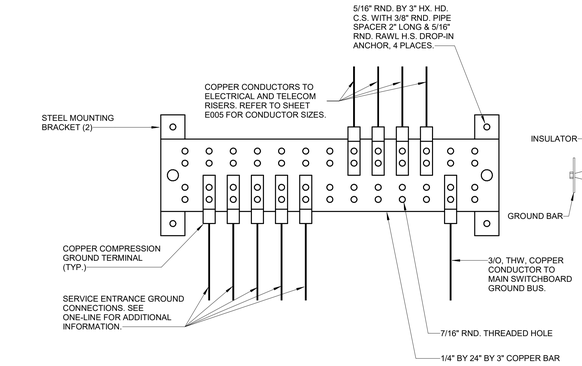
KEYNOTES

1. MOLDED CASE SWITCH WITH SHUNT TRIP PROVISION, AMPERE RATING PER DRAWINGS AND SCHEDULES.
2. FR: FIRE ALARM VOLTAGE MONITORING RELAY. PROVIDE FORM C RELAY AND INTERFACE TO A FIRE ALARM RELAY TO MONITOR CONTROL VOLTAGE.
3. FA: NORMALLY OPEN 120V RATED FIRE ALARM CONTACTS SUPPLIED BY THE FIRE ALARM CONTRACTOR TO TRIGGER ELEVATOR POWER SHUNT TRIP.
4. CR: CONTROL RELAY TO ISOLATE THE FIRE ALARM CONTACTS FROM THE LOAD OF THE SHUNT TRIP.
5. ST: SHUNT TRIP COIL TO ACTIVATE SHUNT TRIP MECHANISM ON MOLDED CASE SWITCH.
6. BL: PROVIDE FORM C MECHANICALLY INTERLOCKED AUXILIARY CONTACTS ON SWITCH FOR OUTPUT TO BATTERY LOWERING PERMISSIVE RELAY. (AS REQUIRED)
7. FUSES PER DRAWINGS AND SCHEDULES.

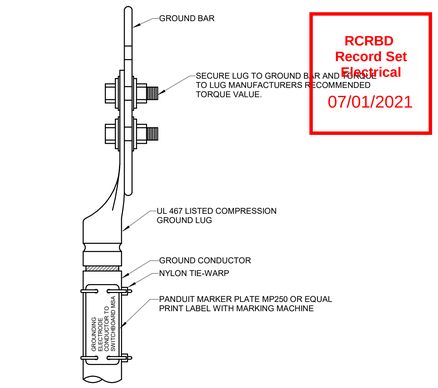
9 ELEVATOR FIRE SAFETY INTERFACE
NO SCALE



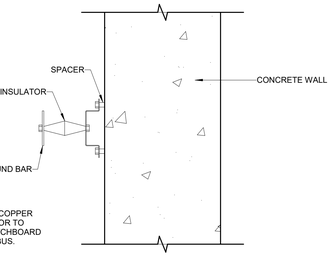
5 MAIN ELECTRICAL ROOM GROUND BUS BAR
NO SCALE



2 MASTER POWER EQUIPMENT GROUNDING BUSBAR
NO SCALE



1 TYPICAL COMPRESSION GROUND CONNECTOR DETAIL
NO SCALE



NOTE:

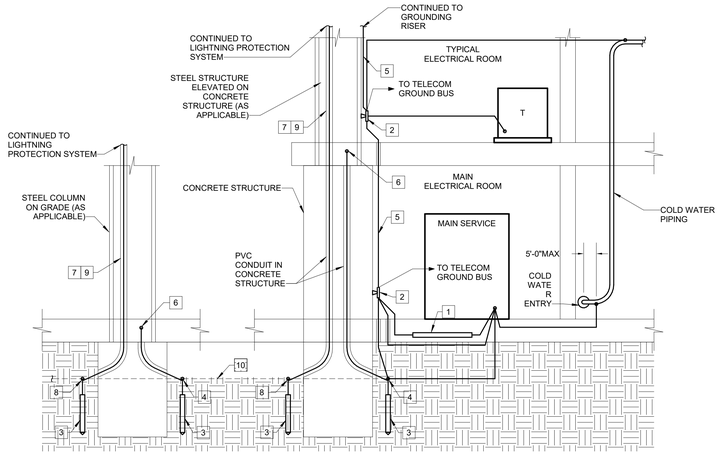
PROVIDE LABELS FOR EACH GROUND CONNECTION AND AFFIX TO CONDUCTOR.

GENERAL NOTES

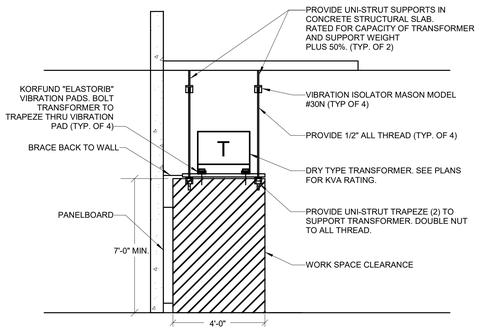
1. REFER TO PLAN DRAWINGS FOR QUANTITIES AND LOCATIONS
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS

KEY NOTES

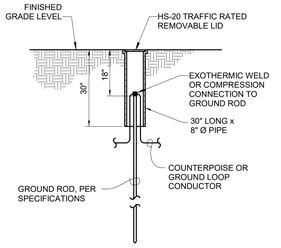
1. CONCRETE ENCASED ELECTRODE PER NEC 250.52
2. ELECTRICAL ROOM GROUND BAR REFER TO SPECIFICATIONS, CONNECTIONS TO BE BY EXOTHERMIC WELD.
3. GROUND ROD, REFER TO SPECIFICATIONS.
4. EXOTHERMIC WELD OR COMPRESSION CONNECTION.
5. GROUND RISER, REFER TO GROUNDING RISER DIAGRAM
6. PROVIDE EXOTHERMIC WELD AT APPROXIMATE LOCATION ON STEEL COLUMN, LOCATION TO BE BELOW FINAL POURED CONCRETE SLAB
7. [VERIFY FOR LIGHTING PROTECTION] PROVIDE COOPER WIRE (SIZE PER NFPA 780) FOR LIGHTNING PROTECTION DOWNLEAD CONDUCTOR
8. CONNECT DOWNLEAD CONDUCTOR TO GROUND LOOP AND PROVIDE GROUND ROD AT THIS LOCATION.
9. PVC CONDUIT, CONCEAL IN WALLS OR CHASES OR PROVIDE ARCHITECTURAL CHASE, NOT TO BE RUN EXPOSED OR ABOVE CEILINGS.
10. PROVIDE GROUND LOOP AS REQUIRED FOR LIGHTING PROTECTION AND PER PLANS AND SPECIFICATIONS.



3 GROUNDING DETAILS
NO SCALE



6 TRAPEZE MOUNTING
NO SCALE



4 GROUND ROD INSPECTION WELL
NO SCALE

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14143 Denver West Pkwy
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Golden, CO
United States
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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED 52253 PROFESSIONAL ENGINEER
8/17/21

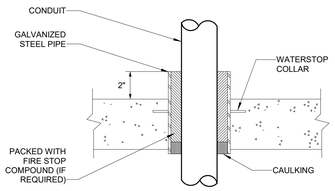
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ELECTRICAL DETAILS

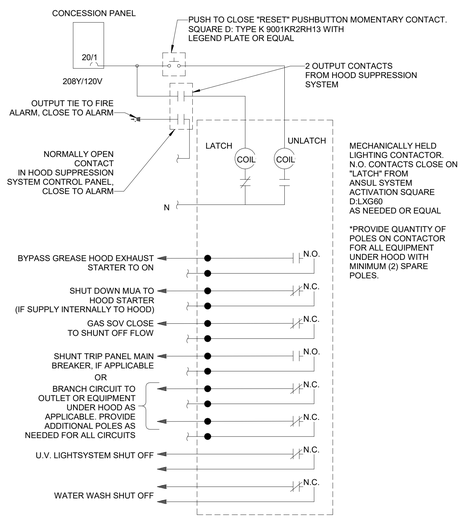
Scale
NO SCALE

1A-E8.000

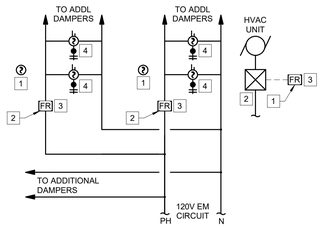


NOTE:
1. ALL CONDUIT PENETRATIONS THROUGH HORIZONTAL OR VERTICAL EXISTING STRUCTURAL MEMBER (WALL, FLOOR, CEILING, ETC.) SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. PROVIDE DRAWINGS FOR APPROVAL.

14 CONDUIT PENETRATION
NO SCALE



15 KITCHEN HOOD SHUNT TRIP PANEL
NO SCALE



KEYNOTES

1 CORRIDOR DETECTOR OR TOTAL COVERAGE SMOKE DETECTOR SYSTEM IF INSTALLED. REFER TO IBC 717.3.3.2 (4) AND (5).

2 ASSOCIATED HVAC UNIT MOTOR STARTER OR VFD, PROVIDE WITH EXTERNAL CONTACT CLOSURE INPUT TO ALLOW FOR SHUTDOWN OF UNIT FROM FIRE ALARM RELAY

3 NORMALLY CLOSED FIRE ALARM RELAY

4 DAMPER AND ASSOCIATED SMOKE DETECTOR, INSTALL DETECTOR WITHIN 5FT OF DAMPER PER IBC 717.3.3.2.

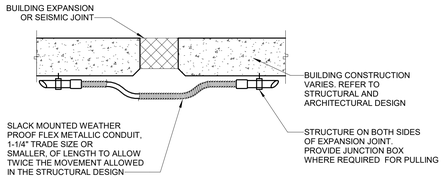
SEQUENCE OF OPERATION:

UPON ACTIVATION OF A DUCT DETECTOR AT A HVAC UNIT, A DUCT DETECTOR ASSOCIATED WITH A DAMPER, CORRIDOR DETECTOR, OR TOTAL COVERAGE SMOKE DETECTOR:

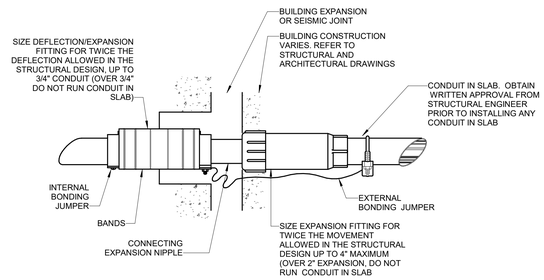
1) THE FIRE ALARM RELAY ASSOCIATED WITH THE HVAC UNIT WILL OPEN CAUSING THE UNIT TO SHUT DOWN.

2) THE FIRE ALARM RELAY AT THE DAMPER POWER CIRCUIT WILL OPEN CAUSING THE DAMPERS TO CLOSE (FAIL-SAFE DAMPERS).

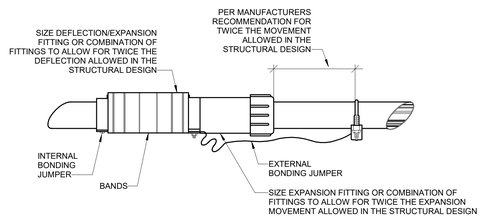
12 FIRE/SMOKE DAMPER
NO SCALE



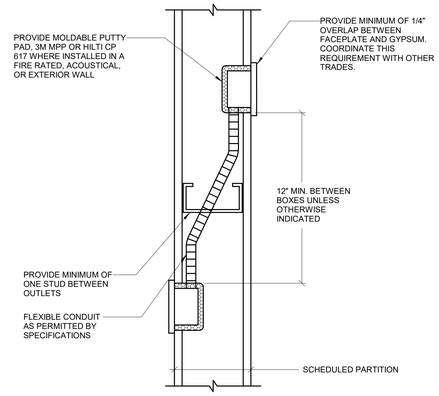
FLEX CONDUIT EXPANSION/DEFLECTION



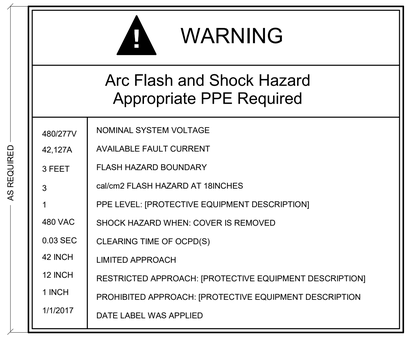
COMBINATION EXPANSION/DEFLECTION FITTING IN SLAB



13 SEISMIC EXPANSION FITTING
NO SCALE



7 BACK TO BACK BOXES ARRANGEMENT-NOISE/FIRE RATING
NO SCALE



NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.

8 ARC FLASH LABEL
NO SCALE

GENERAL NOTES:

1. REFER TO AV AND TECHNOLOGY DRAWINGS FOR ADDITIONAL REQUIREMENTS RELATIVE TO TV / VIDEO MONITOR INFRASTRUCTURE.

2. REFER TO ARCHITECTURAL AND/OR AV DOCUMENTS FOR MOUNTING HEIGHTS AND/OR SPECIAL CONDITIONS.

KEYNOTES:

1 BACK-BOX: PROVIDE LARGE FLAT PANEL BACK-BOX AT SELECT LOCATIONS AS INDICATED IN AV DOCUMENTS. PROVIDE STANDARD 4 X 4 BACK-BOX FOR ALL OTHER TV / VIDEO MONITOR LOCATIONS.

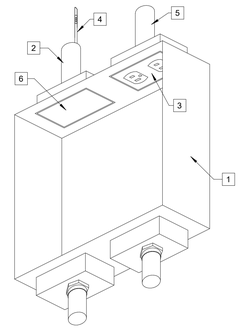
2 TECH CONDUIT: SHOWN FOR REFERENCE ONLY REFER TO TECHNOLOGY AND AV PLANS.

3 POWER: PROVIDE (1) 120V, 20A DUPLEX RECEPTACLE.

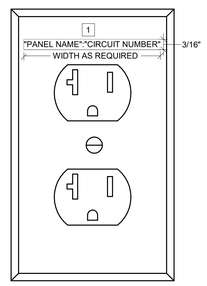
4 DATA CABLE: SHOWN FOR REFERENCE ONLY. REFER TO TECHNOLOGY AND AV PLANS.

5 POWER CONDUIT: PROVIDE MINIMUM 3/4" CONDUIT ROUTED TO PANEL THAT TV IS CIRCUITED TO.

6 DATA DEVICE: SHOWN FOR REFERENCE ONLY REFER TO TECHNOLOGY AND AV PLANS.



9 TV RECESSED BOX DETAIL
NO SCALE



KEYNOTES:

1 PROVIDE BLACK LETTERING ON CLEAR LABEL FOR NORMAL CIRCUITS AND RED LETTERING ON CLEAR LABEL FOR EMERGENCY/STANDBY CIRCUITS.

10 RECEPTACLE IDENTIFICATION
NO SCALE

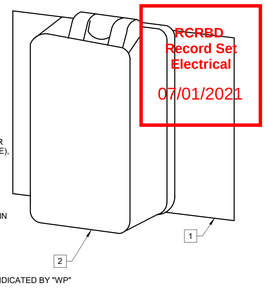
GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE WEATHER PROOF COVER FOR ALL DEVICES WITH "WP" INDICATED AS PART OF SYMBOL ON PLAN DRAWINGS, U.N.O.

KEYNOTES:

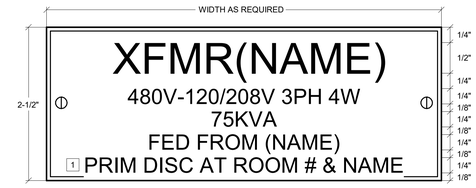
1 BACK-BOX: FLUSH MOUNTED BOX WITH SINGLE GANG OR DOUBLE GANG COVER PLATE (AS APPLICABLE), SHOWN FOR REFERENCE ONLY.

2 COVER PLATE: PROVIDE UL LISTED WEATHERPROOF CAST ALUMINUM SINGLE GANG OR DOUBLE GANG COVER (AS APPLICABLE) THAT WILL ALLOW FOR CABLES TO REMAIN PLUGGED IN WHILE IN THE CLOSED POSITION.



SYMBOLS = INDICATED BY "WP"

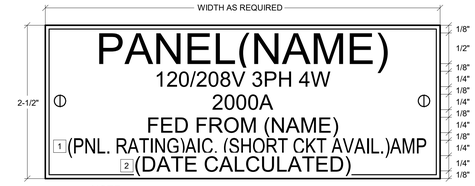
1 IN -USE WEATHER PROOF COVER
NO SCALE



NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.

1 INDICATE LOCATION OF PRIMARY DISCONNECT

2 TRANSFORMER NAMEPLATE
NO SCALE

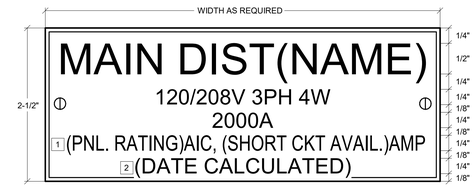


NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.

1 INDICATE BUS BRACING VALUE AND AVAILABLE FAULT CURRENT.

2 PROVIDE AND INDICATE DATE OF CALCULATION.

3 SUB DIST. CENTER & BRANCH PANEL NAME PLATE
NO SCALE

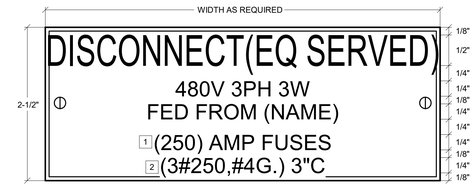


NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.

1 INDICATE BUS BRACING VALUE AND AVAILABLE FAULT CURRENT.

2 PROVIDE AND INDICATE DATE OF CALCULATION.

4 MAIN DIST.CENTER NAMEPLATE
NO SCALE

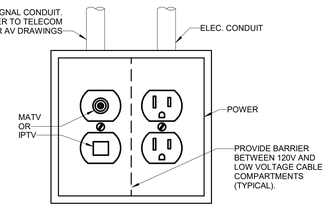


NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.

1 INDICATE FUSE SIZE, IF APPLICABLE

2 INDICATE BRANCH CIRCUIT WIRESIZE

5 DISCONNECT NAMEPLATE
NO SCALE



6 TV PLATE
NO SCALE

RCRBD
Record Set
Electrical
07/01/2021

Steamboat
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east west partners
2305 Mount Werner Circle
Steamboat Springs, CO 80487

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United States
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Golden, CO
United States
Tel 303.421.6655

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED
JOHN JOHN SMITH
52253
REGISTERED PROFESSIONAL ENGINEER

Project Name
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Project Number
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Description
PROMENADE - ELECTRICAL DETAILS

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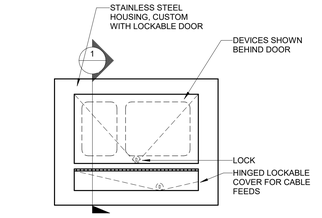
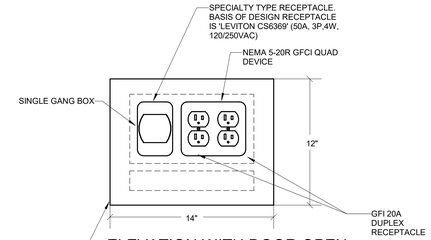
NO SCALE

1A-E8.001

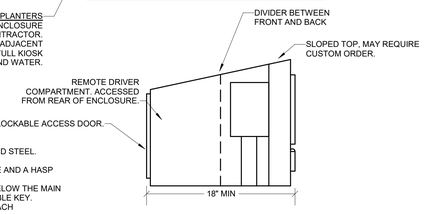


ELEVATION WITH DOOR CLOSED



ELEVATION WITH DOOR OPEN

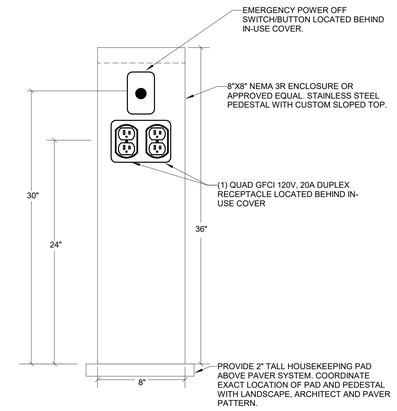
SITE POWER AT PLANTERS
COORDINATE PEDESTAL ENCLOSURE WITH LANDSCAPE, AND PLUMBING CONTRACTOR. WATER CONNECTION SHALL BE LOCATED ADJACENT TO POWER ENCLOSURE FOR FULL KIOSK CONNECTION TO POWER AND WATER.

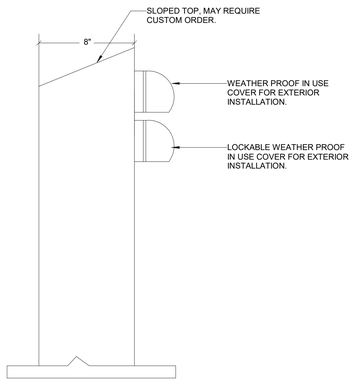


SECTION 1 AT RECEPTACLE

NOTES:
1. ENCLOSURE SHALL BE A UL LISTED NEMA 3R TYPE, FABRICATED OF GALVANIZED STEEL.
2. FINISH COLOR SHALL BE GRAY.
3. THE ENCLOSURE SHALL HAVE MAIN ACCESS DOOR WITH A CONTINUOUS HINGE AND A HASP TO ACCEPT A PADLOCK.
4. A HINGED TRAP DOOR FOR ENTRY OF PORTABLE CABLE SHALL BE LOCATED BELOW THE MAIN ACCESS DOOR. THE TRAPDOOR SHALL BE SECURED BY A LOCK WITH A REMOVABLE KEY.
5. SERVICE ENTRANCE SHALL BE THROUGH THE REAR OF THE ENCLOSURE TO EACH RECEPTACLE.
6. THE ENTIRE ASSEMBLY SHALL BE UL LISTED.
7.THE BASIS OF DESIGN MANUFACTURER IS UNION CONNECTOR

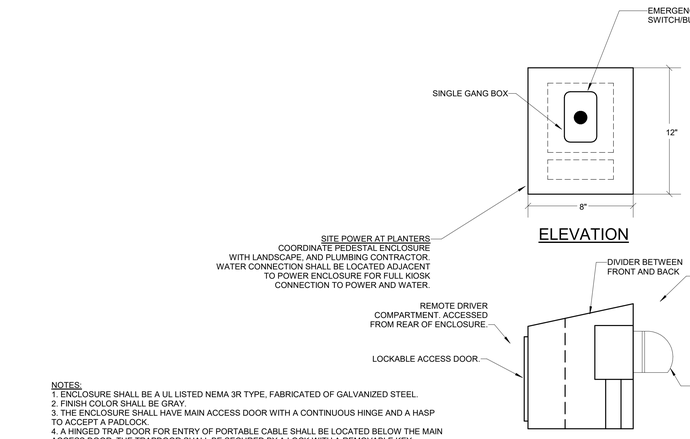
3 (DE) SITE POWER PEDESTAL - 12" QUAD, SC6369
NO SCALE





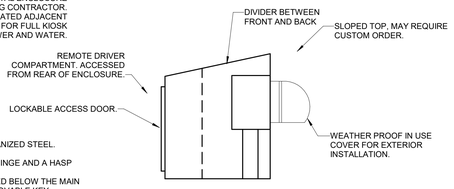
NOTES:
1. ENCLOSURE SHALL BE A UL LISTED NEMA 3R TYPE, FABRICATED OF GALVANIZED STEEL.
2. FINISH COLOR SHALL BE GRAY.
3. THE ENTIRE ASSEMBLY SHALL BE UL LISTED.
4.THE BASIS OF DESIGN MANUFACTURER IS UNION CONNECTOR

1 (DE) SITE POWER PEDESTAL - 36" QUAD, EPO, FIREPLACE
NO SCALE



ELEVATION

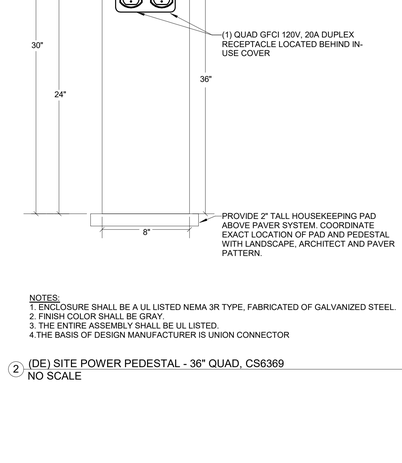
SITE POWER AT PLANTERS
COORDINATE PEDESTAL ENCLOSURE WITH LANDSCAPE, AND PLUMBING CONTRACTOR. WATER CONNECTION SHALL BE LOCATED ADJACENT TO POWER ENCLOSURE FOR FULL KIOSK CONNECTION TO POWER AND WATER.

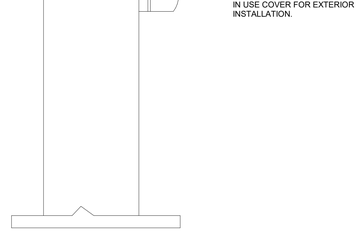


NOTES:
1. ENCLOSURE SHALL BE A UL LISTED NEMA 3R TYPE, FABRICATED OF GALVANIZED STEEL.
2. FINISH COLOR SHALL BE GRAY.
3. THE ENCLOSURE SHALL HAVE MAIN ACCESS DOOR WITH A CONTINUOUS HINGE AND A HASP TO ACCEPT A PADLOCK.
4. A HINGED TRAP DOOR FOR ENTRY OF PORTABLE CABLE SHALL BE LOCATED BELOW THE MAIN ACCESS DOOR. THE TRAPDOOR SHALL BE SECURED BY A LOCK WITH A REMOVABLE KEY.
5. SERVICE ENTRANCE SHALL BE THROUGH THE REAR OF THE ENCLOSURE TO EACH RECEPTACLE.
6. THE ENTIRE ASSEMBLY SHALL BE UL LISTED.
7.THE BASIS OF DESIGN MANUFACTURER IS UNION CONNECTOR

SECTION 1 AT RECEPTACLE

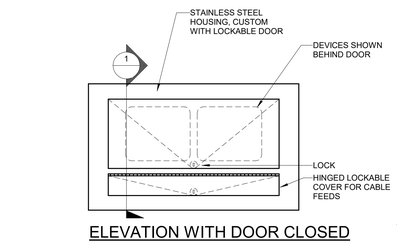
4 (DE) SITE POWER PEDESTAL - 12" EPO, FIREPLACE
NO SCALE



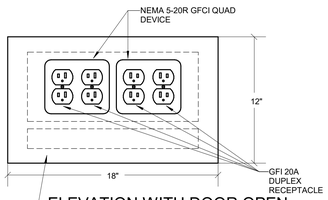


NOTES:
1. ENCLOSURE SHALL BE A UL LISTED NEMA 3R TYPE, FABRICATED OF GALVANIZED STEEL.
2. FINISH COLOR SHALL BE GRAY.
3. THE ENTIRE ASSEMBLY SHALL BE UL LISTED.
4.THE BASIS OF DESIGN MANUFACTURER IS UNION CONNECTOR

2 (DE) SITE POWER PEDESTAL - 36" QUAD, CS6369
NO SCALE

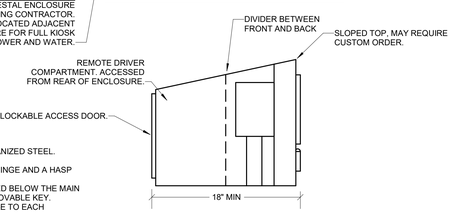


ELEVATION WITH DOOR CLOSED



ELEVATION WITH DOOR OPEN

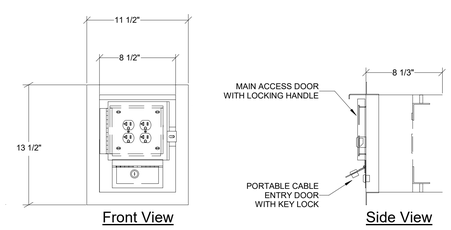
SITE POWER AT PLANTERS
COORDINATE PEDESTAL ENCLOSURE WITH LANDSCAPE, AND PLUMBING CONTRACTOR. WATER CONNECTION SHALL BE LOCATED ADJACENT TO POWER ENCLOSURE FOR FULL KIOSK CONNECTION TO POWER AND WATER.



NOTES:
1. ENCLOSURE SHALL BE A UL LISTED NEMA 3R TYPE, FABRICATED OF GALVANIZED STEEL.
2. COORDINATE FINISH COLOR WITH LANDSCAPE ARCHITECT.
3. THE ENCLOSURE SHALL HAVE MAIN ACCESS DOOR WITH A CONTINUOUS HINGE AND A HASP TO ACCEPT A PADLOCK.
4. A HINGED TRAP DOOR FOR ENTRY OF PORTABLE CABLE SHALL BE LOCATED BELOW THE MAIN ACCESS DOOR. THE TRAPDOOR SHALL BE SECURED BY A LOCK WITH A REMOVABLE KEY.
5. SERVICE ENTRANCE SHALL BE THROUGH THE BOTTOM OF THE ENCLOSURE TO EACH RECEPTACLE.
6. THE ENTIRE ASSEMBLY SHALL BE UL LISTED.
7.THE BASIS OF DESIGN MANUFACTURER IS UNION CONNECTOR

SECTION 1 AT RECEPTACLE

5 (DE) SITE POWER PEDESTAL - 12" (2) QUAD
NO SCALE



Front View Side View

CONSTRUCTION SPECIFICATIONS:
1. ENCLOSURE SHALL BE A UL LISTED NEMA 3R TYPE, FABRICATED OF GALVANIZED STEEL.
2. FINISH COLOR SHALL BE GRAY.
3. ENCLOSURE SHALL HAVE 1 1/2" FLANGE ON ALL SIDES TO COVER THE ROUGH OPENING.
4. THE ENCLOSURE SHALL HAVE MAIN ACCESS DOOR WITH A CONTINUOUS HINGE AND A HASP TO ACCEPT A PADLOCK.
5. A HINGED TRAP DOOR FOR ENTRY OF PORTABLE CABLE SHALL BE LOCATED BELOW THE MAIN ACCESS DOOR. THE TRAPDOOR SHALL BE SECURED BY A LOCK WITH A REMOVABLE KEY.
6. SERVICE ENTRANCE SHALL BE THROUGH THE REAR OF THE ENCLOSURE TO EACH RECEPTACLE
7. THE RECEPTACLES PROVIDED SHALL BE (1) 20A. 125V. 5-20R DUPLEX
8. THE ENTIRE ASSEMBLY SHALL BE UL LISTED.
9.THE BASIS OF DESIGN IS RC20FLUG/LV-2/2-3R-TAM01 AS MANUFACTURED BY UNION CONNECTOR

6 BACK TO BACK BOXES ARRANGEMENT-NOISE/FIRE RATING
NO SCALE

RCRBD
Record Set
Electrical
07/01/2021

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners

2305 Mount Werner Circle
Steamboat Springs, CO 80487

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Tel 303.623.5186

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me engineers
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Golden, CO
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△	Date	Description
-	2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED 52253 PROFESSIONAL ENGINEER

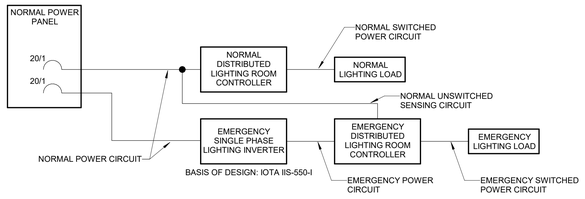
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

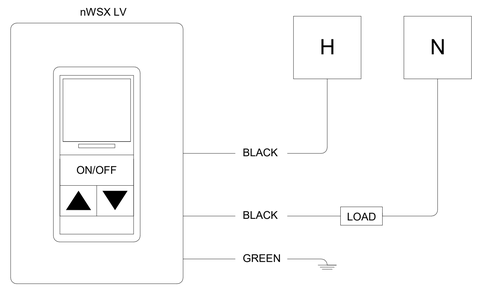
Description
PROMENADE - ELECTRICAL DETAILS

Scale
NO SCALE

1A-E8.002

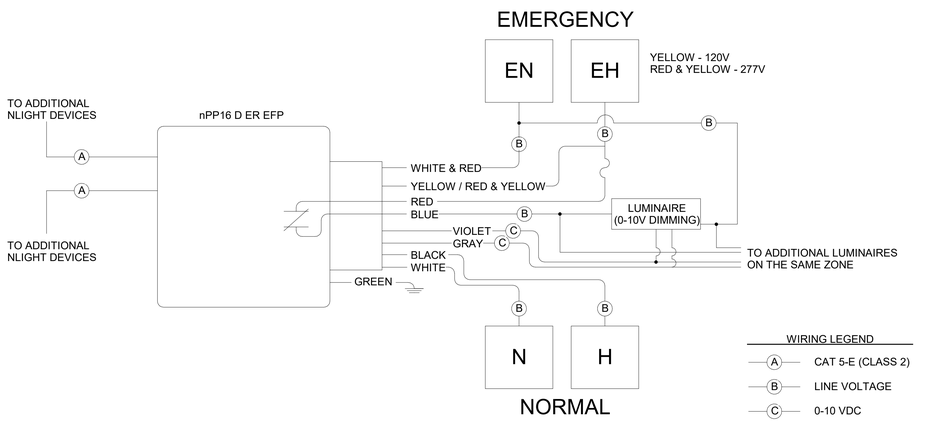


10 EMERGENCY LIGHTING INVERTER WIRING DIAGRAM
NO SCALE



9 WALL SWITCH - 1 POLE, AUTO ON/OFF
NO SCALE

1 7" TOUCHSCREEN
NO SCALE



11 TYPICAL WIRING DIAGRAM: NPP16 D ER EFP
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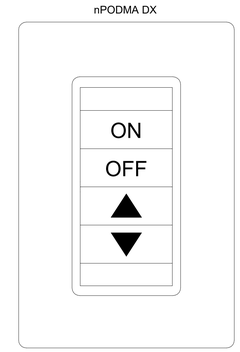

5 SINGLE ZONE DIMMER
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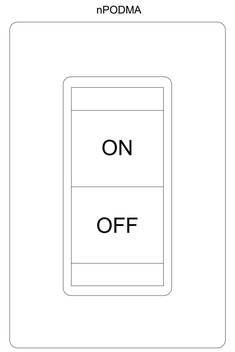

6 SINGLE ZONE SWITCH
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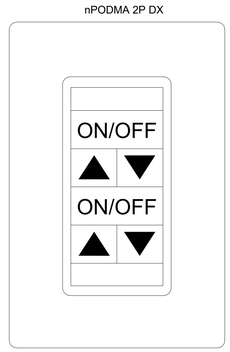

2 MULTI-ZONE DIMMER
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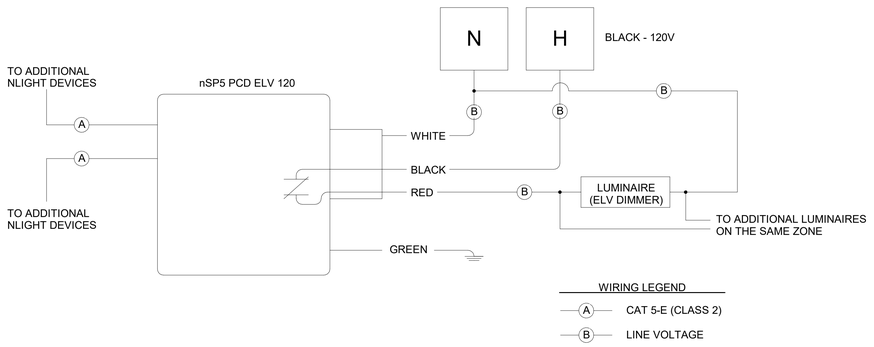
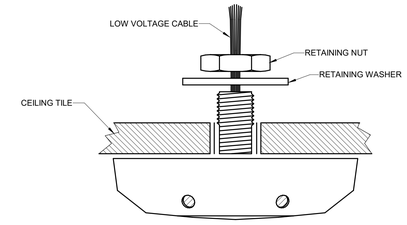
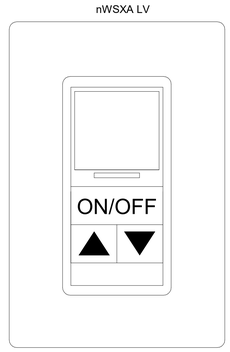


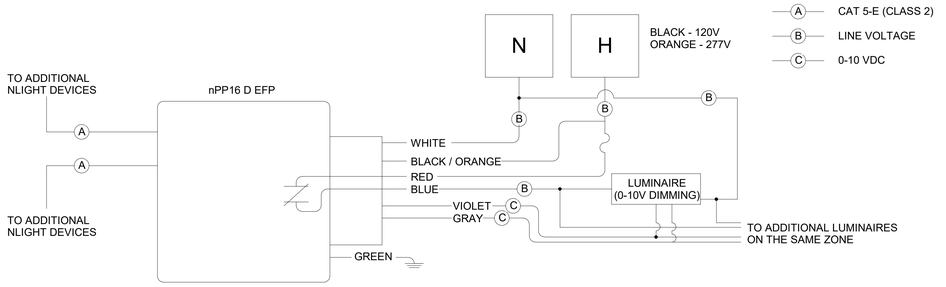
12 TYPICAL WIRING DIAGRAM: NSP5 PCD ELV 120
NO SCALE



7 SENSOR - CEILING MOUNTED
NO SCALE



3 OCCUPANCY SENSOR & DIMMER
NO SCALE



13 TYPICAL WIRING DIAGRAM: NPP16 D EFP
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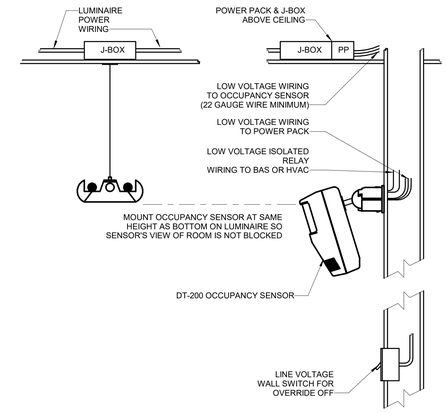
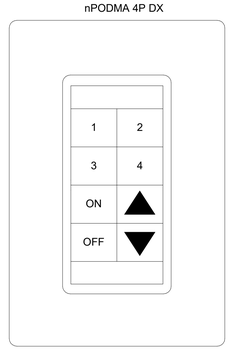


8 SENSOR - WALL MOUNTING
NO SCALE



4 SCENE SELECTOR & DIMMER
NO SCALE

RCRBD
Record Set
Electrical
07/01/2021

Steamboat
ALTERRA MOUNTAIN COMPANY
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me engineers
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Golden, CO
United States
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Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED 52253 PROFESSIONAL ENGINEER

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PROMENADE - ELECTRICAL DETAILS

Scale
As indicated

1A-E8.003