Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

eu:a

CONSTRUCTION DOCUMENTS

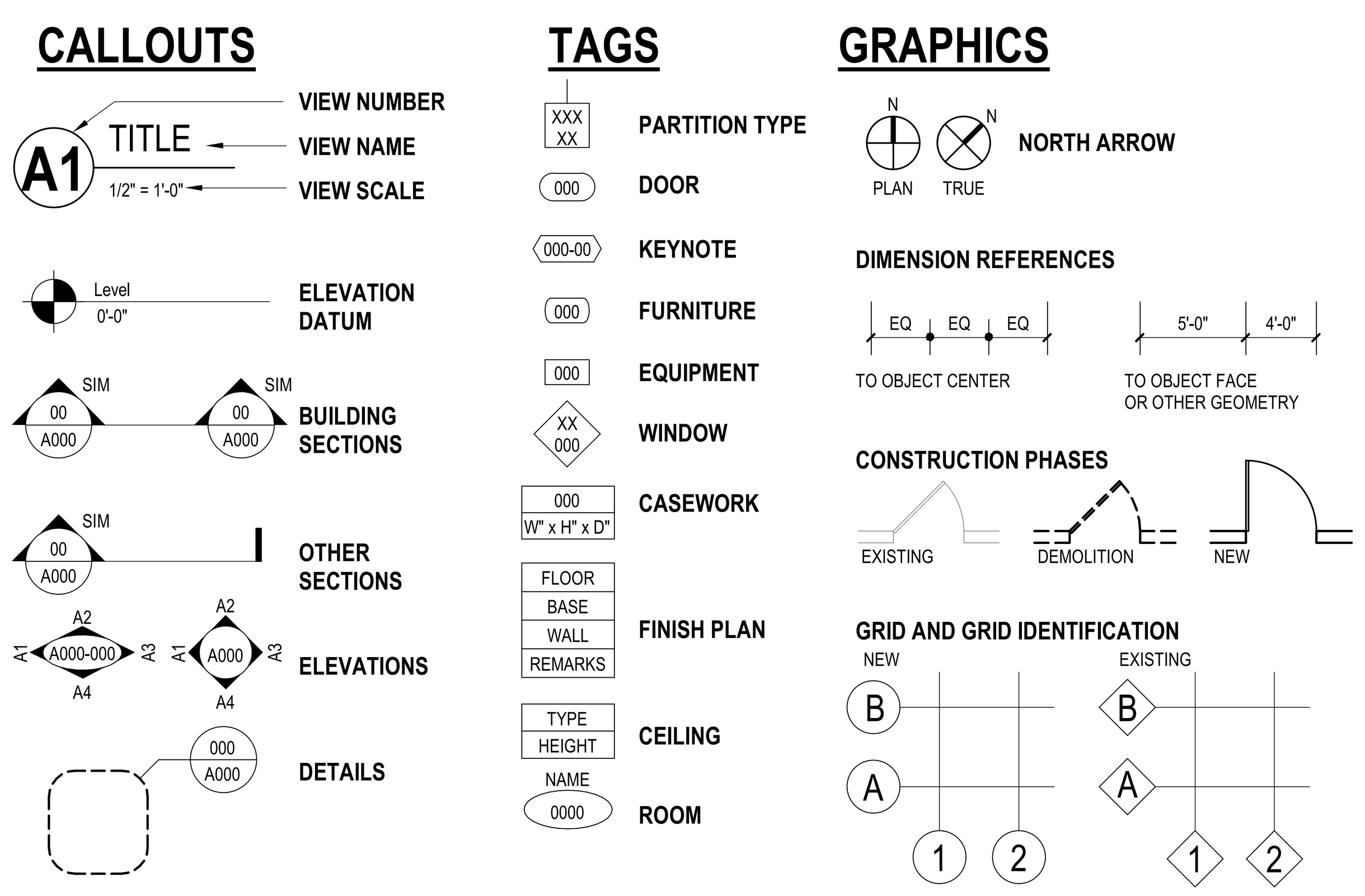
07/31/2023

PROJECT NUMBER: 822808-01

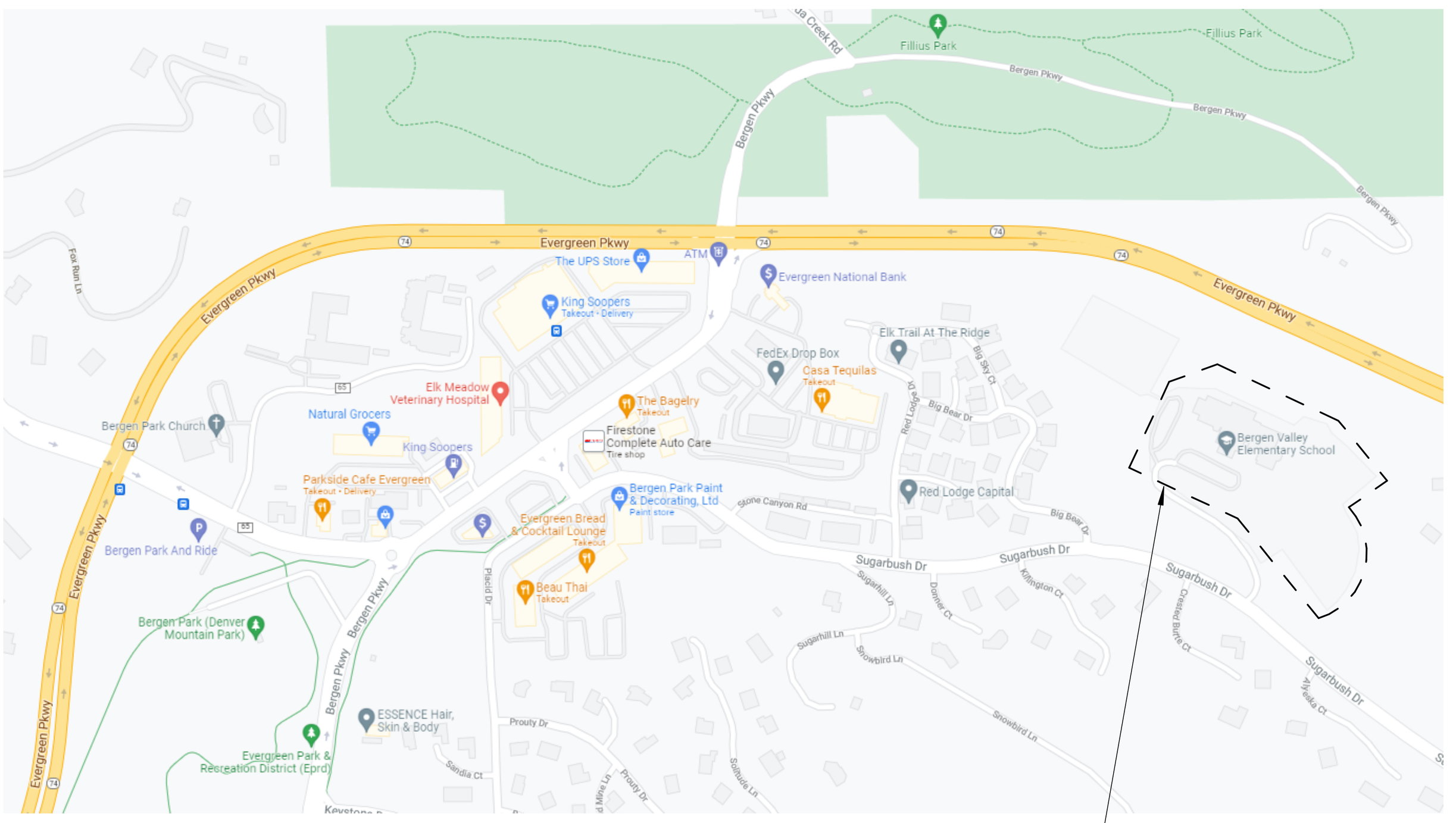
ABBREVIATIONS

Abbrev.	Meaning
A	
A/C	air conditioning
A/E	Architect/Engineer
ACT	acoustical ceiling tile
ADDL	additional
ADDM	addendum
ADJ	adjustable
AFC	above finished counter
AFF	above finished floor
AFG	above finished grade
AFS	above finished slab
ALT	alternate
ALUM	aluminum
APPD	approved
APT	apartment
AP	acoustical panel
ASC	above suspended ceiling
B	
BB	baseboard
BLDG	building
BLT	borrowed lite
BLW	below
BPL	base plate
BO	bottom of
BOS	bottom of steel
C	
CB	catch basin, construction bulletin
CF/CI	contractor furnished, contractor installed
CF/OI	contractor furnished, owner installed
CF/VI	contractor furnished, vendor installed
CG	corner guard
CIP	cast-in-place
CNTR	counter
CL	centerline
CLG	ceiling
CLR	clear
CM	construction management
CM	construction manager
CMU	concrete masonry unit
CO	cleanout
COL	column
CONC	concrete
CORR	corridor
CPT	carpet
CSWK	casework
CT	ceramic tile
CW	cold water
CTB	ceramic tile base
D	
DEMO	demolition
DEPT	department
DF	drinking fountain
DIA	diameter
DP	decorative panel
DR	door
DR FR	door frame
DTL	detail
DS	downspout
DW	dishwasher
DWG	drawing
E	
E	east
EIFS	exterior insulation & finish system
EL	elevation
EJ	expansion joint
ELEC	electric
ELEC	electrical
ELEV	elevator
EP	epoxy
EPS	expanded polystyrene board
EQ	equal
ETR	existing to remain
EXIST	existing
EXT	exterior
F	
F	female
F	filler
FA	fire alarm
FA	fluid-applied
FAB	fabric
FC	file cabinet
FD	floor drain
FE	fire extinguisher
FEC	fire extinguisher cabinet
FHC	fire hose cabinet
FLR	floor
FM	factory mutual
FM	floor mat
FO	finished opening
FP	fire protection
FP	fireproof
FPL	fireplace
FRP	fiberglass reinforced plastic
FRT	fire retardant treated
FTG	footing
G	
GA	gauge
GALV	galvanized
GB	grab bar
GC	general contractor
GL	glass
GLU LAM	glue laminated wood
GR	grade, grading
GT	grout
GYP BD	gypsum
H	
HB	hose bibb
HC	hollow core
HM	hollow metal
HORIZ	horizontal
HSKP	housekeeping
HGT	height
HVAC	heating, ventilating & air conditioning
HW	hot water
HWY	highway
I	
ID	inside diameter
INSUL	insulation
INT	interior
J	
JS	janitor sink
L	
LAM	laminate
LAV	lavatory
LL	live load
M	
MAX	maximum
MC	modular carpet tile
MECH	mechanical
MFR	manufacturer
MICRO	microwave
MIN	minimum
MIN	minute
MISC	miscellaneous
MJ	movement joint
MO	masonry opening
MS	mop sink
MTL	metal
N	
N	north
NA	not applicable
NIC	not in contract
NO	number
NM	nominal
NS	no scale
NTS	not to scale
O	
OC	on center
OD	outside diameter
OF/CI	owner furnished, contractor installed
OF/OI	owner furnished, owner installed
OF/VI	owner furnished, vendor installed
OH DR	overhead door
OPH	opposite hand
OPNG	opening
P	
PJ	panel joint
PLAM	plastic laminate
PLYWD	plywood
PNL	panel
PREFAB	prefabricated
PREFIN	prefinished
PSI	pounds per square inch
PT	paint
PTN	partition
Q	
QT	quarry tile
QTB	quarry tile base
QTZ	quartz
R	
RB	resilient base
RCP	reflected ceiling plan
RD	roof drain
REBAR	reinforcing steel bars
REC	recess
REF	reference
REF	refrigerator
RF	resilient flooring
REV	revision
RFS	room finish schedule
RO	rough opening
S	
S	south
SAN	sanitary
SC	sealed concrete
SC	solid core
SCHED	schedule
SCHED	scheduled
SF	square foot
SIM	sim
SS	solid surface
SST	stainless steel
ST	stain
ST	stair
STL	steel
STN	stone
STNB	stone base
STRUCT	structure
T	
T&M	time & materials
TEMP	temperature
TEMP	temporary
TER	terrazzo
TERB	terrazzo base
TFF	top of finished floor
TKBD	tackboard
TO	top of
TOB	top of beam
TOC	top of concrete
TOJ	top of joist
TOPO	topography
TOS	top of slab
TOS	top of steel
TYP	typical
U	
UNO	unless noted otherwise
V	
VERT	vertical
VF/CI	vendor furnished, contractor installed
VF/OI	vendor furnished, owner installed
VF/VI	vendor furnished, vendor installed
VNR	veneer
VIF	verify in field
W	
W	west
W/	with
W/O	without
WC	water closet
WC	wall covering
WD	wood
WDB	wood base
WDV	wood veneer
WH	water heater
WP	wall protection
WP	work point
WT	window treatment
X	
XPS	extruded polystyrene board

SYMBOL LEGEND



VICINITY MAP



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PROJECT SITE

PROJECT TEAM

ARCHITECTURAL
EPPSTEIN UHEN ARCHITECTS, INC.

1899 Wynkoop Street, Suite 700
Denver, CO 80202
PHONE: (303) 595-4500
www.eua.com

PROJECT CONTACT: Tim Wellner
DIRECT PHONE: (303) 256-1129
EMAIL ADDRESS: timw@eua.com

CIVIL
JVA CONSULTING ENGINEERS

1319 Spruce Street
Boulder, CO 80302
PHONE: (303) 444-1951
www.jvajva.com

PROJECT CONTACT: Cody Gratny
DIRECT PHONE: (303) 444-1951
EMAIL ADDRESS: cgratny@jvajva.com

LANDSCAPE
DESIGN CONCEPTS CLA, INC

211 N Public Rd
Lafayette, CO 80026
PHONE: (303) 664-5301
www.dcla.net

PROJECT CONTACT: Carol Henry
DIRECT PHONE: (303) 664-5301
EMAIL ADDRESS: carolh@dcla.net

STRUCTURAL
MARTIN/MARTIN STRUCTURAL ENGINEERS

12499 West Colfax Avenue
Lakewood, CO 80215
PHONE: (303) 848-8497
www.martinmartin.com

PROJECT CONTACT: Todd Clapp
DIRECT PHONE: (720) 544-5475
EMAIL ADDRESS: tclapp@martinmartin.com

MECHANICAL
ENVISION MECHANICAL ENGINEERS

9777 Pyramid Court, Suite 260
Englewood, CO 80112
PHONE: (303) 688-0223
www.envisionengrs.com

PROJECT CONTACT: Afton Schuchman
DIRECT PHONE: (303) 688-0223
EMAIL ADDRESS: ans@envisionengrs.com

ELECTRICAL
AE DESIGN, INC.

1900 Wazee Street, #205
Denver, CO 80202
PHONE: (303) 296-3034
www.aedesign-inc.com

PROJECT CONTACT: Melina Saunders
DIRECT PHONE: (303) 296-3579
EMAIL ADDRESS: msaunders@aedesign-inc.com

ACOUSTICS
DL ADAMS ASSOCIATES

1536 Ogden Street
Denver, CO 80218
PHONE: (303) 455-1900
www.dlaa.com

PROJECT CONTACT: Stephanie Adams-Ball
DIRECT PHONE: (303) 455-1900
EMAIL ADDRESS: sadams@dlaa.com

SHEET INDEX

milwaukee | madison | green bay | denver | atlanta
899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

PROJECT INFORMATION

Bergen Valley
Elementary School
Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

INDEX

G000

COMcheck Software Version COMcheckWeb
Envelope Compliance Certificate

Project Information

Energy Code:	2021 IECC
Project Title:	Bergen Valley ES
Location:	Evergreen, Colorado
Climate Zone:	5b
Project Type:	Addition
Vertical Glazing / Wall Area:	14%

Construction Site:
1422 Sugarbush Dr
Evergreen, Colorado 80439

Owner/Agent:
Jefferson County School District No. R-1
809 Quail Street, Building #4
Lakewood, Colorado 80215
303-982-2584

Designer/Contractor:
Tim Wellner
EUA
1899 Wynkoop Street, Suite 700
Denver, Colorado 80031
303.256-1129
timw@eua.com

Building Area	Floor Area
1-School/University : Nonresidential	15031

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Floor: Unheated Slab-On-Grade, Vertical 3 ft., [Bldg. Use 1 - School/University] (d)	14402	---	10.0	0.510	0.520
Roof: Ofher Insulation Above Deck Roof, [Bldg. Use 1 - School/University] (b)	12189	---	---	0.032	0.032
Roof: Ofher Insulation Above Deck Roof, [Bldg. Use 1 - School/University] (b)	3457	---	---	0.032	0.032
NORTH					
Ext. Wall Brick on Mtl Stud: Other Steel Framed Wall, [Bldg. Use 1 - School/University] (b)	730	---	---	0.045	0.055
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID Guardian Crystal, SHGC 0.30, [Bldg. Use 1 - School/University] (c)	249	---	---	0.284	0.360
Ext. Wall Mtl Panel on Mtl Stud: Other Steel Framed Wall, [Bldg. Use 1 - School/University] (b)	1550	---	---	0.045	0.055
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID Guardian Crystal, SHGC 0.30, [Bldg. Use 1 - School/University] (c)	45	---	---	0.284	0.360
EAST					
Ext. Wall Brick on Mtl Stud: Other Steel Framed Wall, [Bldg. Use 1 - School/University] (b)	1038	---	---	0.045	0.055
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID Guardian Crystal, SHGC 0.30, [Bldg. Use 1 - School/University] (c)	164	---	---	0.284	0.360
Ext. Wall Mtl Panel on Mtl Stud: Other Steel Framed Wall, [Bldg. Use 1 - School/University] (b)	188	---	---	0.045	0.055
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID Guardian Crystal, SHGC 0.30, [Bldg. Use 1 - School/University] (c)	22	---	---	0.284	0.360
SOUTH					
Ext. Wall Brick on Mtl Stud: Other Steel Framed Wall, [Bldg. Use 1 - School/University] (b)	525	---	---	0.045	0.055
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID Guardian Crystal, SHGC 0.30, [Bldg. Use 1 - School/University] (c)	106	---	---	0.284	0.360
Ext. Wall Mtl Panel on Mtl Stud: Other Steel Framed Wall, [Bldg. Use 1 - School/University] (b)	612	---	---	0.045	0.055
WEST					
Ext. Wall Brick on Mtl Stud: Other Steel Framed Wall, [Bldg. Use 1 - School/University] (b)	732	---	---	0.045	0.055
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID Guardian Crystal, SHGC 0.30, [Bldg. Use 1 - School/University] (c)	246	---	---	0.284	0.360
Ext. Wall Mtl Panel on Mtl Stud: Other Steel Framed Wall, [Bldg. Use 1 - School/University] (b)	344	---	---	0.045	0.055

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) 'Other' components require supporting documentation for proposed U-factors.
(c) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(d) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 3% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with the permit application. The proposed envelope systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title | Signature | Date

Project Title: Bergen Valley ES
Data filename:
Report date: 07/27/23
Page 2 of 12

KEYNOTES PER SHEET

1044-01	FIRE EXTINGUISHER CABINET
1044-02	(E) FIRE EXTINGUISHER CABINET TO BE PROTECTED AS NEEDED DURING CONSTRUCTION
1044-03	(E) FIRE EXTINGUISHER TO BE PROTECTED AS NEEDED DURING CONSTRUCTION
1044-04	(E) AED TO BE PROTECTED AS NEEDED DURING CONSTRUCTION

PLUMBING FIXTURE COUNT

PLUMBING COUNTS ARE BASED ON BUILDING OCCUPANCY:
TOTAL OCCUPANCY FOR 'E+B' OCCUPANCY = 1165
MALE: 582.5 FEMALE: 582.5

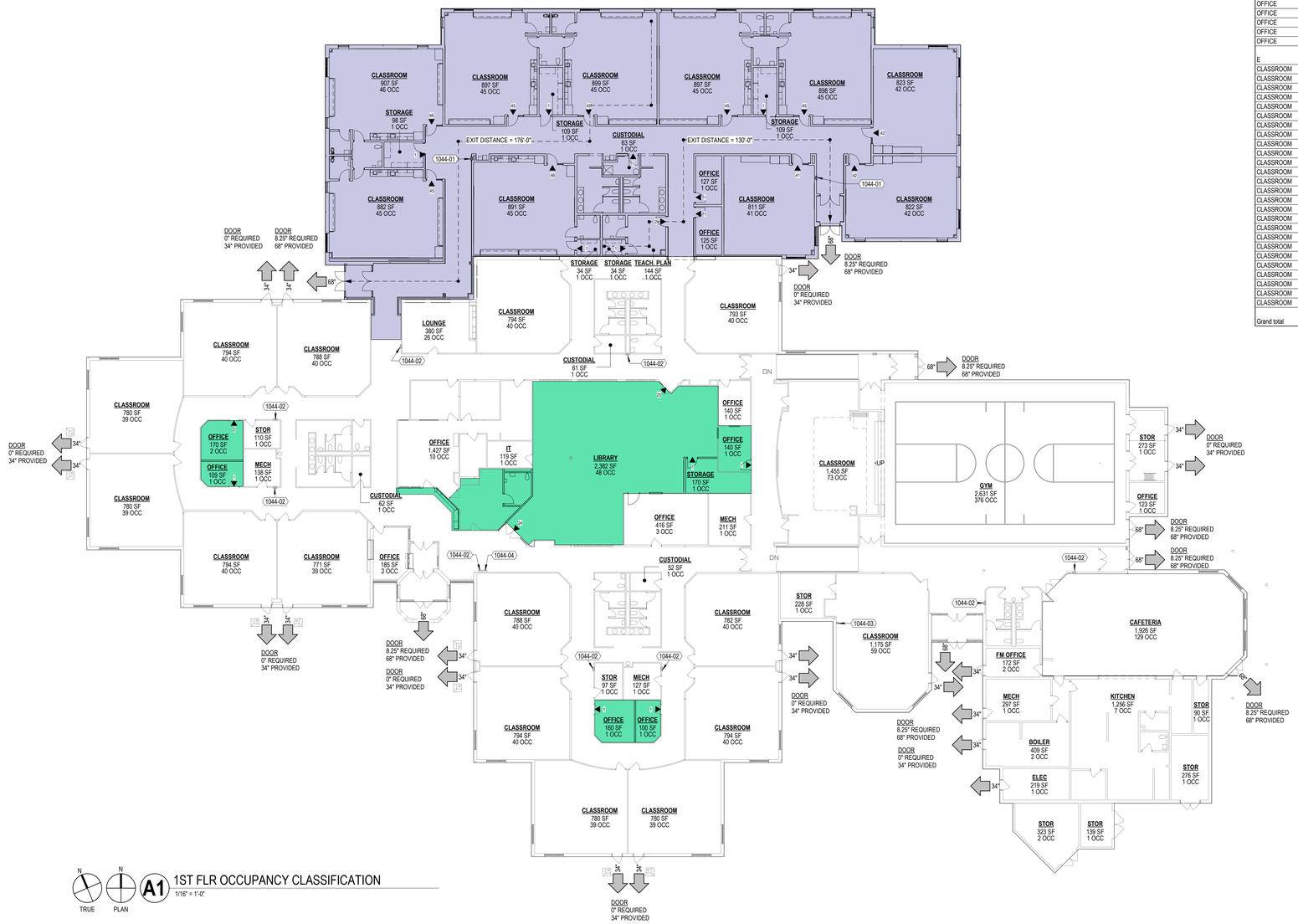
'E+B' OCCUPANCY USE DURING SCHOOL HOURS DOES NOT INCLUDE GYM, CAFETERIA, LIBRARY OR ACCESSORY SPACES.

	REQUIRED	PROVIDED
1 WC/ 50 MALE	12	15
1 WC/ 50 FEMALE	12	16
1 LAV/ 50 MALE	12	13
1 LAV/ 50 FEMALE	12	14
1 DF/ 100 OCC.	12	8
MOP SINK	2	5

TOTAL OCCUPANCY FOR 'A.4' OCCUPANCY = 529
MALE: 264.5 FEMALE: 264.5

'A' OCCUPANCY USE FOR AFTER SCHOOL EVENTS. CALCULATION BASED ON WORST CASE, WHICH IS THE LARGEST NEW ASSEMBLY SPACE AT FULL CAPACITY.

	REQUIRED	PROVIDED
1 WC/ 75 MALE	4	15
1 WC/ 40 FEMALE	7	16
1 LAV/ 200 MALE	2	13
1 LAV/ 150 FEMALE	2	14
1 DF/ 1000 OCC.	1	8
MOP SINK	1	5



N TRUE N PLAN **A1** 1ST FLR OCCUPANCY CLASSIFICATION
1/16" = 1'-0"

LIFE SAFETY GENERAL NOTES

1. WHEN A WALL HAS MORE THAN ONE CLASSIFICATION, THE MOST RESTRICTIVE REQUIREMENTS FOR EACH CLASSIFICATION SHALL APPLY.

LIFE SAFETY DRAWING NOTES APPLICABLE TO EXISTING CONDITIONS

EXISTING CONDITIONS INDICATED BY THESE LIFE SAFETY PLANS ARE BASED ON INFORMATION PROVIDED AND AN ANALYSIS OF APPLICABLE CODES. IF EXISTING FIELD CONDITIONS ARE DISCOVERED TO BE DIFFERENT FROM WHAT IS INDICATED ON THESE PLANS, CONTACT THE ARCHITECT.

WITHIN LIMITS OF WORK AREA, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE FOLLOWING AND PATCH DEFICIENCIES (IF ANY ARE DISCOVERED) OF EXISTING ASSEMBLIES.

- CONTINUITY OF SPRAYED ON FIRE PROTECTION
- CONTINUITY OF FIRE RATINGS AND SMOKE-TIGHTNESS REQUIREMENTS OF FLOOR ASSEMBLIES
- WALL FIRE RATINGS AND SMOKE-TIGHTNESS REQUIREMENTS AS INDICATED BY THESE LIFE SAFETY PLANS
- FIRE STOPPING OF THROUGH PENETRATIONS
- FIRE STOPPING OF PERIMETER JOINTS

Occupancy Classification Are...

Occupancy Space Name	Area	Area per Occupant	Gross or Net	Occupant Total
A-2				
KITCHEN	1,256 SF	200	Gross	7
	1,256 SF			7
A-2 (NON PLUMBING)				
CAFETERIA	1,926 SF	15	Net	129
	1,926 SF			129
A-3				
LIBRARY	2,382 SF	100	Gross	24
	2,382 SF			24
A-4				
GYM	2,631 SF	7	Net	376
	2,631 SF			376
ACCESSORY				
MECH	127 SF	300	Gross	1
STOR	97 SF	300	Gross	1
CUSTODIAL	52 SF	300	Gross	1
MECH	138 SF	300	Gross	1
STOR	110 SF	300	Gross	1
CUSTODIAL	62 SF	300	Gross	1
IT	119 SF	300	Gross	1
STOR	228 SF	300	Gross	1
MECH	297 SF	300	Gross	1
BOILER	409 SF	300	Gross	2
ELEC	219 SF	300	Gross	1
STOR	90 SF	300	Gross	1
MECH	211 SF	300	Gross	1
CUSTODIAL	61 SF	300	Gross	1
STOR	273 SF	300	Gross	1
STORAGE	170 SF	300	Gross	1
OFFICE	160 SF	300	Gross	1
STORAGE	109 SF	300	Gross	1
STORAGE	109 SF	300	Gross	1
STORAGE	98 SF	300	Gross	1
STOR	139 SF	300	Gross	1
STOR	323 SF	300	Gross	2
STOR	276 SF	300	Gross	1
CUSTODIAL	63 SF	300	Gross	1
STORAGE	34 SF	300	Gross	1
STORAGE	34 SF	300	Gross	1
	4,099 SF			28
B				
OFFICE	100 SF	150	Gross	1
OFFICE	1,427 SF	150	Gross	10
OFFICE	109 SF	150	Gross	1
OFFICE	185 SF	150	Gross	2
FM OFFICE	172 SF	150	Gross	2
OFFICE	140 SF	150	Gross	1
LOUNGE	380 SF	150	Gross	3
OFFICE	123 SF	150	Gross	1
TEACH. PLAN	144 SF	150	Gross	1
OFFICE	140 SF	150	Gross	1
OFFICE	416 SF	150	Gross	3
OFFICE	127 SF	150	Gross	1
OFFICE	125 SF	150	Gross	1
OFFICE	170 SF	150	Gross	2
	3,759 SF			30
E				
CLASSROOM	780 SF	20	Net	39
CLASSROOM	780 SF	20	Net	39
CLASSROOM	794 SF	20	Net	40
CLASSROOM	782 SF	20	Net	40
CLASSROOM	788 SF	20	Net	40
CLASSROOM	794 SF	20	Net	40
CLASSROOM	771 SF	20	Net	39
CLASSROOM	794 SF	20	Net	40
CLASSROOM	780 SF	20	Net	39
CLASSROOM	794 SF	20	Net	40
CLASSROOM	788 SF	20	Net	40
CLASSROOM	1,175 SF	20	Net	59
CLASSROOM	1,455 SF	20	Net	73
CLASSROOM	793 SF	20	Net	40
CLASSROOM	811 SF	20	Net	41
CLASSROOM	891 SF	20	Net	45
CLASSROOM	882 SF	20	Net	45
CLASSROOM	907 SF	20	Net	46
CLASSROOM	897 SF	20	Net	45
CLASSROOM	899 SF	20	Net	45
CLASSROOM	898 SF	20	Net	45
CLASSROOM	794 SF	20	Net	40
CLASSROOM	897 SF	20	Net	45
CLASSROOM	823 SF	20	Net	42
CLASSROOM	822 SF	20	Net	42
	22,364 SF			1128
Grand total	38,327 SF			1722

PROJECT DATA

OWNER	
JEFFERSON COUNTY PUBLIC SCHOOLS	
JURISDICTIONS	
BUILDING DEPARTMENT	STATE OF COLORADO - DIVISION OF FIRE PREVENTION AND CONTROL
FIRE DEPARTMENT	EVERGREEN FIRE RESCUE
APPLICABLE BUILDING CODES	
2021 INTERNATIONAL BUILDING CODE (IBC)	
2021 INTERNATIONAL EXISTING BUILDING CODE (IEBC)	
METHOD OF COMPLIANCE	301.1.2 - WORK AREA COMPLIANCE METHOD
2018 INTERNATIONAL PLUMBING CODE (IPC)	
2021 INTERNATIONAL MECHANICAL CODE (IMC)	
2018 FUEL GAS CODE	
2021 INTERNATIONAL FIRE CODE (IFC)	
2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)	
2020 NATIONAL ELECTRICAL CODE (NEC)	
2017 ICC A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES	
METHOD OF COMPLIANCE	2021 IECC
	SECTION 809
GENERAL INFORMATION	
CONSTRUCTION TYPE	II-B
NUMBER OF STORIES	1
TOTAL BUILDING AREA	57,315 GSF
FIRE PROTECTION	FULLY SPRINKLERED, W/ VOICE EVAC
PROJECT INFORMATION	
PROJECT TYPE	NEW CONSTRUCTION, LEVEL 2 ALTERATION, PER 2021 IEBC 3142 SF RENOVATION AREA, 7% EXISTING BUILDING AREA
ORIGINAL DATE OF CONSTRUCTION	1997
OCCUPANCY TYPE	E (EDUCATIONAL) (PRIMARY)
	A-2 (ASSEMBLY - CAFETERIA)
	A-3 (ASSEMBLY - GYM)
	B (BUSINESS)
	S-1 (STORAGE) ACCESSORY
PROJECT GROSS AREA	20,099 SF
BUILDING FLOOR AREA	EXISTING = 42,284 SF 1ST FLOOR ADDITION = 15,031 SF 1ST FLOOR TOTAL 1ST FLOOR = 57,315 SF 65,975 SF PER STORY ALLOWABLE = COMLPLIES
OCCUPANT LOAD	1720 OCCUPANTS
PROJECT SUMMARY	
Limited renovation is proposed within the existing school. Finish upgrades of flooring, ceiling and wall paint along with minor reconfiguring of spaces is planned for the existing building. A new 1-story addition is planned for on the north side of existing building. A new fire suppression system will be installed in both the existing and addition. Voice Evac will also be provided.	
ADDITIONAL NOTES:	
PER IBC 915 AND 107.2, CO DETECTRION WILL BE PROVIDED AS SHOWN ON THE ELECTRICAL PLANS	
PER IBC 907 AND 107.2, EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM IS PROVIDED	

MEANS OF EGRESS

X" — FROM ROOM OR LEVEL: X = CLEAR WIDTH OF OPENING IN INCHES
X" — EXIT DISCHARGE: X = CLEAR WIDTH OF OPENING IN INCHES
X" REQUIRED / X" PROVIDED — FROM LEVEL: X = CLEAR WIDTH OF OPENING IN INCHES
◄ # — FROM ROOM: # = OCCUPANTS

WORK AREAS INCLUSIVE OF ENTIRE BUIDING - 2021 IEBC		
EXISTING NO WORK	38,601 SF	67%
ADDITION	15,031 SF	26%
ALTERATION LEVEL 2	3,683 SF	6%
TOTAL WORK	18,714SF	

All Level 1 alterations to comply with Chapters 3 and 7 of the 2021 IEBC.

All Level 2 alterations to comply with Chapter 3, 7, and 8 of the 2021 IEBC.

New Construction to comply with the 2021 IBC.

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
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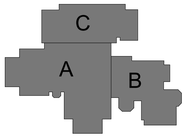
STATE OF COLORADO 07/31/2023 JANE M. CRISLER 402502 LICENSED ARCHITECT

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

1ST FLR OCCUPANCY CLASSIFICATION

G101

1 2 3 4 5 6 7

A B C D E

ABBREVIATIONS

AASHTO	AMERICAN ASSOC. OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABAN	ABANDON
AC	ASPHALTIC CONCRETE PAVING
ADDL	ADDITIONAL
ADDM	ADDENDUM
ADJ	ADJUSTABLE
AL	ALUMINUM
ALT	ALTERNATE
AMT	AMOUNT
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
ARV	AIR RELIEF VALVE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ASPH	ASPHALT
ASSY	ASSEMBLY
ASYM	ASYMMETRICAL
AUTO	AUTOMATIC
AVG	AVERAGE
AWWA	AMERICAN WATER WORKS ASSOC.
BC	BACK OF CURB
BFV	BUTTERFLY VALVE
BG	FINISHED GRADE ADJACENT TO BOTTOM OF WALL
BLDG	BUILDING
BLK	BLOCK
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICE
BS	BACKSIGHT
BOS	BOTTOM OF STEP
BOT	BOTTOM
BSMT	BASEMENT
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BOTTOM OF WALL
CB	CATCH BASIN
CCW	COUNTER CLOCKWISE
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CIP	CAST IRON PIPE
CJ	CONSTRUCTION JOINT
CL	CENTER LINE OR CHAIN LINK
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS(ATION)
COR	CORNER
CR	CONCENTRIC REDUCER
CTR	CENTER
CY	CUBIC YARDS
DEMO	DEMOLITION
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIP	DUCTILE IRON PIPE
DOM	DOMESTIC
DN	DOWN
DR	DRAIN
DWG	DRAWING
DWL	DOWEL
E	EAST
EA	EACH
ECC	ECCENTRIC
EJ	EXPANSION JT
EL	ELEVATION
ELB	ELBOW
ELEC	ELECTRICAL
ENGR	ENGINEER
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESMT	EASEMENT
EST	ESTIMATE
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EW	EACH WAY
EXP	JT EXPANSION JOINT
EXIST	EXISTING
FND	FOUNDATION
FES	FLARED END SECTION
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FN	FENCE
FOC	FACE OF CONCRETE
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET
FTG	FOOTING OR FITTING
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GCO	GRADE CLEANOUT
GIP	GALVANIZED IRON PIPE
GND	GROUND
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GR	GRATE
GRTG	GRATING
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
H	HIGH
HB	HOSE BIB
HE	HORIZONTAL ELLIPTICAL
HDWL	HEADWALL
HNDRL	HAND RAIL
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HWY	HIGHWAY
HWL	HIGH WATER LINE
HYD	HYDRANT
INCL	INCLUDED
ID	INSIDE DIAMETER
IN	INLET
INSUL	INSULATION
INV	INVERT
IRR	IRRIGATION
JTS	JOINTS
KO	KNOCKOUT
KPL	KICK PLATE
KWY	KEYWAY
L	LEFT OR LITER
LSCAPE	LANDSCAPE(ING)
LF	LINEAR FOOT
LP	LOW POINT OR LIGHT POLE
LT	LIGHT
LWL	LOW WATER LEVEL
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
ME	MATCH EXISTING
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING (ARCH)
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OS	OFFSET
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPP	OPPOSITE
OPT	OPTIONAL
PC	POINT OF CURVATURE
PCO	PRESSURE CLEAN OUT
PCR	POINT OF CURVE RETURN
PI	POINT OF INTERSECTION
PVI	POINT OF VERTICAL INTERSECTION
PL	PROPERTY LINE
PE	POLYETHYLENE
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PREP	PREPARATION
PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE OR PRESSURE RELIEF VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE
PVMT	PAVEMENT
QTY	QUANTITY
R	RIGHT
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RE	REFERENCE
RECT	RECTANGULAR
REINF	REINFORCE (D) (ING) (MENT)
REQD	REQUIRED
ROW	RIGHT OF WAY
SAN	SANITARY
SC	SAWCUT
SD	STORM DRAIN
SECT	SECTION
SPD	STANDARD PROCTOR DENSITY
SPEC	SPECIFICATION
SQ	SQUARE
SQ IN	SQUARE INCH
SQ FT	SQUARE FOOT
SQ YD	SQUARE YARD
SS	SANITARY SEWER
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SVC	SERVICE
SWMP	STORMWATER MANAGEMENT PLAN
SYM	SYMMETRICAL
TB	THRUST BLOCK
TBC	TOP BACK OF CURB
TBM	TEMPORARY BENCH MARK
TEMP	TEMPORARY
TG	FINISHED GRADE ADJACENT TO TOP OF WALL
THK	THICK
TOB	TOP OF BANK
TOC	TOP OF CONCRETE OR TOP OF CURB
TOS	TOP OF STEP
TOT	TOTAL
TW	TOP OF WALL OR CAP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UGE	UNDERGROUND ELECTRIC
UTIL	UTILITY
VERT	VERTICAL
VC	POINT OF VERTICAL CURVATURE
VCP	VITRIFIED CLAY PIPE
W	WIDE OR WIDTH
W/	WITH
W/O	WITHOUT
WQCV	WATER QUALITY CONTROL VOLUME
WSE	WATER SURFACE ELEVATION
WW	WASTEWATER
X	SECT CROSS SECTION
XFMR	ELECTRICAL TRANSFORMER
YH	YARD HYDRANT

DESIGN LEGEND

BENCHMARK
MANHOLE
AREA DRAIN
COMBINATION INLET
TYPE R INLET
TYPE 13 FIELD INLET
FLARED END SECTION W/ RIPRAP
TEE W/ THRUST BLOCK
BEND W/ THRUST BLOCK
END CAP W/ THRUST BLOCK
GATE VALVE
REDUCER/INCREASER
WATER METER
FIRE HYDRANT
SD — STORM - 12" AND SMALLER
STORM - LARGER THAN 12"
RD — ROOF DRAIN
TD — TRENCH DRAIN
UD — UNDERDRAIN
SS — SANITARY SEWER - 12" AND SMALLER
SANITARY SEWER - LARGER THAN 12"
FM — FORCE MAIN
W — WATER - 12" AND SMALLER
WATER - LARGER THAN 12"
NPW — NON POTABLE WATER
PW — POTABLE WATER
IRR — IRRIGATION - 12" AND SMALLER
IRRIGATION - LARGER THAN 12"
CATV — CABLE TV
D — DRAIN
E — ELECTRIC
UE — UNDERGROUND ELECTRIC
OE — OVERHEAD ELECTRIC
T — TELEPHONE
FO — FIBER OPTIC
FUEL — FUEL
G — GAS
PVC — PVC PIPE (MISC)

X — FENCE
FLOW LINE OF DITCH OR WASH
5.0% — SLOPE ARROW
+03.54 — PROPOSED SPOT ELEVATION
+03.3 — EXIST SPOT ELEVATION
5220 — EXIST INDEX CONTOUR
5221 — EXIST INTERMEDIATE CONTOUR
20 — PROPOSED INDEX CONTOUR
21 — PROPOSED INTERMEDIATE CONTOUR
CURB AND GUTTER
SPILL/CATCH CURB TRANSITION
SIGN W/ POST
CURB RAMP
SIDEWALK CHASE
SIDEWALK
CONCRETE PAVING
HEAVY DUTY CONCRETE PAVING
HEAVY DUTY ASPHALT PAVING
LIGHT DUTY ASPHALT PAVING
GRAVEL
PROPOSED BUILDING
BUILDING ACCESS
RETAINING WALL
BOULDER/ROCK WALL
LIMITS OF SAWCUT
LIMITS OF WORK
EASEMENT LINE
PROPERTY LINE
ADJACENT PROPERTY LINE/ROW
MATCHLINE

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

DETAIL TITLE

DETAIL TITLE (1 / –) SCALE
- DETAIL NUMBER IDENTIFICATION
- SHEET WHERE THE SECTION OR ELEVATION IS CUT OR CALLED OUT - INDICATES SAME DRAWING

(1 / C1.0)
- DETAIL NUMBER IDENTIFICATION
- SHEET WHERE THE DETAIL IS DRAWN - INDICATES SAME DRAWING

SECTION CALLOUT

(A / –)
- SECTION NUMBER IDENTIFICATION
- SHEET WHERE THE SECTION IS - INDICATES SAME DRAWING

DETAIL MARKER

- REVISION CLOUD
- REVISION NUMBER (1)

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE JEFFERSON COUNTY, WEST JEFFERSON METROPOLITAN DISTRICT, COLORADO DEPARTMENT OF TRANSPORTATION, EVERGREEN FIRE PROTECTION REQUIREMENTS, AND APPLICABLE STATE AND LOCAL STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE IN POSSESSION AT THE JOB SITE AT ALL TIMES ONE (1) SIGNED COPY OF APPROVED PLANS, STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EMERGENCY ACCESS ROUTES TO THE SITE AND STRUCTURE AT ALL TIMES PER THE APPLICABLE EVERGREEN FIRE PROTECTION DISTRICT REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIANCE TO THE ABOVE DOCUMENTS. NOTIFY ENGINEER OF ANY CONFLICTING STANDARDS OR SPECIFICATIONS. IN THE EVENT OF ANY CONFLICTING STANDARD OR SPECIFICATION, THE MORE STRINGENT OR HIGHER QUALITY STANDARD, DETAIL OR SPECIFICATION SHALL APPLY.

2. THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARD SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK, INCLUDING, BUT NOT LIMITED TO A LOCAL AND STATE GROUNDWATER DISCHARGE AND COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT (CDPHE) STORMWATER DISCHARGE PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITY.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE REQUIRED PARTY (OWNER, OWNER'S REPRESENTATIVE, MUNICIPAL/DISTRICT INSPECTOR, GEOTECHNICAL ENGINEER, ENGINEER AND/OR UTILITY OWNER) AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION, PRIOR TO BACKFILLING, AND AS REQUIRED BY JURISDICTIONAL AUTHORITY AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL CONTINUE WITH NOTIFICATIONS THROUGHOUT THE PROJECT AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.

4. THE LOCATIONS OF EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION BASED ON INFORMATION BY OTHERS. NOT ALL UTILITIES MAY BE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT SIZE, LOCATION AND TYPE OF ALL EXISTING UTILITIES WHETHER SHOWN OR NOT BEFORE COMMENCING WORK. THE ENGINEER AND/OR OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS SHOWN ON PLANS. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES AND COSTS WHICH MIGHT OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO PROCEEDING WITH GRADING AND CONSTRUCTION. ALL WORK PERFORMED IN THE AREA OF UTILITIES SHALL BE PERFORMED AND INSPECTED ACCORDING TO THE REQUIREMENTS OF THE UTILITY OWNER. LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAPPING ANY EXISTING UTILITY (INCLUDING DEPTH) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION, AND FOR RELOCATING ENCOUNTERED UTILITIES AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL CONTACT AND RECEIVE APPROVAL FROM MUNICIPALITY/UTILITY OWNER AND ENGINEER BEFORE RELOCATING ANY ENCOUNTERED UTILITIES. CONTRACTOR RESPONSIBLE FOR SERVICE CONNECTIONS, AND RELOCATING AND RECONNECTING AFFECTED UTILITIES AS COORDINATED WITH UTILITY OWNER AND/OR ENGINEER, INCLUDING NON-MUNICIPAL UTILITIES (TELEPHONE, GAS, CABLE, ETC., WHICH SHALL BE COORDINATED WITH THE UTILITY OWNER). THE CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER UPON DISCOVERY OF A UTILITY DISCREPANCY OR CONFLICT. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY NOTIFICATION CENTER OF COLORADO (1-800-922-1987, WWW.UNCC.ORG). SEE SURVEY UTILITY LOCATION INFORMATION BELOW.

5. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR OWNER AND/OR CITY APPROVAL AND PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FENCING, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR AGREES TO COMPLY WITH THE PROVISIONS OF THE TRAFFIC CONTROL PLAN AND THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," PART VI, FOR CONSTRUCTION SIGNAGE AND TRAFFIC CONTROL. ALL TEMPORARY AND PERMANENT TRAFFIC SIGNS SHALL COMPLY TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH REGARD TO SIGN SHAPE, COLOR, SIZE, LETTERING, ETC. UNLESS OTHERWISE SPECIFIED. IF APPLICABLE, PART NUMBERS ON SIGNAGE DETAILS REFER TO MUTCD SIGN NUMBERS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR EROSION ON ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. GROUNDWATER TO BE PUMPED SHALL BE TESTED, PERMITTED, AND PUMPED PER THE STATE OF COLORADO AND LOCAL GROUNDWATER DISCHARGING PERMIT REQUIREMENTS.

7. RIM AND GRATE ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. THE CONTRACTOR SHALL ADJUST RIMS AND OTHER IMPROVEMENTS TO MATCH FINAL PAVEMENT AND FINISHED GRADE ELEVATIONS.

8. THE EXISTING AND PROPOSED ELEVATIONS OF FLATWORK, SIDEWALKS, CURBS, THRESHOLDS, PAVING, ETC. AS SHOWN HEREON ARE BASED ON EXTRAPOLATION OF FIELD SURVEY DATA, EXISTING CONDITIONS, AND DATA PROVIDED BY OTHERS. AT CRITICAL AREAS AND SITE FEATURES, CONTRACTOR SHALL HAVE FORMWORK INSPECTED AND APPROVED BY OWNER, OWNER'S REPRESENTATIVE, OR ENGINEER PRIOR TO PLACING CONCRETE. MINOR ADJUSTMENTS, AS APPROVED, TO PROPOSED GRADES, INVERTS, ETC. MAY BE REQUIRED TO PREVENT PONDING OR SLOPE NOT IN CONFORMANCE WITH MUNICIPAL STANDARDS. ALL FLATWORK MUST PREVENT PONDING AND PROVIDE POSITIVE DRAINAGE AWAY FROM EXISTING AND PROPOSED BUILDINGS, WALLS, ROOF DRAIN OUTFALLS, ACROSS DRIVES AND WALKS, ETC., TOWARDS THE PROPOSED INTENDED DRAINAGE FEATURES AND CONVEYANCES.

9. FINAL LIMITS OF REQUIRED ASPHALT SAWCUTTING AND PATCHING MAY VARY FROM LIMITS SHOWN ON PLANS. CONTRACTOR TO PROVIDE SAWCUT AND PATCH WORK TO ACHIEVE POSITIVE DRAINAGE AND A SMOOTH TRANSITION TO EXISTING ASPHALT WITHIN SLOPES ACCEPTABLE TO THE ENGINEER AND WITHIN MUNICIPAL STANDARDS. CONTRACTOR SHALL PROVIDE ADDITIONAL SAWCUTTING AND PATCHING AT UTILITY WORK, CONNECTION POINTS TO EXISTING PAVEMENT AND FEATURES, ETC. THAT MAY NOT BE DELINEATED ON PLANS.

10. ANY EXISTING MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC. TO BE PROTECTED AND TO REMAIN IN SERVICE. IF FEATURES EXIST, EXTEND OR LOWER TO FINAL SURFACE WITH LIKE KIND CAP WITH STANDARD CAST ACCESS LID WITH SAME MARKINGS. IN LANDSCAPED AREAS PROVIDE A CONCRETE COLLAR (18"x18"x6" THICK) AT ALL EXISTING AND PROPOSED MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC.

11. OWNER TO APPROVE ALL PRIVATE CONCRETE FINISHING, JOINT PATTERNS AND COLORING REQUIREMENTS PRIOR TO CONSTRUCTION. SUBMIT JOINT LAYOUT PLAN TO OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.

12. PIPE LENGTHS AND HORIZONTAL CONTROL POINTS SHOWN ARE FROM CENTER OF STRUCTURES, END OF FLARED END SECTIONS, ETC. SEE STRUCTURE DETAILS FOR EXACT HORIZONTAL CONTROL LOCATION. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ACTUAL PIPE LENGTHS TO ACCOUNT FOR STRUCTURES AND LENGTH OF FLARED END SECTIONS.

13. ALL SURPLUS MATERIALS, TOOLS, AND TEMPORARY STRUCTURES, FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. ALL DEBRIS AND RUBBISH CAUSED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE REMOVED, AND THE AREA OCCUPIED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ITS ORIGINAL CONDITION, WITHIN 48 HOURS OF PROJECT COMPLETION, UNLESS OTHERWISE DIRECTED BY THE MUNICIPALITY OR OWNER'S REPRESENTATIVE.

14. THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LOCAL JURISDICTION, THE STATE OF COLORADO, MILE HIGH FLOOD DISTRICT "URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3", THE M-STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION, AND THE APPROVED EROSION CONTROL PLAN. JURISDICTIONAL AUTHORITY MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES AT THE CONTRACTOR'S EXPENSE DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE PLANS DO NOT FUNCTION AS INTENDED. THE CONTRACTOR IS RESPONSIBLE FOR PROHIBITING SILT AND DEBRIS LADEN RUNOFF FROM LEAVING THE SITE, AND FOR KEEPING ALL PUBLIC AREAS FREE OF MUD AND DEBRIS. THE CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING FINAL GRADES AND FOR REMOVING ACCUMULATED SEDIMENTATION FROM ALL AREAS INCLUDING SWALES AND DETENTION/WATER QUALITY AREAS. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.

15. ADA COMPLIANCE: THE CROSS-SLOPE OF ALL WALKS MUST BE LESS THAN 1:48 (2.0%) PERPENDICULAR TO DIRECTION OF TRAVEL. RUNNING SLOPE OF ACCESSIBLE WALKS MUST BE NOT STEEPER THAN 1:20 (5.0%) IN DIRECTION OF TRAVEL. MAXIMUM GRADE OF ACCESSIBLE CURB RAMPS AND RAMPS IS 1:12 (8.3%). CURB RAMPS SHALL PROVIDE A LANDING AT THE TOP AND RAMP RUNS PROVIDE LANDINGS AT THE BOTTOM AND TOP OF EACH RAMP RUN AT A SLOPE NOT TO EXCEED 1:48. RAMPS RUNS EXCEEDING SIX INCHES SHALL INCLUDE HANDRAILS. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 1:48 IN ALL DIRECTIONS. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO PLACEMENT OF FLATWORK OF SITE CONDITIONS OR DISCREPANCIES WHICH PREVENT TYPICAL REQUIRED GRADES FROM BEING ACHIEVED. ALL RAMPS, STAIRS, EDGE PROTECTION, AND RAILINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ADA STANDARDS. ACCESSIBLE CURB RAMPS SHALL CONFORM TO THE CDOT M-STANDARDS (SEE DETAIL M-608-1, ETC). ACCESSIBLE FEATURE WITHIN THE PUBLIC RIGHTS-OF-WAY SHALL BE CONSTRUCTED TO CONFORM TO THE LOCAL AUTHORITY HAVING JURISDICTION REQUIREMENTS.

16. PROTECT ALL TREES AND VEGETATION. PLACE CONSTRUCTION FENCING AT DRIP LINE OF TREES AND PLANTS NEAR THE WORK ZONE. DEEP WATER TREES WEEKLY. HAND EXCAVATION REQUIRED AT ROOT ZONES WHERE PROPOSED PAVING OR UTILITY WORK IS WITHIN DRIPLINE OF TREES.

17. LOCATIONS OF CLEANOUTS, LIGHTS, SIGNAGE, JUNCTION BOXES, AND OTHER SIGNIFICANT SITE FEATURES TO BE STAKED FOR ENGINEER AND OR OWNER APPROVAL PRIOR TO WORK. CLEANOUTS, JUNCTION BOXES, AND ADJACENT GRADES TO BE RAISED ONE-HALF INCH AT ASPHALT/CONCRETE (OR 1" AT LANDSCAPING) TO PROVIDE POSITIVE DRAINAGE AWAY FROM FEATURES.

18. SURVEY INFORMATION:
   - 18.1. BENCHMARK INFORMATION: TOPOGRAPHIC INFORMATION WAS PROVIDED BY BASELINE CORPORATION. SEE IMPROVEMENT SURVEY PLAT DATED 01/27/2023. PROJECT BENCHMARK ELEVATION: 7708.55 AT CP-7 OF CONTROL POINTS SHOWN ON PLANS. THE DATUM IS NAVD88 PER SURVEY. COORDINATE AND VERIFY ALL VERTICAL AND HORIZONTAL DATA SHOWN IN SURVEY AND REPORT ANY IRREGULARITIES OR DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.
   - 18.2. BASIS OF BEARINGS: ASSUMING THE EAST LINE OF SECTION 20, TOWNSHIP 4 SOUTH, RANGE 71 WEST OF THE SIXTH PRINCIPAL MERIDIAN, AS MONUMENTED BY X"X17"X17" STONE SCRIBED WITH ASN "X" IN ROCK MOUND AT THE NORTHEAST CORNER OF SAID SECTION 20 AND A 3-1/2" ALLOY CAP IN CONCRETE L.S. 15651 AT THE SOUTHEAST CORNER OF SAID SECTION 20 TO BEAR SOUTH 01°24'58" EAST, BEING A GRID BEARING OF THE COLORADO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM 1983 / 2007, A DISTANCE OF 5224.74 FEET WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO.
   - 18.3. HORIZONTAL CONTROL INFORMATION: HORIZONTAL CONTROL COORDINATES ARE BASED ON THE REFERENCED SURVEY AND ARE PROVIDED BY THE FOLLOWING POINTS AS SHOWN ON THE PLANS:

CP-5	N1677539.76	E3043177.87	ELEV7717.40
CP-6	N1677343.63	E30437161.88	ELEV7700.60
CP-7	N1677741.61	E3043601.19	ELEV7708.55

   - 18.4 SURVEY UTILITY LOCATION INFORMATION PER THE SURVEYOR: SUBSURFACE UTILITIES ARE SHOWN IN APPROXIMATE HORIZONTAL AND VERTICAL LOCATIONS CONSISTENT WITH ASCE 38-02 QUALITY LEVEL "B" (INFORMATION OBTAINED BY THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND HORIZONTAL POSITION OF VIRTUALLY ALL UTILITIES WITHIN THE PROJECT LIMITS. THE INFORMATION OBTAINED IN THIS MANNER IS SURVEYED TO PROJECT CONTROL.) AND QUALITY LEVEL "C" (INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D; INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS), AND BASED ON FIELD MEASUREMENTS PROVIDED BY THE OWNER AND THE CONTRACTOR. SUBSURFACE UTILITIES ARE NOT DEPICTED TO THE EXTENT SET FORTH IN ASCE 38-02 QUALITY LEVELS "A" (INFORMATION OBTAINED THROUGH THE NONDESTRUCTIVE EXPOSURE OF UNDERGROUND UTILITIES, AND ALSO PROVIDES THE TYPE, SIZE, CONDITION, MATERIAL AND OTHER CHARACTERISTICS OF UNDERGROUND FEATURES.). TO THE EXTENT DEEMED NECESSARY FOR THE PROTECTION OF PERSONS AND PROPERTY, POTHOLING OR OTHER PRECISE MAPPING MAY BE COMPLETED TO CONFIRM THE EXACT LOCATION OF ANY SUBSURFACE UTILITIES. NOTIFY OWNER AND ENGINEER WITH ALL UTILITY INFORMATION PRIOR TO CONSTRUCTION.VISIT HTTPS://WWW.FHWA.DOT.GOV/PROGRAMADMIN/SUEINDEX.CFM FOR MORE INFORMATION.

19. THE CONTRACTOR AT THE CONTRACTORS EXPENSE SHALL FURNISH THE OWNER AND ENGINEER OF RECORD A COMPLETE SET OF CONSTRUCTION RECORD DRAWINGS ("AS-BUILTS") OR THE CONSTRUCTED IMPROVEMENTS. THE AS-BUILT SET SHALL SHOW SUFFICIENT DIMENSION TIES TO PERMANENT SURFACE FEATURES OR NORTHING/EASTING POINTS FOR ALL BURIED FACILITIES TO ALLOW FOR FUTURE LOCATING. THE AS-BUILT SET SHALL SHOW AS-BUILT CONTOURS AND ELEVATIONS OF ASPHALT AND CONCRETE FLATWORK, FLOWLINES, GRADE BREAKS, STAIRS, CROSS-SLOPES, HIGH AND LOW POINTS, AND ADDITIONAL ELEVATIONS TO DEMONSTRATE IMPROVEMENTS WERE CONSTRUCTED PER PLANS. THE AS-BUILT SET SHALL SHOW ELEVATIONS OF ALL DETENTION/WATER QUALITY FACILITIES, INCLUDING BUT NOT LIMITED TO BERMS, SPILLWAYS, BASIN BOTTOM, PIPE INVERTS, AND CONTROL STRUCTURE FEATURES (AS SURVEYED AND STAMPED BY A CERTIFIED P.L.S.). THE AS-BUILT SET SHALL ALSO INCLUDE ELEVATIONS OF MANHOLES, PIPES, INLETS, GRATES, AND SIZES OF ALL UTILITIES. THE AS-BUILT SET SHALL SHOW ANY AND ALL VARIATIONS FROM THE APPROVED PLAN. ENGINEER WILL PRODUCE FINAL RECORD DRAWINGS.

eu:a
milwaukee | madison | green bay | denver | atlanta
899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

JVA CONSULTING ENGINEERS
JVA, Inc.
1319 Spruce Street
Boulder, CO 80302
303.444.1951
www.jvajva.com
Boulder • Fort Collins • Winter Park
Glenwood Springs • Denver

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT - REVISED
07/31/2023	100% - CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO LICENSED CODY F. GRATNY 7/31/2023 45353 PROFESSIONAL ENGINEER

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

LEGEND, NOTES, AND ABBREVIATIONS

C0.1

DEMOLITION NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. ACTUAL LIMITS MAY VARY, CONTRACTOR IS RESPONSIBLE FOR ADJUSTING LIMITS OF DEMOLITION AND CONSTRUCTION AS NECESSARY. COORDINATE DEMOLITION REQUIREMENTS, LIMITS OF DEMOLITION, SALVAGE ITEMS, PROTECTION OF ITEMS TO REMAIN, TREES, FENCING, ETC. WITH OWNER, ARCHITECT, ENGINEER, AND RELEVANT CONSTRUCTION AND PHASING PLANS.
3. IF BUILDING DEMOLITION IS REQUIRED, CONTRACTOR TO PROTECT ARCHITECTURAL AND STRUCTURAL ELEMENTS CONNECTED TO BUILDING. REFER TO ARCHITECT AND APPLICABLE ENGINEERS FOR DETAILED BUILDING DEMOLITION INFORMATION INCLUDING, COLUMNS, STOOPS, FOOTINGS, ETC.
4. REPLACE EXISTING FLATWORK AT UTILITY TRENCHES AS REQUIRED.
5. ALL SAWCUTTING AND PAVEMENT REMOVAL SHOULD BE TO THE NEAREST JOINT.
6. ALL DRY UTILITY AND ELECTRIC DEMOLITION OR RELOCATION SHOULD BE COORDINATED WITH PROPERTY OWNER, UTILITY OWNER, MECHANICAL ENGINEER, AND ARCHITECT PRIOR TO CONSTRUCTION.
7. ALL NECESSARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION.
8. CONTRACTOR TO COMPLY WITH ALL REGULATORY REQUIREMENTS FOR HAZARDOUS MATERIAL REMOVAL AND DISPOSAL.
9. REFER TO GENERAL NOTES FOR TREE PROTECTION. COORDINATE WITH LANDSCAPE ARCHITECT FOR TREE REMOVAL.
10. CONTRACTOR TO MAINTAIN SAFE PEDESTRIAN ACCESS. PROVIDE TEMPORARY ROUTE AND SIGNAGE AS NEEDED.
11. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN SERVICES DURING CONSTRUCTION.
12. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.

DEMOLITION LEGEND

- DEMO SUBSURFACE FEATURE
- DEMO SURFACE FEATURE
- DEMO BUILDING
- ABANDON SUBSURFACE FEATURE
- LIMITS OF SAWCUT
- REMOVE EXISTING TREE
- PROTECT EXISTING TREE

WATER LINE TO BE RELOCATED SEE SHEET C2.0
HYDRANT TO BE REMOVED AND RESET TO FINISHED GRADE
RELOCATE EXIST HYD SEE SHEET C2.0
RELOCATE GREENHOUSE COORD W/ OWNER AND LSCAPE
DEMO EXIST CONC WALK
DEMO BUILDING ROOF OVERHANG (RE: ARCH)
REMOVE AND REPLACE CURB & GUTTER WITH MOUNTABLE CURB
TREE PROTECTION (RE: LSCAPE)
PROTECT EXIST LP
PROTECT EXIST BUILDING COLUMNS (TYP)
DEMO EDGER
PROTECT DONOR BRICKS, BENCH, AND FLAGPOLE
SAWCUT/REMOVE AND REPLACE CONC TO NEAREST JOINT (TYP)
DEMO TO NEAREST JOINT (TYP)
PROTECT ADA RAMP
DEMO EXIST RAMP
DEMO WALL
DEMO EDGER
PROTECT EXIST CURB AND GUTTER
PROTECT EXIST HYDRANT
PROTECT EXIST CURB AND GUTTER
PROTECT EXIST HYDRANT
RELOCATE EXIST BOULDERS
DEMO EXIST CURB AND GUTTER
DEMO CONC WALK
REMOVE AND RELOCATE EXIST STOP SIGN
DEMO EXIST CURB AND GUTTER
DEMO EXIST ASPHALT WITHIN PARKING LOT
DEMO EXIST STORM INLET
DEMO EXIST STORM INLET
DEMO EXIST LIGHT POLE (RE: ELEC)
DEMO EXIST LP (RE: ELEC)
PROTECT EXIST LIGHT POLE
DEMO EXIST CURB AND GUTTER
PROTECT EXIST CURB AND GUTTER
DEMO EXIST CURB AND GUTTER
PROTECT EXIST CURB AND GUTTER
DEMO EXIST BLDG
DEMO EXIST FENCE AND RELOCATE EXIST BATHROOM (RE: OWNER)
PROTECT EXIST INLET
REMOVE AND RESET EXIST RIPRAP SWALE (SEE SHEET C1.4)
DEMO FENCE
DEMO SPILLWAY
OUTLET STRUCTURE TO BE RESIZED TO MEET NEW FLOWS
PROPERTY LINE (TYP)
DEMO CONC WALK
REMOVE AND RESET INFIELD COORD W/ OWNER ON NEW FIELD LOCATION AND CONSTRUCTION
REMOVE AND RELOCATE GAS LINE PLACARD
SUGARBUSH DR
PROTECT EXIST ELEC BOX
PROTECT EXIST FES
APPROX LOCATION OF SAWCUT AND ASPHALT T-PATCH

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Denver, CO 80202
(303) 595-4500
www.eua.com

JVA, Inc.
1319 Spruce Street
Boulder, CO 80302
303.444.1951
www.jvajva.com
CONSULTING ENGINEERS
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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT - REVISED
07/31/2023	100% - CONSTRUCTION DOCUMENTS

KEY PLAN

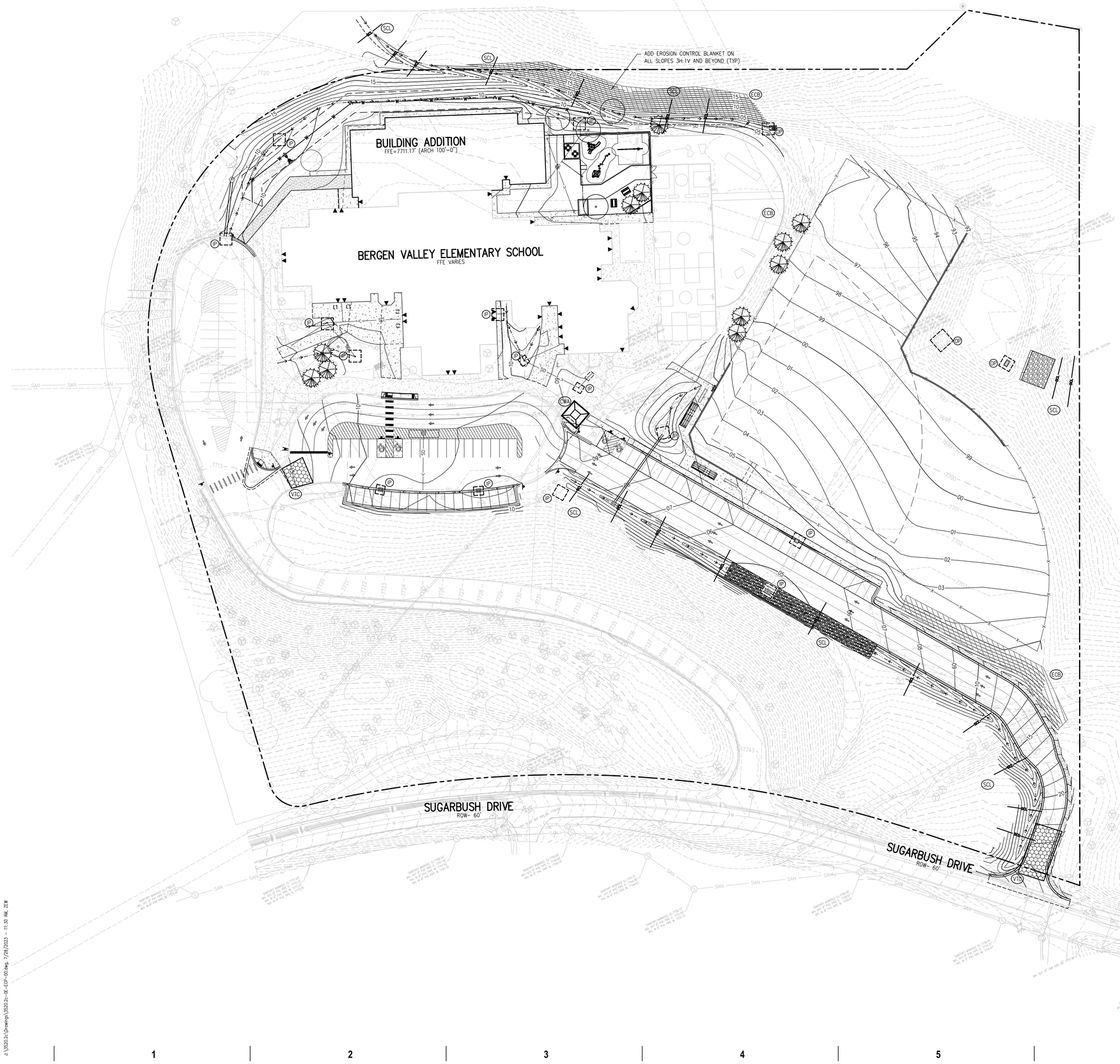
SHEET INFORMATION

COLORADO LICENSED
CHRISTOPHER K. GRATTAN
07/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

DEMOLITION PLAN

C0.2



EROSION AND SEDIMENTATION NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONTROLS DURING INITIAL, INTERIM, AND FINAL CONDITIONS.
2. ALL CONTROLS SHALL BE INSTALLED WITHIN THE PROPERTY LINES UNLESS OTHERWISE SPECIFIED. WHEN CONSTRUCTION ACTIVITIES DISTURB ADJACENT AND/OR RIGHT-OF-WAY PROPERTIES, COORDINATION WITH PROPERTY OWNERS IS REQUIRED PRIOR TO CONSTRUCTION.

EROSION CONTROL LEGEND

- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- LIMITS OF WORK
- IP — INLET PROTECTION
- VTC — VEHICLE TRACKING CONTROL
- SCL — SEDIMENT CONTROL LOG
- CWA — CONCRETE WASHOUT AREA
- ECB — EROSION CONTROL BLANKET

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899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

JVA, Inc.
1319 Spruce Street
Boulder, CO 80302
303.444.1951
www.jvajva.com
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KEY PLAN

SHEET INFORMATION

COLORADO LICENSED
CODY F. GRAVES
07/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

EROSION CONTROL PLAN

CE1.0

STORMWATER MANAGEMENT PLAN (SWMP)

THIS STORMWATER MANAGEMENT PLAN IS TO BE RETAINED AND MAINTAINED ONSITE INCLUDING FINAL LANDSCAPING PLANS AND ANY OTHER EROSION CONTROL DOCUMENTATION. A SWMP ADMINISTRATOR WILL BE DESIGNATED BY THE CONTRACTOR AND IS RESPONSIBLE FOR DEVELOPING, IMPLEMENTING, MAINTAINING, AND REVISING THIS SWMP. THE SWMP ADMINISTRATOR IS THE CONTACT FOR ALL SWMP-RELATED ISSUES AND IS RESPONSIBLE FOR ITS ACCURACY, COMPLETENESS, AND IMPLEMENTATION. THE FOLLOWING HAS BEEN DESIGNATED AS THE SWMP ADMINISTRATOR FOR THIS PROJECT:

NAME: _____

CONTACT INFO: _____

_____

THE SITE IS LOCATED AT 1522 SUGARBUSH DRIVE, AND AT APPROXIMATELY 105° 20' 58" LATITUDE, 39° 20' 58" LONGITUDE. THE PROPOSED PROJECT CONSISTS OF PARKING, UTILITY SERVICE CONNECTIONS, OVERLOT GRADING, BUILDING CONSTRUCTION, PAVING OF SIDEWALKS, PLAY AREAS, PARKING LOTS, ENTRANCE DRIVES, UTILITY INFRASTRUCTURE CONSTRUCTION IN THE TOWN OF EVERGREEN. THE TOTAL SITE AREA IS APPROXIMATELY 15.5 ACRES WITH AT TOTAL DISTURBANCE OF 7.65 ACRES. NO AREAS GREATER THAN 40 ACRES SHALL BE DISTURBED AT ANY GIVEN TIME. NO CONSTRUCTION ACTIVITIES SHALL OCCUR OFFSITE OR OUTSIDE OF THE CONSTRUCTION LIMITS SHOWN ON THE CONSTRUCTION DOCUMENTS. THE SEQUENCE OF CONSTRUCTION STARTS IS AS FOLLOWS:

PHASE	ESTIMATED	ACTUAL
CONSTRUCTION START	NOV, 2023	_____
ROAD AND OVERLOT GRADING	FEB, 2024	_____
UTILITY CONSTRUCTION	APRIL, 2024	_____
BUILDING CONSTRUCTION	AUG, 2023	_____
PAVING	OCT, 2023	_____
SITE RESTORATION	AUG, 2024	_____

THE EXISTING SITE CONSISTS OF DEVELOPED LAND AND IS APPROXIMATELY __% COVERED WITH VEGETATIVE GROUND COVER. THE ESTIMATED HISTORIC AND DEVELOPED RUNOFF COEFFICIENTS ARE____ AND ____ (COPY FROM DRAINAGE REPORT) RESPECTIVELY.

OFFSITE RUNOFF FLOWS ONTO THE PROPERTY (FROM WHERE?, IF APPLICABLE _____) ONSITE FLOWS ARE _____. ONSITE DETENTION IS _____. STORMWATER IS DISCHARGED FROM THIS SITE TO ____ (____ CREEK/RIVER, REGIONAL DETENTION POND, ____" PUBLIC STORM SYSTEM THAT ULTIMATELY OUTFALLS TO ____) A DRAINAGE REPORT FOR THIS DEVELOPMENT HAS BEEN SUBMITTED TO THE ENGINEER (OF CITY/TOWN/COUNTY/OTHER? OF _____)

OTHER POTENTIAL POLLUTION SOURCES SUCH AS (VEHICLE FUELING, STORAGE OF FERTILIZER OR CHEMICALS, VEHICLE WASHING, WASTE INCINERATION, HAUL-ROADS, LOADING/ UNLOADING AREAS OTHER? ____) ARE LOCATED ____. (OR DO NOT EXIST AT THIS SITE)
NON-STORMWATER COMPONENTS OF THE DISCHARGE, SUCH AS SPRINGS, LANDSCAPE IRRIGATION RETURN FLOW, OTHER? ____) ARE LOCATED ____.) (IF NONE, SAY SO. DO NOT JUST DELETE THIS SENTENCE).

(ADD ANY SPECIFIC TEXT DESCRIBING THE SOIL, SOIL EROSION POTENTIAL, OR QUALITY OF ANY DISCHARGE FROM THE SITE.)

BEST MANAGEMENT PRACTICES FOR STORMWATER MANAGEMENT
NON STRUCTURAL BMPS WILL BE IMPLEMENTED TO THE MAXIMUM EXTENT POSSIBLE. THE UTILIZATION OF NON STRUCTURAL BMPS WILL BE AN ONGOING PROCESS DIRECTED AT PREVENTING EROSION. THE NON STRUCTURAL BMPS WILL RECEIVE CONTINUOUS EMPHASIS THROUGHOUT CONSTRUCTION BECAUSE THEY AVERT PROBLEMS BEFORE THEY OCCUR AND REDUCE THE NEED FOR STRUCTURAL BMPS. NON STRUCTURAL BMPS WILL CONSIST PRIMARILY OF PRESERVATION OF EXISTING MATURE VEGETATION AND TREES, PLANNING AND SCHEDULING CONSTRUCTION ACTIVITIES AIMED AT ACHIEVING THE GOAL OF MINIMIZING EROSION. FURTHERMORE, CONSTRUCTION PERSONNEL WILL BE INSTRUCTED AND SUPERVISED IN CONSTRUCTION METHODS CONSISTENT WITH EROSION PREVENTION PRACTICES.

PLANNED STRUCTURAL BMPS FOR EROSION AND SEDIMENT CONTROL ARE SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN. IMPLEMENTING THESE MEASURES SHOULD MINIMIZE NUISANCE SILT AND SEDIMENTATION EXITING THE SITE AND PREVENT CLOGGING EXISTING STORM SEWERS AND STREET GUTTERS.

APPLICATION OF THESE BMPS FOR STORMWATER MANAGEMENT ARE FOR CONSTRUCTION PERIODS AND ARE CONSIDERED TEMPORARY. POST-DEVELOPMENT STORMWATER MANAGEMENT IS PROVIDED THROUGH VEGETATED LANDSCAPED AREAS, GRASSED SWALES, RIPRAP PROTECTION, STORM COLLECTION SYSTEM, AND THE UTILIZATION OF THE PERMANENT DETENTION AND WATER QUALITY POND,

VEHICLE TRACKING CONTROL (VTC):
A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED AT SUGARBUSH DRIVE. THE CONSTRUCTION ACCESS AND PARKING WILL BE GRADED AND COVERED WITH A CRUSHED STONE BASE COURSE DURING CONSTRUCTION. THE VEHICLE TRACKING CONTROL WILL BE RELOCATED WITH THE CONSTRUCTION ACCESS AS NECESSARY.

SILT FENCING (SF) AND SEDIMENT CONTROL LOGS (SCL):
SILT FENCING AND SEDIMENT CONTROL LOGS SHALL BE INSTALLED WITH RESPECT TO PROPOSED DRAINAGE PATTERNS. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE CONSTRUCTED ALONG THE PORTIONS OF THE NORTH SIDE OF THE PROPERTY AND ALONG ANY DRAINAGE AREAS SUBJECT TO EROSION. THE SILT FENCING AND SEDIMENT CONTROL LOGS SHALL BE INSTALLED AT THE DOWNHILL SIDE OF THE EXISTING SLOPES ACROSS THE SITE AND AT ALL POINT DISCHARGE AREAS WHETHER SHOWN OR NOT. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE MAINTAINED AS NEEDED THROUGHOUT THE CONSTRUCTION PROCESS. THE TEMPORARY SILT FENCE AND SEDIMENT CONTROL LOGS WILL REMAIN UNTIL THE STORM SEWER STRUCTURES ARE COMPLETED AND GROUND COVER IS EFFECTIVE.

INLET PROTECTION (IP):
THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. EACH INLET ON THE PROPOSED STORM SEWER SYSTEM WILL HAVE A TEMPORARY INLET SEDIMENT TRAP CONSTRUCTED AROUND IT. IN PAVED AREAS, THIS TRAP CONSISTS OF WIRE MESH SOCKS, CONCRETE BLOCKS, AND/OR SCREENS TO FILTER THE STORM RUNOFF AND ALLOW ANY SILT TO SETTLE OUT. IN FIELDS OR LANDSCAPED AREAS THIS TRAP CONSISTS OF WIRE MESH SOCKS, AND STRAW BALE BARRIERS.

STRAW BALE DROP STRUCTURES DAMS (SB):
STRAW BALE BARRIERS WILL BE INSTALLED TO PROTECT THE PROPOSED SWALE(S) PRIOR TO LANDSCAPING THE SITE. THESE BARRIERS WILL REDUCE THE FLOW VELOCITY IN THE SWALE(S) AND ALLOW THE DISTURBED SOIL TO SETTLE OUT.

ROCK CHECK DAMS (RCD):
ROCK CHECK DAMS WILL BE INSTALLED AS SHOWN AND MAINTAINED AT LOCATIONS AROUND THE SITE WHERE FUTURE GRASS LINES SWALES WILL CARRY THE STORM RUNOFF. PRIOR TO LANDSCAPING OF THE SITE, THESE BARRIERS WILL REDUCE THE FLOW VELOCITIES IN THESE SWALES AND ALLOW THE DISTURBED SOIL TO SETTLE OUT. THE ROCK CHECK DAMS WILL BE LEFT IN PLACE AS PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN.

OUTLET PROTECTION (OP):
THE STORM SEWER OUTLETS WILL BE PROTECTED WITH RIPRAP. PLACING RIPRAP AT PIPE OUTFALLS REDUCES EXIT VELOCITIES AND REDUCES SCOUR. THIS RIPRAP WILL BE LEFT IN PLACE AS PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN.

DIVERSIONS DIKES (DD):
SEVERAL DIVERSION DIKES ARE TO BE INSTALLED TO DIRECT STORMWATER TO PROPOSED SWALES OR PROPOSED GUTTER PLANS. THESE TEMPORARY DIVERSIONS WILL BE NECESSARY UNTIL ALL INLETS BECOME FUNCTIONAL, SURROUNDED WITH PAVEMENT.

OVERLOT GRADING:
ALL OPEN AREAS WILL BE TREATED WITHIN 14 DAYS OF COMPLETION OF THE OVERLOT GRADING. ALL OVERLOT GRADING IN THE NON-IRRIGATED AREAS WILL HAVE THE SURFACE ROUGHENED AND WILL BE PERMANENTLY LANDSCAPED OR TEMPORARILY SEEDED UNTIL THE PLANNED INSTALLATIONS ARE COMPLETED. AT THE COMPLETION OF THE MASS GRADING, ALL EXPOSED SOIL AREAS WILL HAVE THE SURFACE ROUGHENED AND PLANTED WITH A REVEGETATION SEED MIX. VEGETATION IS TO BE MAINTAINED THROUGHOUT CONSTRUCTION BY THE CONTRACTOR UNTIL AREAS ARE PERMANENTLY LANDSCAPED. ALTERNATELY, ROUGH-CUT DRIVEWAYS OR PROPOSED PAVED AREAS CAN BE COVERED WITH A LAYER OF AGGREGATE, ROAD BASE OR ASPHALT PAVING.

DUST CONTROL MEASURES:
DISTURBED AREAS NOT YET READY TO BE SEEDED, LANDSCAPED, PAVED, OR OTHERWISE STABILIZED SHALL BE WATERED, OR RIPPED AS NECESSARY TO PRECLUDE VISIBLE DUST EMISSIONS.

ITEMS ARE SCHEDULED TO BE IMPLEMENTED ACCORDING TO THE CONSTRUCTION SCHEDULE. AS WORK PROCEEDS, IMPLEMENTATION OF INDIVIDUAL BMPS IS TO COINCIDE WITH THE CONSTRUCTION THEREBY MINIMIZING THE EXPOSURE OF UNPROTECTED AREAS. THE SILT FENCE, INLET PROTECTION (FOR EXISTING INLETS), AND GRAVELING OF THE CONSTRUCTION ENTRANCE WILL BE PERFORMED WHEN THE GRADING BEGINS. THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. THE RIPRAP PROTECTION WILL BE INSTALLED AS THE STORM SEWER OUTFALLS OR CULVERTS ARE CONSTRUCTED. THE STRUCTURAL BMPS THAT DO NOT BECOME PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN ARE TO BE REMOVED, AS THE PAVING, LANDSCAPING, AND OTHER PERMANENT GROUNDCOVER INSTALLATIONS ARE COMPLETED. FUGITIVE DUST EMISSIONS RESULTING FROM GRADING ACTIVITIES AND/OR WIND SHALL BE CONTROLLED USING THE BEST AVAILABLE CONTROL TECHNOLOGY AS DEFINED BY THE COLORADO DEPARTMENT OF HEALTH AT THE TIME OF GRADING. THE GRAVELING IS TO BE MAINTAINED AND EXTENDED CONSTRUCTION PROGRESSES ESPECIALLY AROUND THE BUILDING SITE. THE STRUCTURAL BMPS ARE TO BE REMOVED, AS THE PERMANENT LANDSCAPING INSTALLATIONS ARE COMPLETED.

THE EROSION AND SEDIMENT CONTROL PLAN MAY BE MODIFIED BY THE DEPARTMENT OF HIGHWAYS AND TRANSPORTATION, OWNER'S ENGINEER, COUNTY ENGINEERING INSPECTORS, MUNICIPALITY OR ITS AUTHORIZED REPRESENTATIVE AS FIELD CONDITIONS WARRANT.

STORMWATER DETENTION AND WATER QUALITY:
STORMWATER DETENTION IS PROVIDED ONSITE IN DETENTION AREA, WATER QUALITY TREATMENT IS PROVIDED ONSITE WITHIN THE DETENTION POND, THE PROPOSED DETENTION AREA WILL BE UTILIZED AS A SEDIMENT BASIN, WATER QUALITY AND DETENTION FACILITY.

TEMPORARY SEEDING AND MULCHING:
ALL SEEDS FURNISHED SHALL BE FREE FROM NOXIOUS SEEDS (SUCH AS RUSSIAN OR CANADIAN THISTLE, COURSE FESCUE, EUROPEAN BINDWEED, JOHNSON GRASS, KNAPWEED, AND LEAFY SPURGE, OTHER? _____) THE FORMULA USED FOR DETERMINING THE QUALITY OF PURE LIVE SEED (PLS) SHALL BE (POUNDS OF SEED) X (PURITY) X (GERMINATION) = POUNDS OF PURE LIVE SEED (PLS). SEEDING RECOMMENDATIONS ARE PROVIDED BELOW, BUT MAY BE MODIFIED WITH THE OWNER'S APPROVAL TO MAKE THE BEST USE OF EXISTING CLEARINGS AND GRUBBINGS:

SPECIES	COMMON NAME	VARIETY	LBS/ACRE
AGROPYRON SMITHI	WESTERN WHEATGRASS	ARRIBA	8.0
ARRHENATHERUM ELATIES	TALL OATGRASS		3.0
LOLIUM PERENNE	PERENNIAL RYEGRASS	PENNFINE	2.0
(NAME? _____)	(NAME? _____)	(?_____)	(?_)

ALL SEEDS SHALL BE DRILLED NOT HYDROSEEDED. ALL DISTURBED AREAS SHALL BE SEEDED AND CRIMP MULCHED IF PERMANENT VEGETATION IS NOT IMMEDIATELY INSTALLED. AFTER SEEDING HAS BEEN COMPLETED, A RATE OF 4,000 LBS. OF STRAW PER ACRE SHALL BE APPLIED UNIFORMLY, CRIMPED IN WITH A CRIMPER OR OTHER APPROVED EQUIPMENT OR OTHERWISE ATTACHED. A TACKIFIER OR JUTE NETTING TO ATTACH MULCH MAY BE USED WITH THE OWNER'S APPROVAL. THE SEEDED AREA SHALL BE CRIMPED MULCHED AND THE MULCH ATTACHED WITHIN TWENTY-FOUR (24) HOURS AFTER SEEDING. AREAS NOT MULCHED AND ATTACHED WITHIN TWENTY-FOUR (24) HOURS AFTER SEEDING MUST BE RESEEDED WITH THE SPECIFIED MIX AT THE CONTRACTOR'S EXPENSE, PRIOR TO MULCHING AND ATTACHING. ON STEEP SLOPES OR OTHER SPECIFIED AREAS AS SHOWN ON THE PLANTING PLAN, WHICH ARE DIFFICULT TO MULCH AND ATTACH BY CONVENTIONAL METHOD, BURLAP OR OTHER BLANKETING MATERIALS PROPERLY ANCHORED AND SECURED MAY BE USED WHEN APPROVED BY THE (CITY/TOWN/COUNTY/OTHER OF _____) ENGINEER.

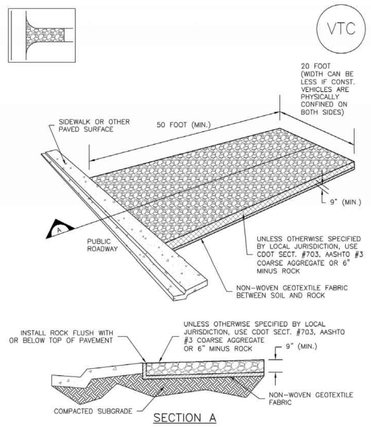
PERMANENT STABILIZATION MEASURES:
RIPRAP FOR STORM DRAIN OUTFALLS AND ROCK CHECK DAMS WILL BECOME PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN AND WILL NOT BE REMOVED. PERMANENT LANDSCAPING WILL INCLUDE (SODDING, SEEDING, TREES, SHRUBS, OR OTHER VEGETATIVE COVER, OTHER? _____) TO OPEN AREAS. NATIVE PERENNIAL SEEDING WILL BE ESTABLISHED IN NON-IRRIGATED AREAS AND SOD OR OTHER VEGETATIVE COVER WILL BE ESTABLISHED IN IRRIGATED OPEN AREAS. ALL PERMANENT STABILIZATION MEASURES WILL BE SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER.

MATERIALS AND SPILL PREVENTION:
THE CONTRACTOR WILL STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN CONFINED AREAS ON SITE FROM WHICH RUNOFF WILL BE CONTAINED AND FILTERED. MATERIALS WILL BE STORED OFF THE GROUND AND PROTECTED FROM THE WEATHER BY A COVER OR STORED IN A CONTAINER SUCH AS A VAN OR TRAILER. AN EARTHEN DIKE WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE FUEL STORAGE AREA TO PREVENT MATERIALS FROM CONTACT WITH SURFACE RUNOFF. EQUIPMENT MAINTENANCE WILL BE PERFORMED IN A DESIGNATED AREA AND STANDARD MAINTENANCE PROCEDURES, SUCH AS THE USE OF DRIP PANS, WILL BE USED TO CONTAIN PETROLEUM PRODUCTS.

INSPECTION AND MAINTENANCE:
THE EROSION CONTROL MEASURES WILL BE INSPECTED DAILY DURING CONSTRUCTION BY THE CONTRACTOR AND AFTER EACH RAIN EVENT. ALL INSPECTIONS SHALL BE DOCUMENTED AND SHALL INCLUDE THE DATE OF INSPECTION, ANY INCIDENCE OF NON-COMPLIANCE, SIGNED CERTIFICATION THAT THE SITE IS IN COMPLIANCE, AND ANY NOTES, DRAWINGS, MAPS, ETC. PERTAINING TO REPAIRS. COPIES OF ALL DOCUMENTATION SHALL BE DISTRIBUTED TO MUNICIPALITIES AND OWNER ON A REGULAR BASIS AS SPECIFIED BY OWNER. SILT FENCE AND STRAW BALE BARRIERS WILL BE CHECKED FOR UNDERMINING AND BYPASS AND REPAIRED OR EXPANDED AS NEEDED. SEDIMENT SHOULD BE REMOVED FROM INLET FILTERS AND SILT FENCING BEFORE ONE HALF OF THE DESIGN DEPTH HAS BEEN FILLED. SEDIMENTS DEPOSITED IN THE PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY. THE TEMPORARY VEGETATION OF BARE SOILS WILL BE CHECKED REGULARLY AND AREAS WHERE IT IS LOST OR DAMAGED WILL BE RESEEDED. AT MINIMUM THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL BMPS EVERY 14 DAYS AND AFTER SIGNIFICANT PRECIPITATION OR SNOWMELT EVENTS. INSTALLATIONS AND MODIFICATIONS AS REQUIRED BY THE (CITY/TOWN/COUNTY/OTHER? OF _____) WILL BE IMPLEMENTED WITHIN 48 HOURS OF NOTIFICATION. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.

FINAL STABILIZATION AND LONG-TERM STORMWATER QUALITY:
FINAL STABILIZATION IS REACHED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A DENSITY OF AT LEAST 70% OR PRE-DISTURBANCE LEVELS OR EQUIVALENT PERMANENT, PHYSICAL EROSION REDUCTION METHODS HAVE BEEN EMPLOYED. FINAL STABILIZATION WILL BE ACHIEVED USING SOD, NATIVE SEEDING, PERMANENT BMP'S, AND OTHER METHODS. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL STABILIZATION REGARDLESS OF ACCEPTANCE BY OWNER OF THE CONTRACTOR ITEM.

Vehicle Tracking Control (VTC) SM-4



SECTION A

VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

SM-4 Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
   -TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT - REVISED
07/31/2023	100% - CONSTRUCTION DOCUMENTS

KEY PLAN

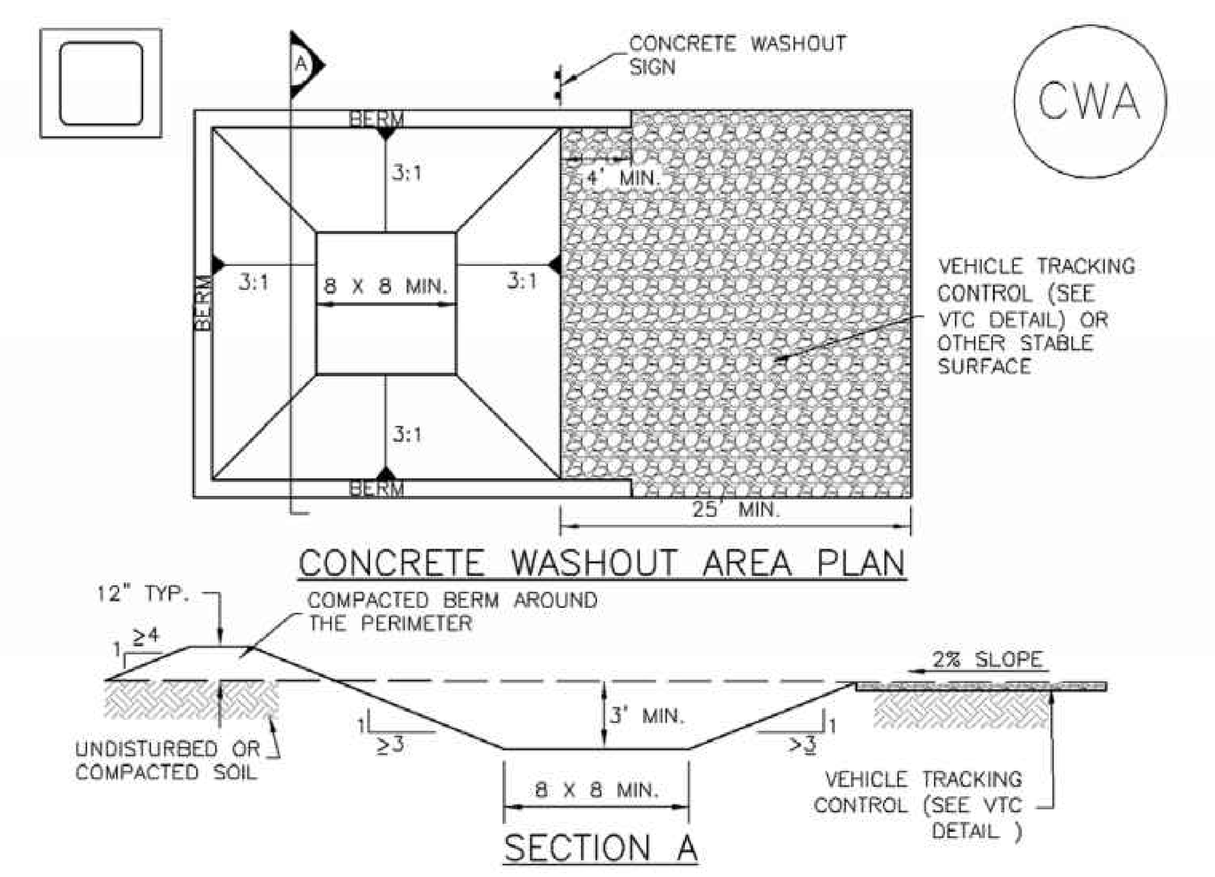
SHEET INFORMATION

COLORADO LICENSED
JESSE F. GRAVES
7/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

SWMP AND EROSION CONTROL NOTES

CE1.1



CWA–1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –CWA INSTALLATION LOCATION.

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER–TIGHT CONTAINER AND DISPOSED OF PROPERLY.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

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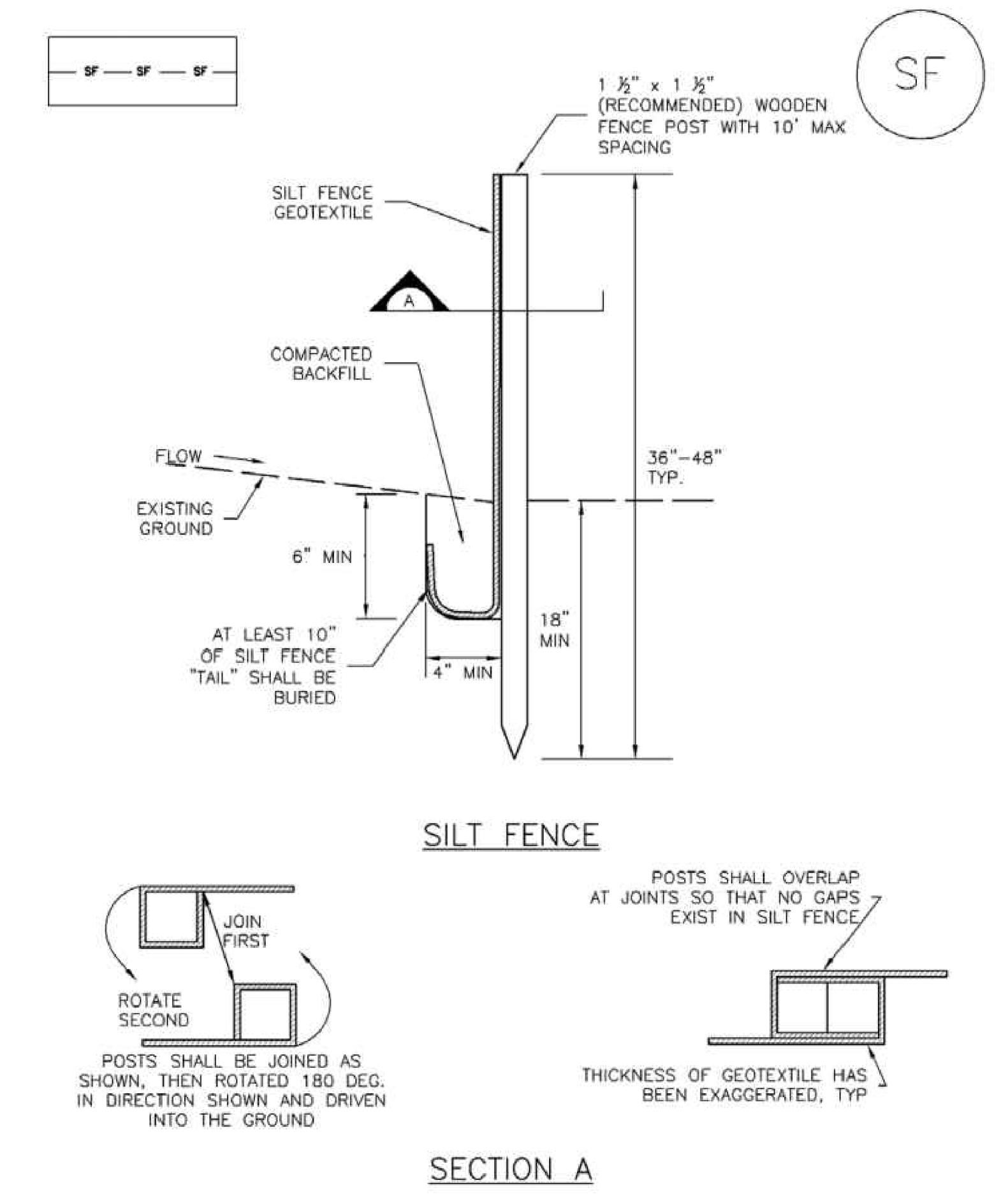

SF–1. SILT FENCE

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.

2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.

3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.

5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.

6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J–HOOK." THE "J–HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').

7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".

5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)

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KEY PLAN

SHEET INFORMATION

COLORADO LICENSED
CODY F. GRATNY
7/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER JC

PROJECT NUMBER 822808-01

SWMP AND EROSION
CONTROL NOTES

C1.2

E D C B A
1 2 3 4 5 6 7

J:\3520.2c\Drawings\3520.2c-0E-ECP-DET-00.dwg, 7/28/2023 - 11:30 AM, ZEW

GRADING AND DRAINAGE NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. REFER TO HORIZONTAL CONTROL PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.
3. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITIONS.
4. ALL SPOT ELEVATIONS ARE TO FINISHED GRADE OR FLOWLINE UNLESS OTHERWISE SPECIFIED.
5. IF WALL IS SHOWN, TG DENOTES THE FINISHED GRADE ADJACENT TO THE HIGH SIDE OF THE WALL. BG DENOTES THE FINISHED GRADE ADJACENT TO THE LOW SIDE OF THE WALL. REFER TO ARCH PLANS/DETAILS FOR WALL ELEVATIONS BEYOND THE ADJACENT FINISHED GRADES (EXPOSED WALL, CAP/FOOTER, ETC.)

BUILDING ADDITION
FFE=7711.17' (ARCH 100'-0")

BERGEN VALLEY ELEMENTARY SCHOOL
FFE VARIES

C1.1

C1.2

C1.3

C1.4

SUGARBUSH DRIVE
ROW= 60'

SUGARBUSH DRIVE
ROW= 60'

N

40 0 40 80
SCALE IN FEET

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KEY PLAN

SHEET INFORMATION

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CODY F. GRAVES
07/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

OVERALL GRADING AND DRAINAGE PLAN

C1.0

GRADING AND DRAINAGE NOTES:

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REMOVE, REALIGN, AND RESET EXIST RIPRAP INTO PROPOSED SWALE ALIGNMENT (COORDINATE OFFSITE WORK WITH ADJACENT PROPERTY OWNER)

TOP OF BANK

LOWER EXIST IRR AS REQUIRED FOR FINISHED GRADING

24" AREA DRAIN
GR 7708.38
INV OUT(W) 7705.88 (12" PVC)

63 LF 12" PVC @ 1.00%

4' SD MH
I(E) 7705.25 (12" PVC)
NE) 7707.97 (24" RCP)
SW) 7705.25 (24" RCP)

58 LF 24" RCP @ 0.57%

10.63 HP

24" AREA DRAIN
GR 7706.28
INV IN(S) 7703.48 (6" PVC)
INV OUT(SE) 7703.48 (12" PVC)

13 LF 6" PVC @ 1.00%

CO
INV IN(SW) 7703.61 (6" PVC)
INV OUT(SE) 7704.46 (4" PERF PVC)
INV OUT(N) 7703.61 (6" PVC)

ROOF DRAIN CONNECTION
(RE: MECH)
INV OUT(NE) 7704.78 (6" PVC)

ROOF DRAIN RELOCATION
(RE: PLUMB)

EXPOSED FOUNDATION
(RE: STRUCT)

BUILDING ADDITION
FFE=7711.17' (ARCH 100'-0")

4" PERF PVC
(RE: LSCAPE)

59 LF 6" PVC @ 2.00%

26 LF 4" PVC @ 0.63%

CO
INV IN(SW) 7704.23 (4" PVC)
INV OUT(NW) 7704.23 (4" PVC)

167 LF 12" PVC @ 0.50%

4" PERF PVC
(RE: LSCAPE)

SMALL PIPE HEADWALL W/ RIPRAP PAD
INV IN(W) 7702.61 (12" PVC)
2 / CD1.0

GRADING WITHIN PLAY AREA
(RE: LSCAPE)

4" PVC
(RE: LSCAPE)

BERGEN VALLEY ELEMENTARY SCHOOL
FFE VARIES

12" AREA DRAIN
(CENTER UNDER ROOF DRAIN)

16 LF 6" PVC @ 1.00%

12" AREA DRAIN
GR 7710.68
INV IN(E) 7705.73 (6" PVC)
INV IN(S) 7705.73 (6" PVC)
INV OUT(W) 7705.73 (6" PVC)

6" TEE
INV IN(E) 7705.89 (6" PVC)
INV IN(N) 7705.89 (6" PVC)
INV OUT(W) 7705.89 (6" PVC)

59 LF 6" PVC @ 1.00%

12" AREA DRAIN
(CENTER UNDER ROOF DRAIN)
GR 7711.23
INV OUT(W) 7706.48 (6" PVC)

PROTECT EXIST COLUMNS (TYP)

43 LF 6" PVC @ 1.00%

24"X8" INSERTA TEE
CONTRACTOR TO VERIFY
DEPTH, MATERIAL, SIZE AND
LOCATION PRIOR TO CONSTRUCTION

SAWCUT/REMOVE
AND REPLACE TO
NEAREST JOINT
(TYP)

4 / CD1.0
12" AREA DRAIN
INV OUT(N) 7706.18 (6" PVC)

PROTECT EXIST
DONOR BRICKS
AND FLAGPOLE

45 LF 6" PVC @ 1.00%

12" AREA DRAIN
(CENTER UNDER ROOF DRAIN)
INV OUT(SW) 0.25 (6" PVC)

ROOF DRAIN CONNECTION
(RE: MECH)

23 LF 6" PVC @ 2.00%

40 LF 6" PVC @ 2.00%

22.5° BEND

30 LF 6" PVC @ 2.00%

12" AREA DRAIN
GR 7708.57
INV IN(N) 7700.45 (6" PVC)
INV IN(E) 7700.45 (6" PVC)
INV OUT(SE) 7700.45 (6" PVC)

6 / CD1.0
12" AREA DRAIN
(CENTER UNDER ROOF DRAIN)
INV OUT(W) 7701.25 (6" PVC)

62 LF 6" PVC @ 2.00%

8"X6" INSERTA TEE
CONTRACTOR TO VERIFY
DEPTH, MATERIAL, SIZE AND
LOCATION PRIOR TO CONSTRUCTION

21 LF 6" PVC @ 2.00%

12" AREA DRAIN
GR 7708.28
INV IN(NW) 7699.21 (6" PVC)
INV OUT(NE) 7699.21 (6" PVC)

PROTECT EXIST INLET

MATCHLINE – SEE SHEET C1.2

MATCHLINE – SEE SHEET C1.3

SCALE IN FEET
20 0 20 40

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KEY PLAN

SHEET INFORMATION

COLORADO LICENSED
JESSE F. GRAVES
07/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

DETAILED GRADING AND DRAINAGE PLAN

C1.1

GRADING AND DRAINAGE NOTES:

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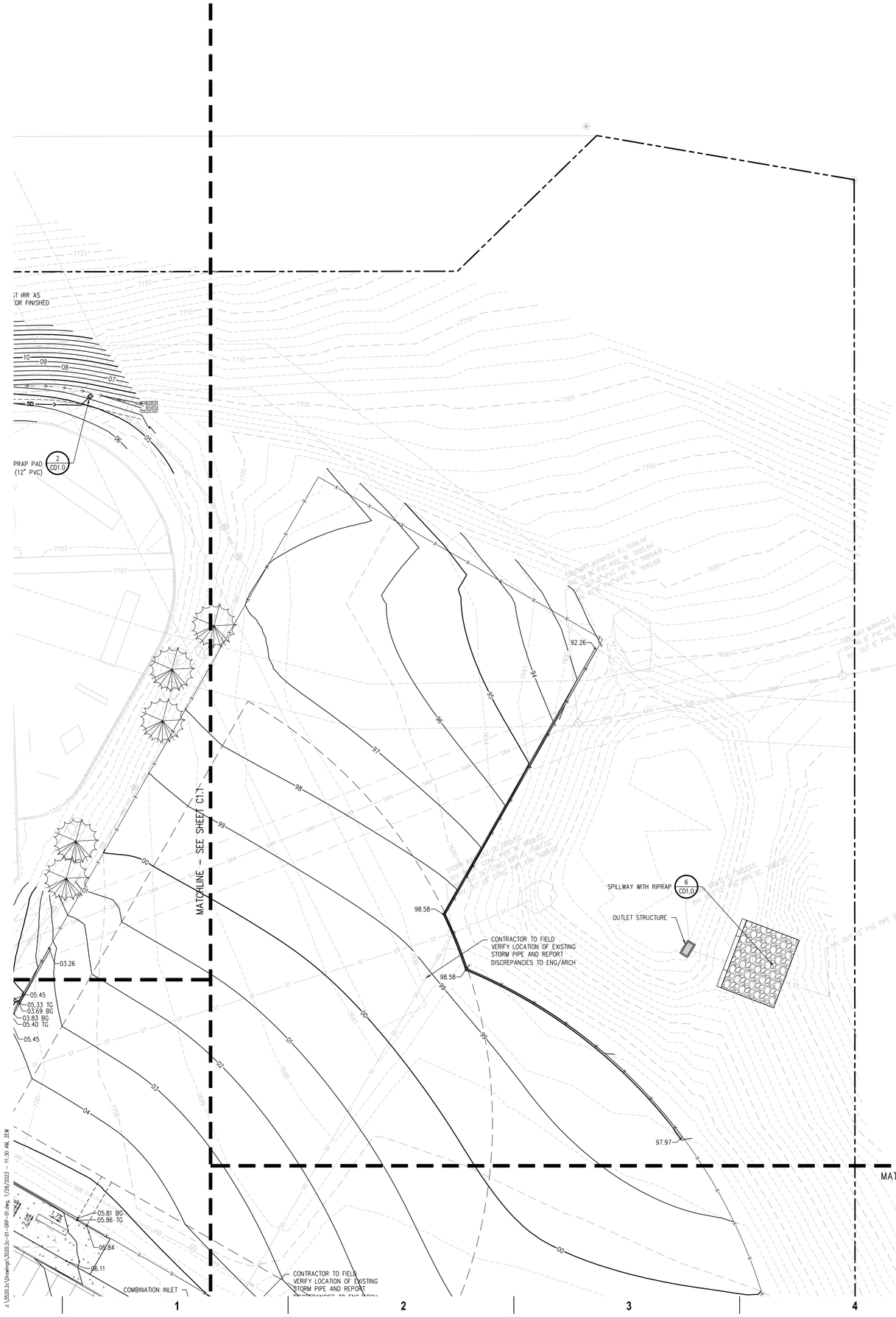

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SHEET INFORMATION

COLORADO LICENSED
CHRISTOPHER K. GRATTAN
07/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER JC

PROJECT NUMBER 822808-01

DETAILED GRADING AND DRAINAGE PLAN

C1.2

GRADING AND DRAINAGE NOTES:

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MATCHLINE – SEE SHEET C1.1

MATCHLINE – SEE SHEET C1.4

SUGARBUSH DRIVE
ROW= 60'

SCALE IN FEET: 20 0 20 40

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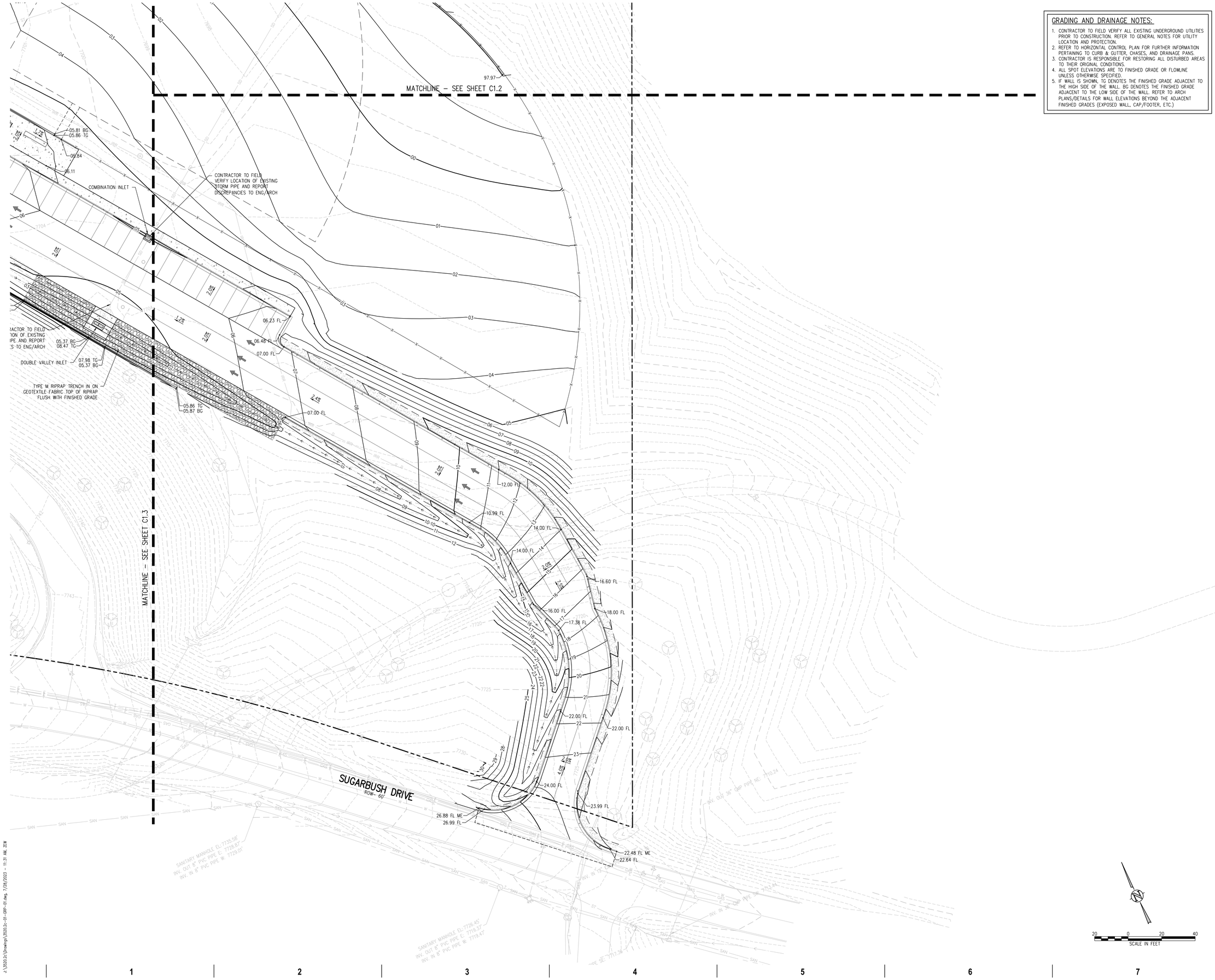
JOSEPH K. CRAZIER
07/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

DETAILED GRADING AND DRAINAGE PLAN

C1.3



GRADING AND DRAINAGE NOTES:

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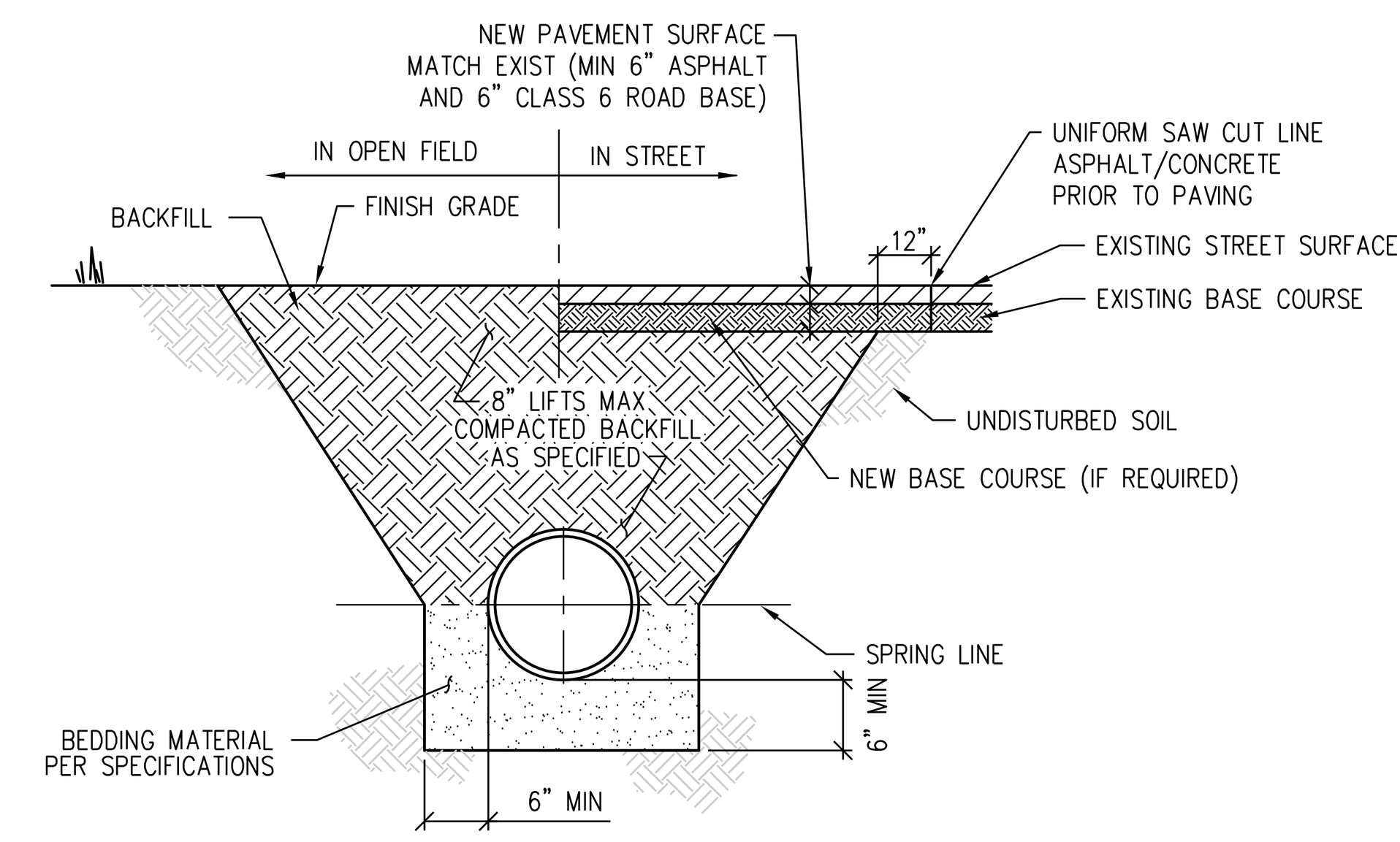
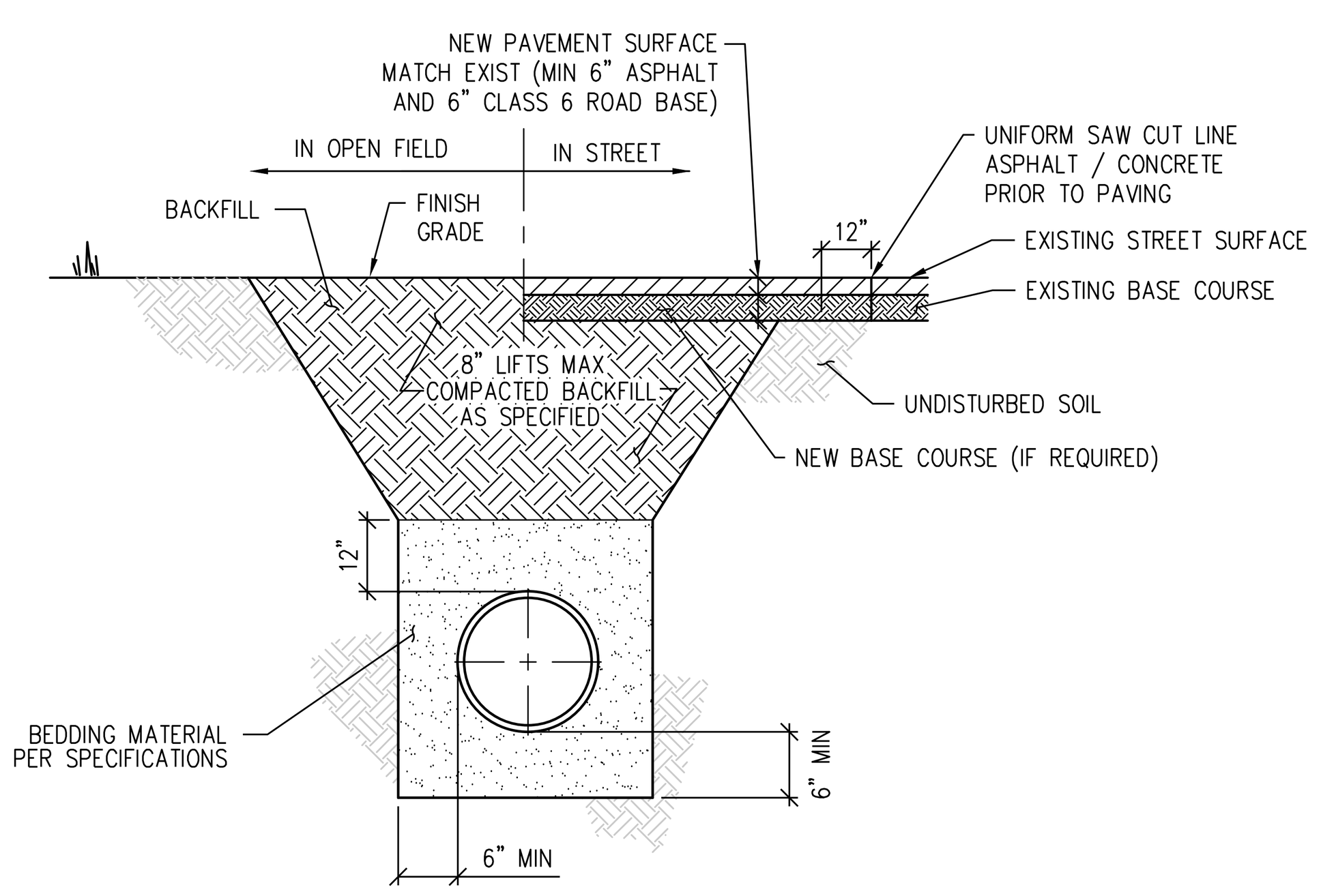
DETAILED GRADING AND DRAINAGE PLAN

C1.4



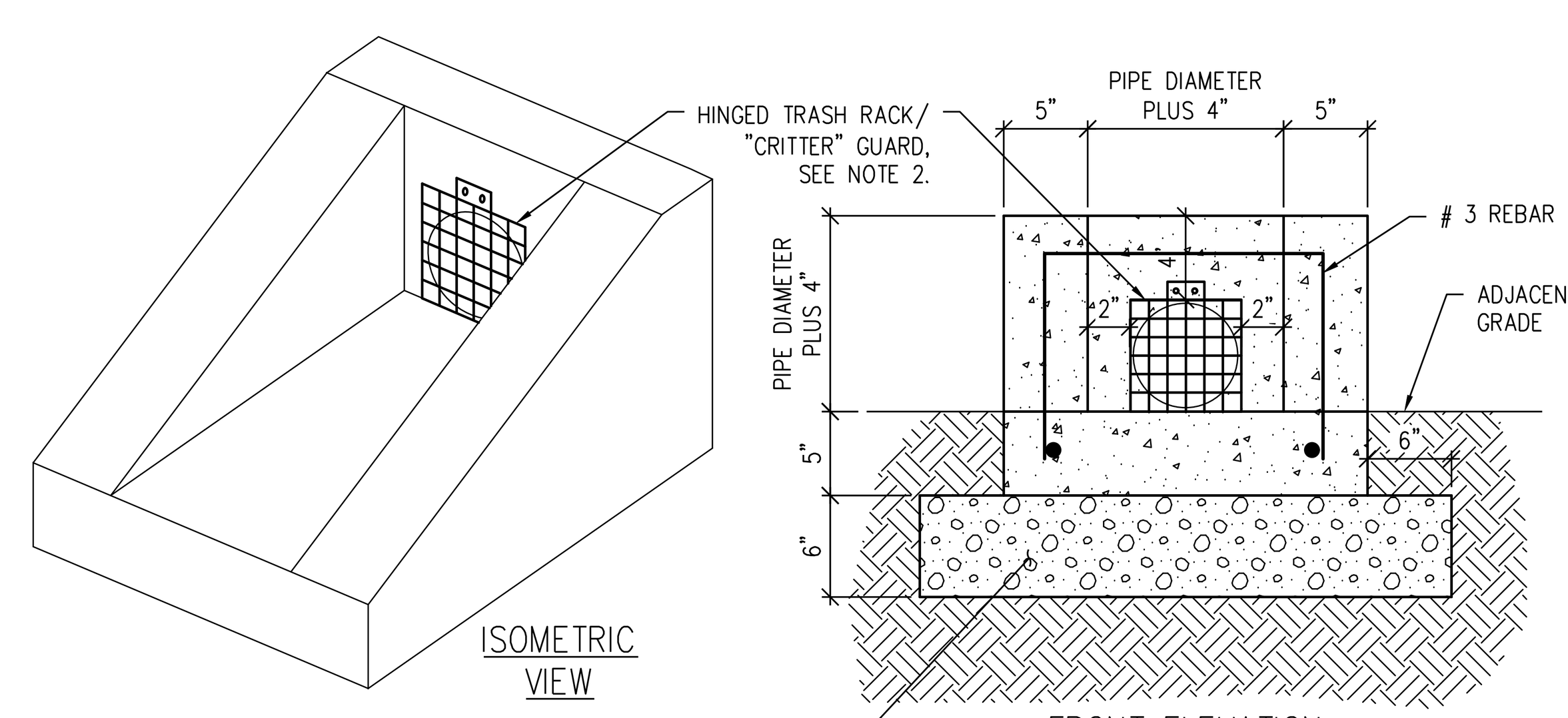
REINFORCED CONCRETE PIPE



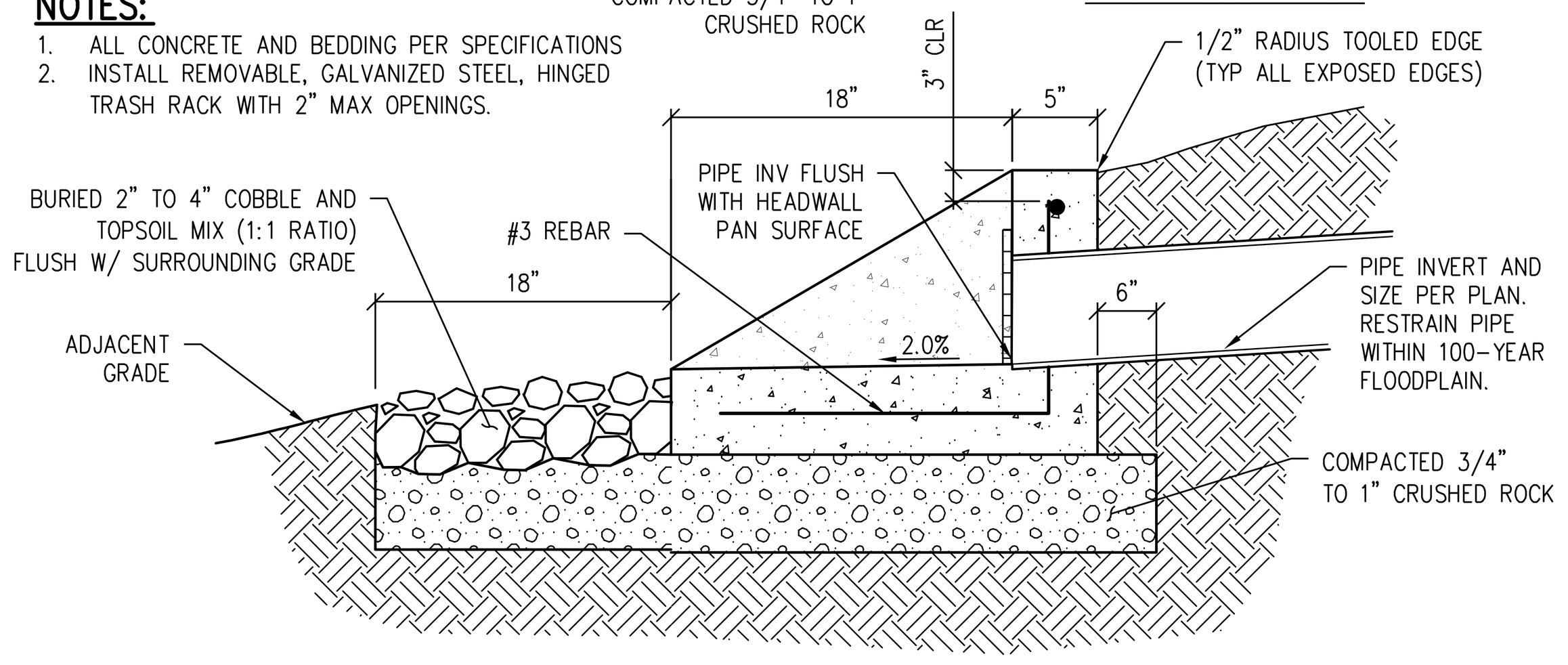
CMP/PVC/HDPE PIPE (SEE PLANS FOR MATERIAL)

NOTES:
1. IF UNSTABLE MATERIALS ARE FOUND IN TRENCH, OVEREXCAVATED PER SPECIFICATIONS OR AS REQUIRED.
2. TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES.
3. MINIMUM COVER IS 18" BELOW FINISHED GRADE.

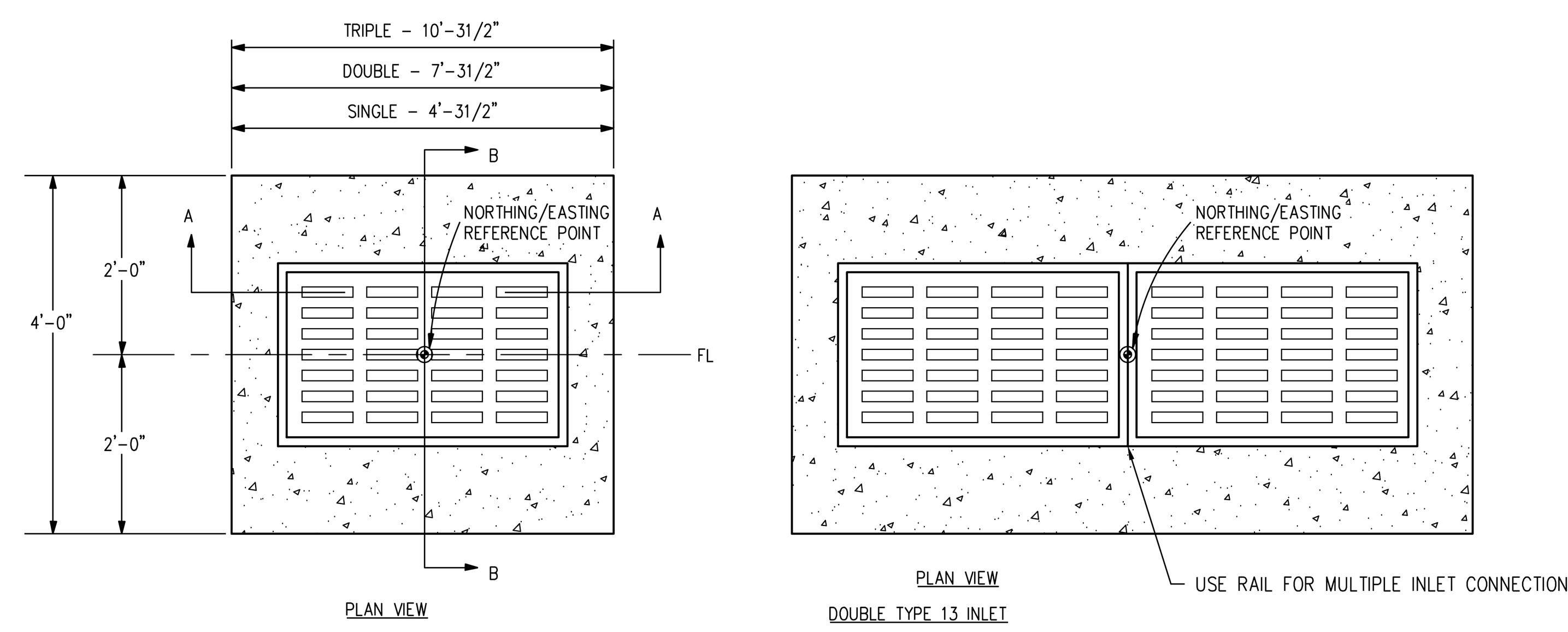
STORM SEWER PIPE BEDDING DETAIL (1 / C1.1)
NTS

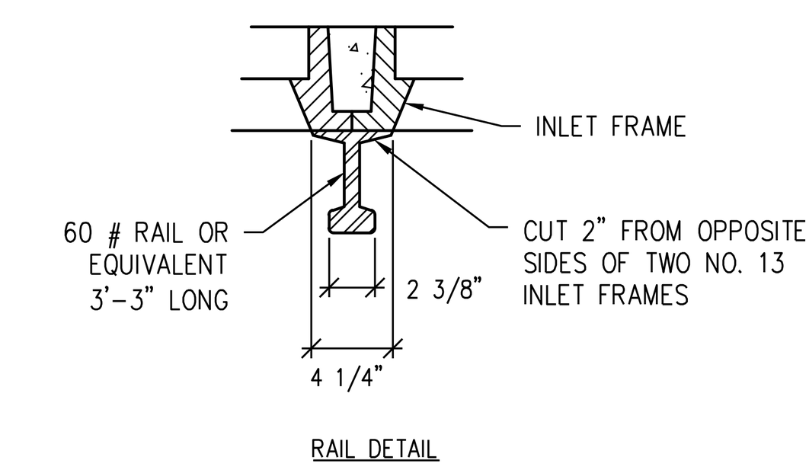


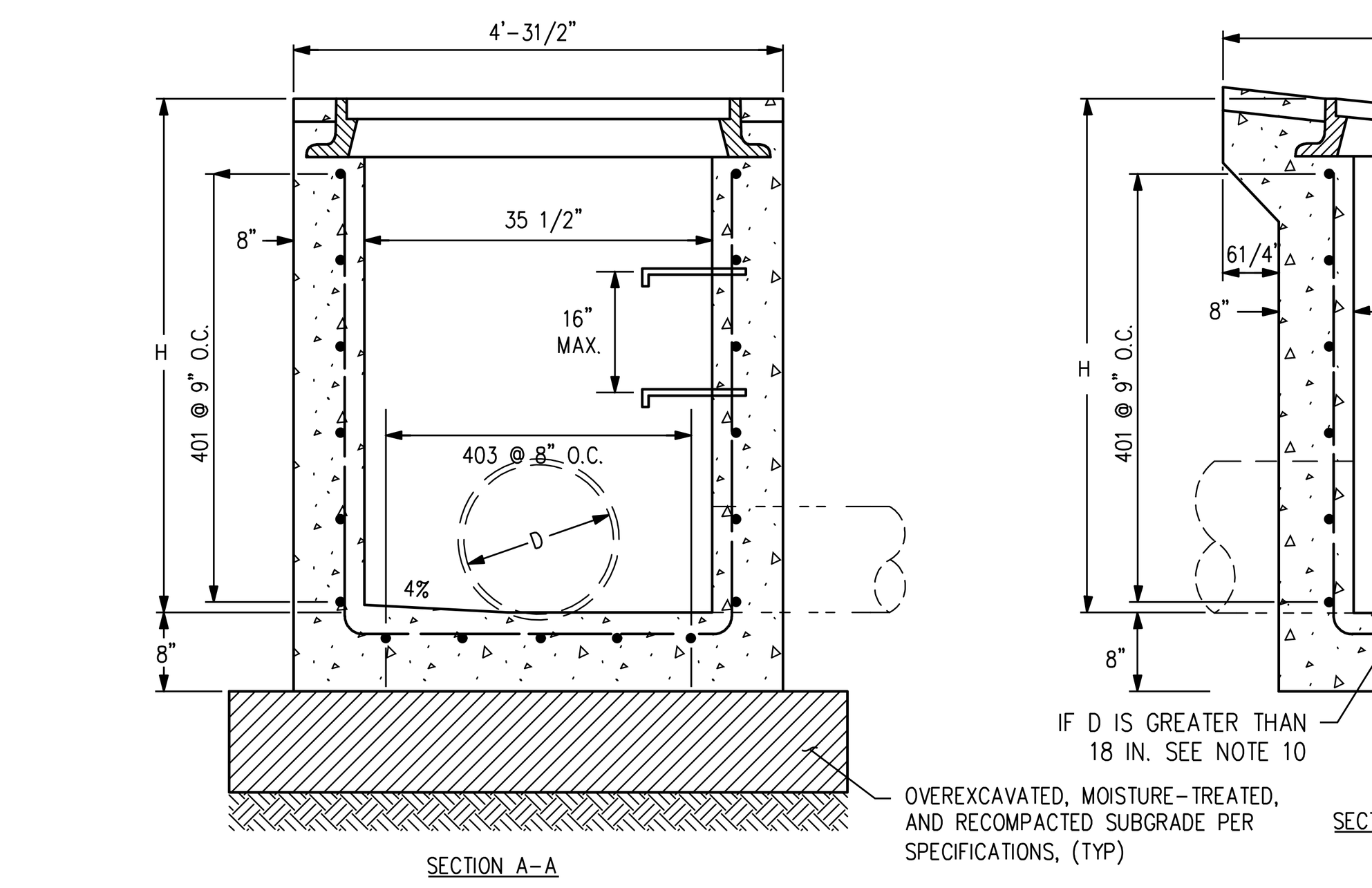
NOTES:
1. ALL CONCRETE AND BEDDING PER SPECIFICATIONS
2. INSTALL REMOVABLE, GALVANIZED STEEL, HINGED TRASH RACK WITH 2" MAX OPENINGS.



SMALL PIPE HEADWALL (2 / C1.1)
NTS

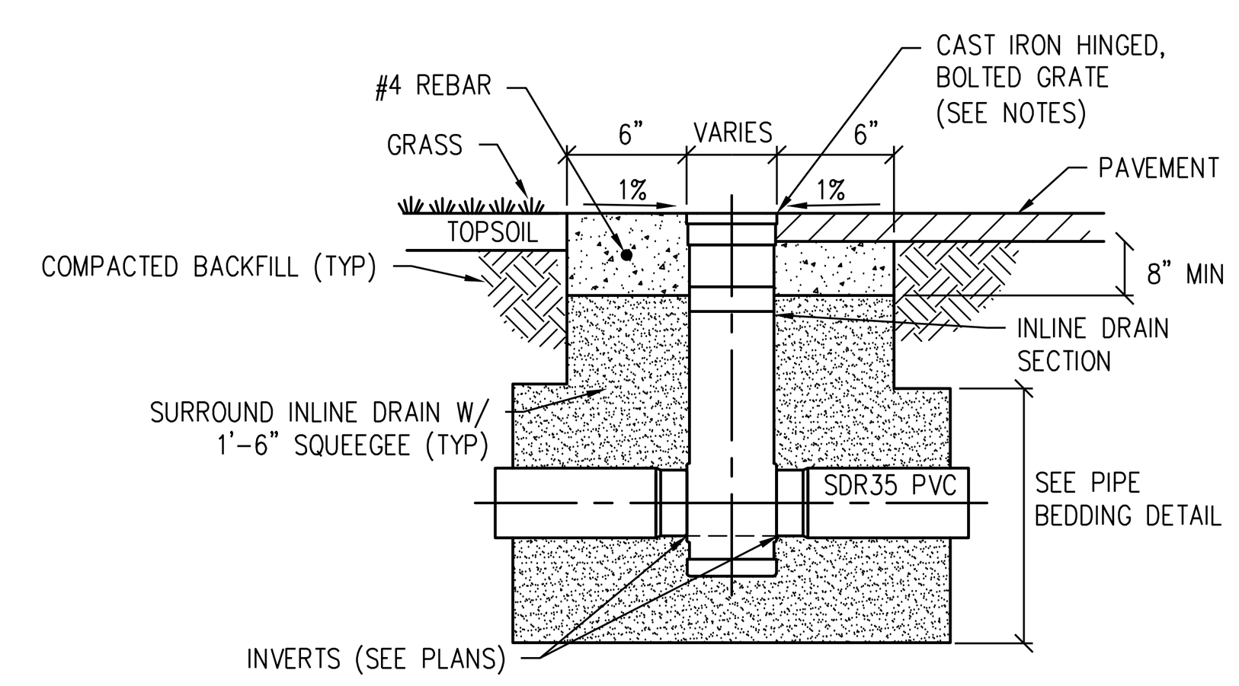






NOTES:
1. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
2. CAST-IN-PLACE CONCRETE WALLS SHALL BE FORMED ON BOTH SIDES.
3. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4 IN.
4. REINFORCING BARS SHALL BE DEFORMED #4 AND SHALL HAVE A 2 IN. MINIMUM CLEARANCE. ALL REINFORCING BARS SHALL BE EPOXY COATED.
5. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FT.-6 IN. AND SHALL CONFORM TO AASHTO M 199.
6. ALL GRATES AND FRAMES SHALL BE GRAY OR DUCTILE CAST IRON IN ACCORDANCE WITH SUBSECTION 712.06. GRATES AND FRAMES SHALL BE DESIGNED TO WITHSTAND HS 20 LOADING.
7. STATION POINT IS AT THE CENTER OF THE INLET.
8. GRATE SHALL HAVE "DUMP NO WASTE DRAINS TO STREAM" MESSAGE CAST ON SURFACE.
9. FOR FULL DETAIL INCLUDING BAR LIST, DIMENSIONS AND QTY. TABLE, SEE CDOT DETAIL M-604-13
10. ALL CONNECTED PIPES WITH A DIAMETER (D) GREATER THAN 30" FRONT AND 18" SIDE AND/OR ENTERING AT AN ANGLE GREATER THAN 80° A CUSTOM CONC BOX MUST BE CONSTRUCTED. CONTRACTOR TO COORDINATE BOX DIMENSIONS AND SPECS WITH MANUFACTURER.

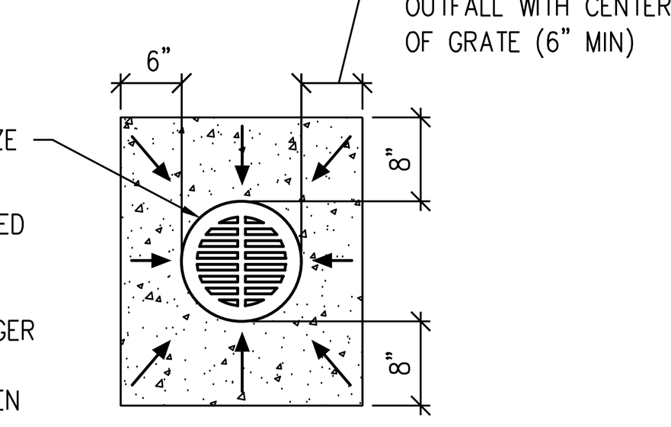
VALLEY INLET DETAIL (3 / C1.3)
NTS



8" TO 30" NYLOPLAST DRAIN
(SEE PLANS FOR SIZE)

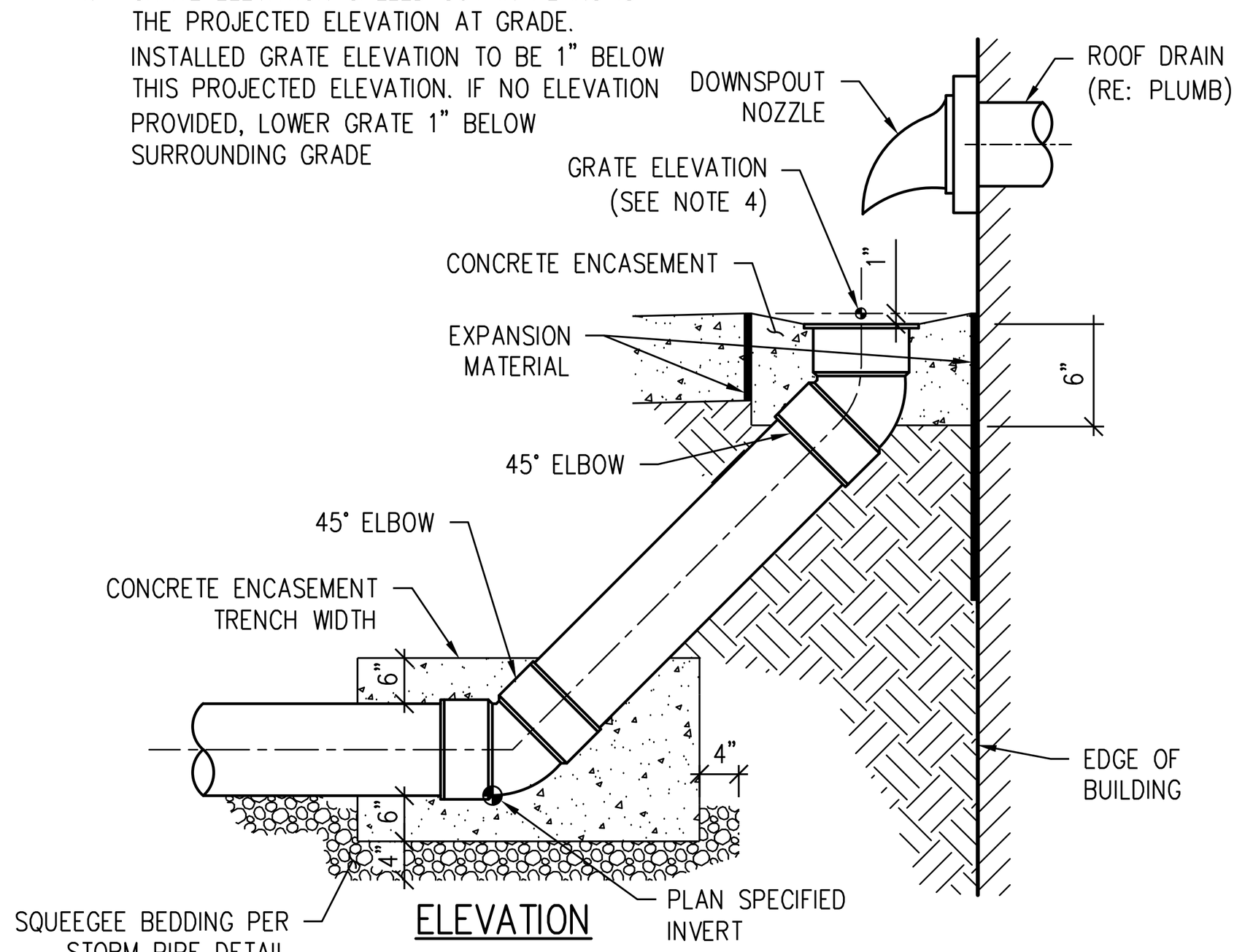
NOTES:
1. AREA DRAIN COVER TO BE NYLOPLAST CAST HS-20 RATED BOLTED AND HINGED GRATE OR APPROVED EQUAL IN TRAFFIC AREAS.
2. AREA DRAIN INLETS IN PEDESTRIAN AREAS SHALL BE INSTALLED WITH PEDESTRIAN RATED GRATES (1/4" MAX OPENING, TYPICAL).

AREA DRAIN DETAIL (4 / C1.1)
NTS



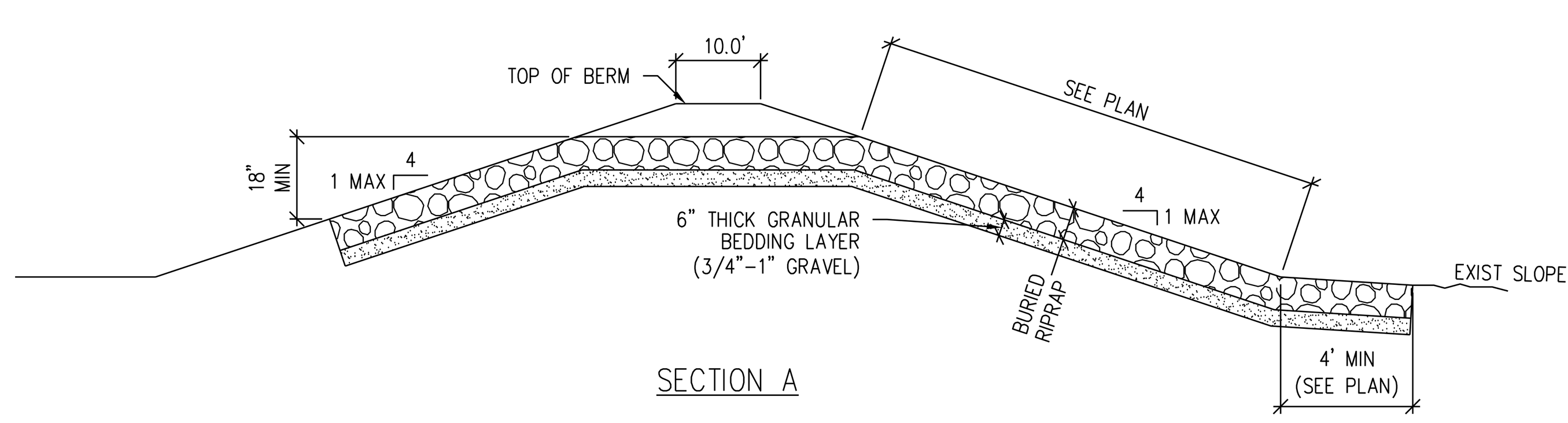
PLAN

NOTES:
1. WHEN ROOF DRAIN CONNECTION IS INSTALLED IN SODDED AREA, DEPRESS CONCRETE ENCASEMENT 2" BELOW TOP OF ELBOW
2. USE NDS ROUND 6" GRATE (#40), OR LARGER IF NOTED ON PLANS.
3. INSTALL 1/2" EXPANSION MATERIAL BETWEEN CONCRETE AND BUILDING.
4. GRATE ELEVATION CALLED OUT IN PLANS IS THE PROJECTED ELEVATION AT GRADE. INSTALLED GRATE ELEVATION TO BE 1" BELOW THIS PROJECTED ELEVATION. IF NO ELEVATION PROVIDED, LOWER GRATE 1" BELOW SURROUNDING GRADE

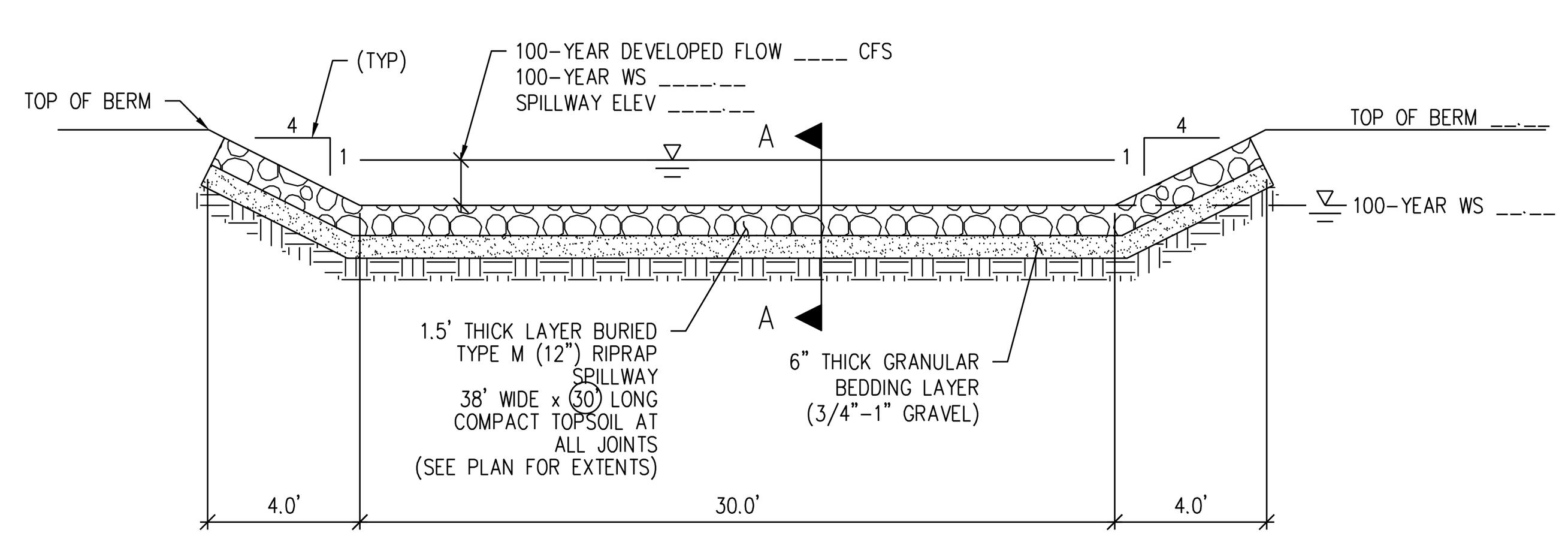


ELEVATION

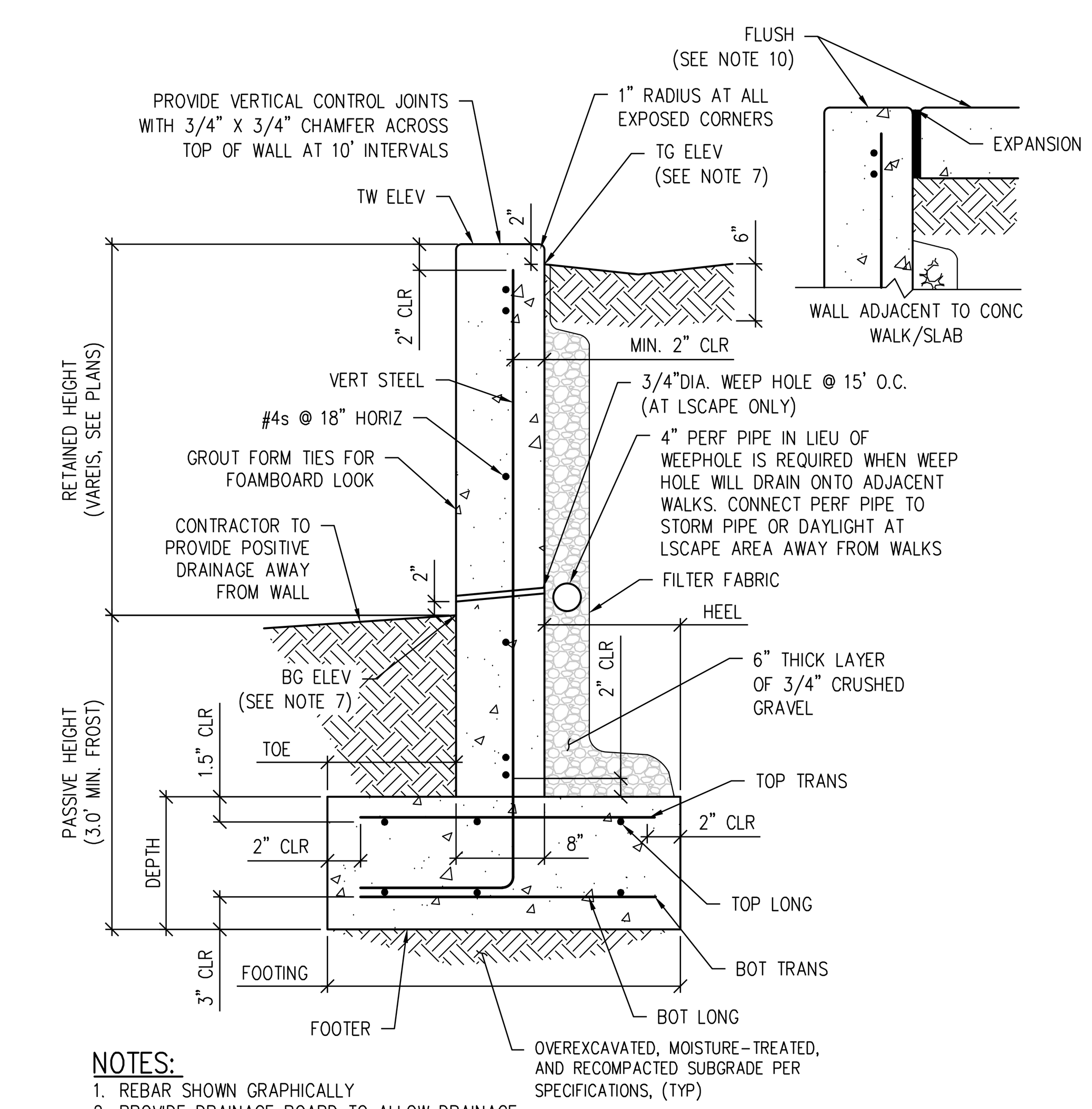
DOWNSPOUT NOZZLE ROOF DRAIN CONNECTION (5 / C1.1)
NTS



SECTION A



EMERGENCY SPILLWAY DETAIL (6 / C1.2)
NTS



NOTES:
1. REBAR SHOWN GRAPHICALLY
2. PROVIDE DRAINAGE BOARD TO ALLOW DRAINAGE
3. WALLS OVER 4' MUST BE DESIGNED AND AND STAMPED BY STRUCTURAL PROFESSIONAL ENGINEER.
4. ALL REINFORCEMENT TO BE MIN. ASTM 615 GR 60
5. MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTH = 4500 PSI
6. REFER TO HORIZONTAL CONTROL PLAN FOR FURTHER INFORMATION PERTAINING TO WALL GEOMETRY
7. TG DENOTES THE FINISHED GRADE ADJACENT TO THE HIGH SIDE OF THE WALL. BG DENOTES THE FINISHED GRADE ADJACENT TO THE LOW SIDE OF THE WALL
8. WALL IS DESIGNED FOR DRAINED SOIL CONDITION
9. INCREASE REINFORCING COVER TO MAINTAIN CLEAR DISTANCES NOTED WHEN FORM LINERS ARE USED
10. TW DENOTES TOP OF WALL. WALL TO BE FLUSH WITH ADJOINING FLATWORK EXCEPT AS NOTED. REFERENCE LANDSCAPE ARCHITECT FOR RAILING REQUIREMENTS IF REQ'D.

RETAINED HEIGHT	PASSIVE HEIGHT	FOOTING	DEPTH	TOE	HEEL	TOP TRANS	TOP LONG	BOT TRANS	BOT LONG	VERT STEEL
0.5' UP TO 2'	3'	20"	8"	6"	6"	#4s @ 24"	#4s @ 16"	#4s @ 24"	#4s @ 16"	#4s @ 24"
2' UP TO 3'	3'	24"	10"	8"	8"	#4s @ 18"	#4s @ 18"	#4s @ 18"	#4s @ 18"	#4s @ 18"
3' UP TO 4'	3'	32"	12"	12"	12"	#4s @ 12"	#4s @ 18"	#4s @ 18"	#4s @ 18"	#5s @ 12"

CONCRETE RETAINING WALL (4' HT. MAX) DETAIL (7 / C1.3)
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E

PROJECT INFORMATION

Bergen Valley
Elementary School
Addition & Reno

D

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT - REVISED
07/31/2023	100% - CONSTRUCTION DOCUMENTS

C

KEY PLAN

B

SHEET INFORMATION

A

PROJECT MANAGER JC

PROJECT NUMBER 822808-01

GRADING AND
DRAINAGE DETAILS

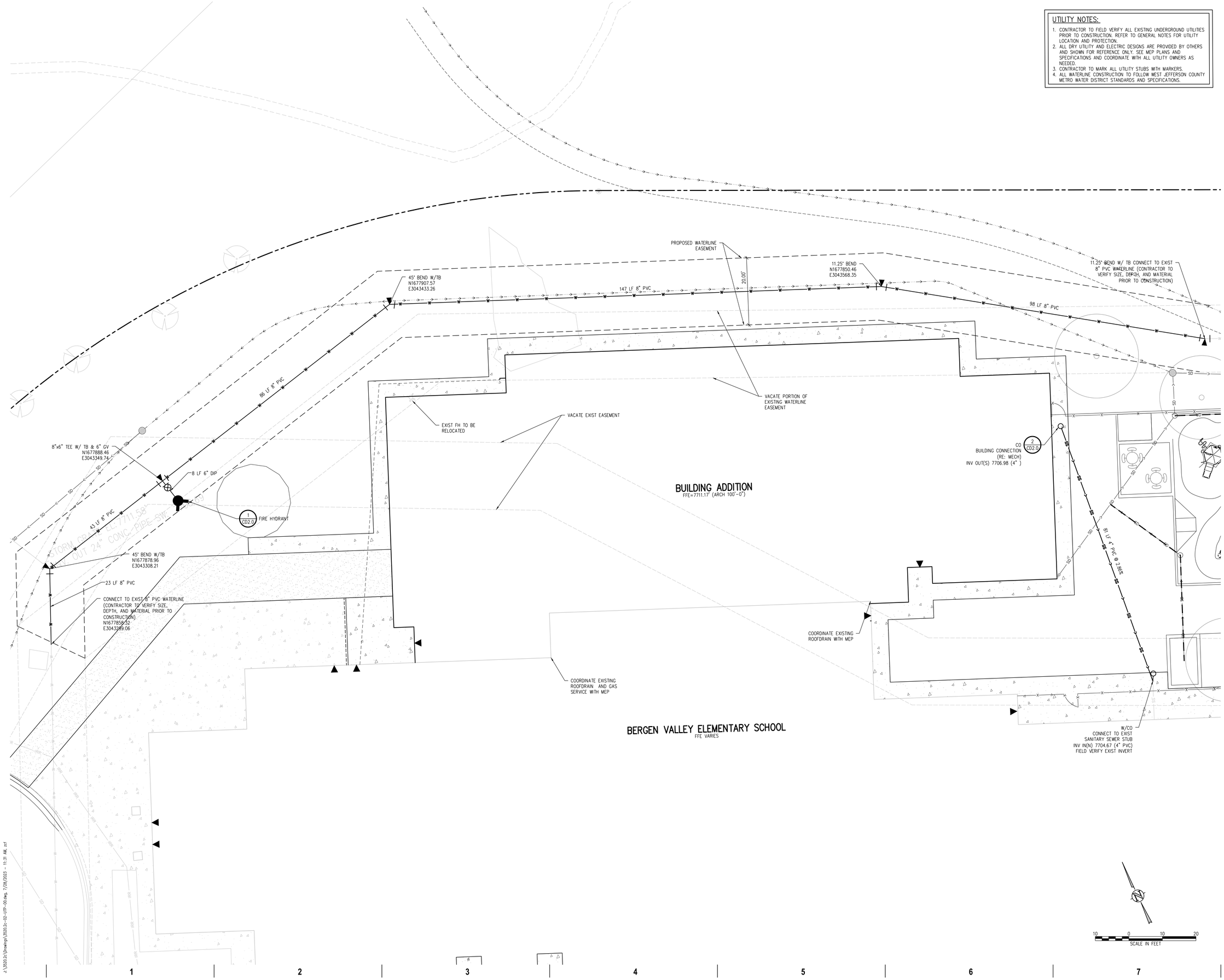
CD1.0

J:\3520.2c\Drawings\3520.2c-01-GRP-DET-00.dwg, 7/28/2023 - 11:31 AM, ZEW

1 2 3 4 5 6 7

UTILITY NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. ALL DRY UTILITY AND ELECTRIC DESIGNS ARE PROVIDED BY OTHERS AND SHOWN FOR REFERENCE ONLY. SEE MEP PLANS AND SPECIFICATIONS AND COORDINATE WITH ALL UTILITY OWNERS AS NEEDED.
3. CONTRACTOR TO MARK ALL UTILITY STUBS WITH MARKERS.
4. ALL WATERLINE CONSTRUCTION TO FOLLOW WEST JEFFERSON COUNTY METRO WATER DISTRICT STANDARDS AND SPECIFICATIONS.



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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

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07/31/2023	100% - CONSTRUCTION DOCUMENTS

KEY PLAN

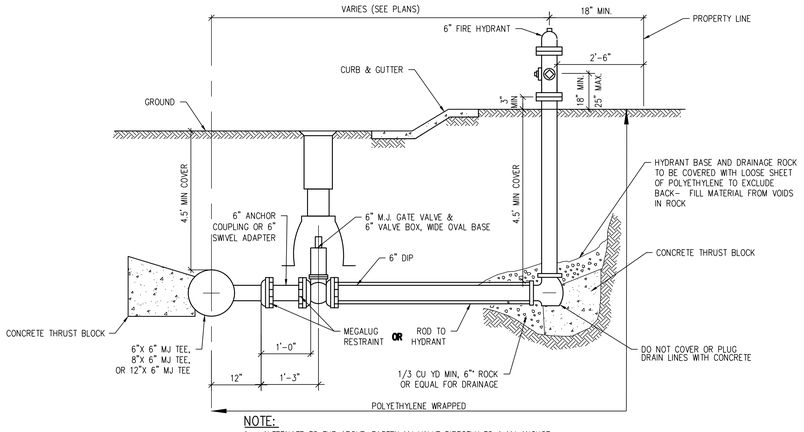
SHEET INFORMATION

COLORADO LICENSED
CODY F. GRASSO
7/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

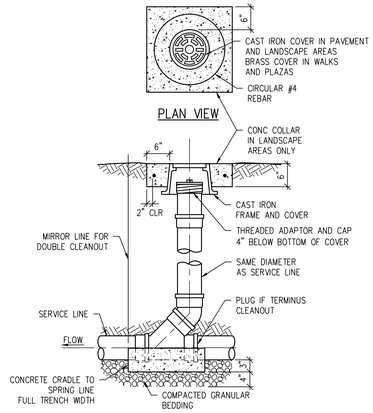
OVERALL UTILITY SHEET

C2.0

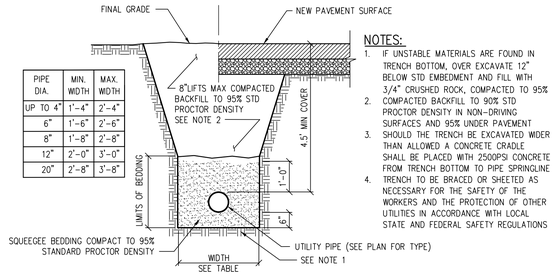


NOTE:
1. ALTERNATE TO THE ABOVE, FASTEN MJ VALVE DIRECTLY TO A MJ ANCHOR TEE (ALSO CALLED SWIVEL TEE)
2. NO HORIZONTAL OR VERTICAL BENDS ARE ALLOWED IN FIRE HYDRANT BRANCH OR SPRINKLER LINES
3. NO PORTION OF THE FIRE HYDRANT MAY PROTRUDE INTO SIDEWALK AREA

FIRE HYDRANT ASSEMBLY DETAIL
NTS — 1 / C2.0



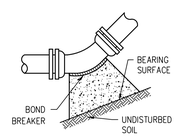
SANITARY CLEANOUT DETAIL
NTS — 2 / C2.0



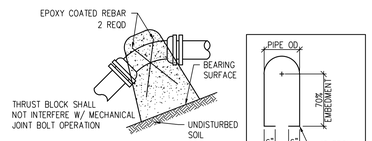
PIPE DIA.	MIN. WIDTH	MAX. WIDTH
UP TO 4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
20"	2'-8"	3'-8"

NOTES:
1. IF UNSTABLE MATERIALS ARE FOUND IN TRENCH BOTTOM, OVER EXCAVATE 12" BELOW STD EMBEDMENT AND FILL WITH 3/4" CRUSHED ROCK, COMPACTED TO 95%
2. COMPACTED BACKFILL TO 90% STD PROCTOR DENSITY IN NON-DRIVING SURFACES AND 95% UNDER PAVEMENT
3. SHOULD THE TRENCH BE EXCAVATED WIDER THAN ALLOWED A CONCRETE CRADLE SHALL BE PLACED WITH 2500PSI CONCRETE FROM TRENCH BOTTOM TO PIPE SPRINGLINE
4. TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES IN ACCORDANCE WITH LOCAL STATE AND FEDERAL SAFETY REGULATIONS

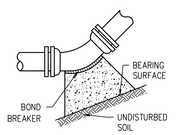
SANITARY SEWER & WATER PIPE BEDDING DETAIL
NTS — 3 / C2.0



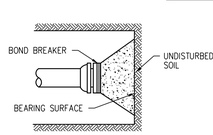
UPWARD BEND



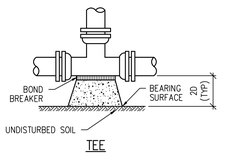
DOWNWARD BEND



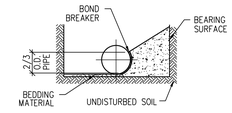
11-1/4°, 22-1/2°, 45° & 90° BENDS



DEAD END



TEE



TYPICAL CROSS SECTION

NOTES:
1. BEARING SURFACES SHOWN IN CHART ARE MINIMUM SQUARE FEET
2. BASED ON 150 PSI INTERNAL PIPE PRESSURE PLUS WATER HAMMER. 4", 6", 8", & 12" WATER HAMMER = 110 PSI 16", 20" AND 24" WATER HAMMER = 70 PSI
3. BASED ON 3000psf SOIL BEARING CAPACITY
4. USE TYPE II PORTLAND CEMENT 3000 PSI CONCRETE
5. ALL VALVES, TEES, BENDS AND PLUGS SHALL BE RESTRAINED AND KICKBLOCKED

SIZE OF PIPE	SURFACE AREA (SQ FT)					CONC VOL (CU YD)
	TEE OR DEAD END	BENDS				
		11-1/4°	22-1/2°	45°	90°	VERT 45°
4"	1.50	1.00	1.00	1.00	2.0	0.34
6"	3.00	1.00	1.25	2.25	4.5	0.71
8"	5.25	1.00	2.00	4.00	8.0	1.22
12"	11.25	2.25	4.50	8.75	17.0	1.83
16"	19.00	3.50	7.50	14.50	27.00	2.59
20"	25.00	5.00	10.00	19.50	35.50	6.93
24"	36.00	6.50	14.00	27.75	51.00	9.88

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

CONCRETE THRUST BLOCK DETAIL
NTS — 4 / C2.0

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PROJECT INFORMATION

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07/31/2023	100% - CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO LICENSED
JOSEPH W. GRATZ
7/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

UTILITY DETAILS

CD2.0

HORIZONTAL CONTROL NOTES:

1. ALL DIMENSIONS AND RADII ARE TO FACE OF CURB, FACE OF BUILDING AND EDGE OF WALK UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
3. REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.

HORIZONTAL CONTROL LEGEND

- ASPHALT PAVING
- HEAVY-DUTY ASPHALT PAVING
- CONCRETE PAVING
- HEAVY-DUTY CONCRETE PAVING
- MILL AND OVERLAY
- LIMITS OF SAWCUT

7
CP /60D
N=1677741.61
E=3043601.19
ELEV=7708.55

BUILDING ADDITION
FFE=7711.17' (ARCH 100'-0")

C3.1

BERGEN VALLEY ELEMENTARY SCHOOL
FFE VARIES

C3.2

5
CP /60D
N=1677539.76
E=3043177.87
ELEV=7717.40

C3.3

6
CP /60D
N=1677343.64
E=3043761.87
ELEV=7700.60

C3.4

SUGARBUSH DRIVE
ROW= 60'

SUGARBUSH DRIVE
ROW= 60'

40 0 40 80
SCALE IN FEET

1 2 3 4 5 6 7

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KEY PLAN

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JOSEPH V. GRASSO
07/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

OVERALL HORIZONTAL CONTROL PLAN

C3.0

HORIZONTAL CONTROL NOTES:

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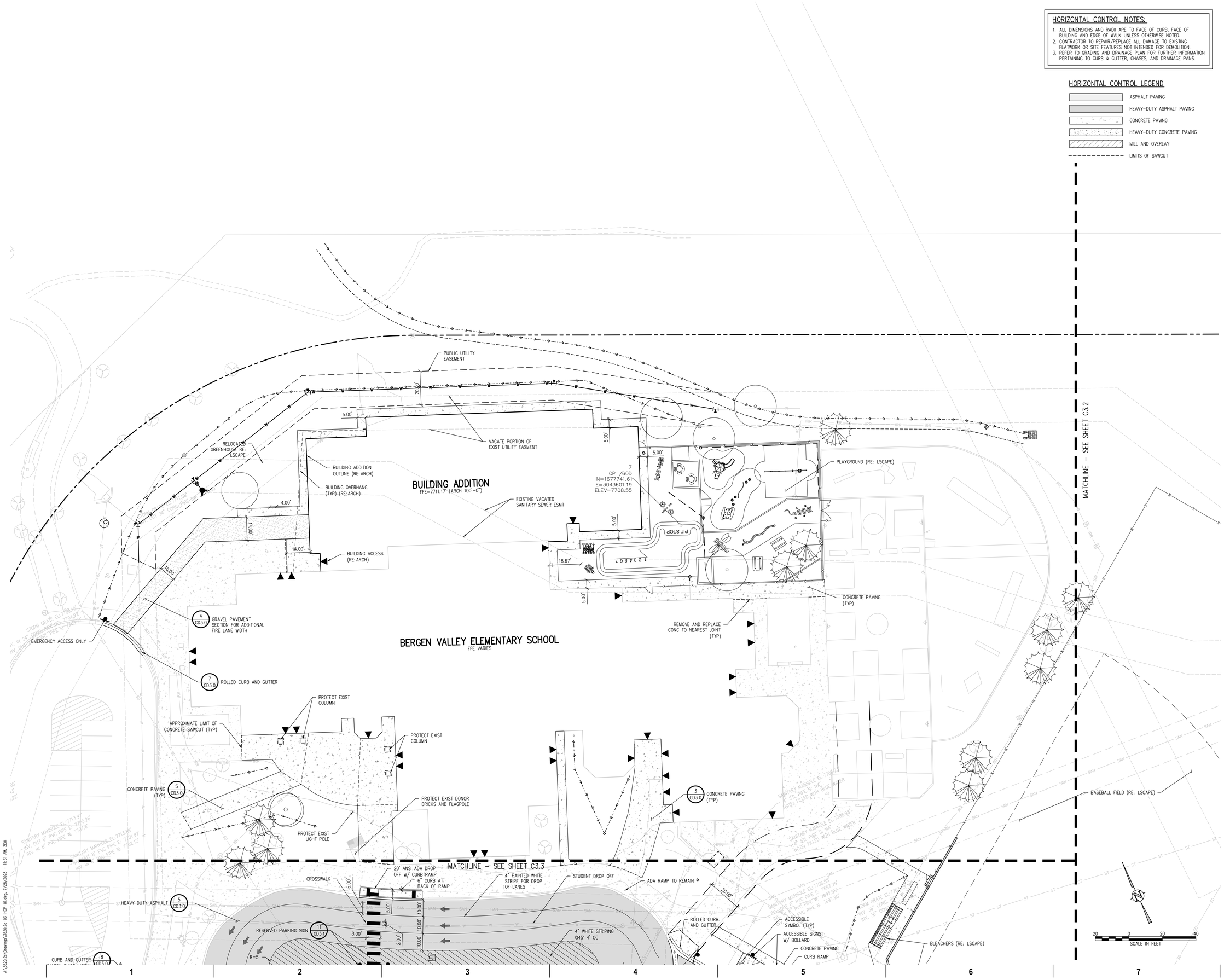
3. REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.

HORIZONTAL CONTROL LEGEND

- ASPHALT PAVING
- HEAVY-DUTY ASPHALT PAVING
- CONCRETE PAVING
- HEAVY-DUTY CONCRETE PAVING
- MILL AND OVERLAY
- LIMITS OF SAWCUT



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KEY PLAN

SHEET INFORMATION

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JOSEPH T. GRANDE
7/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

DETAILED HORIZONTAL CONTROL PLAN

C3.1

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1 2 3 4 5 6 7 A B C D E

HORIZONTAL CONTROL NOTES:

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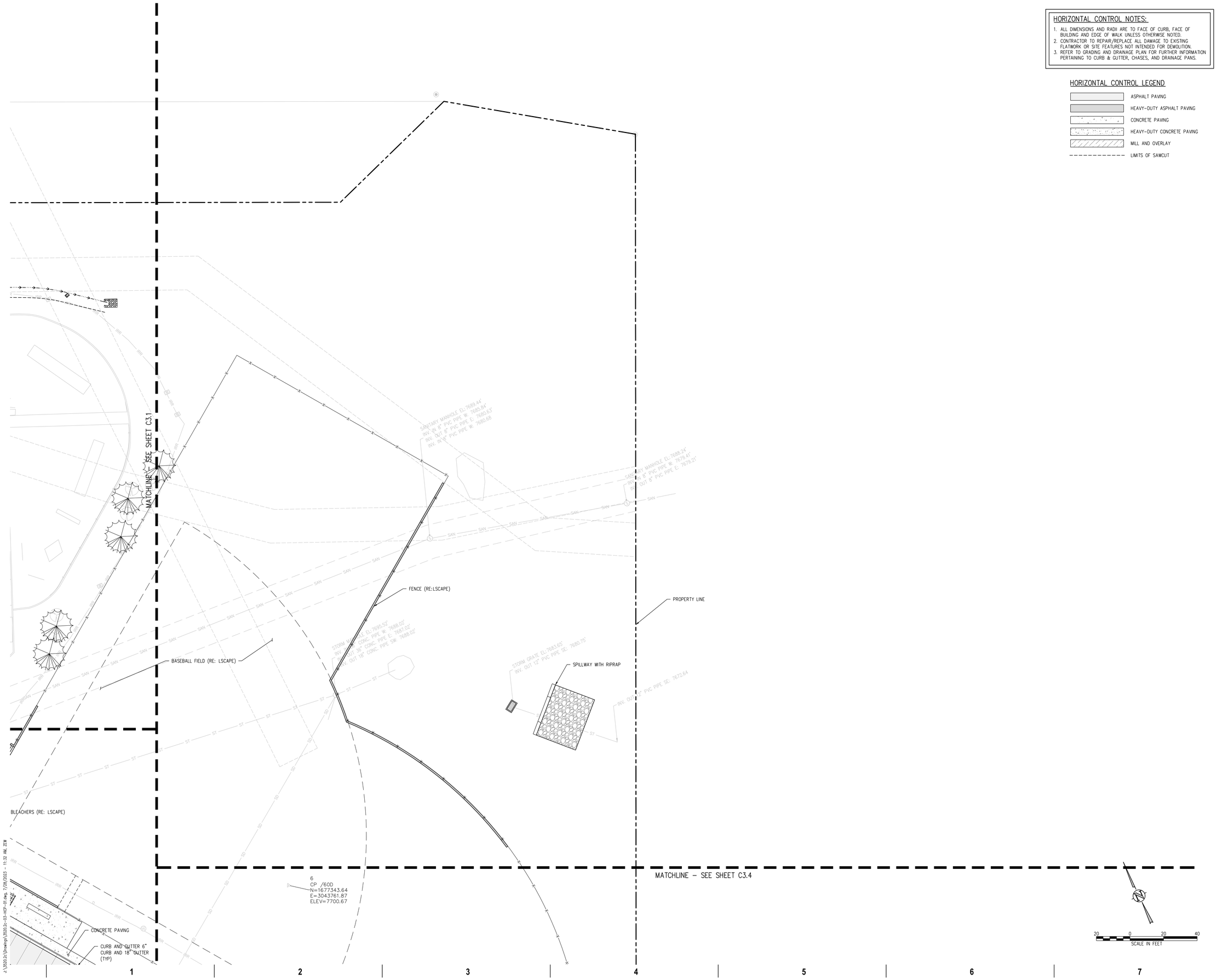
2. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
3. REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.

HORIZONTAL CONTROL LEGEND

- ASPHALT PAVING
- HEAVY-DUTY ASPHALT PAVING
- CONCRETE PAVING
- HEAVY-DUTY CONCRETE PAVING
- MILL AND OVERLAY
- LIMITS OF SAWCUT



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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT - REVISED
07/31/2023	100% - CONSTRUCTION DOCUMENTS

KEY PLAN

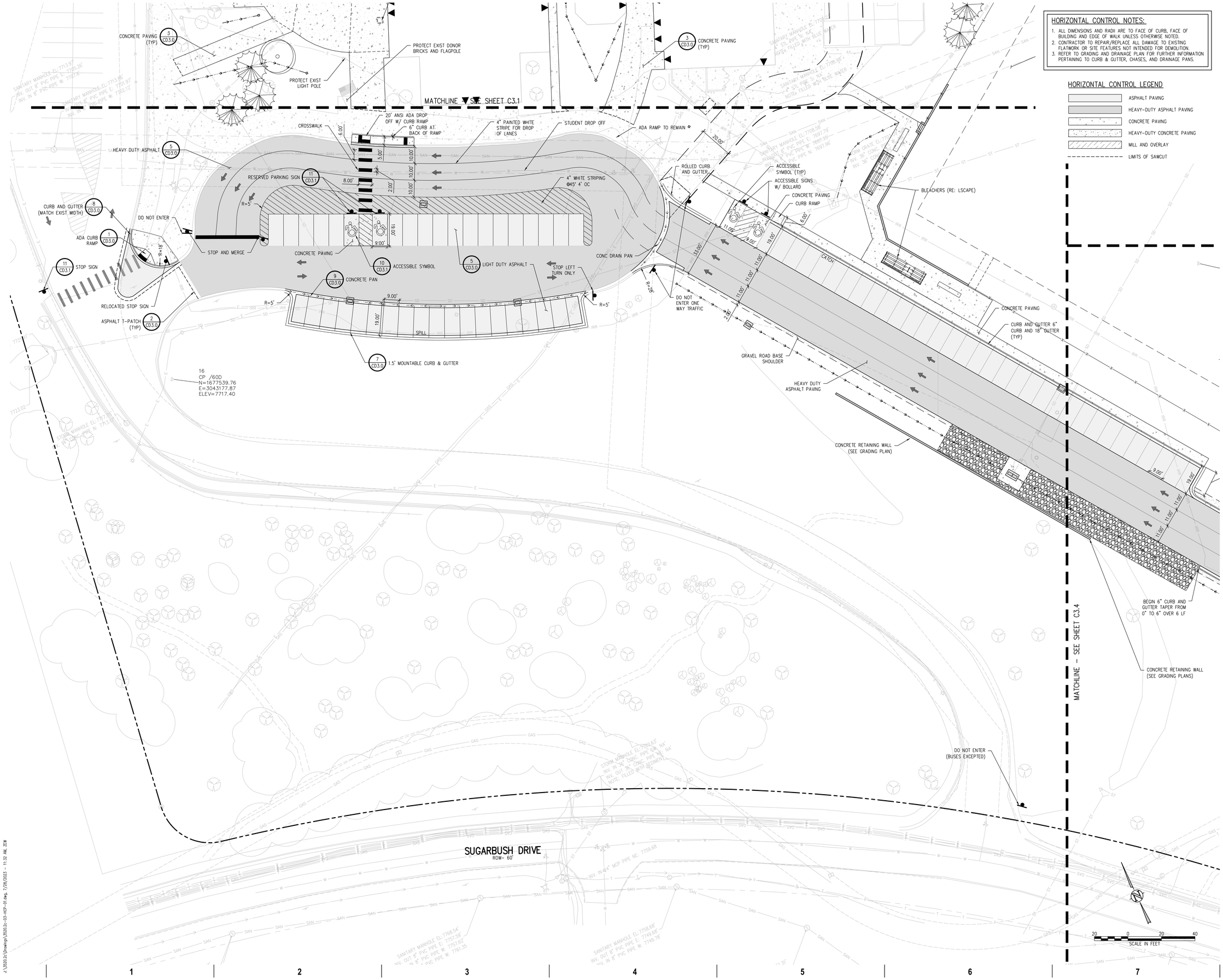
SHEET INFORMATION

COLORADO LICENSED
SCOTT E. GRAVES
7/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

DETAILED HORIZONTAL CONTROL PLAN

C3.2



HORIZONTAL CONTROL NOTES:

1. ALL DIMENSIONS AND RADII ARE TO FACE OF CURB, FACE OF BUILDING AND EDGE OF WALK UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
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07/31/2023	100% - CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO LICENSED PROFESSIONAL ENGINEER 45353 7/31/2023

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

DETAILED HORIZONTAL CONTROL PLAN

C3.3

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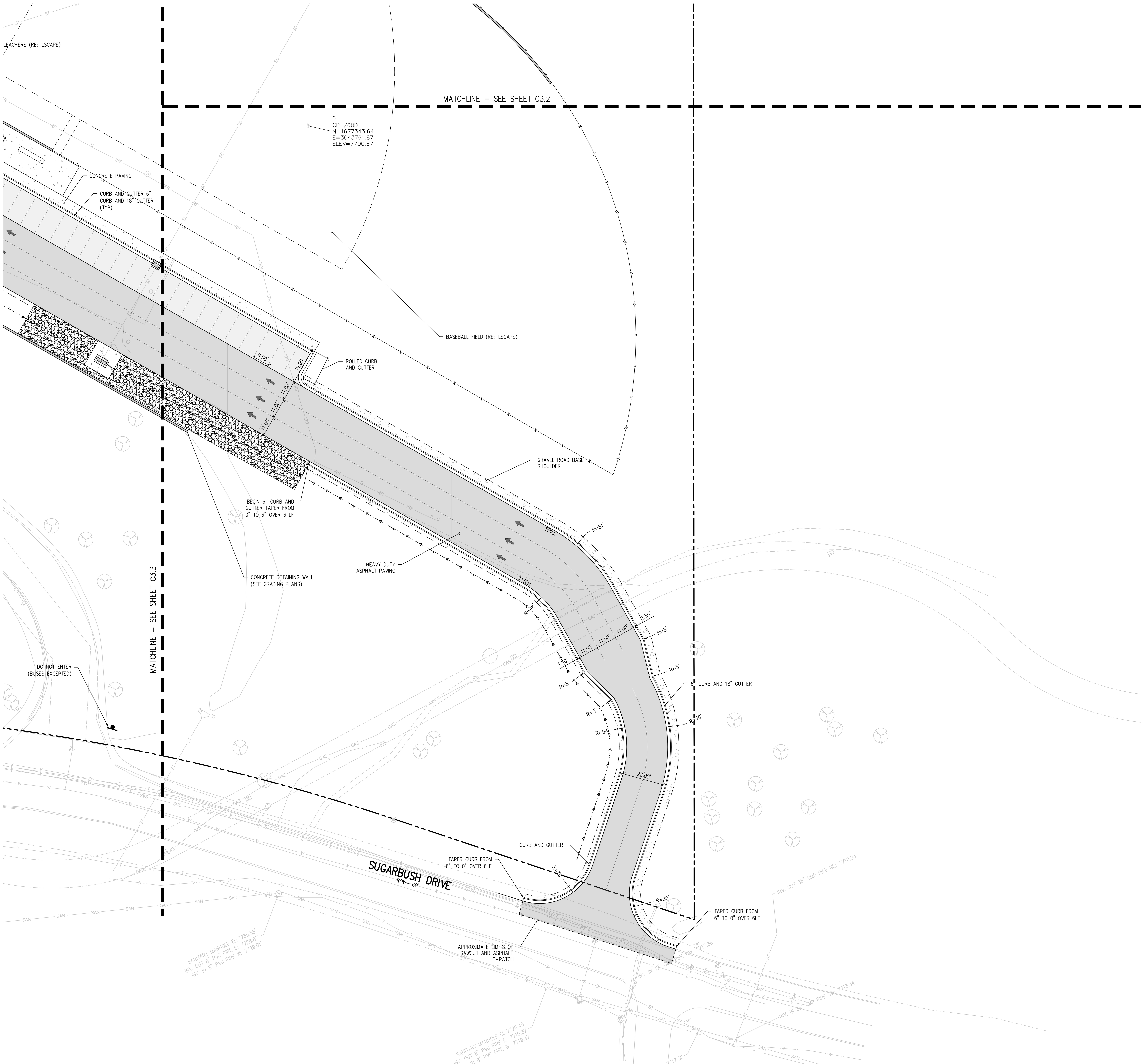

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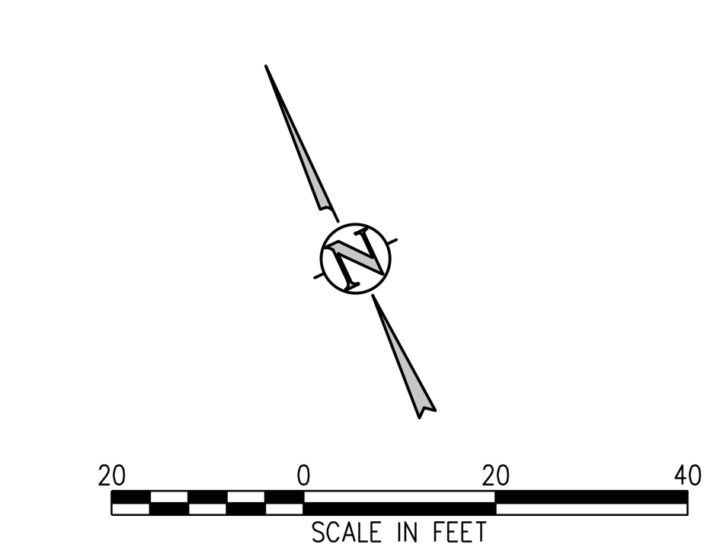

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06/16/2023	DESIGN DEVELOPMENT - REVISED
07/31/2023	100% - CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO LICENSED CODY F. GRATNY 7/31/2023 45353 PROFESSIONAL ENGINEER

PROJECT MANAGER JC

PROJECT NUMBER 822808-01

DETAILED HORIZONTAL CONTROL PLAN

C3.4

E D C B A

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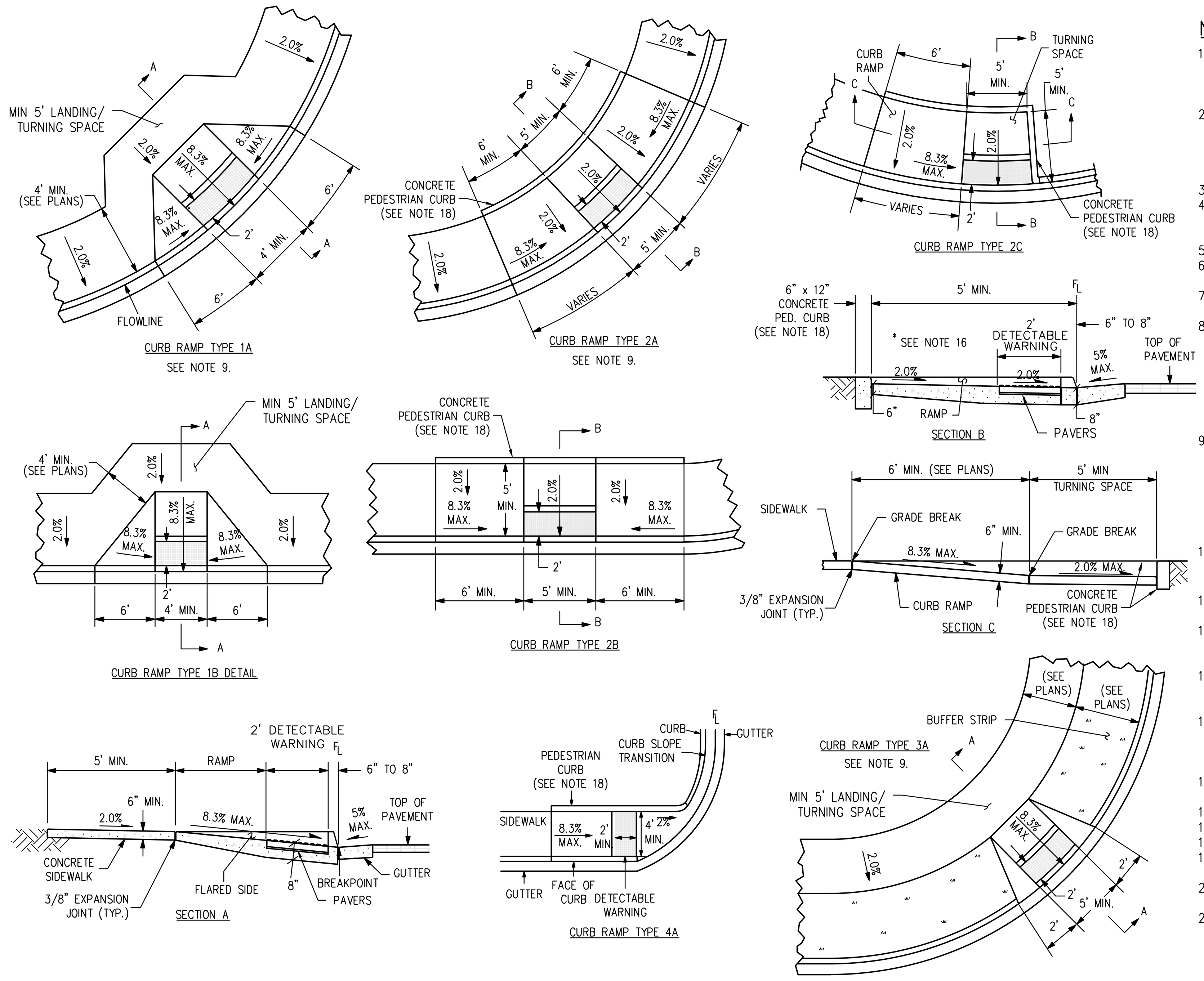
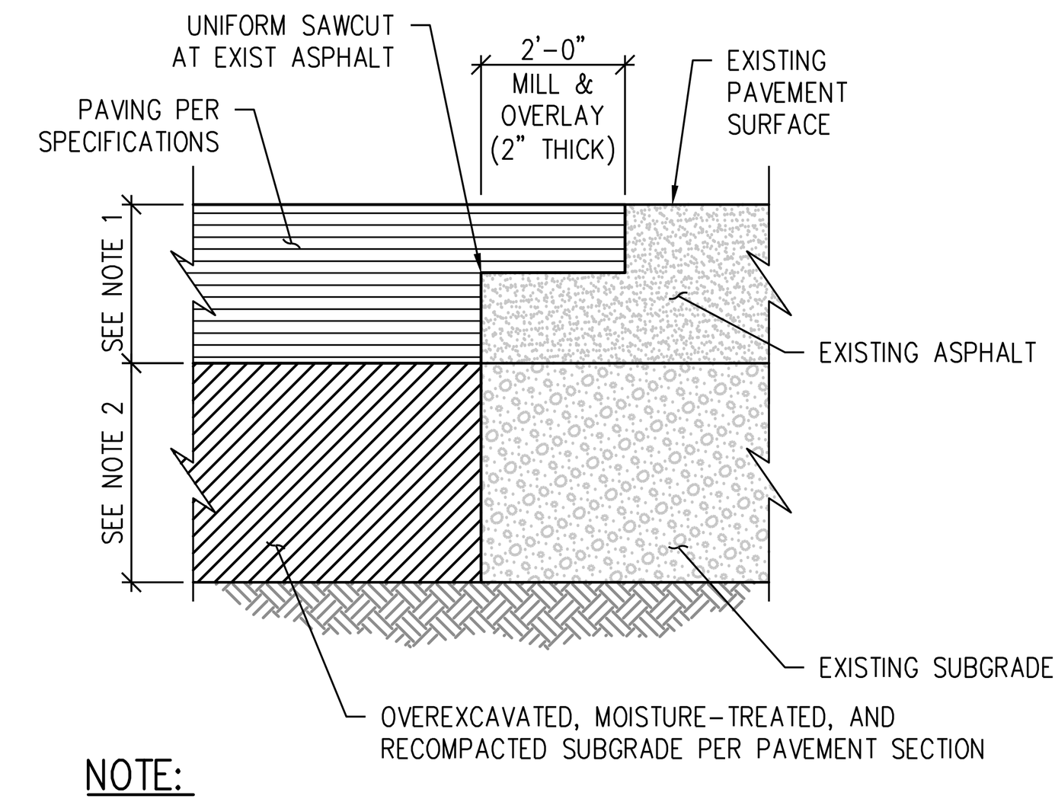


NOTES:

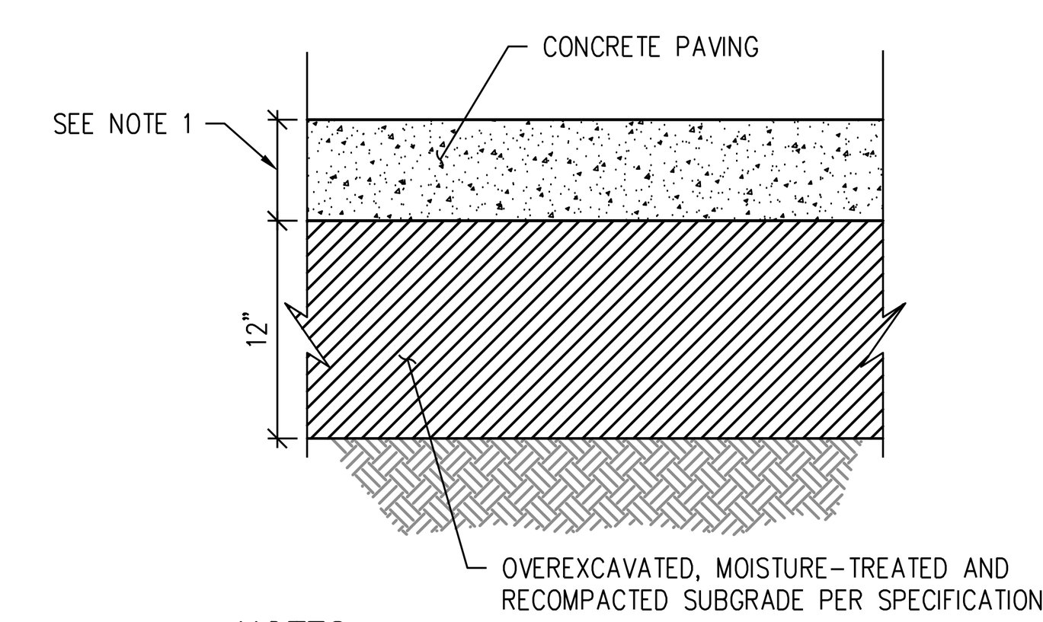
1. ALL DETECTABLE WARNING SURFACES SHALL BE INSTALLED AT SIDEWALK TO STREET TRANSITIONS.THEY SHALL HAVE A TRUNCATED DOME SURFACE. THE DOMES SHALL BE IN A SQUARE GRID PATTERN AND ALIGNED WITH PEDESTRIAN TRAFFIC. THE DETECTABLE WARNINGS SHALL BE CONTRASTING COLOR TO THE SURROUNDING SIDEWALK.
2. ALL DETECTABLE WARNING SURFACES SHALL START A MINIMUM OF 6 INCHES FROM THE FLOWLINE OF THE CURB AND NOT BE MORE THAN A MAXIMUM OF 8 INCHES FROM ANY POINT ON THE FLOWLINE OF THE CURB, WITH EXCEPTION FOR TYPES 1B MODIFIED AND 3B MODIFIED CURB RAMPS AS THIS DIMENSION MAY BE GREATER THAN 8 INCHES ON ONE SIDE OF THE RADIUS.
3. THE RAMP SLOPE AND DETECTABLE WARNING SURFACE SHALL BE 8.3% OR FLATTER.
4. RAMP SLOPE MAY NOT EXCEED 8.3%, CROSS SLOPE MAY NOT EXCEED 2.0%. MAXIMUM SLOPES MAY NOT BE EXCEEDED REGARDLESS OF TOLERANCES, EXCEEDING THE MAXIMUM SLOPE WILL NOT BE ACCEPTED. ADJUST ALL DIMENSIONS PER PLAN.
5. THE MINIMUM WIDTH FOR SIDEWALK IS 4 FEET.
6. DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, OR OTHER OBSTRUCTIONS SHALL NOT BE INSTALLED IN THE CURB RAMP OR TURNING SPACE AREAS.
7. CONSTRUCTION OF THE CONCRETE PEDESTRIAN CURB SHALL BE INCLUDED IN THE BID PRICE OF THE CONCRETE CURB RAMP.
8. IF THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTON ASSEMBLY ON A TRAFFIC SIGNAL MAST POLE WILL NOT BE WITHIN EASY REACH (10 INCHES OR LESS AND UNOBSTRUCTED) OF ALL PEDESTRIANS (IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT), THEN A SEPARATE PEDESTRIAN PUSH BUTTON POST ASSEMBLY (PPBPA) SHALL BE INSTALLED WITHIN ADA REACH RANGES. THE PPBPA SHALL MEET THE PROVISIONS FOUND IN "SECTION 4E.08 THROUGH 4E.13 – PEDESTRIAN DETECTORS" OF THE 2009 MUTCD MANUAL WITH REVISIONS 1 AND 2.
9. DIAGONAL CURB RAMPS (ON THE APEX) ARE NOT PREFERRED IN NEW CONSTRUCTION. A SINGLE DIAGONAL CURB RAMP (ON THE APEX) WILL ONLY BE PERMITTED DURING RECONSTRUCTION OR ALTERATION WHERE PHYSICAL OR SITE CONSTRAINTS PREVENT TWO CURB RAMPS FROM BEING INSTALLED. THE ENGINEER SHALL PROVIDE APPROVED JUSTIFICATION DOCUMENTATION (CDOT CURB RAMP DESIGN VARIANCE REQUEST FORM) FOR CDOT PROJECTS. ALL CURB RAMPS INSTALLED ON THE APEX MUST MEET THE STANDARDS AS DEFINED IN M-608-1.
10. CURB RAMPS (EXCLUDING FLARED SIDES OR BLENDED TRANSITIONS) SHALL BE WHOLLY CONTAINED WITHIN THE WIDTH OF THE CROSSWALK AND/OR THE PEDESTRIAN STREET CROSSING THEY SERVE.
11. ALL CURB RAMP JOINTS AND GRADE BREAKS SHALL BE FLUSH (0" – 1/8"). THE JOINT BETWEEN THE ROADWAY SURFACE AND GUTTER PAN SHALL BE FLUSH.
12. THE CONTRACTOR SHALL VERIFY REMOVAL LIMITS ARE SUFFICIENT TO PROVIDE POSITIVE DRAINAGE, MAINTAIN EXISTING DRAINAGE PATTERNS, AND AVOID PONDING IN THE FINAL CONFIGURATION.
13. TO AVOID CHASING GRADE INDEFINITELY WHEN TRAVERSING THE HEIGHT OF CURB, THE RAMP LENGTH SHALL NOT EXCEED 15 FEET. ADJUST THE RAMP SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT TECHNICALLY FEASIBLE.
14. THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP AND ADJOINING ROAD SURFACE SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 13.33%. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A CURB RAMP, TURNING SPACE, OR BLENDED TRANSITION SHALL NOT EXCEED 5.0%.
15. FLARED SIDE SLOPES MAY EXCEED 10% ONLY WHERE THEY ABUT A NON-WALKABLE SURFACE OR THE ADJACENT CIRCULATION PATH IS BLOCKED.
16. THE STANDARD TURNING SPACE IS 5 FEET BY 5 FEET.
17. CURB RAMP TYPE 1B, 2B, AND 3B MAY BE USED IN MID-BLOCK.
18. THE PEDESTRIAN CURB IS REQUIRED UNLESS OTHERWISE SPECIFIED
19. FOR FULL DETAIL INCLUDING BAR LIST AND DIMENSION TABLE, SEE CDOT DETAIL M-604-1 SHEETS 1 THROUGH 10.
20. REFER TO PLANS, DETAILS AND SPECIFICATIONS FOR FLATWORK INFORMATION, SUBGRADE PREPARATION, WALK WIDTHS, CONCRETE THICKNESS, ETC.
21. ALL CONCRETE SHALL HAVE FIBERMESH REINFORCEMENT PER SPECIFICATIONS.

CURB RAMP DETAIL (1 / C3.3)
NTS



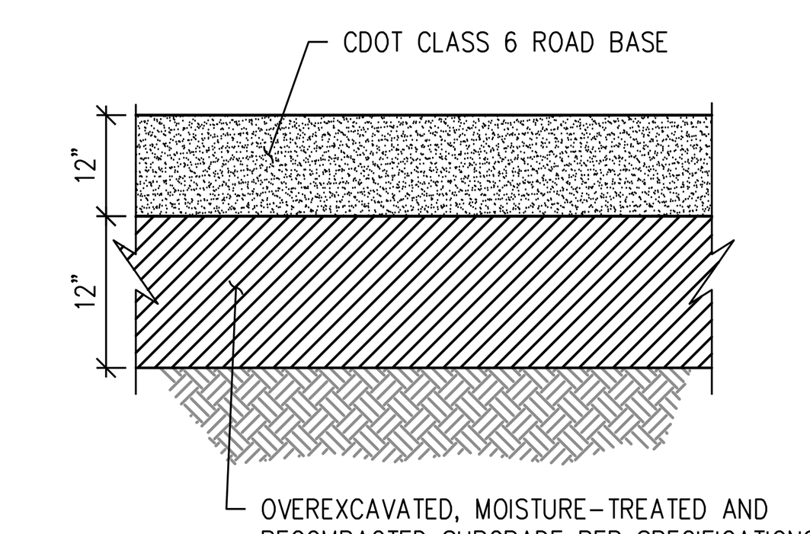
NOTE:
1. MATCH EXISTING DEPTH +1"
2. MATCH EXIST SUBGRADE DEPTH UNLESS OTHERWISE SPECIFIED
3. APPLY TACKIFIER AT SAWCUT AND MILL PRIOR TO PAVING.

ASPHALT "T" PATCH DETAIL (2 / C3.3)
NTS

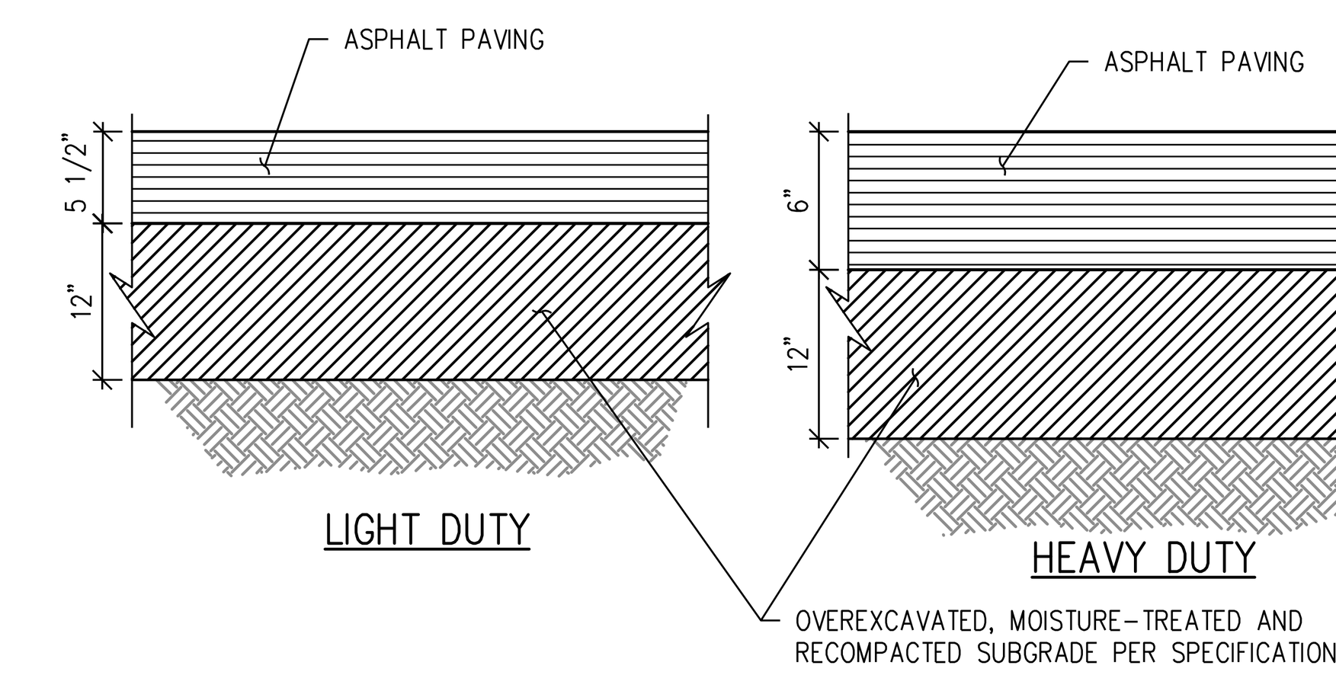


NOTES:
1. CONCRETE THICKNESS:
   6" FOR DRIVES AND WALKS
   8" FOR TRASH PADS AND LOADING AREAS
2. SEE CONTRACTION JOINT AND EXPANSION JOINT DETAILS.
3. ALL CONCRETE SHALL HAVE FIBERMESH REINFORCEMENT PER SPECIFICATIONS.

CONCRETE PAVEMENT SECTION DETAIL (3 / C3.1)
NTS

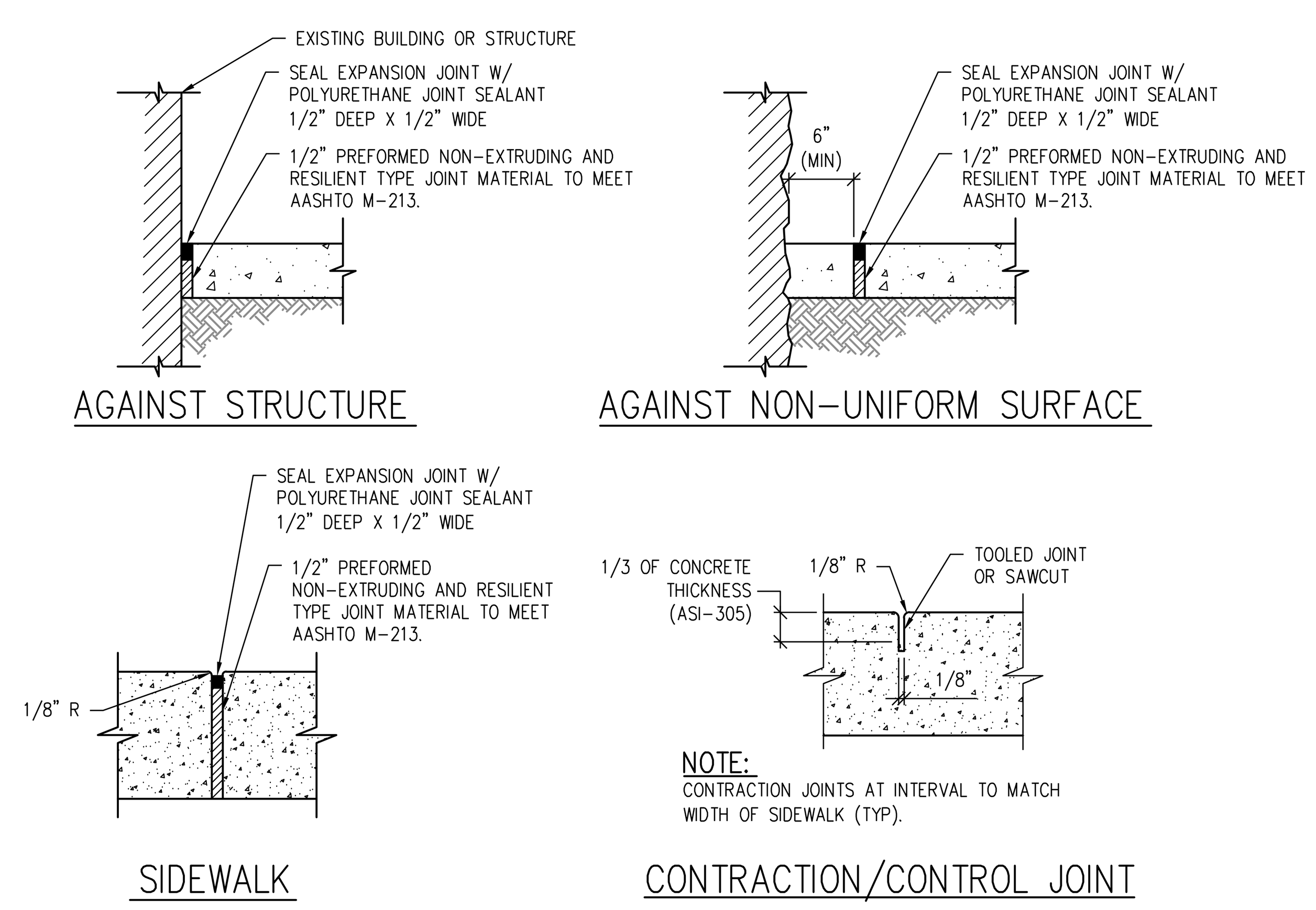


GRAVEL SECTION DETAIL (4 / C3.1)
NTS



NOTES:
1. USE HEAVY DUTY ASPHALT SECTION FOR SERVICE DRIVES, ACCESS DRIVE LANES, & BUS LOOP
2. USE LIGHT DUTY ASPHALT SECTION FOR CAR PARKING STALLS.

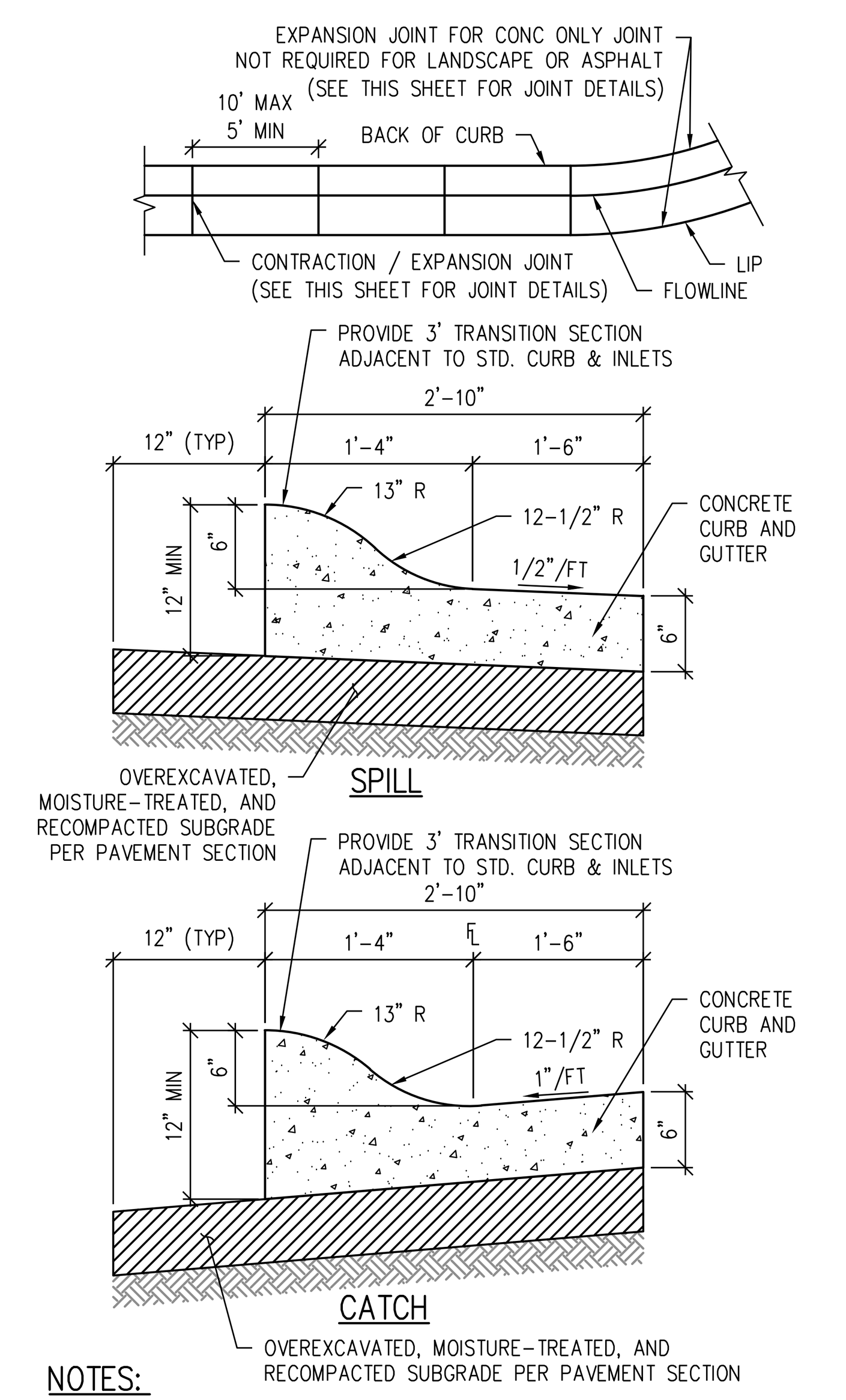
FULL DEPTH ASPHALT PAVEMENT SECTION DETAIL (5 / C3.3)
NTS



NOTE:
CONTRACTION JOINTS AT INTERVAL TO MATCH WIDTH OF SIDEWALK (TYP).

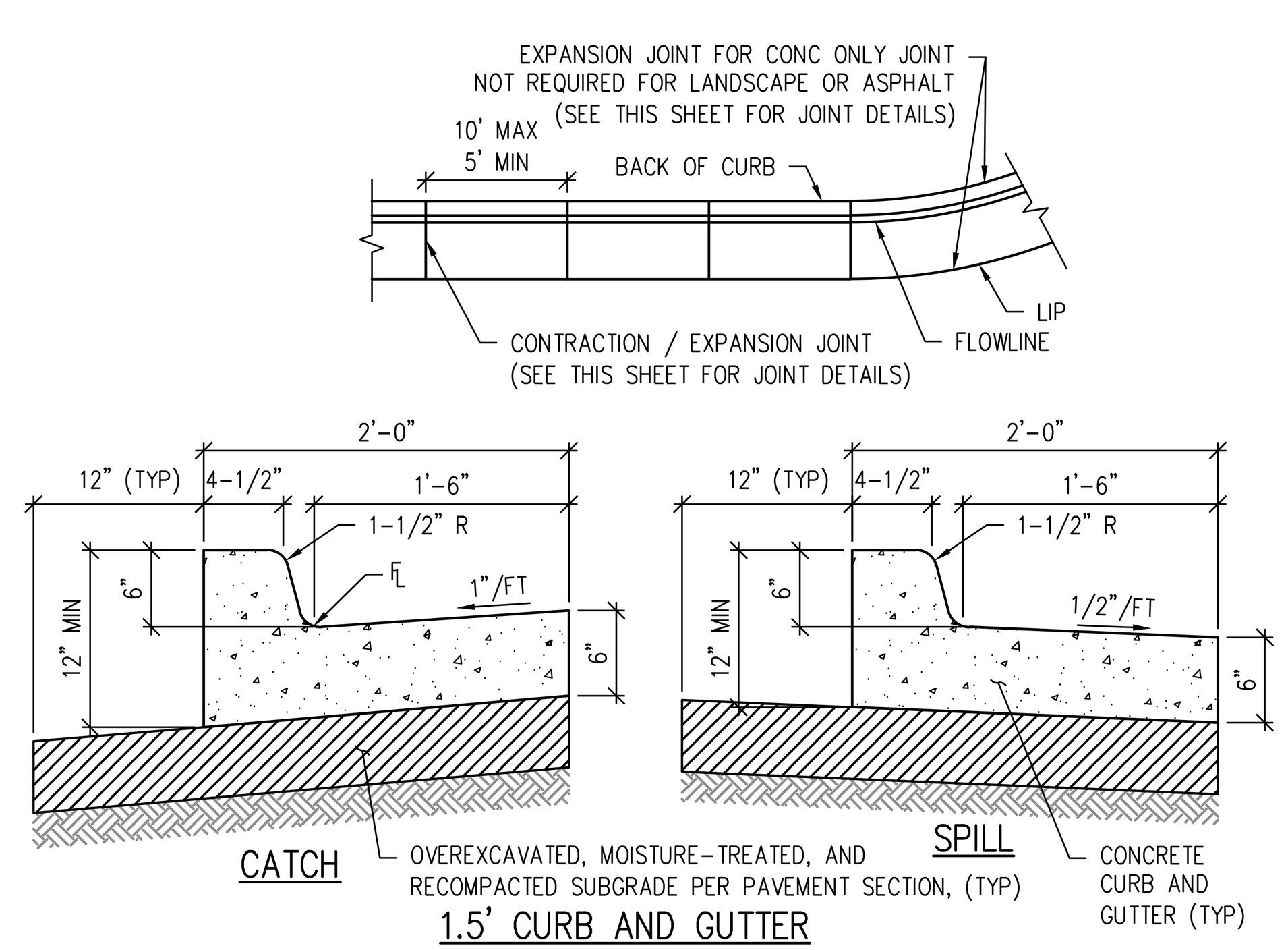
NOTES:
1. CURB EXPANSION JOINTS EVERY 100' MAX AND WHEREVER SIDEWALK ABUTS EXISTING & PROPOSED CONCRETE STRUCTURES (TYP) – SEE PLAN
2. REMOVE PLASTIC FORMING MATERIAL ("ZIP STRIPS") FROM PREFORMED JOINT MATERIAL PRIOR TO PLACING SEALANT

CONCRETE JOINT DETAIL (6 / C3.1)
NTS

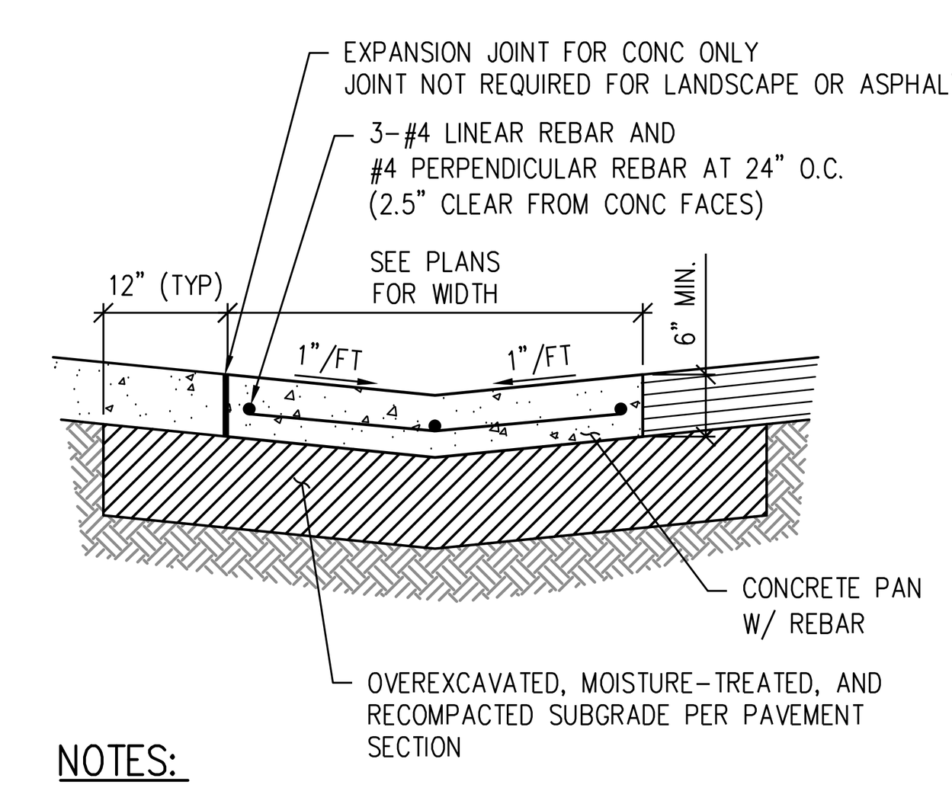


NOTES:
1. ALL CONCRETE SHALL HAVE FIBERMESH REINFORCEMENT PER SPECIFICATIONS.

MOUNTABLE CURB & GUTTER DETAIL (7 / C3.3)
NTS



PRIVATE CURB AND GUTTER DETAIL (8 / C3.3)
NTS



NOTES:
1. THIS PAN IS INTENDED FOR USE AT DRIVE AREAS.
2. SEE PLANS FOR INVERT ELEVATIONS AND HORIZONTAL CONTROLS.
3. SEE THIS SHEET FOR CONTRACTION AND EXPANSION JOINT DETAILS.
4. PROVIDE JOINT LAYOUT PLAN TO OWNER FOR APPROVAL PRIOR TO CONSTRUCTION. JOINTS TO MATCH ADJOINING SIDEWALK.
5. ALL CONCRETE SHALL HAVE FIBERMESH REINFORCEMENT PER SPECIFICATIONS

REINFORCED CONCRETE PAN DETAIL (9 / C3.3)
NTS

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KEY PLAN

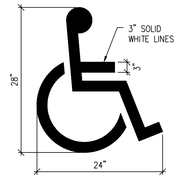
SHEET INFORMATION

PROJECT MANAGER JC

PROJECT NUMBER 822808-01

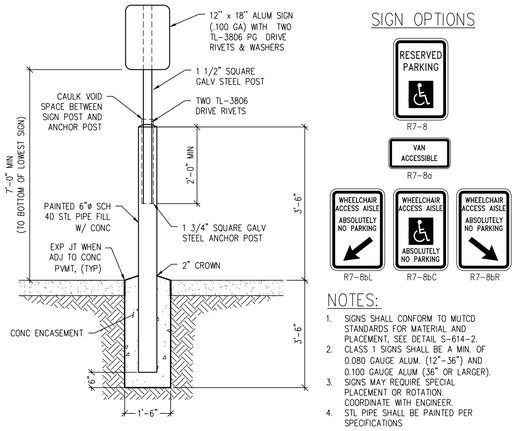
HORIZONTAL CONTROL DETAILS

CD3.0



ACCESSIBLE SYMBOL DETAIL
NTS

10
C3.3

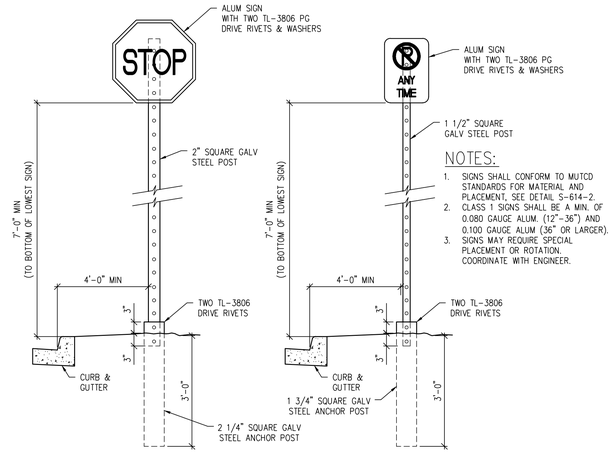


NOTES:

1. SIGNS SHALL CONFORM TO MUTCD STANDARDS FOR MATERIAL AND PLACEMENT, SEE DETAIL S-614-2.
2. CLASS 1 SIGNS SHALL BE A MIN. OF 0.080 GAUGE ALUM. (12"-36") AND 0.100 GAUGE ALUM (36" OR LARGER).
3. SIGNS MAY REQUIRE SPECIAL PLACEMENT OR ROTATION. COORDINATE WITH ENGINEER.
4. STL PIPE SHALL BE PAINTED PER SPECIFICATIONS

SIGN W/ BOLLARD DETAIL
NTS

11
C3.3



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LARGE/MULTIPLE SIGN SQUARE POST

FOR USE W/ LARGER SIGNS (R5-1, R1-1, WIDTH>12", MULTIPLE SIGNS ON SAME POST & FOR ALL SIGNS IN WALKS, CONCRETE AREAS, ETC.)

REGULAR/SMALL SIGN SQUARE POST

FOR USE W/ SINGLE SMALL SIGN (MAX SIZE 12"W X 18"H)

SIGN DETAIL
NTS

12
C3.3

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KEY PLAN

SHEET INFORMATION

COLORADO LICENSED
JOSEPH C. CRAIG
7/31/2023
45353
PROFESSIONAL ENGINEER

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

HORIZONTAL
CONTROL DETAILS

CD3.1

1 2 3 4 5 6 7

A B C D E

SITE NOTES

1. The Contractor shall be solely responsible for safety in, on or about the project site. Any damage to adjacent property or utilities, not designated for removal, relocation or replacement, shall be repaired and/or replaced by the Contractor at the Contractor's expense.
2. The Contractor shall be responsible for obtaining any permits or licenses required for the performance of the work as applicable to the project.
3. Contractor shall be responsible for notifying the Owner if any significant inconsistencies between the existing conditions and these plans are discovered.
4. The Contractor shall be responsible for all construction surveying. Layout and staking of all improvements shall be approved by the Owner to installation of improvements. Discrepancies to the base information shall be brought to the Owner's attention for a decision prior to commencing with the work. Notification of request for field review shall be made a minimum of 24 hours in advance.
5. Contractor shall be responsible for their own construction quantity estimates.
6. The Owner makes no warranty as to the correctness and/or completeness of the existing utility locations shown or not shown on the plans. The Contractor shall be responsible for field verifying the horizontal and vertical location of all existing utilities including water, sewer, storm drains, gas transmission lines, and other utilities above and below the surface that may affect the project. Should discrepancy or conflict be discovered the Contractor shall notify the Owner immediately, and shall not continue construction until said conflict can be resolved in writing.
7. The Contractor shall notify all utility companies at least 48 hours prior to beginning construction to verify depth and location of all utilities.
8. Any construction debris or mud-tracking in the public right-of-way resulting from the work shall be removed immediately by the Contractor.
9. The Contractor shall provide all lights, signs, barricades, flagmen and other devices necessary to provide for the public safety on and about the site. The Contractor shall furnish appropriate traffic control and safety measures in accordance with the requirements of applicable highways and transportation authority.
10. Contractor shall take appropriate measures to protect both on site and adjacent property, trees and vegetation. Areas outside the limits of work as shown on the plans and/or cross sections shall remain undisturbed. Any items not intended for demolition must be protected. Any damage will be repaired at Contractor's expense.
11. Additional layout information may be provided to the Contractor prior to construction, upon request. Owner will provide digital files of the site plan in AutoCAD format.
12. Written dimensions will take precedence over scaled dimensions. Contractor to notify Owner with any discrepancies.
13. Curved walks and curb edges are intended to be constructed with smooth flowing curves using flexible form materials. Anything other than smooth flowing curves will be rejected. All forms to be inspected & approved by Owner. Contractor to give Owner 48 hours notification of form inspection.
14. Field locate all site furnishings with Owner prior to installation.
15. All site improvements (play equipment, picnic tables, benches, trash receptacles, etc.) must be field surveyed and staked by Contractor. Landscape Architect and Owner's Representative shall approve staked location of improvements prior to installation.
16. Landscape architect and Owner's Representative shall approve final staking by Contractor of all concrete flatwork and concrete walls prior to construction and all form work prior to pouring curbwalls.
17. See specification section 129300 for model number and manufacturer of all site furniture and 116813 for playground and athletic equipment.
18. Assure all play equipment is at least 6' away from curbwalls and concrete access ramp. Follow all fall zone regulations when placing equipment.

PLANTING NOTES

1. All new landscape areas are to be watered with an automatic water-conserving irrigation system.
2. New turf shall be bluegrass sod per specifications. Final sod shall be at grade. Prior to sodding, grade shall be 1-1/2" lower than adjacent paving grade or edger except in the center of a swale where drainage would be impeded.
3. All irrigated turf areas shall not exceed 4:1 slopes. Shrub bed areas shall not exceed 3:1 slopes, and shall be 4:1 maximum where possible.
4. Install 4" depth mulch per specifications. Place around all new and existing trees in sod areas in the form of a circle per specs. Samples of mulches to be approved by Landscape Architect prior to installation.
5. All planting beds are to be mulched with 6"-12" keyed cobble or 4" depth crusher fines mulch as noted on plans.
6. Any plant substitutions are to be approved by Landscape Architect prior to installation.
7. Soil preparation for sod, seed areas and planting beds shall consist of composted amendment per specifications.
8. If there is a discrepancy between plant quantities on plant labels and plan symbols, plan takes precedence. Contractor shall be responsible for their own construction quantity estimates.
9. All existing trees are to remain and to be protected unless otherwise noted.
10. All finished grades shall be approved by Landscape Architect prior to installation of sod or any other plant material.
11. Contractor shall coordinate irrigation and planting work such that installed irrigation equipment shall not cause adjustment of planting locations contrary to the plans. If irrigation equipment is installed in locations obstructing the intended locations of plantings, the irrigation equipment shall be relocated.
12. No trees shall be planted above irrigation lines or underground utilities.
13. All trees shall be located a minimum of 10' off the flowline of the curb on all public streets, and a minimum of 10' off any utility.
14. All existing landscape, irrigation equipment, concrete or fencing, on or off site disturbed by construction operations shall be repaired and restored by the Contractor to district standards or original condition.
15. All plant material shall be staked or placed by the Contractor and observed by the Landscape Architect prior to planting operations. All plant material shall be observed and approved by the Landscape Architect prior to installation. Final location of all plant material shall be subject to the approval of the Landscape Architect.
16. Contractor shall hand dig all planting pits adjacent to utilities. If utilities are damaged repairs shall be made at the Contractor's expense.
17. If conditions do not allow strict conformance to the notes, details and specifications, the Contractor shall request approval from the Landscape Architect before performing work in an alternative manner.
18. Provide 8"x8" concrete mowband between asphalt and all surfaces except concrete walk and concrete curb. Provide 8" x 8" concrete mowband between all planting beds and seed or sod.

LANDSCAPE NOTES:

1. All plants are to be nursery grown stock from growers located in USDA hardiness zones 1, 2, 3 or 4. All plant material shall be in accordance with American Association of Nurserymen specification for number one grade.
2. Install mulch in all planting beds as indicated on plans and details. Sample of mulch to be approved to landscape architect prior to installation. For all single trees and shrubs not in a planting bed, provide shredded western red cedar mulch ring, 30" diameter, 4" depth.
3. Separate turf from shrub beds with a concrete edger. Concrete edger shall be set level with the top of sod.
4. Contractor to install geotextile fabric for weed protection beneath all shrub beds.
5. Soil preparation shall consist of composted amendment applied at a rate of four (4) cubic yards per 1000 SF and tilled at a depth of 6"-9".
6. All trees to balled and burlapped, root control bag, or containerized.
7. The landscape Contractor shall be responsible for ensuring positive drainage exists in all landscape areas. Surface drainage on landscape areas shall not flow toward structures and foundations. Maintain slope away from foundations per the geotechnical report recommendations. All landscape areas between walks and curbs shall drain freely to the curb unless otherwise identified on the grading plan. In no case shall the grade, turf thatch, or other landscape materials dam water against walks. Minimum slopes on landscape areas shall be 2%; maximum slope shall be 25% unless specifically identified on the plans or approved by the owner's representative.
8. Trees shall not be located in drainage swales, drainage areas, or utility easements. Trees shall be located a minimum of 10' from utilities. Contact owner's representative for relocation of plants in questionable areas prior to installation.
9. Existing turf areas that are disturbed during construction, establishment, and the maintenance period shall be restored with new sod to match existing turf species. Disturbed native areas which are to remain shall be over seeded and restored with specified seed mix.
10. To the maximum extent feasible, topsoil that is removed during construction activity shall be conserved for later use on areas requiring revegetation and landscaping. Refer to fine grading specifications for topsoil requirements.
11. Minimum clearance of three (3') feet on each side of the fire department connection (FDC). No vegetation other than turf or ground covers planted in front of FDC.

PLANT SCHEDULE

QUANTITY	CODE	DECIDUOUS TREES	COMMON NAME	CONT
4	PO TR	*Populus tremuloides*	Quaking Aspen	2" B&B
2	PO AN	*Populus angustifolia*	Narrowleaf Cottonwood	2" B&B
		DECIDUOUS SHRUBS	**COMMON NAME**	**CONT**
5	CO SE	*Cornus sericea 'Farrow'*	Arctic Fire Dogwood	#5 Cont.
9	ER NA	*Ericameria nauseosa var. nauseosa*	Dwarf Blue Rabbitbrush	#5 Cont.
7	PR PU	*Prunus pumila besseyi 'P0115'*	Pawnee Buttes Sandcherry	#5 Cont.
20	RH TR	*Rhus trilobata 'Autumn Amber'*	Autumn Amber Three-leaf Sumac	#5 Cont.
		EVERGREEN SHRUBS	**COMMON NAME**	**CONT**
8	JU SA	*Juniperus sabina 'Scandia'*	Scandia Juniper	#5 Cont.
		GRASSES	**COMMON NAME**	**CONT**
82	FE ID	*Festuca idahoensis 'Siskiyou Blue'*	Blue Fescue	#1 cont.
13	KO MA	*Koeleria macrantha*	Prairie Junegrass	#1 cont.
15	MI SI	*Miscanthus sinensis 'Gracillimus'*	Maiden Grass	#1 cont.
		PERENNIALS	**COMMON NAME**	**CONT**
25	HE PO	*Hemerocallis 'Purple de Oro'*	Dwarf Purple Daylily	#1 cont.
36	TH PR	*Thymus praecox 'Pseudolanuginosus'*	Wholly Thyme	#1 cont.

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DESIGN CONCEPTS
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Lafayette CO 80026

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
02/16/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT - REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

CAROL HENRY 299 01/01/2008 Original Date of Licensure STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT
07/31/23

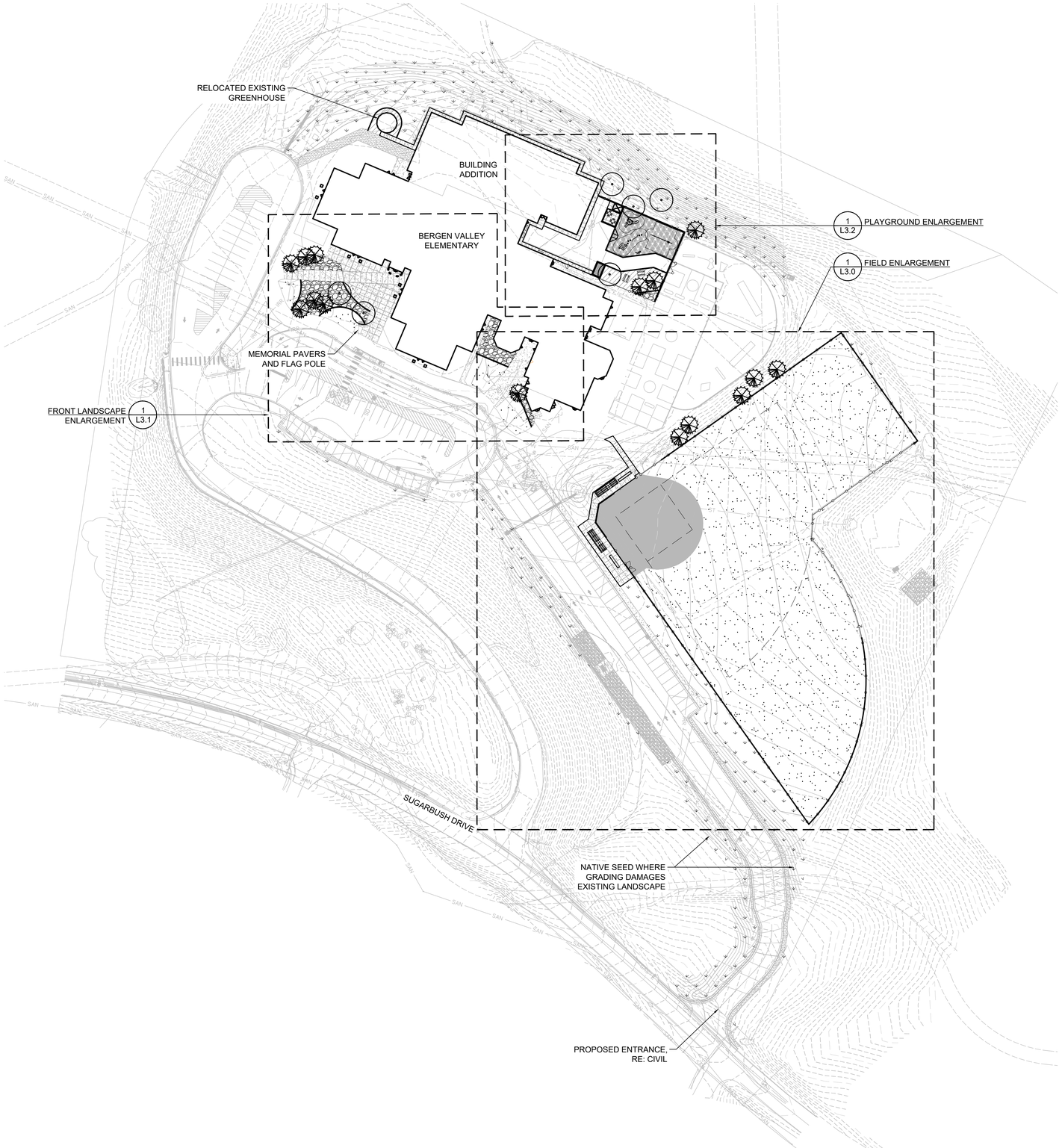
SHEET INFORMATION

PROJECT MANAGER WW
PROJECT NUMBER 822808-01

LANDSCAPE NOTES AND SCHEDULE

L1.0

1 2 3 4 5 6 7



LEGEND

- SOD
- SOD TO REMAIN
- NATIVE SEED
- KEYED COBBLE
- ENGINEERED WOOD FIBER
- STABILIZED CRUSHER FINES
- SOFTBALL INFIELD
- TABLES
- BENCH
- CHAIN LINK FENCE CENTERLINE
- PROPOSED DECIDUOUS TREE
- EXISTING TREE TO REMAIN

NORTH 0 50' 100'

SCALE: 1" = 50'-0"

1 OVERALL SITE PLAN

Scale: 1" = 50'-0"

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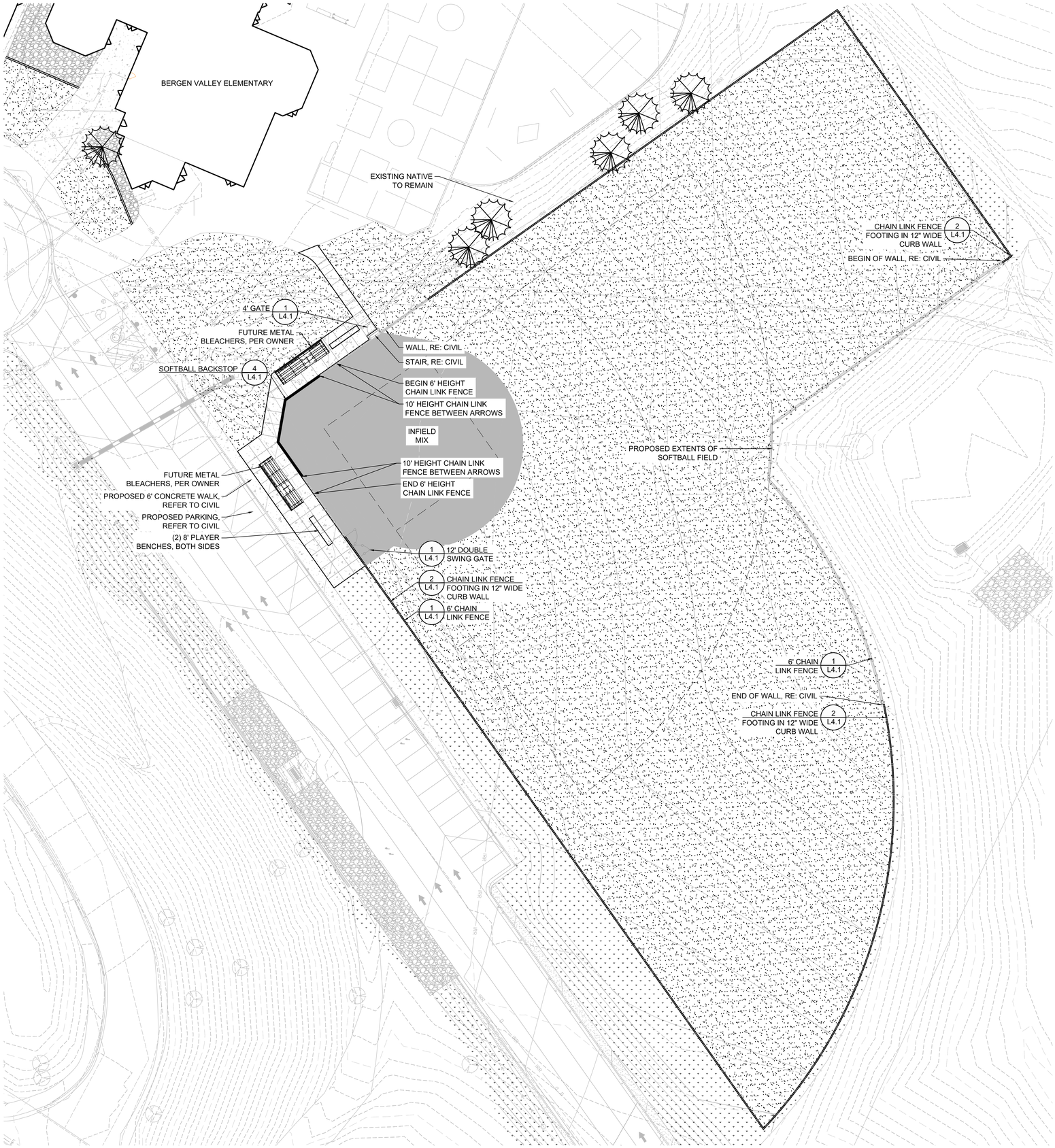
OVERALL SITE PLAN

L2.0



LEGEND

- SOD
- INFIELD MIX
- NATIVE SEED
- KEYED COBBLE
- CHAIN LINK FENCE CENTERLINE
- SOFTBALL BACKSTOP

NORTH 0 20' 40'

SCALE: 1" = 20'-0"

1 FIELD ENLARGEMENT

Scale: 1" = 20'-0"

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PROJECT NUMBER	822808-01

FIELD ENLARGEMENT

L3.0

1 FRONT LANDSCAPE ENLARGEMENT
Scale: 1" = 10'-0"

SCALE: 1" = 10'-0"

LEGEND

- SOD
- NATIVE SEED
- KEYED COBBLE
- ENGINEERED WOOD FIBER
- STABILIZED CRUSHER FINES
- SAND
- CONCRETE, RE: CIVIL
- EXISTING LANDSCAPE TO REMAIN
- 15' x 15' SHELTER
- TABLES
- BENCH
- CHAIN LINK FENCE CENTERLINE
- PERFORATED DRAINAGE PIPE
- PROPOSED DECIDUOUS TREE
- EXISTING TREE TO REMAIN
- SHRUBS
- PERENNIALS AND GRASSES

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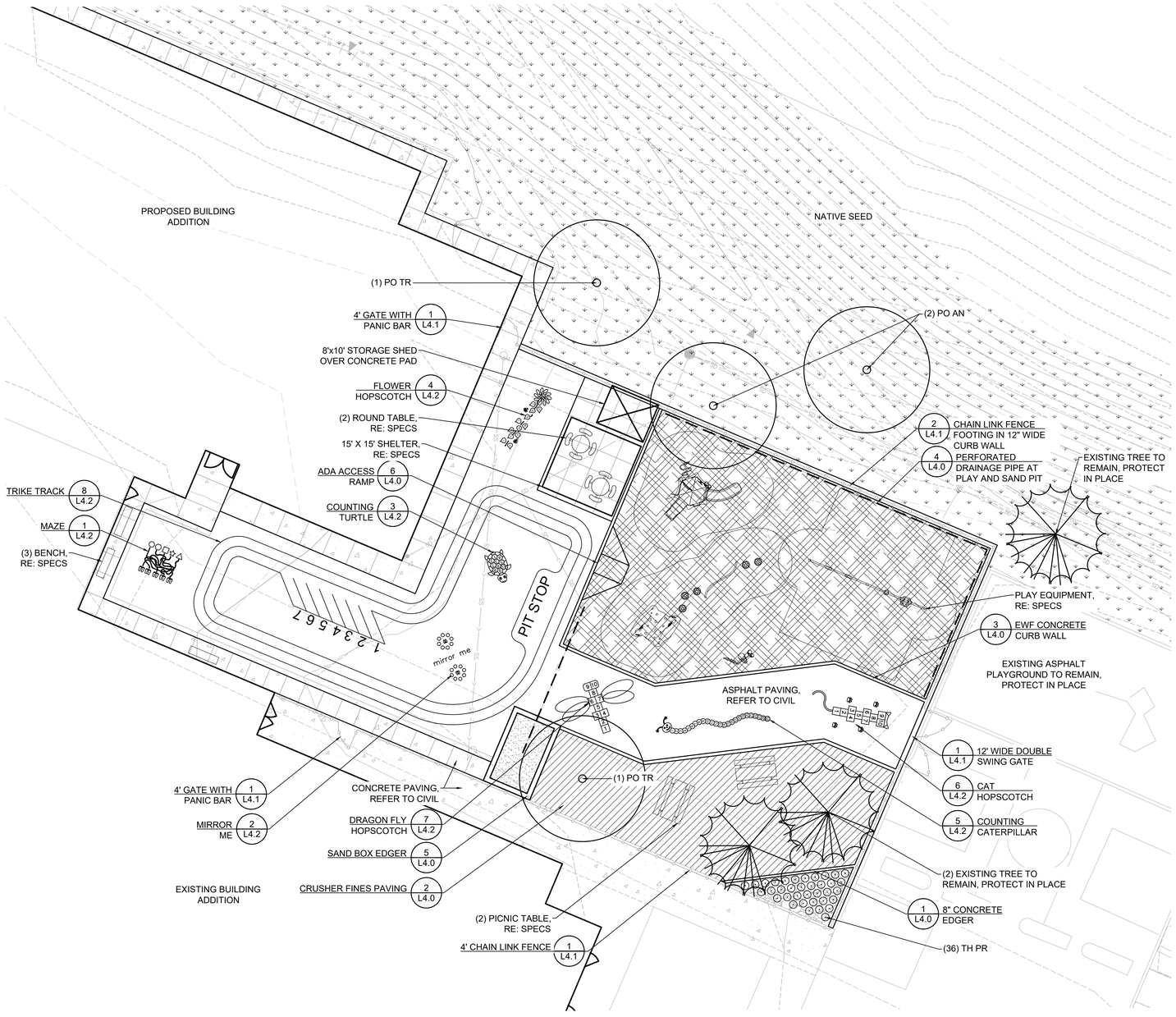
PROJECT MANAGER WW
PROJECT NUMBER 822808-01

FRONT LANDSCAPE ENLARGEMENT

L3.1



1 PLAYGROUND ENLARGEMENT

Scale: 1" = 10'-0"

LEGEND

- SOD
- NATIVE SEED
- KEYED COBBLE
- ENGINEERED WOOD FIBER
- STABILIZED CRUSHER FINES
- SAND
- CONCRETE, RE: CIVIL
- EXISTING LANDSCAPE TO REMAIN
- 15' x 15' SHELTER
- TABLES
- BENCH
- CHAIN LINK FENCE CENTERLINE
- PERFORATED DRAINAGE PIPE
- PROPOSED DECIDUOUS TREE
- EXISTING TREE TO REMAIN
- SHRUBS
- PERENNIALS AND GRASSES

NORTH 0 10' 20'

SCALE: 1" = 10'-0"

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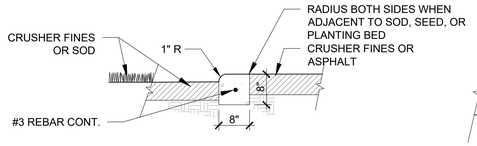
SHEET INFORMATION

PROJECT MANAGER WW

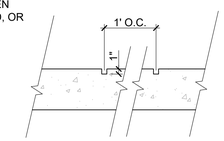
PROJECT NUMBER 822808-01

PLAYGROUND ENLARGEMENT

L3.2



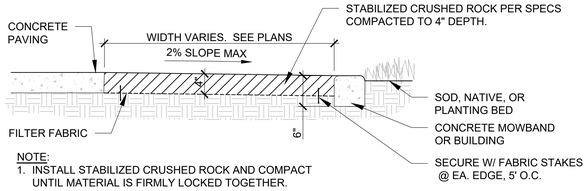
NOTE:
1. PROVIDE CONTROL JOINTS AT 20' O.C., AND WHERE MOW BAND ABUTS PAVING OR STRUCTURES.
2. TOP OF CURBWALL TO BE THE FOLLOWING DIMENSION ABOVE TOP OF ADJACENT MATERIAL:
 - 1.5" ABOVE SOD
 - 1" ABOVE SEED



DRAINAGE CUT OUTS
NOT TO SCALE

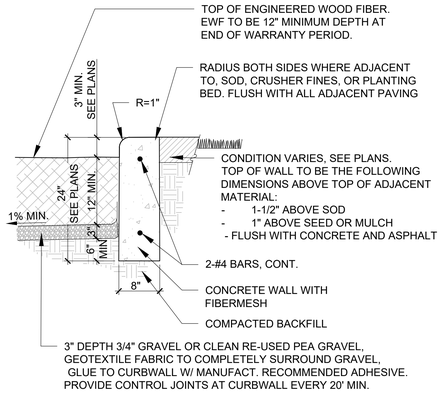
NOTE:
1. DRAINAGE CUTS SHALL ONLY BE INSTALLED WHERE IDENTIFIED ON PLANS OR APPROVED BY LANDSCAPE ARCHITECT.

1 8" CONCRETE EDGER
Scale: 1" = 1'-0'

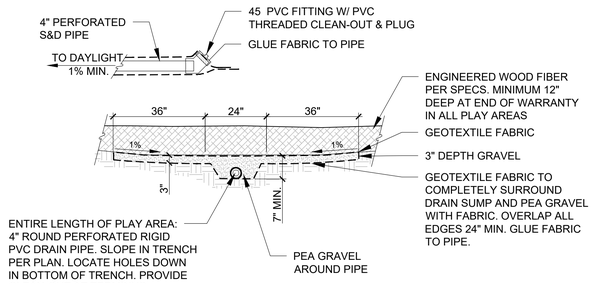


NOTE:
1. INSTALL STABILIZED CRUSHED ROCK AND COMPACT UNTIL MATERIAL IS FIRMLY LOCKED TOGETHER. MATERIALS SHALL BE A MIN. OF 4" DEPTH AFTER COMPACTION. CROSS SLOPE SHALL BE 2% MAX WITH NO DEPRESSIONS TO COLLECT WATER. STABILIZED CRUSHED ROCK BY STABILIZER SOLUTIONS PER SPECIFICATIONS.

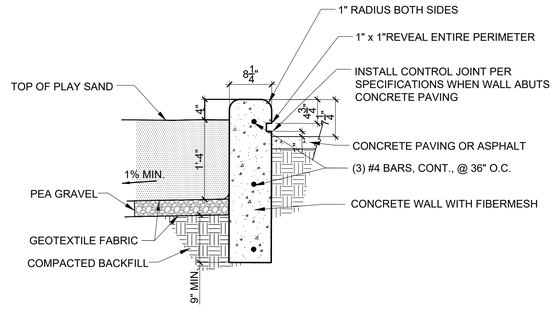
2 CRUSHER FINES PAVING
Scale: 1" = 1'-0"



3 EWF CONCRETE CURBWALL
Scale: 1" = 1'-0"

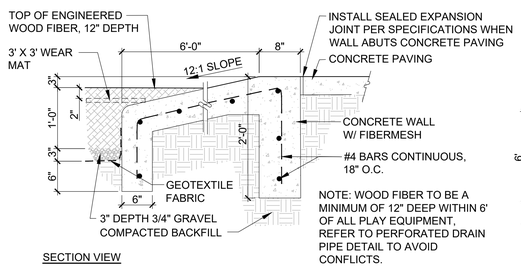


4 PERFORATED DRAINAGE PIPE AT PLAY PIT
Scale: 1" = 1'-0"

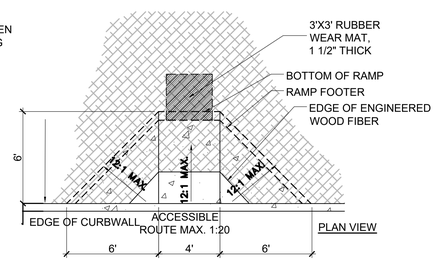


NOTES:
1. INCLUDE SOLID VINYL FITTED COVER PER SPECIFICATIONS TO THE EXACT DIMENSIONS PER DRAWINGS.
2. PROVIDE SAW CUT CONTROL JOINTS IN WALL MIN. 10' O.C.
3. CONNECT SANDBOX DRAIN PIPE TO STORM LINE.

5 SANDBOX EDGER
Scale: 1" = 1'-0"

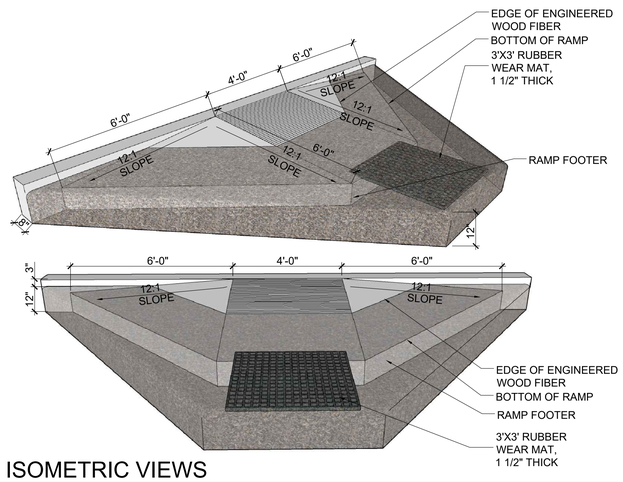


SECTION VIEW



PLAN VIEW

6 ADA ACCESS RAMP
Scale: 1" = 1'-0"



ISOMETRIC VIEWS

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KEY PLAN

CAROL HENRY
299
01/01/2008
Original Date of Licensure
STATE OF COLORADO
LICENSED LANDSCAPE ARCHITECT
07/31/23

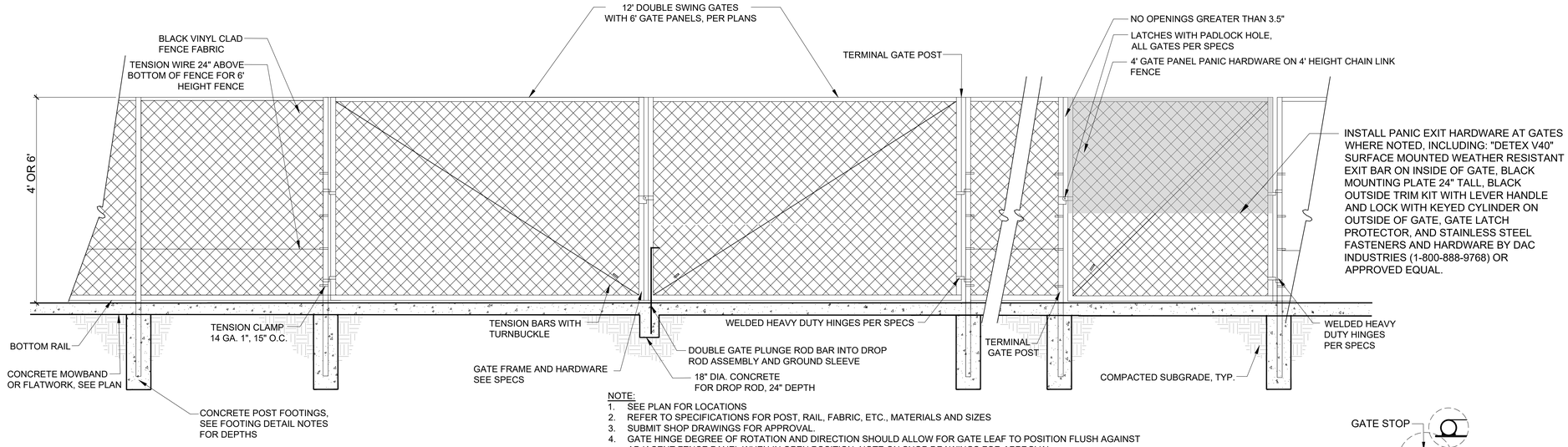
SHEET INFORMATION

PROJECT MANAGER	WW
PROJECT NUMBER	822808-01

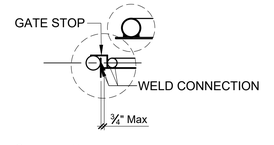
SITE DETAILS

L4.0

1 2 3 4 5 6 7



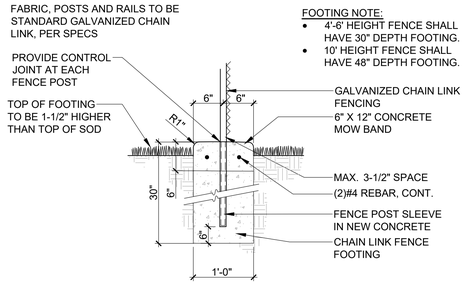
NOTE:
1. SEE PLAN FOR LOCATIONS
2. REFER TO SPECIFICATIONS FOR POST, RAIL, FABRIC, ETC., MATERIALS AND SIZES
3. SUBMIT SHOP DRAWINGS FOR APPROVAL.
4. GATE HINGE DEGREE OF ROTATION AND DIRECTION SHOULD ALLOW FOR GATE LEAF TO POSITION FLUSH AGAINST ADJACENT FENCE PANEL WHEN IN OPEN POSITION. NOTE ON SHOP DRAWINGS FOR APPROVAL.
5. PROVIDE SHOP DRAWINGS.
6. 2" CLEARANCE FROM BOTTOM OF FENCE TO FINISH GRADE.
7. DIMENSIONS SHOWN FOR GATES ARE WIDTH OF CLEAR OPENINGS, TYP OF ALL.
8. INSTALL SPECIFIED TRUSS RODS AT ALL TERMINATIONS AND CHANGES IN DIRECTIONS.
9. CHAIN LINK FABRIC TO BE PLACED ON PLAYGROUND OR PLAY FIELD SIDE.
10. ALL FENCING SHALL BE SECURED WITH HARDWARE, ALL NUTS SHALL BE ON OUTSIDE (NON-PLAYGROUND SIDE) OF FENCE.
11. COORDINATE FENCE INSTALLATION SO FENCE SECTIONS ARE EQUAL WITHIN THE RUN OF THE FENCELINE.
12. FINAL TOP OF GRADE TO BE 1-1/2" LOWER THAN TOP OF CONCRETE FOOTINGS OR WALKS.
13. FENCE FABRIC TO BE 1" DIAMONDS AT ECE PLAYGROUND.
14. GATES WITH PANIC HARDWARE SHALL HAVE SELF-CLOSING MECHANISMS.



Overhead View

1 6' HT. CHAIN LINK FENCE AND GATES

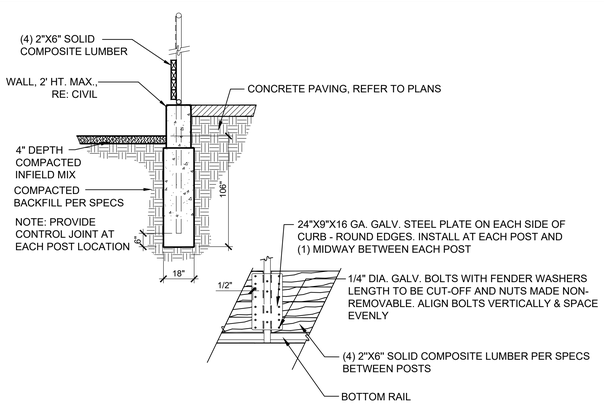
Scale: NOT TO SCALE



FOOTING NOTE:
- 4'-6' HEIGHT FENCE SHALL HAVE 30" DEPTH FOOTING.
- 10' HEIGHT FENCE SHALL HAVE 48" DEPTH FOOTING.

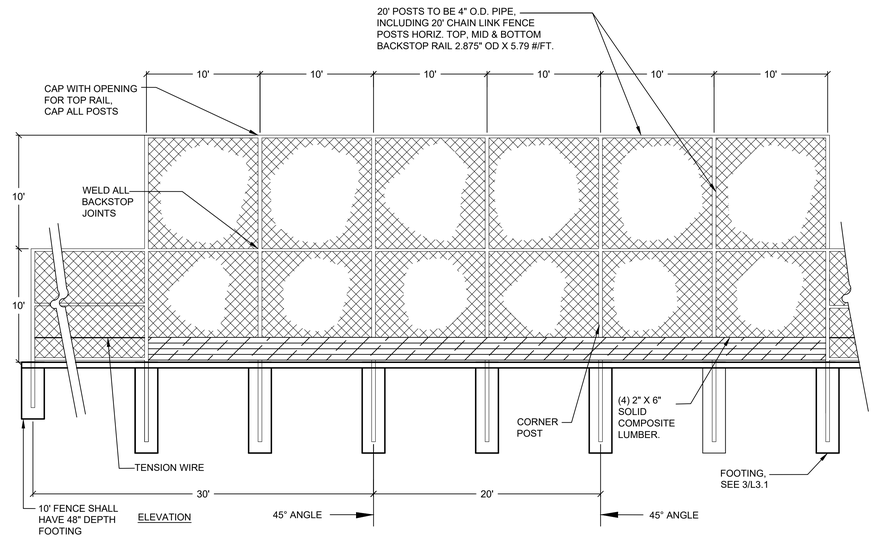
2 CHAIN LINK FENCE FOOTING IN MOW BAND

Scale: NOT TO SCALE



3 SOFTBALL BACKSTOP FOOTING

NOT TO SCALE



4 SOFTBALL BACKSTOP

NOT TO SCALE

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SHEET INFORMATION

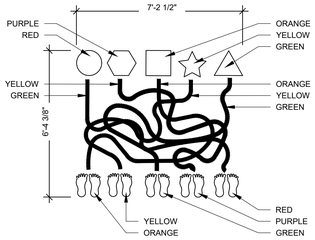
PROJECT MANAGER	WW
PROJECT NUMBER	822808-01

SITE DETAILS

L4.1

STRIPING NOTES:

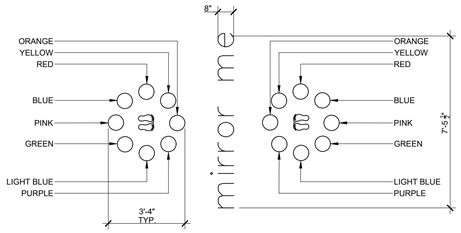
ASPHALT PLAYGROUND STRIPING
- PAINT TO BE SHERWIN-WILLIAMS DYNAFLEX COLOR COAT ACRYLIC COLOR COATING OR APPROVED EQUAL.



1 MAZE
NOT TO SCALE

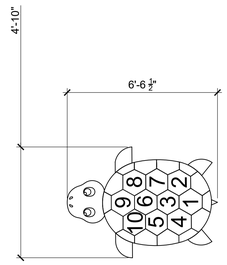
STRIPING NOTES:

ASPHALT PLAYGROUND STRIPING
- PAINT TO BE SHERWIN-WILLIAMS DYNAFLEX COLOR COAT ACRYLIC COLOR COATING OR APPROVED EQUAL.



NOTE:
1. LEFT FOOT TO BE PAINTED RED. RIGHT FOOT TO BE PAINTED GREEN. "MIRROR ME" TEXT TO BE ARIAL FONT AND PAINTED WHITE.

2 MIRROR ME
NOT TO SCALE



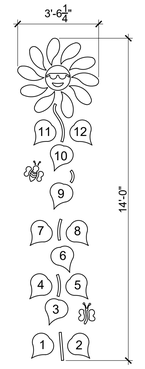
STRIPING NOTES:

ASPHALT PLAYGROUND STRIPING
- PAINT TO BE SHERWIN-WILLIAMS DYNAFLEX COLOR COAT ACRYLIC COLOR COATING OR APPROVED EQUAL.

LINES SHALL BE 2" WIDE, COLOR WHITE.

FONT SHALL BE ARIAL, 8" HEIGHT, COLOR WHITE.

3 COUNTING TURTLE
NOT TO SCALE



STRIPING NOTES:

ASPHALT PLAYGROUND STRIPING
- PAINT TO BE SHERWIN-WILLIAMS DYNAFLEX COLOR COAT ACRYLIC COLOR COATING OR APPROVED EQUAL.

LINES SHALL BE 2" WIDE, COLOR WHITE.

FONT SHALL BE ARIAL, 5" HEIGHT, COLOR WHITE.

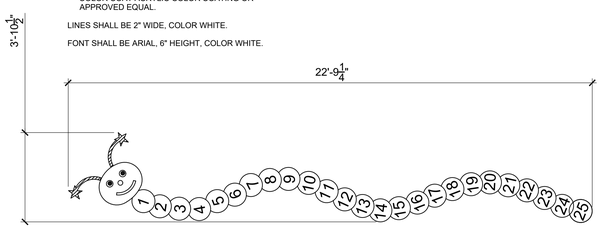
5 FLOWER HOPSCOTCH
NOT TO SCALE

STRIPING NOTES:

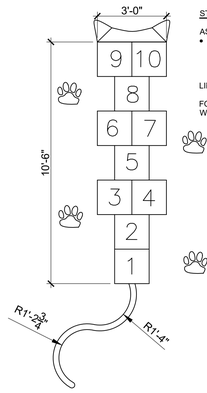
ASPHALT PLAYGROUND STRIPING
- PAINT TO BE SHERWIN-WILLIAMS DYNAFLEX COLOR COAT ACRYLIC COLOR COATING OR APPROVED EQUAL.

LINES SHALL BE 2" WIDE, COLOR WHITE.

FONT SHALL BE ARIAL, 6" HEIGHT, COLOR WHITE.



4 COUNTING CATERPILLAR
NOT TO SCALE



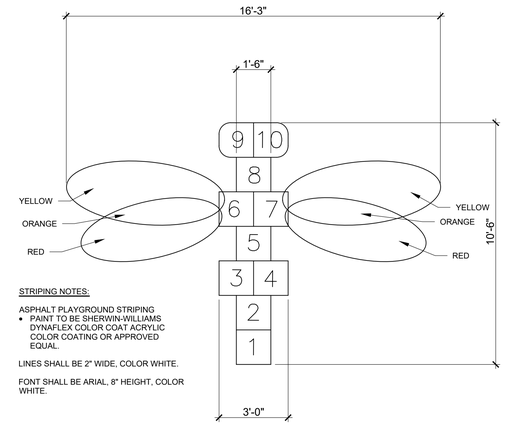
STRIPING NOTES:

ASPHALT PLAYGROUND STRIPING
- PAINT TO BE SHERWIN-WILLIAMS DYNAFLEX COLOR COAT ACRYLIC COLOR COATING OR APPROVED EQUAL.

LINES SHALL BE 2" WIDE, COLOR WHITE.

FONT SHALL BE ARIAL, 8" HEIGHT, COLOR WHITE.

6 CAT HOPSCOTCH
NOT TO SCALE



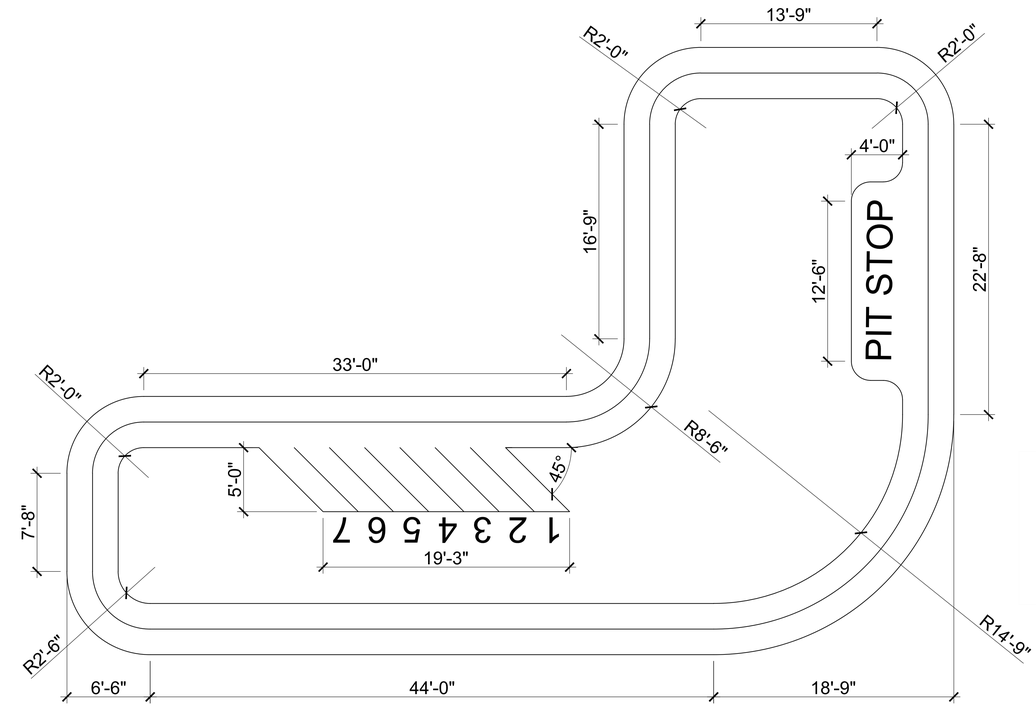
STRIPING NOTES:

ASPHALT PLAYGROUND STRIPING
- PAINT TO BE SHERWIN-WILLIAMS DYNAFLEX COLOR COAT ACRYLIC COLOR COATING OR APPROVED EQUAL.

LINES SHALL BE 2" WIDE, COLOR WHITE.

FONT SHALL BE ARIAL, 8" HEIGHT, COLOR WHITE.

7 DRAGON FLY HOPSCOTCH
NOT TO SCALE



STRIPING NOTES:

ASPHALT PLAYGROUND STRIPING
- PAINT TO BE SHERWIN-WILLIAMS DYNAFLEX COLOR COAT ACRYLIC COLOR COATING OR APPROVED EQUAL.

STRIPES SHALL BE 2" WIDE, COLOR YELLOW.

FONT SHALL BE ARIAL, 24" HEIGHT, COLOR WHITE.

8 TRIKE TRACK
NOT TO SCALE

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DESIGN CONCEPTS
Community + Landscape Architects
211 North Public Road, Suite 200
Lafayette CO 80026

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
02/16/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT - REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

CAROL HENRY 299 01/01/2008 Original Date of Licensure STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT
07/31/23

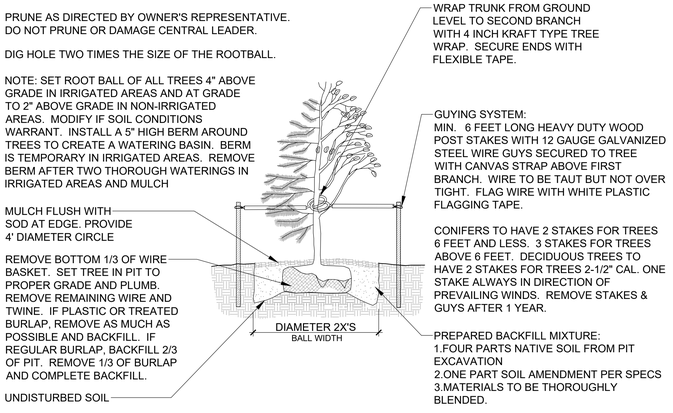
SHEET INFORMATION

PROJECT MANAGER	WW
PROJECT NUMBER	822808-01

SITE DETAILS

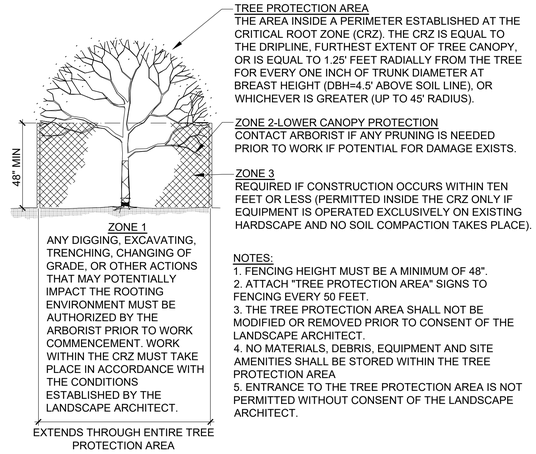
L4.2

1 2 3 4 5 6 7



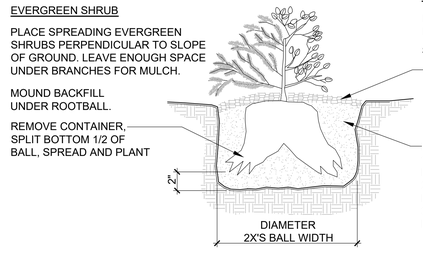
1 TREE PLANTING

Scale: NOT TO SCALE



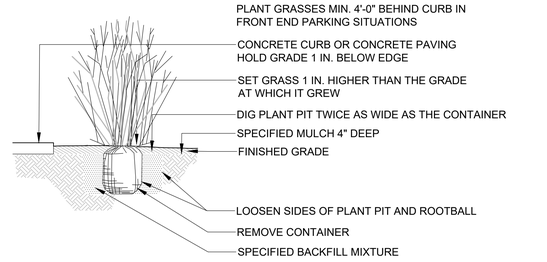
2 TREE PROTECTION

Scale: NOT TO SCALE



3 SHRUB PLANTING

Scale: NOT TO SCALE



4 GRASS PLANTING

Scale: NOT TO SCALE

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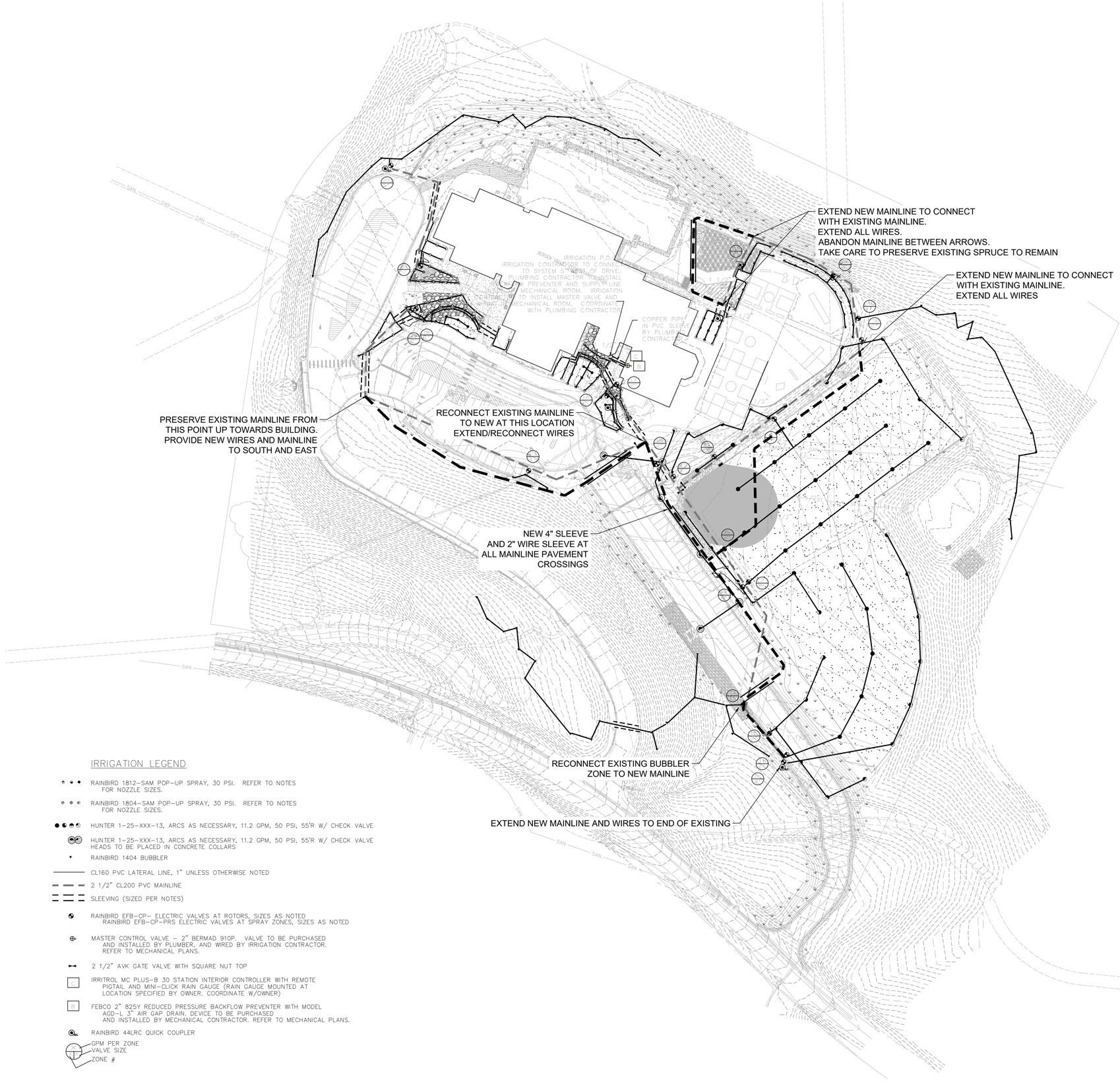
PROJECT NUMBER	822808-01

SITE DETAILS

L4.3



LEGEND

- SOD
- SOD TO REMAIN
- NATIVE SEED
- KEYED COBBLE
- ENGINEERED WOOD FIBER
- CRUSHER FINES
- SOFTBALL INFIELD
- TABLES
- BENCH
- CHAIN LINK FENCE CENTERLINE
- PROPOSED DECIDUOUS TREE
- EXISTING TREE TO REMAIN

IRRIGATION NOTES

1. All pipe under pavement to be sleeved in 4" minimum PVC class 160 (class 200 over 4"), extend 12" beyond each edge of pavement, sloped to drain. Install prior to paving. Sleeve wires separately in 2" min. pipe, except as noted under service drive (4").
2. Provide 1 extra ground wire (white) and 4 extra positive wires (black) to last valve or around loop for possible repair and/or additional irrigation. Provide additional wires in valve boxes as shown on plan. All valve wire with runs under 1000' is to be 14 gauge. Runs over 1000' to be 12 gauge. Provide 3' valve wire loop every 100'. Color code all valve wires different colors, if possible. All valve wires to be single strand.
3. Heads are diagrammatic. Contractor to select and install correct arcs as needed for part circle heads. Adjust radii and arcs as necessary for no overspray/backwash onto adjacent buildings, walls, or fences.
4. Irrigation system is designed for a static pressure of 80 p.s.i. after pressure regulator. Verify pressure prior to installation and notify Landscape Architect of any differences. Design pressure at heads to be as noted in legend.
5. No irrigation work to begin until final grade has been accepted.
6. Locate all spray heads 6" minimum from any building, wall, walk, or curb.
7. Locate all rotary heads 12" minimum from any building or wall, walk, or curb.
8. Bury all mainlines 24" underground from invert of pipe. Bury all laterals 18" underground from invert of pipe. Bury all drip tubing 6" min. underground from invert of pipe.
9. Parallel piping shall be installed in a single trench where possible, do not stack pipes. Pipes in shared trenches to be 4" minimum apart.
10. Brand all appropriate box lids with 1" minimum letters with the following abbreviations:

    GV Gate Valve
    QC Quick Coupler
    SV# Section Valve & Corresponding Controller Station #

11. Spray nozzle sizes: if head spacing is at 8' or less, use #8 series nozzles; if spacing is 9'-12', use #12 series nozzles. For spray heads spaced 13' and above, use #15 series nozzles.
12. See Civil Drawings for all easement locations.

IRRIGATION LEGEND

- RAINBIRD 1812-SAM POP-UP SPRAY, 30 PSI. REFER TO NOTES FOR NOZZLE SIZES.
- RAINBIRD 1804-SAM POP-UP SPRAY, 30 PSI. REFER TO NOTES FOR NOZZLE SIZES.
- HUNTER I-25-XXX-13, ARCS AS NECESSARY, 11.2 GPM, 50 PSI, 55'R W/ CHECK VALVE
- HUNTER I-25-XXX-13, ARCS AS NECESSARY, 11.2 GPM, 50 PSI, 55'R W/ CHECK VALVE HEADS TO BE PLACED IN CONCRETE COLLARS
- RAINBIRD 1404 BUBBLER
- CL160 PVC LATERAL LINE, 1" UNLESS OTHERWISE NOTED
- 2 1/2" CL200 PVC MAINLINE
- SLEEVING (SIZED PER NOTES)
- RAINBIRD EFB-CP- ELECTRIC VALVES AT ROTORS, SIZES AS NOTED
  RAINBIRD EFB-CP-PRS ELECTRIC VALVES AT SPRAY ZONES, SIZES AS NOTED
- MASTER CONTROL VALVE - 2" BERMAD 910P. VALVE TO BE PURCHASED AND INSTALLED BY PLUMBER, AND WIRED BY IRRIGATION CONTRACTOR. REFER TO MECHANICAL PLANS.
- 2 1/2" AVK GATE VALVE WITH SQUARE NUT TOP
- IRRITROL MC PLUS-B 30 STATION INTERIOR CONTROLLER WITH REMOTE PIGTAIL AND MINI-CLICK RAIN GAUGE (RAIN GAUGE MOUNTED AT LOCATION SPECIFIED BY OWNER. COORDINATE W/OWNER)
- FEBCO 2" 825Y REDUCED PRESSURE BACKFLOW PREVENTER WITH MODEL AGD-L 3" AIR GAP DRAIN. DEVICE TO BE PURCHASED AND INSTALLED BY MECHANICAL CONTRACTOR. REFER TO MECHANICAL PLANS.
- RAINBIRD 44LRC QUICK COUPLER
- GPM PER ZONE
  VALVE SIZE
  ZONE #

NORTH 0 50' 100'
SCALE: 1" = 50'-0"

1 IRRIGATION PLAN
Scale: 1" = 50'-0"

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299
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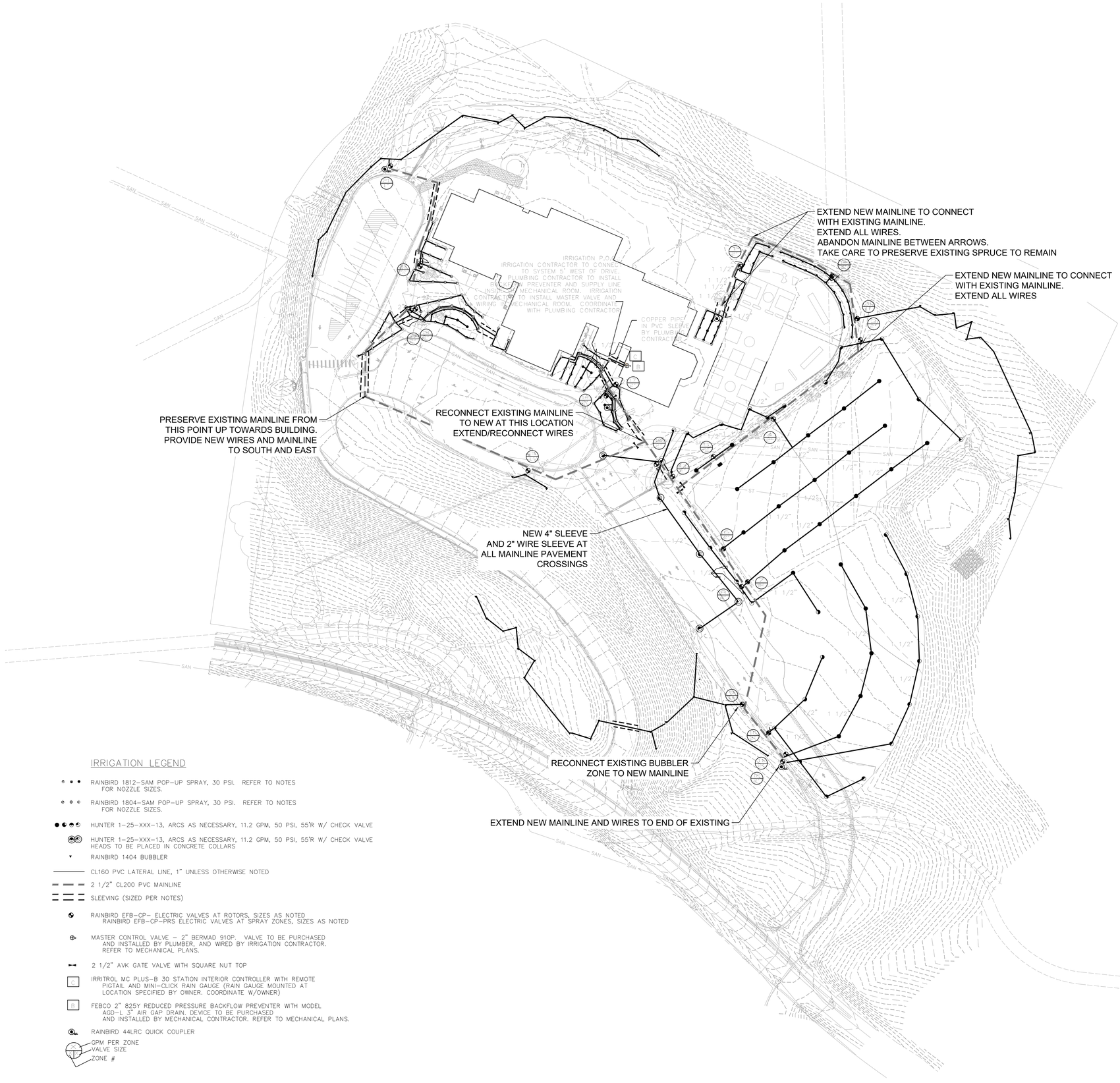
SHEET INFORMATION

PROJECT MANAGER WW
PROJECT NUMBER 822808-01

IRRIGTION PLAN

LI1.0



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- HUNTER 1–25–XXX–13, ARCS AS NECESSARY, 11.2 GPM, 50 PSI, 55'R W/ CHECK VALVE HEADS TO BE PLACED IN CONCRETE COLLARS
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- RAINBIRD 44LRC QUICK COUPLER
- GPM PER ZONE
  VALVE SIZE
  ZONE #

NORTH 0 50' 100'
SCALE: 1" = 50'-0"

1 EXISTING IRRIGATION PLAN
Scale: 1" = 50'-0"

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Denver, CO 80202
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Lafayette CO 80026

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

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DATE	DESCRIPTION
02/16/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT - REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

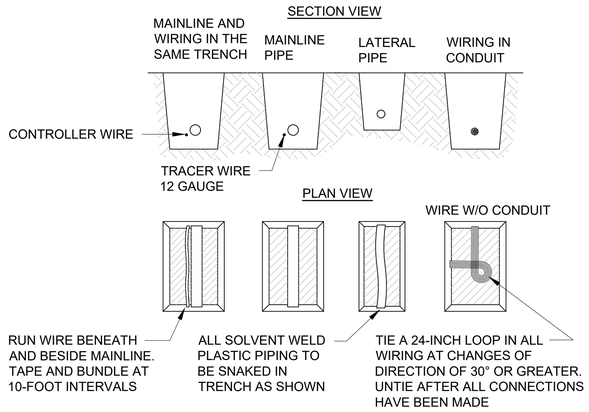
KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	WW
PROJECT NUMBER	822808-01

EXISTING IRRIGTION PLAN

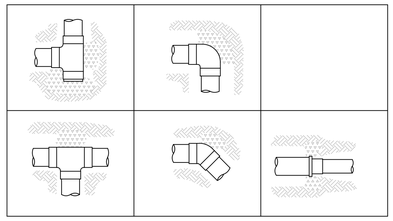
LI1.1



NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH CLASS 200 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
2. FOR PIPE AND WIRE BURIAL DEPTHS SEE SPECIFICATIONS.

1 PIPE AND WIRE TRENCHING

Scale: NTS



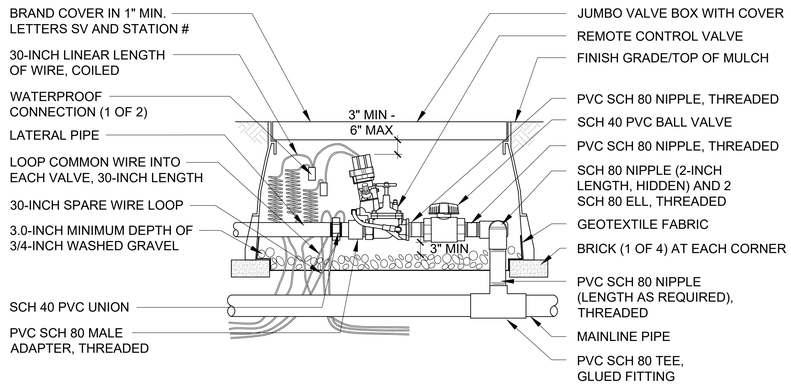
THRUST BLOCK BEARING AREA AGAINST UNDISTURBED SOIL (SF)

FITTING SIZE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	TEE OR DEAD END
3"	2.02	1.11	0.57	0.30	1.44

NOTES:
1. INSTALL AND TEST ALL MAINLINE ACCORDING TO MANUFACTURER'S INSTALLATION SPECIFICATIONS.
2. REFER TO SPECIFICATIONS FOR ALL TRENCH DEPTHS AND WIDTHS.
3. INSTALL THRUST BLOCK SO THE HORIZONTAL AND VERTICAL DIMENSIONS OF THE THRUST BLOCK ARE APPROXIMATELY EQUAL.
4. USE 3000 PSI CONCRETE
5. WRAP ALL FITTINGS IN 3 MIL CLEAR PLASTIC PRIOR TO POURING CONCRETE.
6. DO NOT COVER FITTINGS WITH CONCRETE. CONCRETE IS TO BE POURED TO THE SIDES OF THE FITTINGS, NOT ON TOP OF THE FITTINGS.

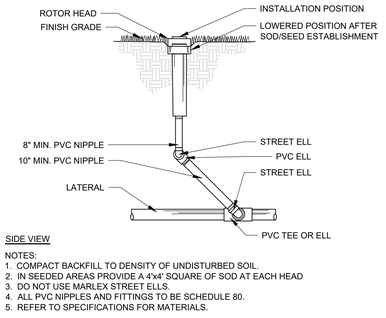
2 THRUST BLOCKING

Scale: NTS



3 SECTION VALVE

Scale: NTS

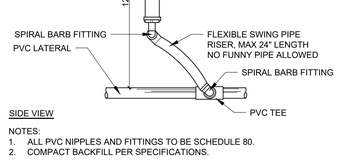


SIDE VIEW

NOTES:
1. COMPACT BACKFILL TO DENSITY OF UNDISTURBED SOIL.
2. IN SEEDED AREAS PROVIDE A 4'x4' SQUARE OF SOD AT EACH HEAD
3. DO NOT USE MARLEX STREET ELLS.
4. ALL PVC NIPPLES AND FITTINGS TO BE SCHEDULE 80.
5. REFER TO SPECIFICATIONS FOR MATERIALS.

4 ROTOR

Scale: NTS

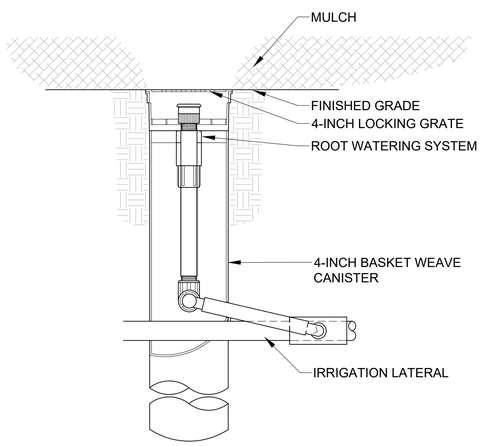


SIDE VIEW

NOTES:
1. ALL PVC NIPPLES AND FITTINGS TO BE SCHEDULE 80.
2. COMPACT BACKFILL PER SPECIFICATIONS.

5 SPRAY HEAD

Scale: NTS



6 ROOT WATERING SYSTEM

Scale: NTS

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CAROL HENRY 299 01/01/2008 Original Date of Licensure STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT
07/28/23

SHEET INFORMATION

3400-2021AD-LI201

PROJECT MANAGER WW
PROJECT NUMBER 822808-01

IRRIGATION DETAILS

LI2.0

SYMBOL 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

SYMBOL	DESCRIPTION
XX.Xk	MECH UNIT (XX.Xk = MECH UNIT OPERATING WEIGHT IN KIPS INCLUDING INERTIA BASE)
	EXTENT OF CONCRETE PAD
X"	PAD THICKNESS
X	PENETRATION THRU STRUCTURAL MEMBER
	STRUCTURAL MAS WALL CONTROL JOINT
	CAST-IN-PLACE CONCRETE
	OVERFRAMING
SOGXXA	SLAB TYPE
XXX'-XX"	SLAB THICKNESS / TYPE / T/SLAB
F1	FTG MARK (SF = STRIP FTG)
XX'-X"	T/FTG EL
1	KEY NOTE
	SUBGRADE
	FORM SAVER
	VOID FORM, SEE FOUNDATION NOTES FOR SIZE

SYMBOL	DESCRIPTION
XXk / XXk	BEAM SIZE (XXX'-XX") / STEEL BEAM / ELEVATION OF T/STEEL
	ULTIMATE BEAM REACTION USING LRFD LOAD COMBINATIONS (KIPS)
	FULL HEIGHT SHEAR CONNECTION PER 13/S501
	MOMENT CONNECTION PER 1/S5014
XXk	DESIGN AXIAL DRAG FORCE OR DETAIL / AXIAL DRAG CONNECTION PER 11/S501
	BRACING ABOVE LEVEL / BRACING BELOW LEVEL
3N	DECK TYPE / DECK SPAN DIRECTION

NOTES:
1. ITEMS NOT DESIGNED BY M/M ARE SHOWN HALFTONED,
   A. ITEMS INCLUDE:
      a. EXISTING CONSTRUCTION
      b. PERFORMANCE SPECIFIED ITEMS (STAIRS, RAILINGS, ETC.)

ABBREVIATION LIST

(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
APA	American Plywood Association
ARCH	Architect or Architectural
B/ or BO	Bottom of
BAL	Balance
BF	Braced Frame
BG	Backgouge
BL	Brick Ledge
BLDG	Building
BLKG	Blocking
BM	Beam
BOS	Bottom of Steel
BOT or B	Bottom
BRG	Bearing
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
DI	Gravity Ice Load
DIA OR Ø	Diameter
DIAG	Diagonal
DIM	Dimension
DN	Down
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
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 BM	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-Ventilating 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
LSH	Long Side Horizontal
LSL	Laminated Strand Lumber
LSV	Long Side Vertical
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
MAX	Maximum
MCJ	Masonry Control Joint
MECH	Mechanical
MEP	Mech/Elect/Plumb
MIL	Micro-Lam
MIN	Minimum
MISC	Miscellaneous
MLS	Masonry Lap Splice
mm	Millimeter
MNFR	Manufacturer
MO	Masonry Opening
MTL	Metal
N	North
N-S	North-South
NIC	Not in Contract
NM	Non-Metallic
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
PEN	Penetration
PERP	Perpendicular
PL	Plate (Steel)
PLF	Pounds Per Lineal Foot
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
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
SSL	Short-Slotted
STD	Standard
STIFF	Stiffener
STL	Steel
STR	Structural
SW	Shearwall
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
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
- AGGREGATE PIERS
- 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.

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.

REFERENCE COLD-FORMED STEEL FRAMING NOTES FOR ADDITIONAL DEFERRED SUBMITTAL DESIGN CRITERIA

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.

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

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) CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.

6D) FOUNDATION WALLS SHALL NOT BE BACKFILLED UNTIL THE SLABS-ON-GRADE AND 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.

6E) 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.

GRAVITY LOADS

LOCATION	SUPERIMPOSED DEAD LOAD (PSF)	LIVE LOAD (PSF)	LIVE LOAD REDUCTION	PARTITION LOAD (PSF)	POINT LOAD (LB)
ROOF	10	20 ROOF LIVE LOAD, SEE NOTES FOR SNOW LOAD	NO	-	300
FIRST FLOOR SLAB-ON-GRADE	-	100	NO	-	1000

STRUCTURAL DRAWING LIST

SHEET NUMBER	SHEET TITLE
S001	GENERAL NOTES
S002	GENERAL NOTES
S003	QUALITY ASSURANCE
S004	QUALITY ASSURANCE
S101C	FOUNDATION PLAN - AREA C
S102C	ROOF PLAN - AREA C
S201	BRACED FRAME ELEVATIONS
S301	CONCRETE DETAILS
S302	CONCRETE DETAILS
S303	CONCRETE DETAILS
S501	STEEL DETAILS
S502	STEEL DETAILS
S503	STEEL DETAILS
S504	ROOF DECK DETAILS
S505	PERFORMANCE SPECIFIED FRAMING
S506	TYPICAL STEEL BEAM CONNS - LRFD

DESIGN CRITERIA

1) CODES AND STANDARDS:
1A) GENERAL DESIGN
- INTERNATIONAL BUILDING CODE 2021

1B) LOADS
- ASCE/SEI 7-16 "MINIMUM DESIGN LOAD FOR BUILDINGS AND OTHER STRUCTURES" WHERE INDICATED ON DRAWINGS INDIVIDUAL UNFACTORED LOAD COMPONENTS (D, Di, L, Lr, R, S, H, F, Fa, E, W, Wi, T) ARE AS DEFINED AND DETERMINED BY THE BUILDING CODES AND STANDARDS INDICATED. LOAD COMPONENTS SHALL BE COMBINED USING THE LOAD COMBINATIONS OF THE BUILDING CODE FOR SPECIALTY DESIGN BY OTHERS.

1C) CONCRETE
- ACI 301-LATEST EDITION "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
- ACI 318-14 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"

1D) MASONRY
- TMS 402-16 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"
- TMS 602-16 "SPECIFICATION FOR MASONRY STRUCTURES"

1E) STEEL
- ANSI/AISC 341-16 "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS"
- ANSI/AISC 360-16 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" LOAD AND RESISTANCE FACTOR DESIGN

2) SEISMIC LOADS
- SEISMIC DESIGN CATEGORY = B
- RISK CATEGORY = III
- EARTHQUAKE IMPORTANCE FACTOR, Ie = 1.25
- MAPPED SPECTRAL RESPONSE ACCELERATION, Ss = 25.90 %g
- MAPPED SPECTRAL RESPONSE ACCELERATION, S1 = 6.50 %g
- DESIGN SPECTRAL RESPONSE COEFFICIENT, SDs = 0.275
- DESIGN SPECTRAL RESPONSE COEFFICIENT, SD1 = 0.104
- SOIL SITE CLASS = D

NORTH ADDITION SEISMIC PARAMETERS:
- STRUCTURAL SEISMIC LATERAL SYSTEM: STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
- RESPONSE MODIFICATION FACTOR, R = 3
- SEISMIC RESPONSE COEFFICIENT, Cs = 0.115
- SYSTEM OVERSTRENGTH FACTOR, OMEGA = 3
- DESIGN BASE SHEAR = 80K
- SEISMIC ANALYSIS PROCEDURE: EQUIVALENT LATERAL-FORCE ANALYSIS

3) WIND LOADS
- RISK CATEGORY = III
- BASIC ULTIMATE WIND SPEED, Vult = 129 mph
- BASIC NOMINAL WIND SPEED, Vasd = 99.9 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' ON SHEET S003

4D) COMPONENT AND CLADDING SURFACE PRESSURES (PSF)

- **WALLS PRESSURES**

WALLS AREA	10 SF	100 SF	200 SF	500 SF
WALLS INTERIOR NEG (ZONE 4)	-29.3	-25.4	-24.1	-22.6
WALLS CORNER NEG (ZONE 5)	-36.1	-28.1	-25.7	-22.6
WALLS POSITIVE ZONE 4 & 5	27.1	23.1	-21.9	20.3

- **ROOF PRESSURES**

ROOF AREA	10 SF	100 SF	500 SF
ROOF INTERIOR NEG (ZONE 1)	-47.1	-36.8	-29.6
- USE THESE FOR JOIST UPLIFT WIND DESIGN FORCES UNO			
ROOF INTERIOR NEG (ZONE 1')	-27.1	-27.1	-18.3
ROOF NEGATIVE (ZONE 2)	-62.2	-48.9	-39.6
- EAVES, RAKES, RIDGES			
ROOF CORNERS NEG (ZONE 3)	-84.8	-58.2	-39.6
ROOF POSITIVE ALL ZONES	16.0	16.0	16.0
ROOF NEGATIVE OVERHANG ZONE 1 & 1'	-42.6	-40.1	-25.1
ROOF NEGATIVE OVERHANG ZONE 2	-57.7	-40.0	-27.6
ROOF NEGATIVE OVERHANG ZONE 3'	-80.3	-49.3	-27.6

- **PARAPET PRESSURES**

PARAPET QP = 28.3 psf

SOLID PARAPET PRESSURE		10 SF	100 SF	500 SF
PARAPET CASE A:	ZONE 2:	75.4	59.2	47.8
	ZONE 3:	75.4	59.2	47.8
PARAPET CASE B:	INTERIOR ZONE:	-44.5	-37.0	-31.8
	CORNER ZONE:	-50.9	-43.0	-31.8

PARAPET CASE A = PRESSURE TOWARDS BUILDING (POS)
PARAPET CASE B = PRESSURE AWAY FROM BLDG (NEG)

5) LATERAL LOAD RESISTING SYSTEM DESCRIPTION:
- THE NORTH ADDITION COSISTS OF METAL DECK DIAPHRAGMS SPANNING TO BRACED FRAMES. THE EAST CAFETERIA ADDITION CONSISTS OF METAL DECK DIAHPHRAGM SPANNING TO CMU SHEAR WALLS

6) GRAVITY LOADS
6A) SEE GRAVITY LOADS TABLE

6B) DRIFTING, SLIDING AND UNBALANCED SNOW
- GROUND SNOW LOAD = 74 psf
- SNOW EXPOSURE FACTOR, Ce = 1.0
- SNOW LOAD IMPORTANCE FACTOR, Is = 1.1
- THERMAL FACTOR, Ct = 1.00
- UNIFORM ROOF SNOW LOAD = 57 psf

7) RAIN LOADS:
7A) DESIGN RAIN INTENSITY = 2 inches per hour

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Avenue, Lakewood, Colorado 80215
303.431.6100, martinmartin.com

PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

COLORADO LICENSED
KEVIN MICHAEL HAAS
43631
PROFESSIONAL ENGINEER
07/31/2023

SHEET INFORMATION

PROJECT MANAGER TC
PROJECT NUMBER 22.1668.S.01

GENERAL NOTES

S001

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST.CYR.
DATE PRINTED: 7/29/2023 8:45:57 AM
FILE PATH: Autodesk Docs://822808 - Bergen Valley Elementary School Addition & Reno/22.1668.S.01 - Bergen Valley ES - S23.rvt

1 2 3 4 5 6 7

A B C D E

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) STRUCTURAL STEEL INSTALLATION:
4A) UNLESS INDICATED OTHERWISE, SNUG TIGHTEN ALL JOINTS AS DEFINED BY AISC CONNECTIONS

4B) WHERE NOTED ON THE DRAWINGS AS "PT" BOLTS SHALL BE PRETENSIONED PER TABLE J3.1 OF ANSI/AISC 360-16

5) STEEL JOISTS:
5A) DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE STEEL JOIST INSTITUTE (SJI) STANDARD SPECIFICATIONS, 43RD EDITION (2010).

5B) SIZE, TYPE, AND SPACING OF JOIST BRIDGING PER CURRENT SJI REQUIREMENTS. USE 'X' BRIDGING AT DISCONTINUOUS ENDS OF BRIDGING UNLESS OTHERWISE NOTED ON PLANS OR DETAILS.

5C) REFER TO PLANS, DETAILS, AND SPECIAL JOIST LOADING DIAGRAMS FOR ADDITIONAL JOIST DESIGN REQUIREMENTS INCLUDING UNBALANCED, CONCENTRATED, AXIAL, AND UPLIFT LOADS.

5D) DESIGN JOISTS AND BRIDGING FOR NET UPLIFT FORCES INDICATED IN DESIGN CRITERIA.

6) METAL DECK:
6A) SEE 'METAL DECK SCHEDULE' FOR MATERIALS, PROFILE, AND CONNECTIONS TO STRUCTURE.

6B) 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"

6C) 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)

6D) PLACE CONCRETE ON METAL DECK IN ACCORDANCE WITH SDI FLOOR DECK DESIGN MANUAL (2014) TO LIMIT CONSTRUCTION LOADS TO ALLOWABLE MAGNITUDES.

6E) REINFORCE OPENINGS IN METAL ROOF DECK AND FLOOR DECK SUPPORTING CONCRETE FILL IN ACCORDANCE WITH TYPICAL DECK OPENING DETAILS.

6F) INSTALL DECK OVER 4 SUPPORTS (3 SPAN CONTINUOUS) UNLESS NOTED OTHERWISE. DO NOT INSTALL DECK AS SINGLE SPAN UNLESS SPECIFICALLY SHOWN ON DRAWINGS.

6G) PROVIDE DECK ATTACHMENTS AS NOTED ON DRAWINGS.

6H) HANGERS: SEE TYPICAL METAL DECK DETAILS FOR ALLOWABLE HANGER LOADS, SPACING AND ATTACHMENT.

7) STRUCTURAL COLD FORMED METAL FRAMING:
7A) 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.

7B) 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.

7C) 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.

8) STEEL GRATING
8A) STEEL GRATING TYPE AND SIZE AS INDICATED ON DRAWINGS

8B) INSTALLATION
- INSTALL GRATING PER INSTALLATION GUIDELINES OF NAAMM MBG 531 "METAL BAR GRATING MANUAL".
- FIT EXPOSED CONNECTIONS ACCURATELY TO FORM TIGHT JOINTS.

8C) SUBMITTALS
- SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR GRATING, FASTENERS, AND FINISH.

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	36	58	WELDABLE, STD HEX HEAD
BOLTS	F3125 - TYPE A325 OR F1852	-	120	BOLTS ARE 3/4"Ø UNO
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	-
PLATES	A36	36	58	-
RECT HSS	A500 GR C	50	62	-
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	-

METAL GAUGE CONVERSION

GAUGE	MINIMUM THICKNESS (MILS*)
22	27
20	33
18	43
16	54
14	68
12	97

NOTES:
* 1 MIL = 1/1000"

POST-INSTALLED ANCHOR TABLE - HILTI

ANCHOR TYPE	PRODUCT	Fy (KSI)	Fu (KSI)	COMMENT
ADHESIVE (IN CONCRETE)	HILTI HIT-HY 200 V3	-	-	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 TZ2	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
EXPANSION ANCHORS (IN GROUTED MASONRY)	HILTI KWIK BOLT TZ2	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
SCREW ANCHORS	HILTI KWIK HUS-EZ	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS

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 AND SLABS-ON-GRADE 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) SHEAR FRICTION 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	-

CONCRETE MIX TABLE

CONC MIX TYPE	INTENDED USE	EXPOSURE CATEGORIES AND CLASSES	COMPRES-SIVE STRENGTH f'c (KSI)	TEST AVG (DAYS)	CONC WEIGHT	MAX W/C RATIO, INCLUDING SCM, NOTE 7	MAX. AGGRE-GATE SIZE (IN), NOTE 3	TOTAL AIR CONTENT (%), NOTE 4
1	FOOTINGS	F0, S0, W1, C1	3	28	NWC	-	1	-
2	STEM WALLS	F1, S0, W1, C1	3.5	28	NWC	0.55	3/4	5
3	INTERIOR SLABS-ON-GRADE	F0, S0, W0, C0	3	56	NWC	-	1	NP
4	ALL CONCRETE EXPOSED TO WEATHER OR DEICERS: EXTERIOR STOOPS	F3, S0, W0, C2	5	28	NWC	0.40	3/4	6

CONCRETE MIX TABLE NOTES:
1. CONCRETE MIX DESIGNS ARE A PERFORMANCE SPECIFIED ITEM DESIGNED BY THE CONTRACTOR. THE CONTRACTOR MAY PROVIDE A CONCRETE MIX MEETING THE PERFORMANCE REQUIREMENTS SPECIFIED IN THE "CONCRETE MIX TABLE" IN ADDITION TO THE REQUIREMENTS BELOW

2. PROPORTIONS OF MATERIALS IN CONCRETE MIXES SHALL BE ESTABLISHED TO:
   A. PROVIDE THE MINIMUM COMPRESSIVE STRENGTH AS INDICATED IN THE MIX TABLE. DO NOT EXCEED THE MAXIMUM WATER-CEMENT RATIO
   B. PROVIDE WORKABILITY AND CONSISTENCY FOR SLAB FINISHING AND 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
   C. 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 4 BELOW

3. FOR THE MAXIMUM COARSE AGGREGATE SIZE INDICATED, USE THE FOLLOWING AGGREGATE SIZE NUMBERS PER ASTM C33:
   - 3/4": #67 AGGREGATE
   - 1": #57 AGGREGATE

4. WHERE AIR CONTENT IS INDICATED IN THE MIX TABLE, PROVIDE AIR ENTRAINING ADMIXTURE TO MEET THE SPECIFIED AIR PERCENTAGE. 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 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%

5. SEE SPECIFICATIONS FOR SUPPLEMENTARY CEMENTITIOUS MATERIAL (SCM) REQUIREMENTS

6. FOR CONCRETE MIXTURES ASSIGNED TO EXPOSURE CLASS F3, THE MAXIMUM PERCENTAGE OF CEMENTITIOUS MATERIAL WHICH IS CLASSIFIED AS SCM (INCLUDING FLY ASH, NATURAL POZZOLANS, SILICA FUME, AND SLAG CEMENT) SHALL BE AS FOLLOWS. THE INDIVIDUAL LIMITS SHOWN BELOW SHALL APPLY REGARDLESS OF THE NUMBER OF CEMENTITIOUS MATERIALS IN THE CONCRETE MIXTURE.
   - FLY ASH OR NATURAL POZZOLANS CONFORMING TO ASTM C618 = 25%
   - SLAG CEMENT CONFORMING TO ASTM C989 = 50%
   - SILICA FUME CONFORMING TO ASTM C1240 = 10%
   - TOTAL OF FLY ASH OR OTHER POZZOLANS AND SILICA FUME = 35%
   - TOTAL OF FLY ASH OR OTHER POZZOLANS, SLAG CEMENT, AND SILICA FUME = 50%

7. BASED ON THE SULFATE CLASSIFICATIONS LISTED IN THE "CONCRETE MIX TABLE" THE FOLLOWING CEMENTS SHALL BE USED. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS:
   A. S0 SULFATE CLASSIFICATION: ASTM C150 TYPE I/II OR ASTM C595 TYPES

8. FOR CONCRETE MIXTURES ASSIGNED TO W1 OR W2 CLASSES, EVIDENCE SHALL BE SUBMITTED THAT THE CONCRETE MIXTURE COMPLIES WITH THE FOLLOWING
   A. AGGREGATES ARE NOT ALKALI-SILICA REACTIVE OR MEASURES TO MITIGATE ALKALI-SILICA REACTIVITY HAVE BEEN ESTABLISHED
   B. AGGREGATES ARE NOT ALKALI-CARBONATE REACTIVE

9. MAXIMUM CHLORIDE ION LIMITS (PERCENTAGE BY MASS OF CEMENTITIOUS MATERIALS INCLUDING SCM) ASSOCIATED WITH EXPOSURE CLASS IN "CONCRETE MIX TABLE" ARE AS FOLLOWS:
   - C0 = 1.00
   - C1 = 0.30
   - C2 = 0.15

CONCRETE MIX TABLE ABBREVIATIONS:
- FX = FREEZING AND THAWING CLASS
- SX = SULFATE CLASS
- WX = IN CONTACT WITH WATER CLASS
- CX = CORROSION PROTECTION OF REINFORCEMENT CLASS
- NWC = NORMAL WEIGHT CONCRETE

FOUNDATION NOTES

1) DESIGN CRITERIA:
THE GEOTECHNICAL REPORT PREPARED BY GROUND ENGINEERING, NUMBER 22-3677A, DATED 06/02/2023 PROVIDED CRITERIA FOR THE FOUNDATION DESIGN FOR THE PROJECT.

2) FOOTINGS:
2A) FOOTING DESIGN CRITERIA:
- MAXIMUM TOTAL LOAD BEARING PRESSURE WITH AGGREGATE PIERS = 4000 PSF
- MINIMUM CONTINUOUS FOOTING WIDTH = 16 IN
- MINIMUM SPREAD FOOTING WIDTH = 2 FT
- ULTIMATE COEFFICIENT OF FRICTION TO RESIST LATERAL LOADS = 0.30
- FROST DEPTH TO BOTTOM OF FOUNDATION = 36 IN

3) AGGREGATE PIERS:
3A) DESIGN SOIL BEARING PRESSURE IS BASED ON SOIL STRENGTHENED WITH AGGREGATE PIERS. AGGREGATE PIERS SHALL BE DESIGNED TO ACHIEVE THE BEARING CAPACITY AND MAINTAIN DIFFERENTIAL SETTLEMENT REQUIREMENTS BY A SPECIALTY ENGINEER AS REQUIRED IN THE GEOTECHNICAL REPORT. CONTRACTOR SHALL SUBMIT ENGINEERED DESIGN TO DESIGN TEAM FOR REVIEW PRIOR TO INSTALLATION OF PIERS.

3B) MAXIMUM TOTAL AND DIFFERENTIAL SETTLEMENT OVER A 30-FOOT SPAN SHALL NOT EXCEED 1 IN AND 0.5 INCHES RESPECTIVELY.

3C) AGGREGATE PIERS SHALL BE PROVIDED UNDER ALL SLABS ON GRADE AND FOOTINGS SHOWN ON THE STRUCTURAL PLAN, INCLUDING CONTINUOUS FOOTINGS

3D) FOOTINGS HAVE BEEN DESIGNED FOR UNIFORM BEARING PRESSURE NOTED. AGGREGATE PIERS SHALL NOT CREATE POINT SUPPORT ON THE FOOTINGS.

4) FOUNDATION WALLS:
4A) EQUIVALENT FLUID PRESSURES USED FOR WALL DESIGN:
- "ACTIVE" CONDITION = 55 PCF
- "AT REST" CONDITION = 78 PCF
- "PASSIVE" CONDITION = 265 PCF TO A MAXIMUM OF 2,650 PSF, UPPER (1) FOOT OF EMBEDMENT NEGLECTED
- ULTIMATE COEFFICIENT OF FRICTION TO RESIST LATERAL LOADS = 0.30

4B) WALL DESIGN BASED ON IN-SITU SOILS ADJACENT TO FOUNDATION WALLS. SEE GEOTECHNICAL REPORT FOR REQUIREMENTS.

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Avenue Lakewood, Colorado 80215
303.431.6100 martinmartin.com

PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

COLORADO LICENSED KEVIN MICHAEL HAAS 43631 07/31/2023 PROFESSIONAL ENGINEER

SHEET INFORMATION

PROJECT MANAGER TC
PROJECT NUMBER 22.1668.S.01

GENERAL NOTES

S002

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD DRFT TECH: KRISTOPHER ST. CYR.
DATE PRINTED: 7/29/2023 8:45:59 AM
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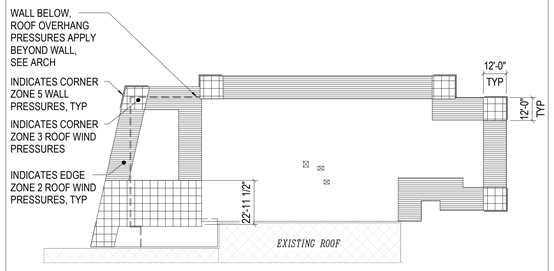
1 2 3 4 5 6 7

WALL CORNER AND SPECIAL ROOF ZONES DIAGRAM



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 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

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	50 CY/MIX/DAY		
3. DRILLED PIERS	EACH SHAFT		
- SLUMP	EACH COMPOSITE SAMPLE	ASTM C143 (SLUMP)	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	EACH COMPOSITE SAMPLE	ASTM C231 PRESSURE METHOD (NWC)	-
- TEMPERATURE	EACH COMPOSITE SAMPLE AND 60 MINUTE INTERVALS	ASTM C1064	REQUIRED WHEN AIR TEMPERATURE IS 40 °F AND BELOW OR 80°F AND ABOVE
- 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 FOR 28-DAY STRENGTH, (7) 4x8 CYLINDERS FOR 56 DAY STRENGTH	TEST PER SCHEDULE BELOW FOR 28-DAY STRENGTH: - 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
			TEST PER SCHEDULE BELOW FOR 56-DAY STRENGTH: - 7 DAYS: (1) 6x12 OR (1) 4x8 - 28 DAYS: (2) 6x12 OR (3) 4x8 - 56 DAYS: (2) 6x12 OR (3) 4x8

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...

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.
   - SUBMIT DOCUMENTATION OF QUALIFICATIONS, INCLUDING COMPETENCE AND RELEVANT WORK EXPERIENCE OR TRAINING OF SPECIAL INSPECTORS TO THE AUTHORITY HAVING JURISDICTION PRIOR TO THE START OF WORK.
   - SPECIAL INSPECTIONS ARE IN ADDITION TO INSPECTIONS BY THE AUTHORITY HAVING JURISDICTION REQUIRED BY IBC 2021 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 2021 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.
   - 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 2021 SECTION 1704.2.51.
   - 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

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
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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milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Avenue Lakewood, Colorado 80215
303.431.6100 martinmartin.com

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SHEET INFORMATION

PROJECT MANAGER TC
PROJECT NUMBER 22.1668.S.01

QUALITY ASSURANCE

S003

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST CYR
DATE PRINTED: 7/29/2023 8:46:02 AM
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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-2022	.
- DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	PERFORM	SDI QA/QC-2022	-
PRIOR TO WELDING			
- WELDING PROCEDURE SPECIFICATION (WPS) AVAILABLE	OBSERVE	SDI QA/QC-2022	-
- MANUFACTURER CERTIFICATIONS OF WELDING CONSUMABLES AVAILABLE	OBSERVE	SDI QA/QC-2022	-
- MATERIAL IDENTIFICATION (TYPE/GRADE)	OBSERVE	SDI QA/QC-2022	-
- CHECKING WELDING EQUIPMENT	OBSERVE	SDI QA/QC-2022	-
PRIOR TO MECHANICAL FASTENING (SCREWS AND PAFs)			
- MANUFACTURER INSTALLATION INSTRUCTIONS ARE AVAILABLE FOR MECHANICAL FASTENERS	OBSERVE	SDI QA/QC-2022	-
- PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATIONS	OBSERVE	SDI QA/QC-2022	-
- PROPER STORAGE FOR MECHANICAL FASTENERS	OBSERVE	SDI QA/QC-2022	-
DURING DECK INSTALLATION			
DURING WELDING DECK CONNECTION INSTALLATION			
- USE OF QUALIFIED WELDERS		SDI QA/QC-2022	-
- CONTROL AND HANDLING OF WELDING CONSUMABLES	OBSERVE	SDI QA/QC-2022	-
- ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	OBSERVE	SDI QA/QC-2022	-
- WPS FOLLOWED	OBSERVE	SDI QA/QC-2022	-
DURING MECHANICAL DECK CONNECTION INSTALLATION			
- FASTENING (SCREWS AND PAFs)	OBSERVE	SDI QA/QC-2022	-
- FASTENERS ARE POSITIONED AS REQUIRED	OBSERVE	SDI QA/QC-2022	-
- FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	OBSERVE	SDI QA/QC-2022	-
AFTER DECK PLACEMENT			
- VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION COMPLY WITH CONSTRUCTION DOCUMENTS	PERFORM	SDI QA/QC-2022	-
- VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	PERFORM	SDI QA/QC-2022	-
- DOCUMENT ACCEPTANCE OR REJECTION OF THE INSTALLATION OF DECK AND DECK ACCESSORIES	PERFORM	SDI QA/QC-2022	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 SD	-
- WELDS MEET VISUAL ACCEPTANCE CRITERIA	PERFORM	AWS D1.3, SDI SD	-
- VERIFY REPAIR ACTIVITIES	PERFORM	AWS D1.3, SDI SD	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 SD	-
AFTER MECHANICAL FASTENING (SCREWS AND PAFs)			
- CHECK SPACING, TYPE, DIAMETER, AND INSTALLATION OF SUPPORT, SIDELAP, AND PERFORM PERIMETER FASTENERS	PERFORM	SDI SD, 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 SD	-
- DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	PERFORM	SDI SD	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...	10%	UT	FREQUENCY SHALL BE INCREASED SHOULD THE REJECT RATE EXCEED 5% FOR AN INDIVIDUAL WELDER, IN ACCORDANCE WITH AISC 360, CHAPTER N.
- 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

STRUCTURAL COLD FORMED STEEL SPECIAL INSPECTIONS

ITEM	FREQUENCY	STANDARD	CRITERIA
FRAMING			
- MEMBERS AND CONNECTIONS	P	-	VERIFY TYPE, SIZE, LOCATION, SPACING
- BRIDGING AND BLOCKING	P	-	VERIFY TYPE, LOCATION, AND ATTACHMENT
- FIELD CUTS AND NOTCHES	P	-	NO CUTS OR NOTCHES THROUGH SECTION FLANGES PERMITTED
- SPLICING	P	-	NO SPLICING OF STRUCTURAL MEMBERS PERMITTED UNLESS SPECIFIED ON THE CONSTRUCTION DOCUMENTS
- PUNCHOUTS	P	-	VERIFY SPACING REQUIREMENTS FROM BEARINGS AND CONNECTIONS AND REINFORCING IS USED WHERE REQUIRED
WELDED ATTACHMENTS			
- PRIOR TO WELDING	-	AWS D1.1/D1.3	VERIFY FILLER MATERIALS, WELDING PROCEDURES, WELDER QUALIFICATIONS, AND MANUFACTURER'S CERTIFICATE OF COMPLIANCE
- DURING WELDING	P	AWS D1.3	-
- AFTER WELDING	100% VISUAL	AWS D1.3	-
- CORROSION RESISTANCE TREATMENT	P	-	WELDED AREAS ARE TO BE TREATED WITH APPROVED TREATMENT TO MATCH CORROSION RESISTANCE OF AFFECTED AREA
SCREWED ATTACHMENTS			
- FASTENER	P	-	VERIFY TYPE, DIAMETER, LENGTH, SPACING AND EDGE DISTANCES
- SCREW PENETRATION	P	-	VERIFY MATERIALS HAVE BEEN DRAWN TOGETHER AND SCREWS ARE FULLY DRIVEN WITH A MINIMUM PENETRATION OF 3 THREADS THROUGH THE LAST MATERIAL JOINED
- DAMAGED SCREWS	P	-	NO POPPED SCREW HEADS OR STRIPPED SCREWS ARE PERMITTED. ALL DAMAGED SCREWS SHALL BE REPLACED
- COLD FORMED STEEL ASSEMBLIES	P	ICC-ES REPORT	VERIFY TYPE, NUMBER OF FASTENERS, AND INSTALLATION IN CONFORMANCE WITH ICC-ES REPORT
POWER-ACTUATED FASTENERS			
- PRIOR TO INSTALLATION	FIRST OF EACH FASTENER TYPE AND BASE MATERIAL	ICC-ES REPORT	VERIFY TYPE, DIAMETER, LENGTH, FINISH, AND BASE MATERIAL
- DURING INSTALLATION	P	ICC-ES REPORT	-
- AFTER INSTALLATION	100% VISUAL	-	VERIFY MATERIALS HAVE BEEN DRAWN TOGETHER AND FASTENER HEAD STAND-OFF IS ACCEPTABLE (FULLY DRIVEN)

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	-
- BACKING AND WELD TABS REMOVED WHERE REQUIRED.	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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PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

QUALITY ASSURANCE

S004

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
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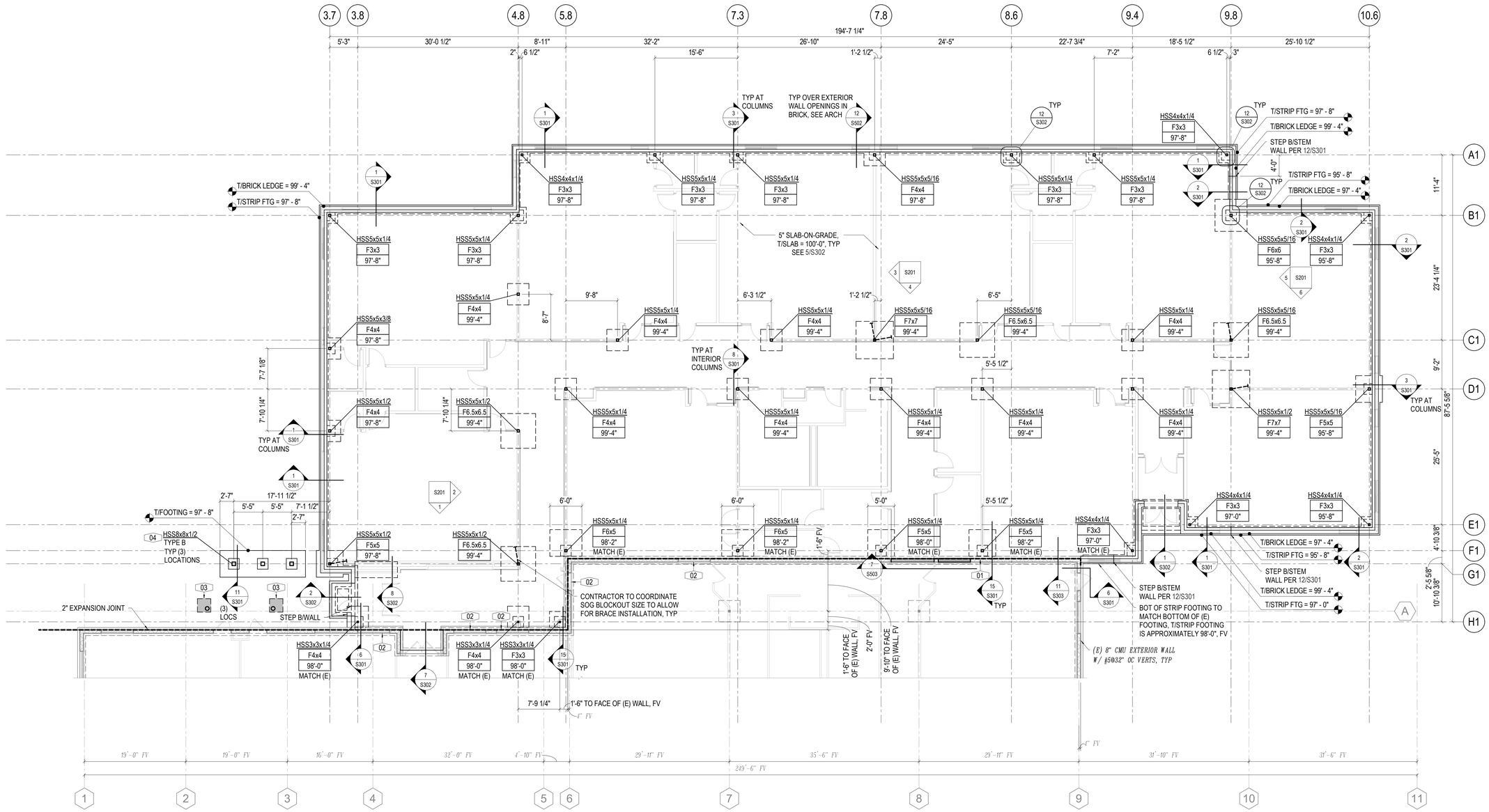

FOUNDATION PLAN - AREA C

1/8" = 1'-0"

NORTH

NOTES:

1. ELEVATION 100'-0" = USGS ELEVATION 7,711.17', VERIFY IN FIELD AND WITH CIVIL AND ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION
2. SEE S300 SERIES SHEETS FOR TYPICAL CONCRETE DETAILS
3. SEE S500 SERIES SHEETS FOR TYPICAL STEEL DETAILS
4. ALL COLUMNS AND PILASTERS ARE CENTERED ON GRID INTERSECTIONS UNLESS DIMENSIONED OTHERWISE
5. AGGREGATE PIERS SHALL BE PROVIDED UNDER ALL NEW CONSTRUCTION, SEE FOUNDATIONS NOTES
6. TRENCHING AND PATCHING OF THE EXISTING SOG MAY BE REQUIRED AT THE NEW RESTROOM LOCATED IN THE CENTRAL AREA OF THE EXISTING BUILDING, SEE PLUMBING AND 13/S302
7. INTERIOR PARTITION WALLS ARE EXPECTED TO BE REMOVED AT LOCATIONS THROUGHOUT THE EXISTING BUILDING, THESE WALLS ARE EXPECTED TO BE NON-STRUCTURAL AND CAN BE REMOVED WITHOUT ADDITIONAL STRUCTURAL WORK, THERE ARE BUILDING COLUMNS LOCATED WITHIN SOME PARTITION WALLS ADJACENT TO THE WALLS TO BE REMOVED CONTRACTOR SHALL ENSURE THAT NO BUILDING COLUMNS ARE DAMAGED DURING REMOVAL OF INTERIOR PARTITION WALLS
8. NO NEW MECHANICAL UNITS ARE EXPECTED TO BE LOCATED AT THE EXISTING BUILDING
9. NEW MECHANICAL SYSTEM ROUTING WITHIN THE EXISTING BUILDING IS ANTICIPATED TO AVOID ALL PRIMARY STRUCTURAL ELEMENTS, THEREFORE, NO ADDITIONAL STRUCTURAL STRENGTHENING IS REQUIRED
10. ACCORDING TO THE EXISTING BUILDING DRAWINGS, ALL EXISTING INTERIOR PARTITION WALLS ARE NON-BEARING/NON-STRUCTURAL WALLS, CONTRACTOR TO VERIFY IN FIELD

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
01	AGGREGATE PIERS SHALL BE DESIGNED SUCH THAT 4,000 PSF MIN ALLOWABLE BEARING PRESSURE IS PROVIDED AT THE EDGE OF NEW FOOTING THAT IS WITHIN 2'-0" OF EXISTING FOOTING, TYP
02	(E) OPENING IN CMU WALL TO BE INFILLED W/ CFS STUDS, DESIGN BY CONTRACTOR, SEE ARCH
03	(E) CANOPY HSS COLUMNS, SHALLOW FOOTINGS, WOOD FRAMING, AND ROOF SHEATHING TO BE REMOVED, DO NOT DAMAGE (E) CMU WALL DURING REMOVAL OF CANOPY
04	COAT EXPOSED STEEL COLUMNS WITH ZINC RICH PRIMER AND HIGH PERFORMANCE PAINT, SEE ARCH FOR FINISH REQUIREMENTS, TYP

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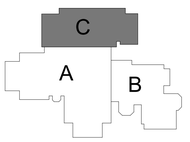

COLORADO LICENSED KEVIN M. HAAS 43631 PROFESSIONAL ENGINEER

SHEET INFORMATION

PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

FOUNDATION PLAN - AREA C

S101C

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP

DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST CYR
DATE PRINTED: 7/29/2023 8:46:06 AM
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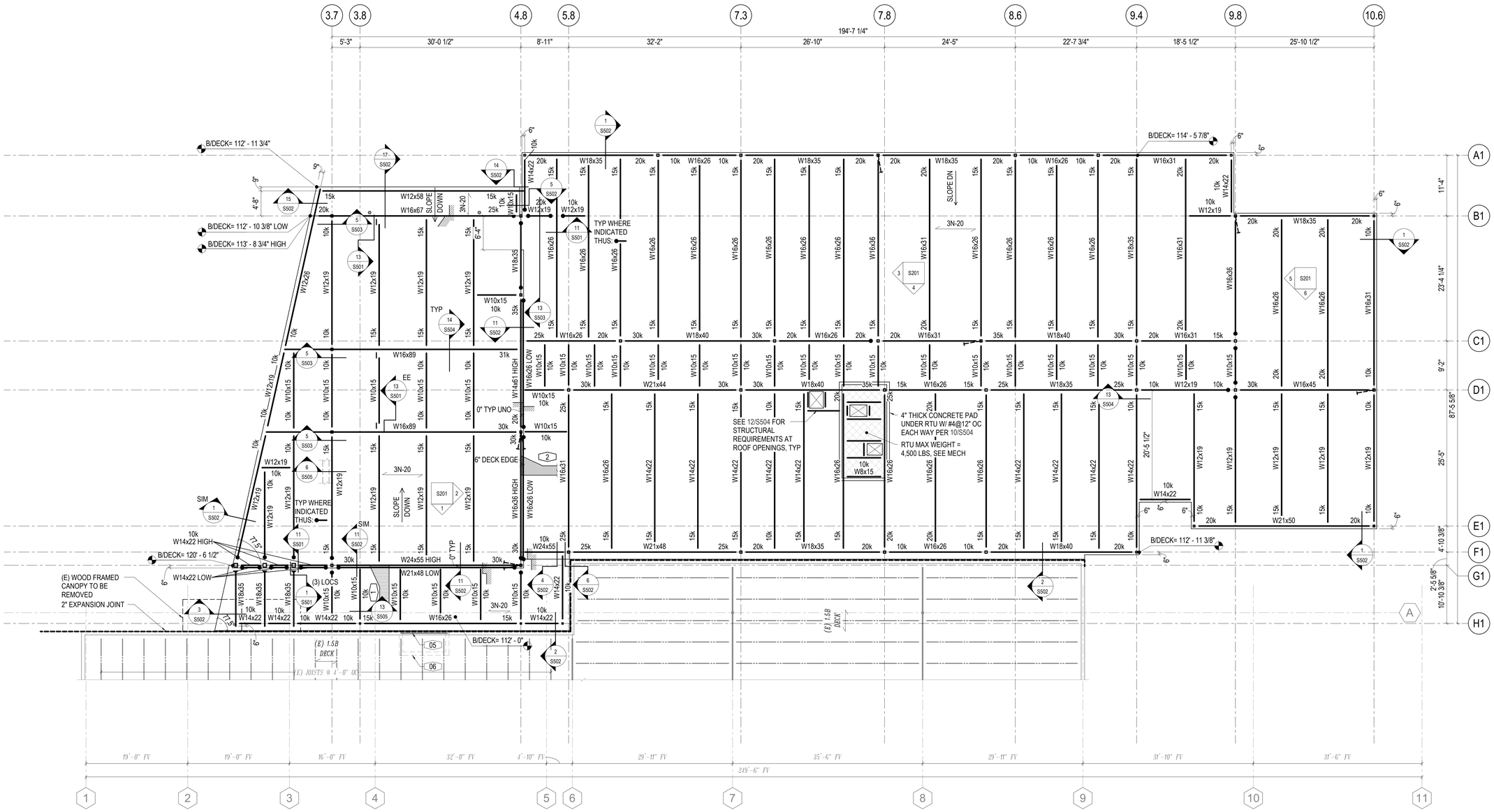


ROOF FRAMING PLAN - AREA C

NORTH

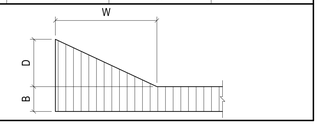
1/8" = 1'-0"

NOTES:

1. SEE S300 SERIES SHEETS FOR TYPICAL CONCRETE DETAILS
2. ALL COLUMNS AND PILASTERS ARE CENTERED ON GRID INTERSECTIONS UNLESS DIMENSIONED OTHERWISE
3. SEE S500 SERIES SHEETS FOR TYPICAL STEEL DETAILS
4. STEEL BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDLINES/COLUMNS/GIRDERS UNLESS DIMENSIONED OTHERWISE
5. TOP OF STEEL BEAMS SHALL EQUAL BOTTOM OF METAL DECK ELEVATION, UNO
6. SEE SHEET S502 FOR TYPICAL METAL ROOF DECK DETAILS
7. SEE SHEET S506 FOR TYPICAL STEEL CONNECTION DETAILS
8. SEE 10/S502 FOR (E) ROOF INFILL AT EXISTING 26"Ø BOILER FLUE TO BE ABANDONED, SEE MECH FOR LOCATION
9. SEE 8/S502 FOR TYPICAL NEW OPENING IN EXISTING ROOF 12"Ø MAX, SEE MECH FOR LOCATIONS

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
05	(E) WF BEAM SIZE UNKNOWN, CONTRACTOR TO PERFORM SELECTIVE DEMO OF SOFFIT AND REPORT BEAM DIMENSIONS TO MARTIN/MARTIN FOR REVIEW, COVER PLATING OF (E) BEAM MAY BE REQUIRED
06	CONTRACTOR TO FIELD VERIFY IF JOISTS BEAR ON CMU WALL AND REPORT TO MARTIN/MARTIN FOR FURTHER REVIEW

SNOW DRIFT SCHEDULE			
MARK	BALANCED SNOW LOAD 'B' (PSF)	SURCHARGED SNOW LOAD 'D' (PSF)	DRIFT WIDTH 'W'
1	57	98	16'-6"
2	57	97	18'-8"



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12499 West Colfax Avenue, Lakewood, Colorado 80215
303.431.6100, martinmartin.com

PROJECT INFORMATION

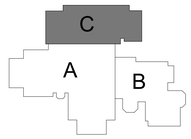
BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

ROOF PLAN - AREA C

S102C

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST.CYR.
DATE PRINTED: 7/29/2023 8:46:06 AM
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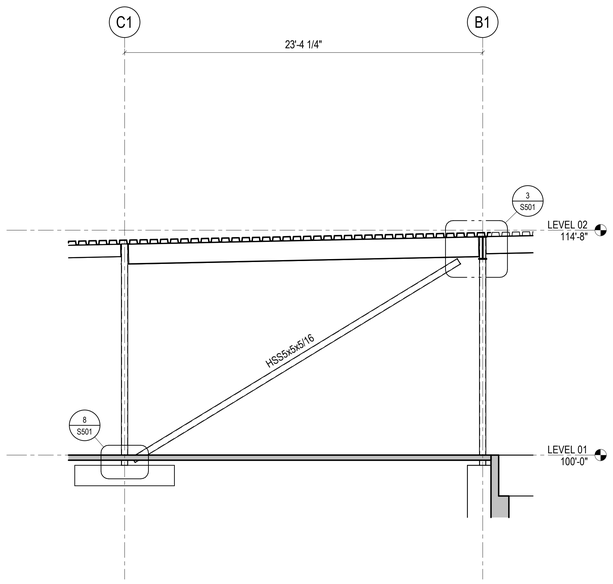
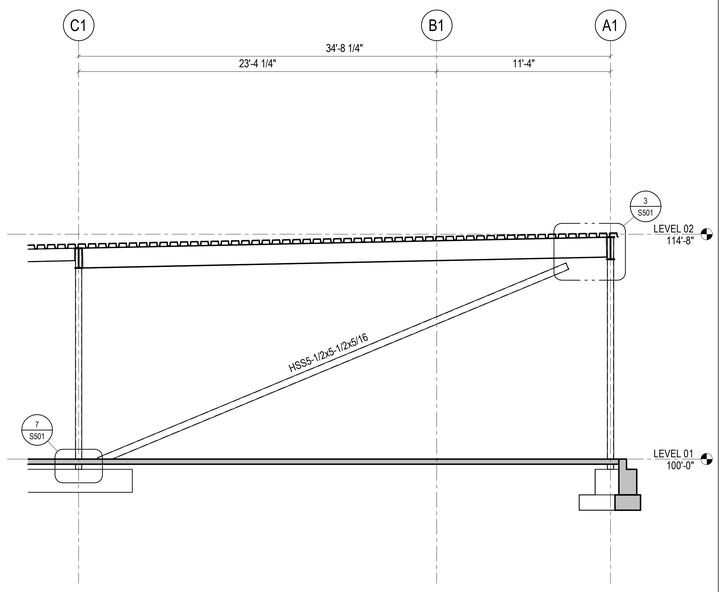
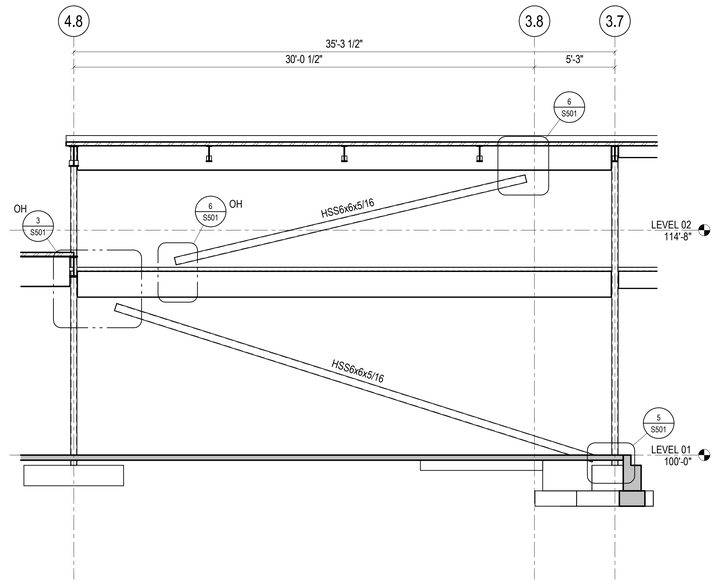


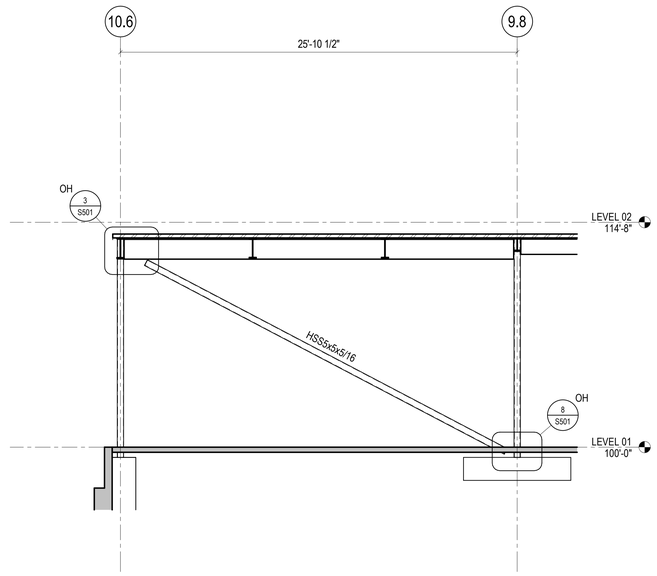
5 1/4" = 1'-0" BRACED FRAME ELEVATION ON GRID 9.8



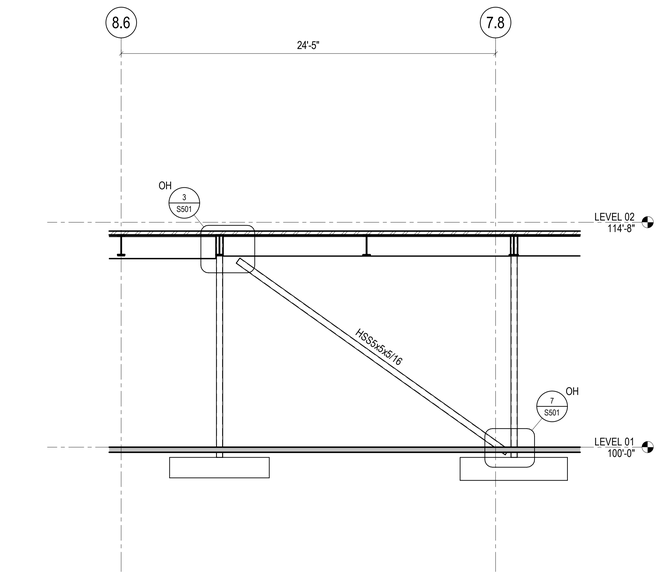
3 1/4" = 1'-0" BRACED FRAME ELEVATION ON GRID 7.8



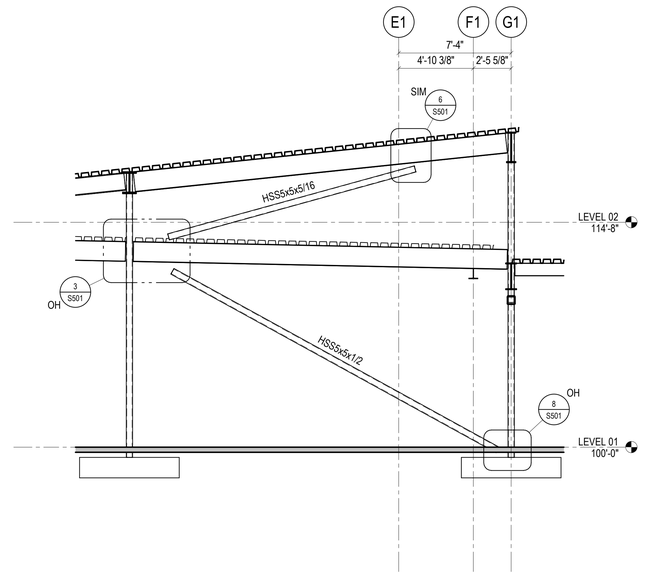
1 1/4" = 1'-0" BRACED FRAME ELEVATION ON GRID G1



6 1/4" = 1'-0" BRACED FRAME ELEVATION ON GRID C1 BETWEEN GRIDS 9.8 AND 10.1



4 1/4" = 1'-0" BRACED FRAME ELEVATION ON GRID C1 BETWEEN GRIDS 7.8 AND 8.1



2 1/4" = 1'-0" BRACED FRAME ELEVATION ON GRID 4.8

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12499 West Colfax Avenue Lakewood, Colorado 80215
303.431.6100 martinmartin.com

PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

COLORADO LICENSED KEVIN MICHAEL HAAS 43631 PROFESSIONAL ENGINEER

SHEET INFORMATION

PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

BRACED FRAME ELEVATIONS

S201

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP

DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST.CYR
DATE PRINTED: 7/29/2023 8:46:07 AM
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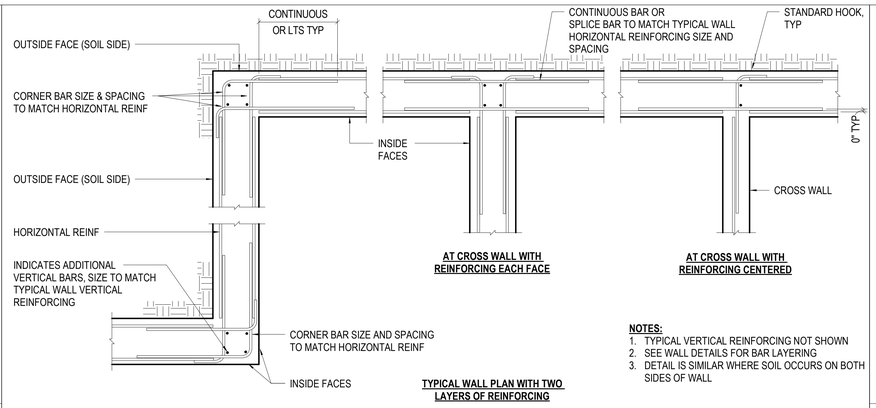
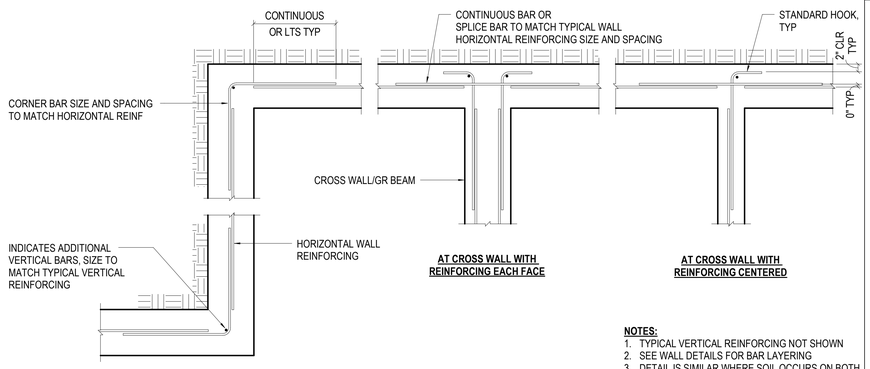
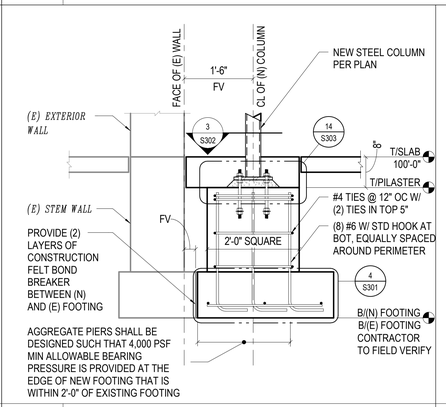
1 2 3 4 5 6 7

A B C D E

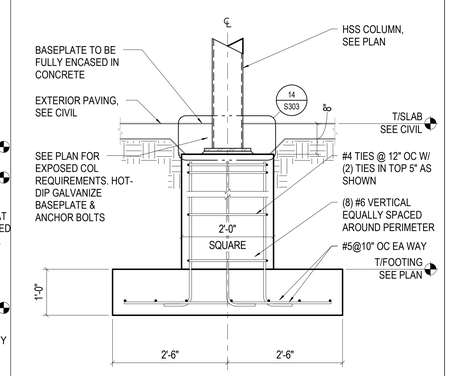




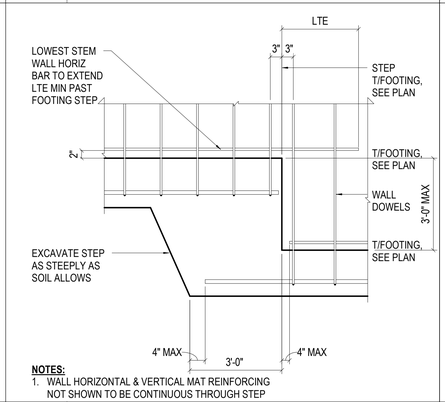
14 NO SCALE TYPICAL HORIZONTAL REINFORCING AT STEM WALLS



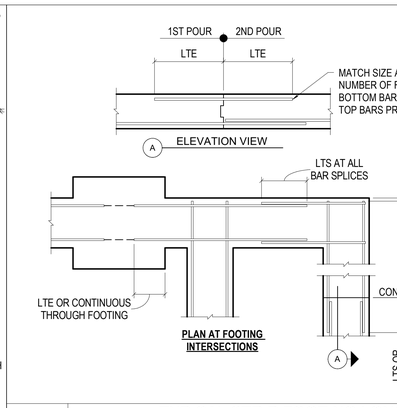
15 3/4" = 1'-0" TYPICAL FOOTING AT (E) FOOTING



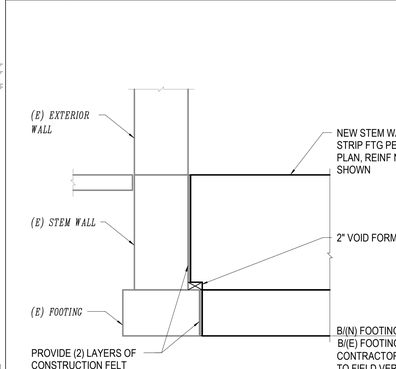
11 NO SCALE EXTERIOR COLUMN BASE



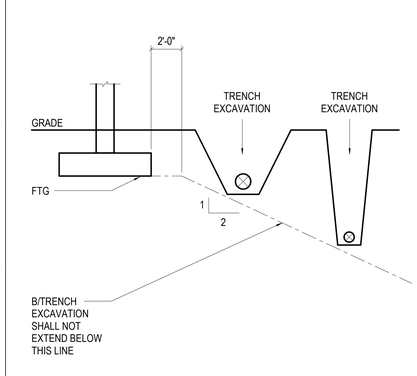
12 NO SCALE STRIP FOOTING W/CIP STEM WALL STEP, 3'-0" AND LESS



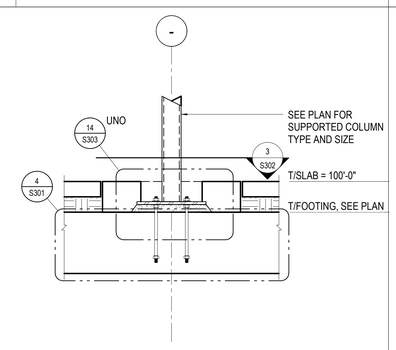
5 NO SCALE TYPICAL STRIP FOOTING LONGIT BAR KEY PLAN



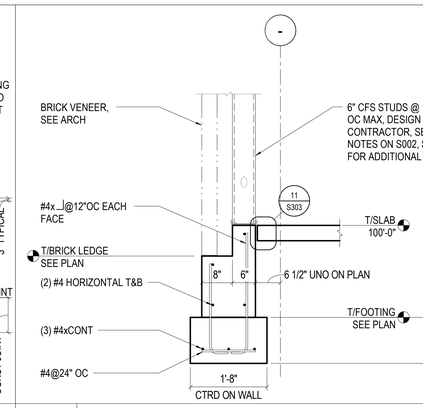
6 3/4" = 1'-0" TYPICAL FOOTING AT EXISTING FOOTING



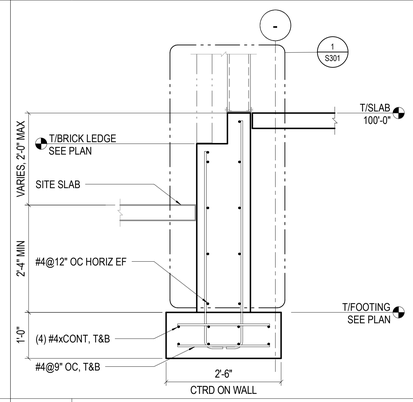
7 NO SCALE TYPICAL EXCAVATION AT FOOTING



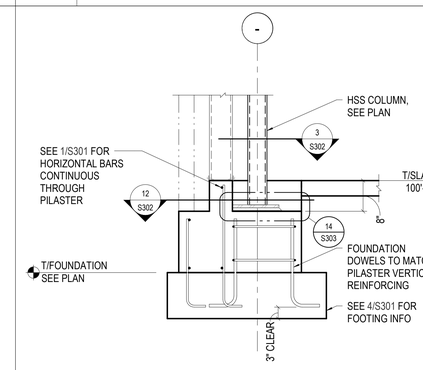
8 NO SCALE INTERIOR COLUMN AT SPREAD FOOTING



1 NO SCALE TYPICAL STEM WALL



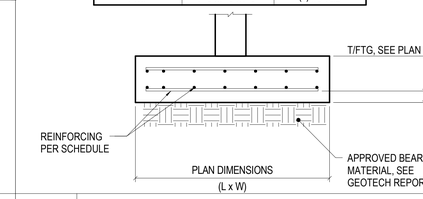
2 3/4" = 1'-0" EAST STEM WALL



3 NO SCALE TYPICAL PILASTER SECTION AT COLUMN

SPREAD FOOTING SCHEDULE
SOIL ALLOWABLE PRESSURE = 4000 PSF

MARK	FOOTING SIZE L x W x T	REINFORCING
F3x3	3'-0"x3'-0"x1'-0"	(4) #4 EW BOT
F4x4	4'-0"x4'-0"x1'-0"	(4) #5 EW BOT
F5x5	5'-0"x5'-0"x1'-0"	(6) #5 T&B
F6x5	6'-0"x5'-0"x1'-2"	(5) #5 L BARS, (6) #5 W BARS
F6x6	6'-0"x6'-0"x1'-2"	(6) #6 T&B
F6.5x6.5	6'-6"x6'-6"x1'-2"	(7) #6 T&B
F7x7	7'-0"x7'-0"x1'-6"	(8) #6 T&B



4 NO SCALE TYPICAL SPREAD FOOTING

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PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

COLORADO LICENSED KEVIN MICHAEL HAAS 43631 PROFESSIONAL ENGINEER 07/31/2023

SHEET INFORMATION

PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

CONCRETE DETAILS

S301

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST.CYR
DATE PRINTED: 7/29/2023 8:46:09 AM
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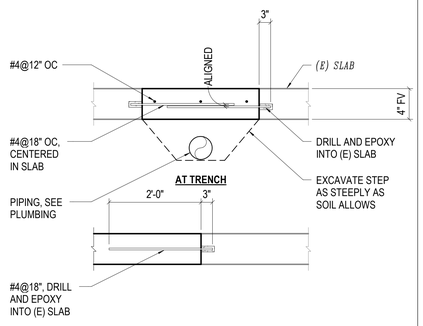
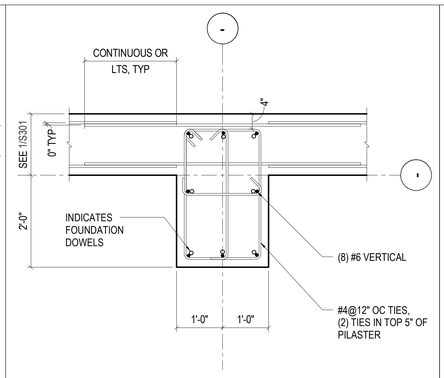
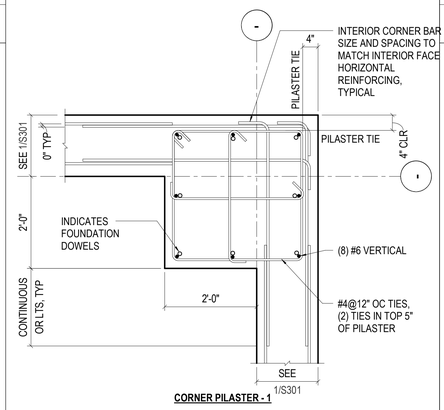


NOTES:
1. TYPICAL SLAB REINFORCING NOT SHOWN

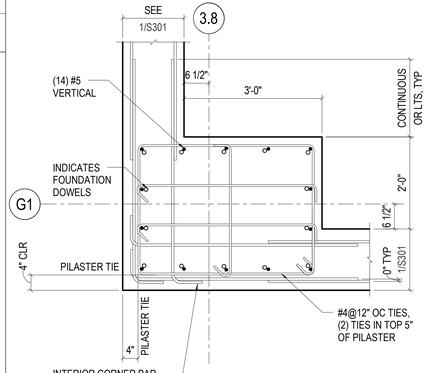
13 NO SCALE SOG DOWEL TO EXISTING



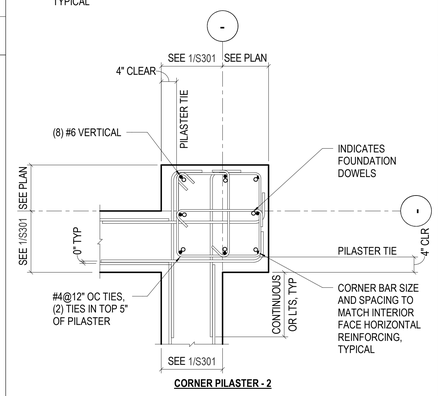
PILASTER IN WALL



CORNER PILASTER - 1



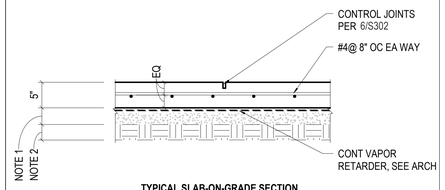
CORNER PILASTER - GRID G1



CORNER PILASTER - 2

NOTES:
1. TYPICAL VERTICAL WALL REINFORCING NOT SHOWN
2. SEE WALL DETAILS FOR BAR LAYERING

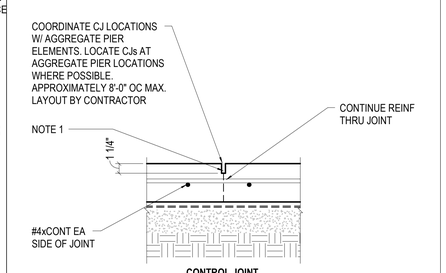
12 NO SCALE PILASTER AT BASEMENT AND FND WALLS AT SPREAD FOOTINGS



TYPICAL SLAB-ON-GRADE SECTION

NOTES:
1. GRANULAR COURSE: 6" MIN COMPACTED GRANULAR FILL, SEE GEOTECHNICAL REPORT.
2. PREPARED/COMPACTED SUBGRADE, SEE GEOTECH REPORT

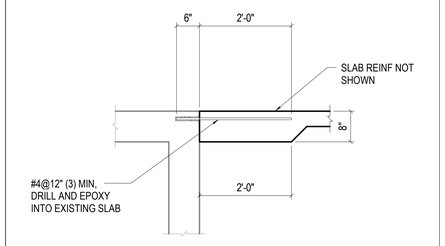
5 NO SCALE TYPICAL SLAB-ON-GRADE



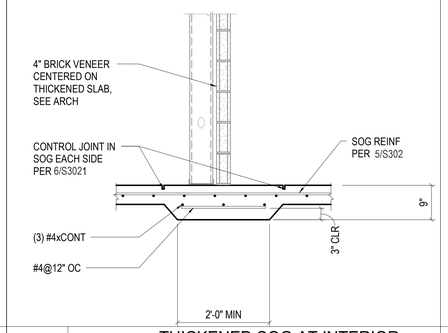
CONTROL JOINT

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)

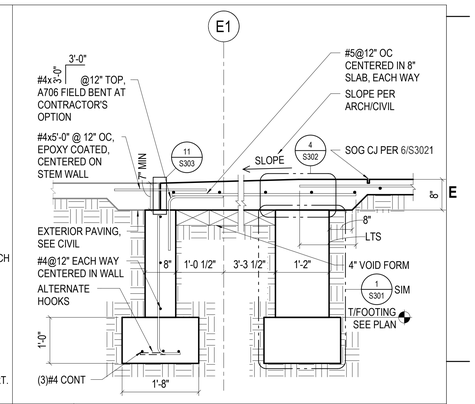
6 NO SCALE SLAB-ON-GRADE JOINTS



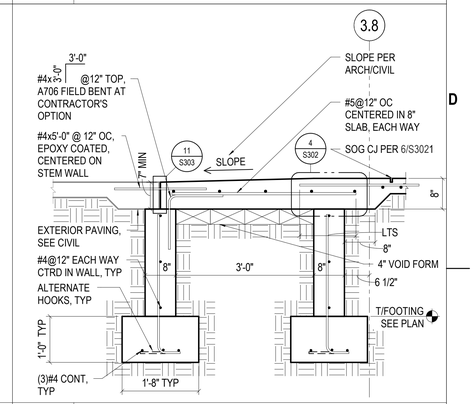
7 NO SCALE NEW SLAB TO EXISTING



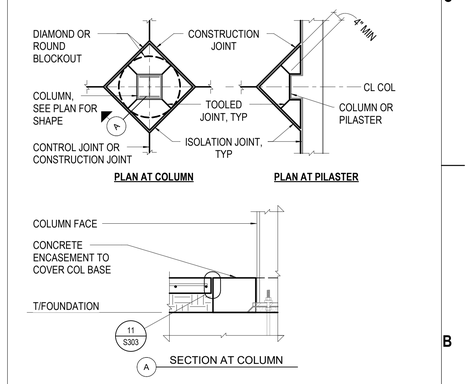
8 3/4" = 1'-0" THICKENED SOG AT INTERIOR BRICK



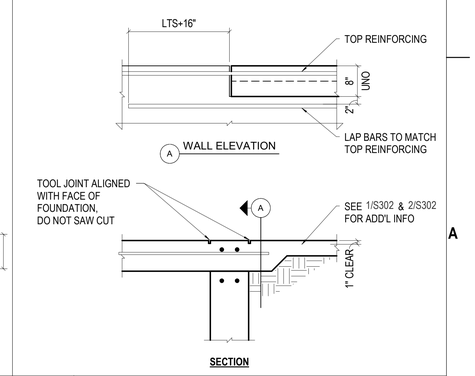
1 3/4" = 1'-0" SECTION AT EAST STOOP



2 3/4" = 1'-0" SECTION AT WEST STOOP



3 NO SCALE SOG BLOCKOUT AT COLUMN/PILASTER



4 NO SCALE SLAB-ON-GRADE INTERIOR THRESHOLD

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PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

COLORADO LICENSED KEVIN MICHAEL HAAS 43631 07/31/2023 PROFESSIONAL ENGINEER

SHEET INFORMATION

PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

CONCRETE DETAILS

S302

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP

DESIGNERS: ALI HASSANI
LEAD CREW / TECH: KRISTOPHER ST CYR
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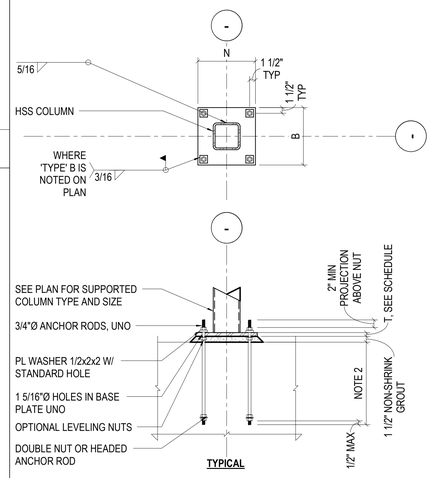
1 2 3 4 5 6 7

A B C D E

BASE PLATE DIMENSIONS HSS SQUARE

COLUMN SIZE	PLATE THICKNESS, T (in)	B, (in)	N, (in)
HSS4x4x1/8-HSS4x4x3/16	1/2	12	12
HSS4x4x1/4-HSS4x4x1/2	3/4	12	12
HSS5x5x3/16-HSS5x5x3/8	3/4	12	12
HSS5x5x1/2	1	12	12
HSS8x8x1/2	1 1/4	15	15



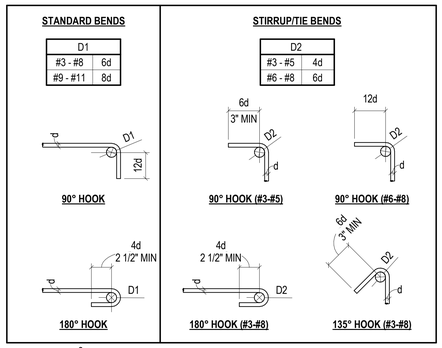
TYPICAL

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

14 3/4" = 1'-0" TYPICAL GRAVITY COLUMN BASE PLATE

REBAR COVER TABLE

CASE	COVER (IN)
CONCRETE PLACED AGAINST EARTH	3
CONCRETE PLACED IN FORMS, EXPOSED TO WEATHER OR EARTH	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	8	9	12	12			13			17		
#4	12	11	15	14			18			23		
#5	16	14	19	20	17		26	22		34	28	
#6	21	17	23	27	20		35	26		46	34	
#7	27	20	27	44	33	29	57	43	38	74	55	49
#8	32	22	30	55	42	33	72	54	43	93	70	56
#9	39	25	34	67	51	41	87	66	53	113	86	69
#10	45	28	38	79	61	49	103	79	64	134	103	83
#11	52	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	8	8	12	12			12			16		
#4	11	11	15	13			16			21		
#5	16	13	19	19	16		24	20		31	26	
#6	20	16	23	25	19		33	24		43	31	
#7	26	18	27	41	31	27	53	40	35	69	51	45
#8	31	21	30	51	39	31	66	50	40	86	65	52
#9	37	23	34	62	47	38	81	61	49	105	79	64
#10	43	26	38	74	56	46	96	73	59	124	95	77
#11	50	28	42	86	66	54	111	86	70	145	112	91

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	7	8	12	12			12			13		
#4	11	9	15	12			14			18		
#5	15	12	19	16	13		20	17		26	22	
#6	19	14	23	21	16		28	20		36	26	
#7	24	16	27	34	26	23	45	33	29	58	43	38
#8	29	18	30	43	32	26	56	42	34	72	54	44
#9	35	21	34	52	40	32	68	51	41	88	66	54
#10	41	23	38	62	47	38	80	61	50	104	80	65
#11	47	25	42	72	56	45	93	72	59	121	93	76

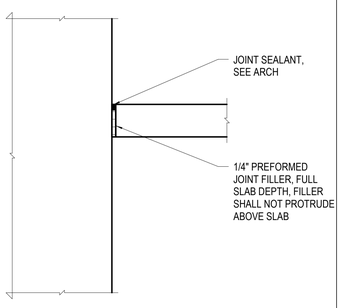
GENERAL NOTES:
1. LENGTHS SPECIFICALLY DETAILED ON DRAWINGS SHALL GOVERN IN LIEU OF LAP LENGTHS SCHEDULED
2. ABBREVIATIONS:
   A. 'LCE' = COMPRESSION EMBEDMENT LENGTH
   B. 'LCS' = COMPRESSION LAP SPLICE LENGTH
   C. 'LDH' = HOOK DEVELOPMENT LENGTH
   D. 'LTE' = TENSION EMBEDMENT LENGTH
   E. 'LTS' = 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

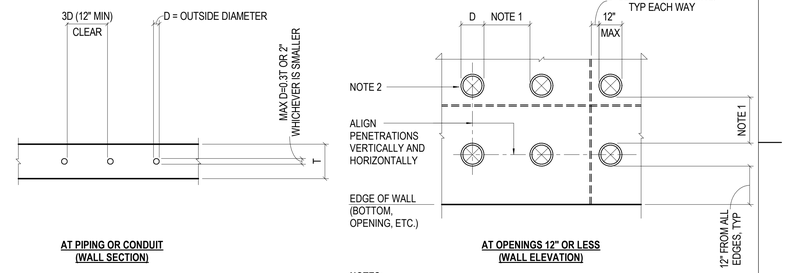
LAP SPLICE NOTES:
1. ALL SPLICES SHALL BE WIRED IN CONTACT
2. ALL SPLICES ARE 'LTS' UNLESS NOTED OTHERWISE
3. SMALLER BAR LAP LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZED BARS
   A. COMPRESSION LAP LENGTH SHALL NOT BE LESS THAN 'LCE' OF THE LARGER BAR
   B. TENSION LAP LENGTH SHALL NOT BE LESS 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 INFORMATION



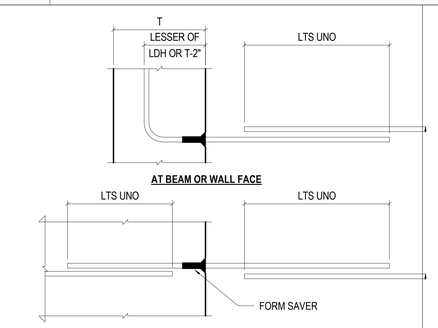
11 NO SCALE TYPICAL SOG ISOLATION JOINT



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

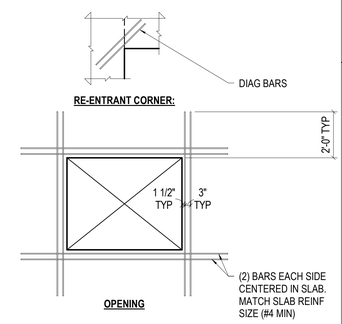
NOTES:
1. GREATER OF 2xD AND 12", WHERE CLEAR DISTANCE IS NOT ACHIEVABLE, TREAT AREA AS SINGLE OPENING REINFORCED PER "TYPICAL OPENING" DETAIL
2. DO NOT CORE OPENINGS, SLEEVE OPENINGS PRIOR TO PLACING CONCRETE
3. DO NOT CUT REBAR AT PENETRATION LOCATIONS. REBAR MAY BE MOVED 8" MAX TO ACCOMMODATE PENETRATIONS
4. SCHEDULE 40 STEEL SLEEVES SHALL BE USED IN CRITICAL AREAS OF THE WALL AND SLABS AS DETERMINED BY STRUCTURAL ENGINEER OF RECORD

7 NO SCALE CAST IN PLACE WALL PENETRATIONS



NOTES:
1. FORM SAVERS SHOWN ON DRAWINGS ARE SUGGESTED BASED ON ANTICIPATED CONSTRUCTION SEQUENCE AND FORMING SYSTEM. GENERAL CONTRACTORS AND SUB-CONTRACTORS MAY COORDINATE AND INSTALL CONTINUOUS BARS OR BREAK-OUT BARS TO PROVIDE EQUIVALENT CONTINUITY.

8 NO SCALE TYPICAL FORMSAVER



NOTES:
1. DETAIL APPLIES FOR ALL OPENINGS IN SOGS
2. REINF NOT REQUIRED AT OPENINGS SMALLER THAN 10"x10"
3. SEE OTHER DETAILS FOR REINF AT OPENINGS IN CONCRETE WALLS

4 NO SCALE TYPICAL TRIM REINF

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com
DIRECT PHONE:
EMAIL ADDRESS:
MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Avenue Lakewood, Colorado 80215
303.431.6100 martinmartin.com

PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

COLORADO LICENSED KEVIN MICHAEL HAAS 43631 7/31/2023 PROFESSIONAL ENGINEER

SHEET INFORMATION

PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

CONCRETE DETAILS

S303

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST.CYR
DATE PRINTED: 7/29/2023 8:46:12 AM
FILE PATH: Autodesk Docs://822808 - Bergen Valley Elementary School Addition & Reno/22.1668.S.01 - Bergen Valley ES - S23.rvt

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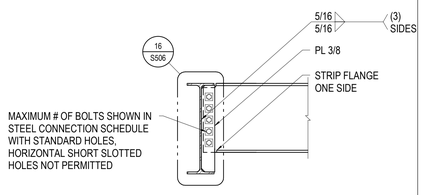


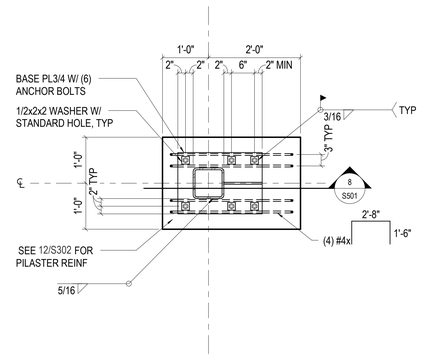
13 3/4" = 1'-0" TYPICAL FULL HEIGHT SHEAR CONNECTION

DRAG CONNECTION PARAMETER (LRFD)

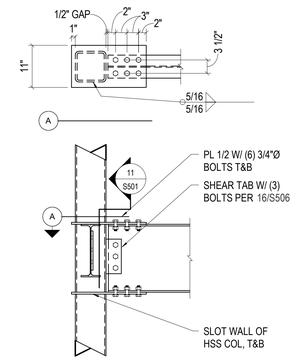
	BEAM SIZE	NRB
AT HSS COLUMN / WF COLUMN FLANGE / OR EMBED PLATE	W10x15 & UP	2
	W12x19 & UP	3
	W14	3
	W16	4
	W18	5
	W21 - W24	6

	BEAM SIZE	NRB
AT WF COLUMN WEB OR WF GIRDER	W10x15 & UP	2
	W12x19 & UP	3
	W14	3
	W16	4
	W18	5
	W21 - W24	6

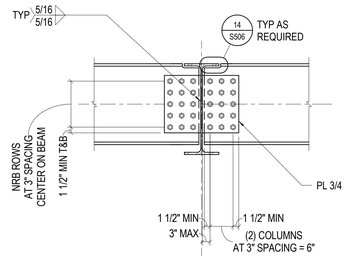
NOTES:
1. ALL BOLTS ARE A325N IN STD HOLES.
2. DRAG CONNECTIONS INDICATED THUS: ●——



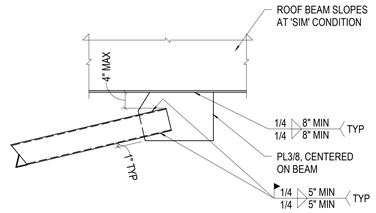
5 3/4" = 1'-0" BRACED FRAME PILASTER



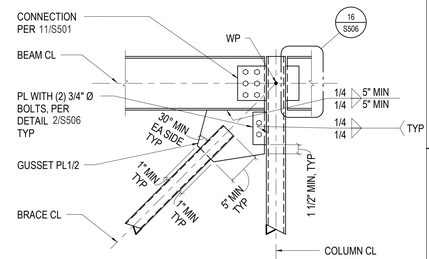
1 NO SCALE WF BEAM TO HSS 8x8 MOMENT CONNECTION



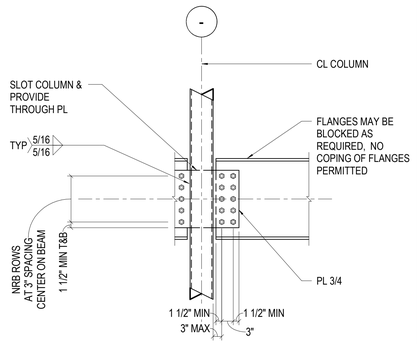
AT WIDE FLANGE GIRDER



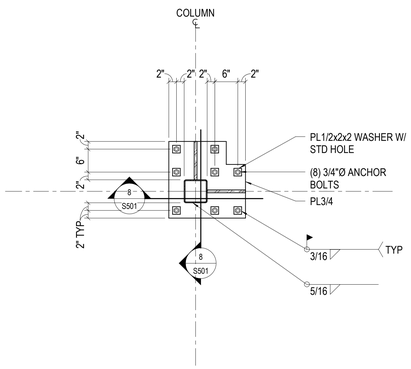
6 3/4" = 1'-0" BRACED FRAME CONNECTION Copy 1



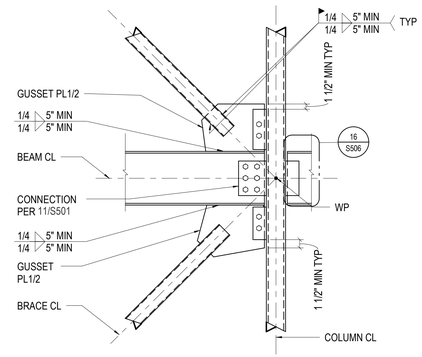
BRACE BELOW BEAM



AT HSS COLUMNS



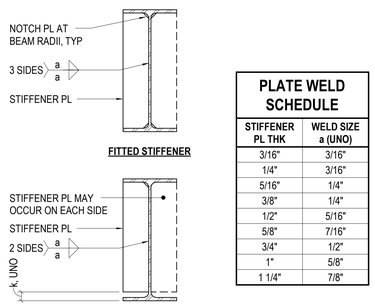
7 NO SCALE BRACED FRAME BASE CONNECTION



BRACE ABOVE AND BELOW BEAM

NOTES:
1. ALL HOLES IN BEAMS AND PLATES SHALL BE STD HOLES

3 NO SCALE BRACED FRAME CONNECTION



FITTED STIFFENER

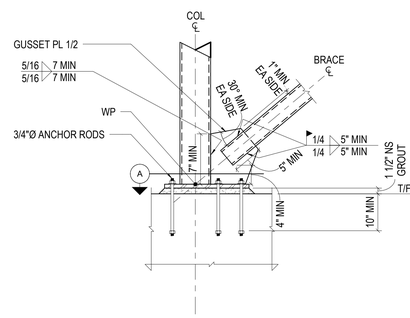
FULL DEPTH STIFFENER

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"

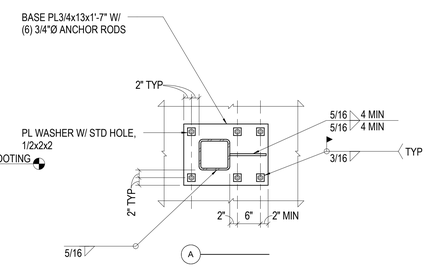
NOTES:
1. ACTUAL STIFFENER GEOMETRY VARIES, SEE DETAILS
2. STIFFENER SURFACES THAT CONTACT BEAM FLANGES SHALL BE FINISHED FOR BEARING

12 1 1/2" = 1'-0" TYPICAL WIDE FLANGE BEAM STIFFENER



NOTES:
1. CONTRACTOR TO COORDINATE SOG BLOCKOUT SIZE TO ALLOW FOR BRACE INSTALLATION, TYP

8 NO SCALE BRACED FRAME BASE PLATE



7 NO SCALE BRACED FRAME BASE CONNECTION

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1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Avenue
Lakewood, Colorado 80215
303.431.6100
martinmartin.com

PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
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KEY PLAN

COLORADO LICENSED
KEVIN MICHAEL HAAS
43631
PROFESSIONAL ENGINEER

SHEET INFORMATION

PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

STEEL DETAILS

S501

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST. CYR
DATE PRINTED: 7/29/2023 8:46:14 AM
FILE PATH: Autodesk Docs://822808 - Bergen Valley Elementary School Addition & Reno\22.1668.S.01 - Bergen Valley ES - S23.rvt

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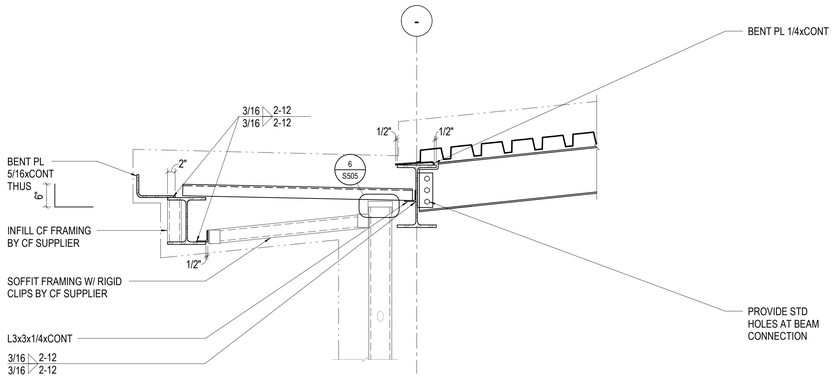
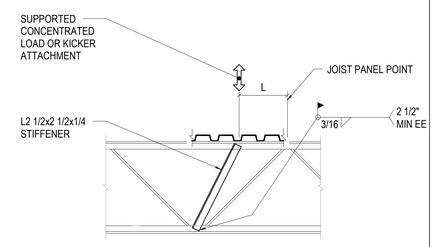
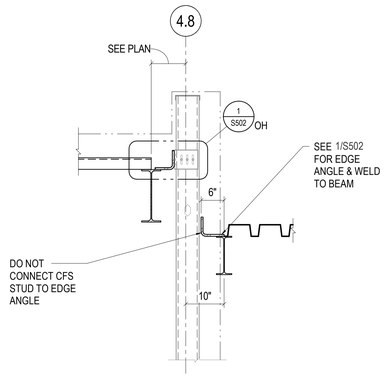


17 3/4" = 1'-0" LOW EAVE AT SLOPED ROOF

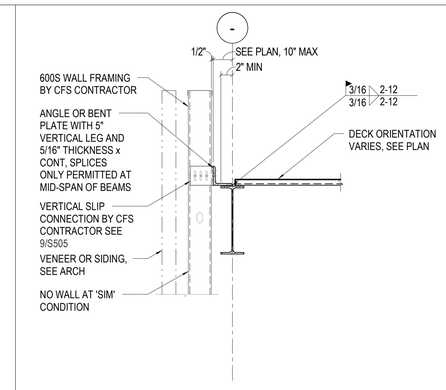


NOTES:
1. DETAIL TO BE USED AT ALL CONCENTRATED LOADS OR KICKERS WHERE 'L' EXCEEDS 6"

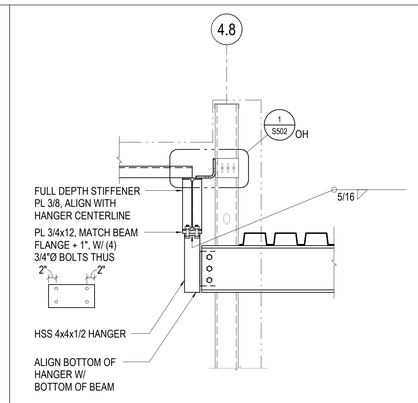
9 NO SCALE EXISTING JOIST CHORD SUPPORT



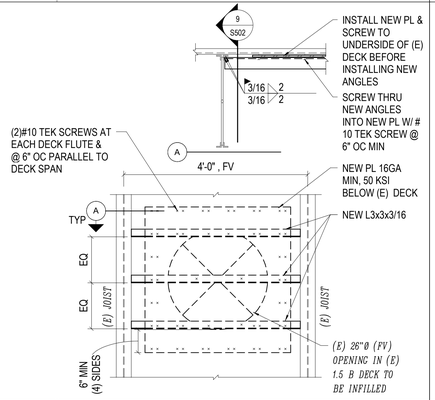
5 3/4" = 1'-0" LOW ROOF STEP



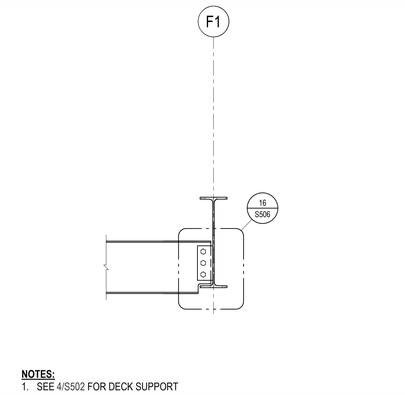
1 NO SCALE TYPICAL CF BYPASS VERTICAL DEFLECTION CONN AT ROOF



14 3/4" = 1'-0" HANGER AT LOW EAVE BEAM

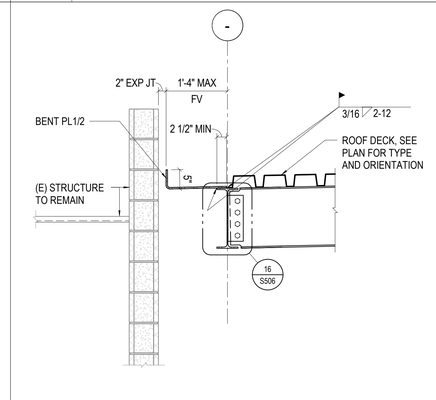


10 NO SCALE EXISTING BOILER FLUE INFILL

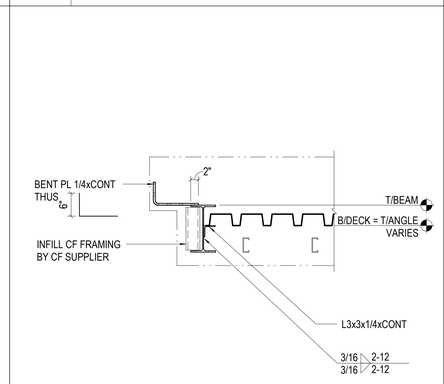


NOTES:
1. SEE 4/S502 FOR DECK SUPPORT

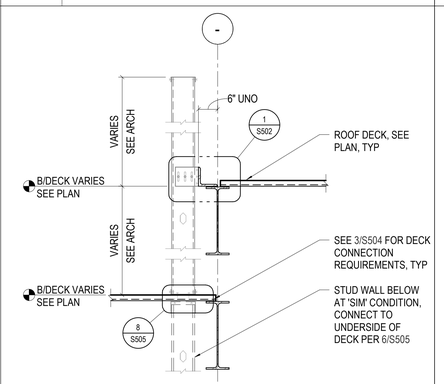
6 3/4" = 1'-0" ROOF STEP W/ BEAM AT GRIDLINE



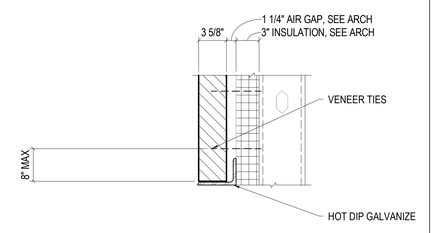
2 3/4" = 1'-0" EXPANSION JOINT AT ROOF



15 3/4" = 1'-0" RAKE BEAM AT LOW EAVE DECK



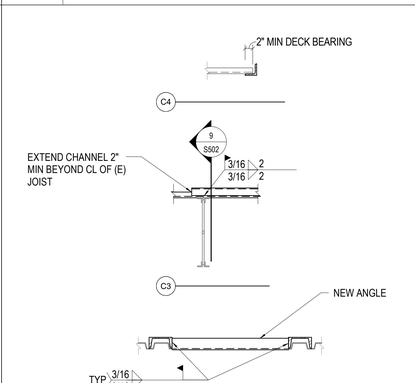
11 NO SCALE SECTION AT ROOF STEP WITH NO BRICK



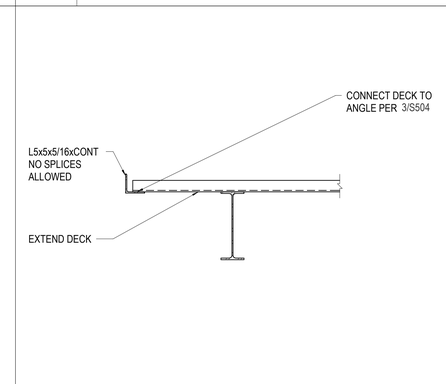
BRICK VENEER LOOSE LINTEL SCHEDULE - OFFSET 1 1/2"

OPENING LENGTH, L	LINTEL	BEARING EE	REMARKS
L ≤ 5'-4"	L4x4x5/16	4"	
5'-4" < L ≤ 6'-4"	L6x4x5/16	4"	LLV

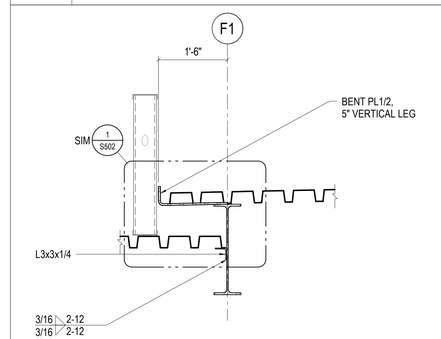
12 NO SCALE TYPICAL MASONRY VENEER LOOSE LINTEL



8 NO SCALE NEW ROOF PENETRATION IN EXISTING ROOF



3 3/4" = 1'-0" CANOPY EDGE



4 3/4" = 1'-0" ROOF STEP AT GRIDLINE F1

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Lakewood, Colorado 80215
303.431.6100
martinmartin.com

PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

COLORADO LICENSED
KEVIN MICHAEL HAAS
43631
07/31/2023
PROFESSIONAL ENGINEER

SHEET INFORMATION

PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

STEEL DETAILS

S502

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD DRFT. TECH: KRISTOPHER ST.CYR
DATE PRINTED: 7/29/2023 8:46:16 AM
FILE PATH: Autodesk Docs://822808 - Bergen Valley Elementary School Addition & Reno/22.1668.S.01 - Bergen Valley ES - S23.rvt

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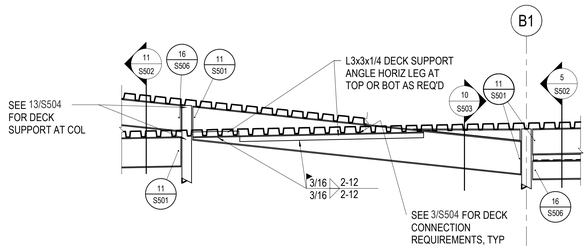
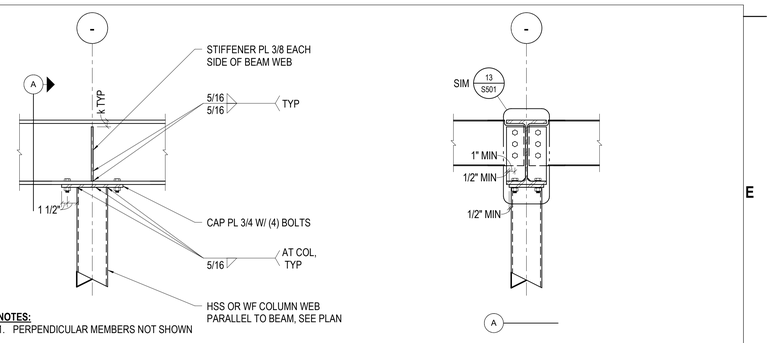
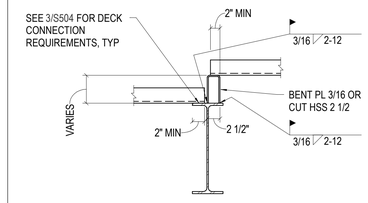


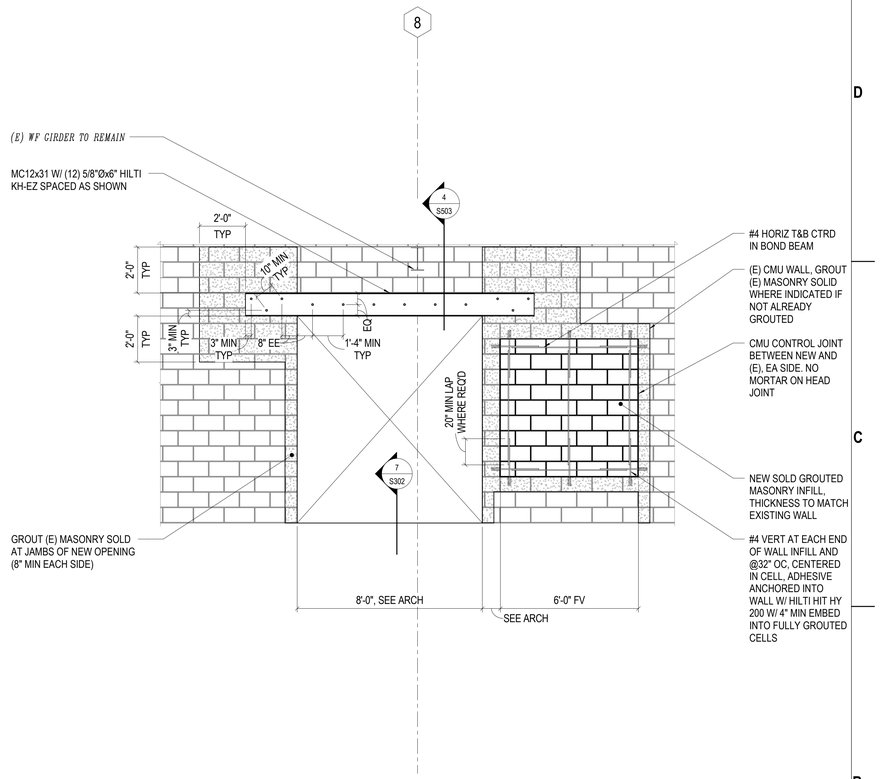
13 3/8" = 1'-0" HIGH-LOW ROOF INTERSECTION



5 NO SCALE BEAM OVER COLUMN

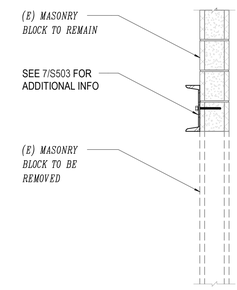


10 1" = 1'-0" HIGH LOW ROOF INTERSECTION



NOTES:
1. CONTRACTOR TO PROVIDE SHORING AS REQUIRED TO MAINTAIN STABILITY OF EXISTING STRUCTURES DURING CONSTRUCTION, SEE GENERAL NOTES SECTION 6

7 3/8" = 1'-0" NEW OPENING LINTEL IN EXISTING MASONRY WALL



4 3/4" = 1'-0" SECTION AT NEW LINTEL AT EXISTING WALL

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PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

COLORADO LICENSED KEVIN MICHAEL HAAS 43631 07/31/2023 PROFESSIONAL ENGINEER

SHEET INFORMATION

PROJECT MANAGER TC
PROJECT NUMBER 22.1668.S.01

STEEL DETAILS

S503

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST CYR
DATE PRINTED: 7/29/2023 8:46:16 AM
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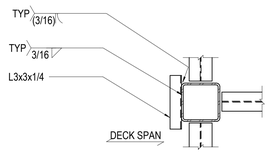
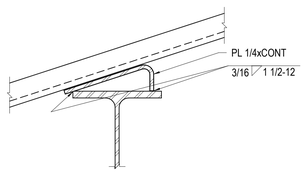


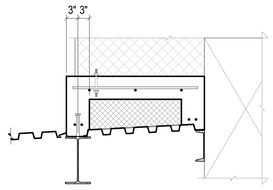
NOTES:
1. CONTRACTOR MAY DESIGN ALTERNATE METHODS OF DECK SUPPORT. DECK SUPPORTS SHALL BE ABLE TO SUPPORT THE DECK AS A FORM WITH THE WET WEIGHT OF THE CONCRETE AND ALL CONSTRUCTION LOADS

13 NO SCALE TYPICAL METAL DECK SUPPORT AT INTERIOR COLUMN

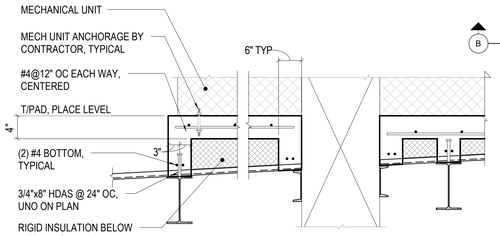


NOTE:
1. PLATE REQUIRED WHEN SLOPE IS 1/2:12 OR STEEPER

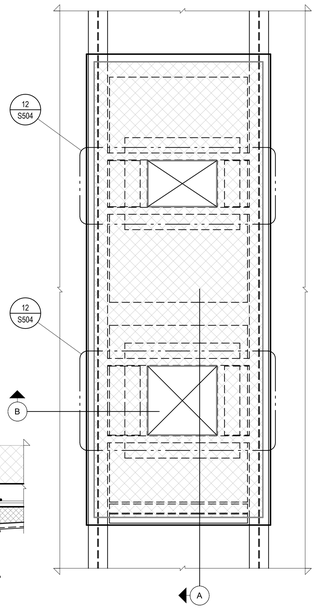
14 3" = 1'-0" TYP METAL DECK AT BEAM PERPENDICULAR TO SLOPE



B AT CURB PARALLEL TO DECK

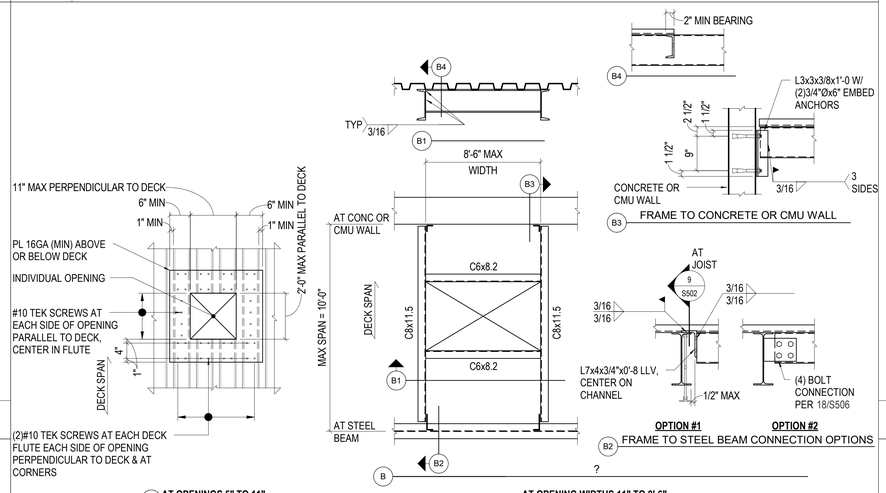


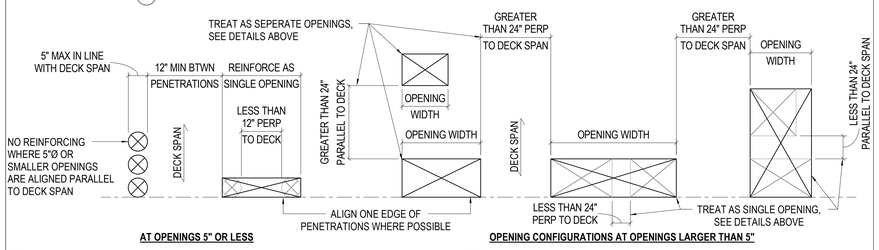
A AT CURB PERPENDICULAR TO DECK



KEY PLAN (NO SCALE)

10 NO SCALE CONCRETE ROOF TOP EQUIPMENT PAD ABOVE INSULATION





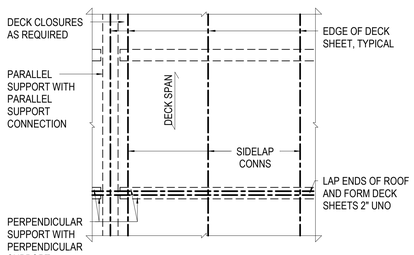
AT OPENINGS 5" OR LESS

OPENING CONFIGURATIONS AT OPENINGS LARGER THAN 5"

NOTES:
1. WHERE POSSIBLE ALIGN PENETRATIONS PARALLEL & PERPENDICULAR TO DECK SUCH THAT ONE EDGE OF PENETRATION ALIGNS IN EACH DIRECTION
2. AT OPENINGS LARGER THAN 5"Ø, TREAT ADJACENT OPENINGS AS A SINGLE LARGE OPENING IF EITHER:
   A. OPENINGS ARE ALIGNED PARALLEL TO DECK SPAN WITH LESS THAN 24" CLEAR OR
   B. OPENINGS ARE ALIGNED PERPENDICULAR TO DECK SPAN WITH LESS THAN 24" CLEAR

NOTES:
3. NO PENETRATION REINFORCING IS REQUIRED AT:
   A. INDIVIDUAL ISOLATED PENETRATIONS 5"Ø OR SMALLER
   B. PENETRATIONS 5"Ø OR SMALLER ALIGNED PARALLEL TO DECK SPAN
   C. PENETRATIONS 5"Ø OR SMALLER IF SPACED GREATER THAN 24" PERPENDICULAR TO DECK SPAN; IF SPACING BETWEEN OPENINGS PERPENDICULAR TO DECK SPAN DOES NOT EXCEED 24", REINFORCE AS A SINGLE OPENING

12 NO SCALE TYPICAL SUPPORT AT ROOF DECK PENETRATIONS



TYPICAL ROOF DECK CONNECTIONS & LAYOUT

DECK DEPTH & TYPE — MINIMUM DECK GAGE: 3N-20

NOTES:
1. DECK TYPE INDICATED ON PLAN THUS:
2. SEE SCHEDULES BELOW FOR ADDITIONAL INFORMATION, MINIMUM PROPERTIES AND CONNECTION REQUIREMENTS
3. INSTALL DECK OVER 4 SUPPORTS (3) SPAN CONTINUOUS WHERE POSSIBLE
4. HANGERS WITH A 50 POUND MAXIMUM LOAD MAY BE PLACED AT 4'-0" MINIMUM SPACING EACH WAY
5. SEE SPECIFICATIONS FOR DECK FINISH

ROOF DECK SCHEDULE

MARK	DECK TYPE		DECK CONN TYPE
	TYPE	GAGE	
3N-20	3NL-32	20	A

NOTES:
1. INSTALL DECK OVER 4 SUPPORTS (3) SPAN CONTINUOUS WHERE POSSIBLE
2. IF ACTUAL DECK SPANS EXCEED MAXIMUM SPAN LENGTHS INDICATED ABOVE, REQUEST ADDITIONAL INFORMATION FROM ENGINEER

ROOF DECK PROPERTIES

DECK TYPE	DECK DEPTH (IN)	DECK GAGE	DECK Fy (KSI)	I POS (IN^4/FT)	S POS (IN^3/FT)	S NEG (IN^3/FT)	MINIMUM DECK BEARINGS (IN)	
							EXTERIOR	INTERIOR
3NL-32	3	20	50	0.806	0.448	0.476	1 1/2	4

DECK CONNECTION SCHEDULE

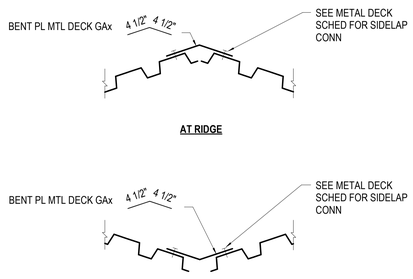
TYPE	PERPENDICULAR SUPPORT MEMBERS		PARALLEL SUPPORT MEMBERS		SIDELAPS	
	CONNECTION	PATTERN	CONNECTION	PATTERN	CONNECTION	PATTERN
A	5/8"Ø PUDDLE WELDS OR PAF	32/5	5/8"Ø PUDDLE WELDS OR PAF	12" OC	#10 SCREW	5/SPAN

PAF CONNECTOR SCHEDULE

CONNECTED STEEL THICKNESS	PAF TYPE
1/8" < tf < 3/8"	X-HSN 24
1/4" < tf	X-ENP-19 L15

NOTES:
1. CONTRACTOR TO HAVE HILTI REPRESENTATIVE TRAIN INSTALLERS ON PROPER FASTENER SELECTION AND INSTALLATION
2. CONTRACTOR MAY SELECT FROM PAF OPTIONS SHOWN ABOVE

3 NO SCALE ROOF DECK SCHEDULE, LAYOUT & CONNECTIONS



4 NO SCALE TYPICAL ROOF DECK AT RIDGE/VALLEY

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303.431.6100, martinmartin.com

PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

ROOF DECK DETAILS

S504

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSAN
LEAD CREW TECH: KRISTOPHER ST. CYR.
DATE PRINTED: 7/29/2023 8:46:18 AM
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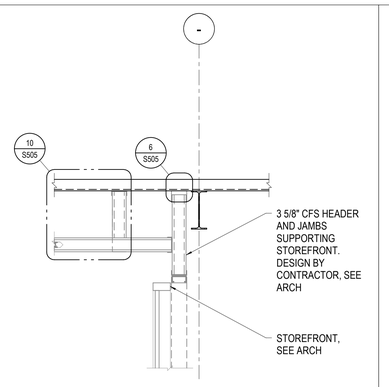
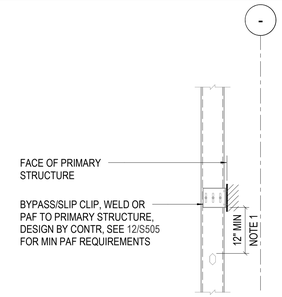
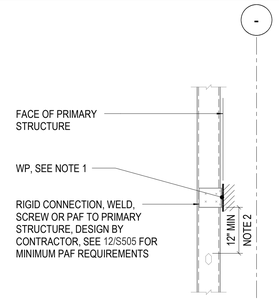


13 3/4" = 1'-0" ENTRY STOREFRONT HEAD



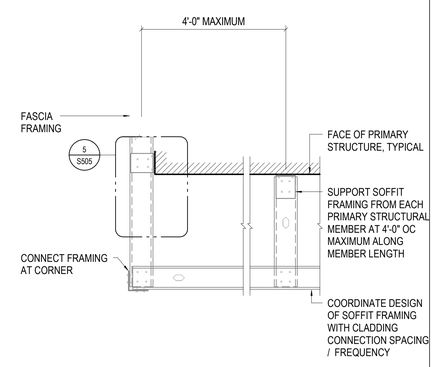
NOTES:
1. SEE DETAIL11/S505 IF MINIMUM DIMENSION CANNOT BE ACHIEVED

9 NO SCALE CONTRACTOR ENGINEERED WALL SLIP CONN MIN REQUIREMENTS

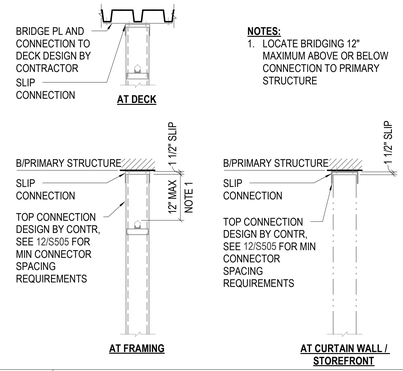


NOTES:
1. DESIGN CONNECTION TO DELIVER VERTICAL SHEAR AND HORIZONTAL AXIAL FORCE AT WORKPOINT, DO NOT IMPOSE MOMENT ON PRIMARY STRUCTURE
2. SEE DETAIL 11/S505 IF MINIMUM DIMENSION CAN NOT BE ACHIEVED

5 NO SCALE CONTRACTOR ENGINEERED WALL FIXED CONN MIN REQUIREMENTS

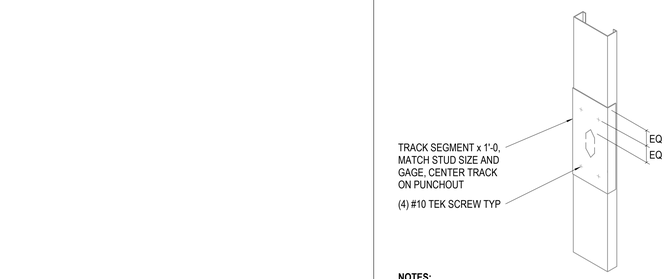


10 NO SCALE CONTRACTOR ENGINEERED WALL SOFFIT FRAMING MIN REQT(s)



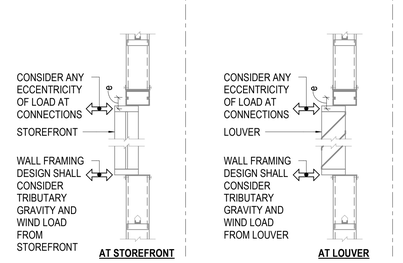
NOTES:
1. LOCATE BRIDGING 12" MAXIMUM ABOVE OR BELOW CONNECTION TO PRIMARY STRUCTURE

6 NO SCALE CONTRACTOR ENGINEERED WALL FRAM TO B/PRIMARY STRUCTURE

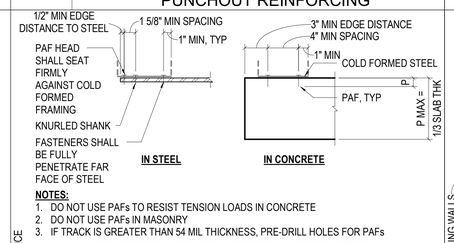


NOTES:
1. REINFORCING REQUIRED WHEN PUNCHOUT LOCATION SPECIFIED IN OTHER DETAILS CANNOT BE ACHIEVED
2. PUNCHOUT REINFORCING INDICATED IS A MINIMUM, FINAL REINFORCING SHALL BE DESIGNED BY CONTRACTOR

11 NO SCALE CONTRACTOR ENGINEERED WALL PUNCHOUT REINFORCING

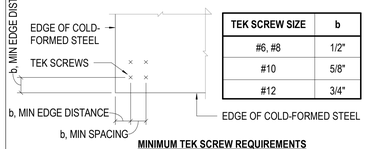


7 NO SCALE CONTRACTOR ENGINEERED WALL STOREFRONT / LOUVER TO FRAM



NOTES:
1. DO NOT USE PAFs TO RESIST TENSION LOADS IN CONCRETE
2. DO NOT USE PAFs IN MASONRY
3. IF TRACK IS GREATER THAN 54 MIL THICKNESS, PRE-DRILL HOLES FOR PAFs

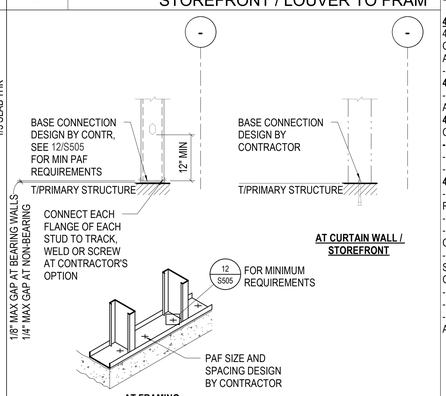
MINIMUM POWDER ACTUATED FASTENER (PAF) REQUIREMENTS



TEK SCREW SIZE	b
#6, #8	1/2"
#10	5/8"
#12	3/4"

MINIMUM TEK SCREW REQUIREMENTS

12 NO SCALE CONTRACTOR ENGINEERED WALL FASTENER MINIMUM REQTS



8 NO SCALE 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

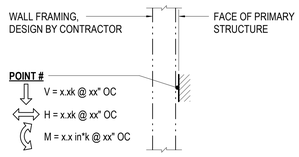
2B) BIDS SHALL BE BASED ON CONTRACTOR'S ENGINEERED SIZES TO RESIST THE DESIGN FORCES AND MEET THE MINIMUM REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS
- DO NOT BASE BIDS SOLELY ON THE MINIMUM REQUIREMENTS

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 1"

3E) VERTICAL DEFLECTION CRITERIA: DESIGN COLD FORMED METAL FRAMING HEADERS TO MEET THE FOLLOWING VERTICAL DEFLECTION CRITERIA:
- FOR STUDS SUPPORTING METAL PANELS = 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 / 360
- FOR STUDS BACKING-UP METAL PANELS = 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 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
- 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

13 NO SCALE CONTRACTOR ENGINEERED WALL NOTES / REQD DESIGN CRITERIA

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com
DIRECT PHONE:
EMAIL ADDRESS:

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Avenue, Lakewood, Colorado 80215
303.431.6100, martinmartin.com

PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

COLORADO LICENSED KEVIN MICHAEL HAAS 43631 07/31/2023 PROFESSIONAL ENGINEER

SHEET INFORMATION

PROJECT MANAGER TC
PROJECT NUMBER 22.1668.S.01

PERFORMANCE SPECIFIED FRAMING

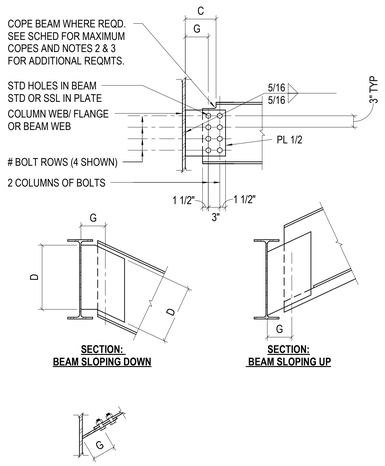
S505

MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST CYR
DATE PRINTED: 7/29/2023 8:46:19 AM
FILE PATH: Autodesk Docs://822808 - Bergen Valley Elementary School Addition & Reno/22.1668.S.01 - Bergen Valley ES - S23.rvt

1 2 3 4 5 6 7

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"



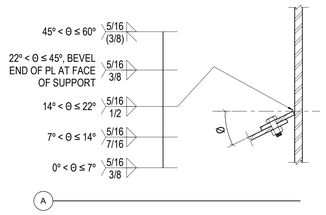
SECTION: BEAM SLOPING DOWN

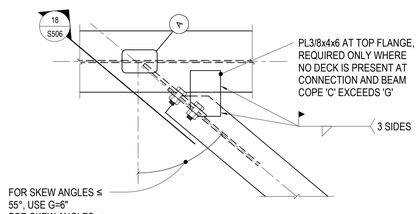
SECTION: BEAM SLOPING UP

PLAN: SKEWED BEAM SLOPING UP OR DOWN

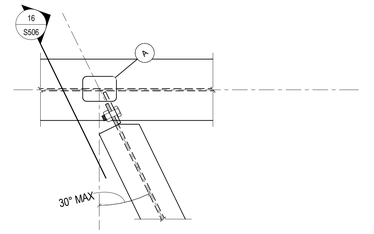
NOTES:
1. ULTIMATE LEVEL (LRFD) IN KIPS
2. WHERE NO DECK IS PRESENT AT CONNECTION, AND BEAM COPE 'C' EXCEEDS 'G', BRACE TOP FLANGE OF BEAM TO GIRDER, PROVIDE PL3/8x4x6 ON TOP FLANGE, WELD 4 SIDES
3. AT COLUMNS, BEAM COPE 'C' SHALL NOT EXCEED 'G'
4. MINIMUM BEAM WEB THICKNESS SHALL BE 0.23"

18 NO SCALE TYPICAL BEAM EXTENDED SINGLE PL CONNECTION - LRFD



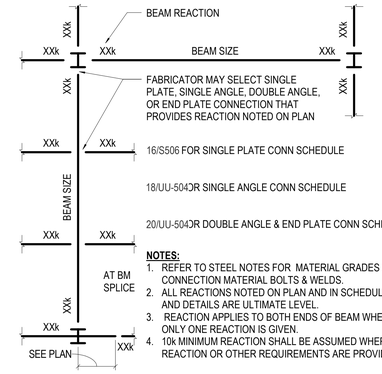


AT SKEW ≤ 60°



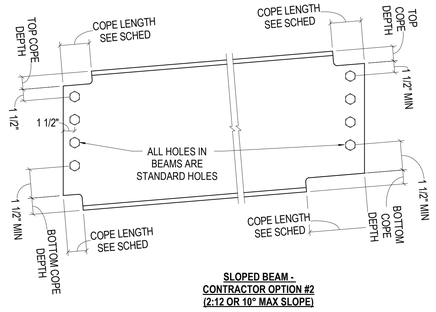
AT SKEW ≤ 30°

13 NO SCALE TYPICAL BEAM SKEWED CONNECTION



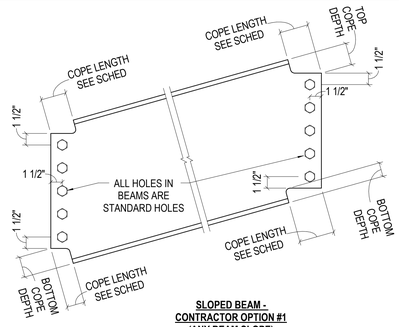
NOTES:
1. REFER TO STEEL NOTES FOR MATERIAL GRADES OF CONNECTION MATERIAL BOLTS & WELDS.
2. ALL REACTIONS NOTED ON PLAN AND IN SCHEDULES AND DETAILS ARE ULTIMATE LEVEL.
3. REACTION APPLIES TO BOTH ENDS OF BEAM WHERE ONLY ONE REACTION IS GIVEN.
4. 10k MINIMUM REACTION SHALL BE ASSUMED WHERE NO REACTION OR OTHER REQUIREMENTS ARE PROVIDED.

1 NO SCALE TYPICAL BEAM CONNECTIONS



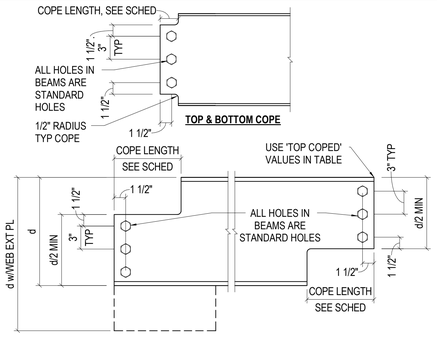
SLOPED BEAM - CONTRACTOR OPTION #2 (2:12 OR 10° MAX SLOPE)

NOTES:
1. DETAIL MAY BE USED AT MEMBERS SLOPED 10° (2:12) OR LESS AT CONTRACTOR'S OPTION



SLOPED BEAM - CONTRACTOR OPTION #1 (ANY BEAM SLOPE)

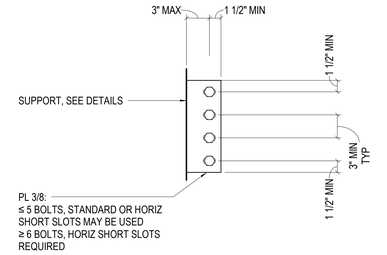
NOTES:
1. DETAIL MAY BE USED AT MEMBERS SLOPED AT ANY PITCH AT CONTRACTOR'S OPTION



TOP COPE ONLY **BOTTOM COPE ONLY**

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 TYPICAL BEAM COPE GEOMETRY



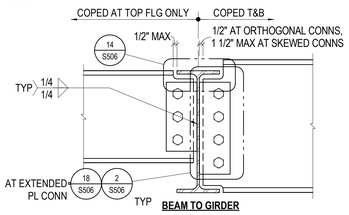
2 NO SCALE TYPICAL BEAM SINGLE PLATE

T INDICATES TOP COPE ONLY — TB INDICATES TOP AND BOTTOM COPE

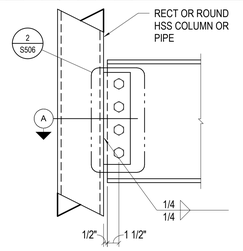
3/4"Ø A325 SINGLE PLATE CONNECTION SCHEDULE - MAX REACTION (KIPS) - ULTIMATE LEVEL (LRFD)

COPE CONDITION		UNCOPED								COPE LENGTH ≤ 4"									COPE LENGTH ≤ 5 1/4"									COPE LENGTH ≤ 6 1/8"									COPE LENGTH ≤ 8"								
# OF BOLTS		2	3	4	5	6	7	8	9	2	3		4		5		6		7		8		9		2	3		4		5		6		7		8		9		2	3		4		5		6		7		8		9	
COPE TYPE / BEAM SIZES										T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15 & C8	24								19	9									15	9#									13	9#									10	9#										
	18-28	24								24	13									20	10									19	9									14	9#										
	31 & UP	24								24	17									24	13									24	11									21	9										
W10	12-19 & C10	24	43							21	11	39	25							16	9#	33	20							14	9#	29	17							11	9#	22	13								
	22-30	24	43							24	14	43	32							24	11	43	25							21	9	41	22							16	9#	32	17								
	33-45	24								24	17									24	13									24	11									21	9										
	49 & UP	24								24	20									24	15									24	13									24	10										
W12	14-22 & C12	24	43							22	12	41	26							17	9	35	19							15	9#	30	15							12	9#	21	11								
	26-35	24	43							24	13	43	31							24	10	43	23							21	9	42	19							16	9#	32	14								
	40 & UP	24	43							24	17	43	39							24	13	43	31							24	12	43	27							23	9	43	20								
W14	22-26		43									43	31									43	23									40	19									31	14								
	30-38		43									43	36									43	28									43	24									38	18								
	43 & UP		43									43	41									43	32									43	27									43	21								
W16	26-31		43	62								43	33	62	60							43	26	62	45							43	21	62	36							34	16	53	26						
	36-57		43	62								43	39	62	62							43	31	62	55							43	26	62	47							42	20	62	34						
	67 & UP		43	62								43	43	62	62							43	41	62	62							43	36	62	62							43	28	62	50						
W18	35-46		43	62	81							43	40	62	62	81	81					43	31	62	56	81	81					43	27	62	48	81	75					41	21	62	35	81	59				
	50-71		43	62	81							43	43	62	62	81	81					43	37	62	62	81	81					43	32	62	57	81	81					43	25	62	44	81	70				
	76 & UP		43	62	81							43	43	62	62	81	81					43	43	62	62	81	81					43	38	62	62	81	81					43	30	62	54	81	81				
W21	44-57			62	81	100							62	62	81	81	100	100					62	62	81	81	100	100					62	56	81	81	100	100					62	43	81	66	100	100				
	62-93			62	81	100							62	62	81	81	100	100					62	62	81	81	100	100					62	62	81	81	100	100					62	50	81	79	100	100				
	101 & UP			62	81	100							62	62	81	81	100	100					62	62	81	81	100	100					62	62	81	81	100	100					62	62	81	81	100	100				
W24	55-62			62	81	100	118						62	62	81	81	100	100	118	118			62	62	81	81	100	100	118	118			62	62	81	81	100	100	118	118			62	50	81	78	100	100	118	118		
	68 & UP			62	81	100	118						62	62	81	81	100	100	118	118			62	62	81	81	100	100	118	118			62	62	81	81	100	100	118	118			62	53	81	81	100	100	118	118		
W27 - W44					81	100	118	137	155					81	81	100	100	118	118	137	137	155	155					81	81	100	100	118	118	137	137	155	155					81	81	100	100	118	118	137	137	155	155

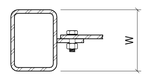
NOTES:
1. # INDICATES WEB REINFORCEMENT REQD TO ACHIEVE NOTED CAPACITY. SEE -/---
2. FOR SKEWED BEAM CONNECTIONS SEE 13/S506



BEAM TO GIRDER



BEAM TO HSS COL



TYPICAL

16 NO SCALE TYPICAL BEAM SINGLE PLATE CONNECTION SCHEDULE - LRFD

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com
DIRECT PHONE:
EMAIL ADDRESS:
MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Avenue
Lakewood, Colorado 80215
303.431.6100
martinmartin.com

PROJECT INFORMATION

BERGEN VALLEY ELEMENTARY SCHOOL ADDITION

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

COLORADO LICENSED KEVIN MICHAEL HAAS 43631 07/31/2023 PROFESSIONAL ENGINEER

SHEET INFORMATION

PROJECT MANAGER	TC
PROJECT NUMBER	22.1668.S.01

TYPICAL STEEL BEAM CONNS - LRFD

S506

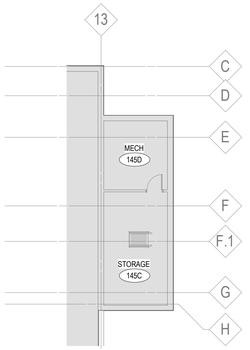
MM JOB #: 22.1668.S.01
PRINCIPAL: KEVIN HAAS
EOR: KEVIN HAAS
PROJECT MANAGER: TODD CLAPP
DESIGNERS: ALI HASSANI
LEAD REVIT TECH: KRISTOPHER ST.CYR
DATE PRINTED: 7/29/2023 8:46:21 AM
FILE PATH: Autodesk Docs://822808 - Bergen Valley Elementary School Addition & Reno/22.1668.S.01 - Bergen Valley ES - S23.rvt

SHEET NOTES - DEMOLITION

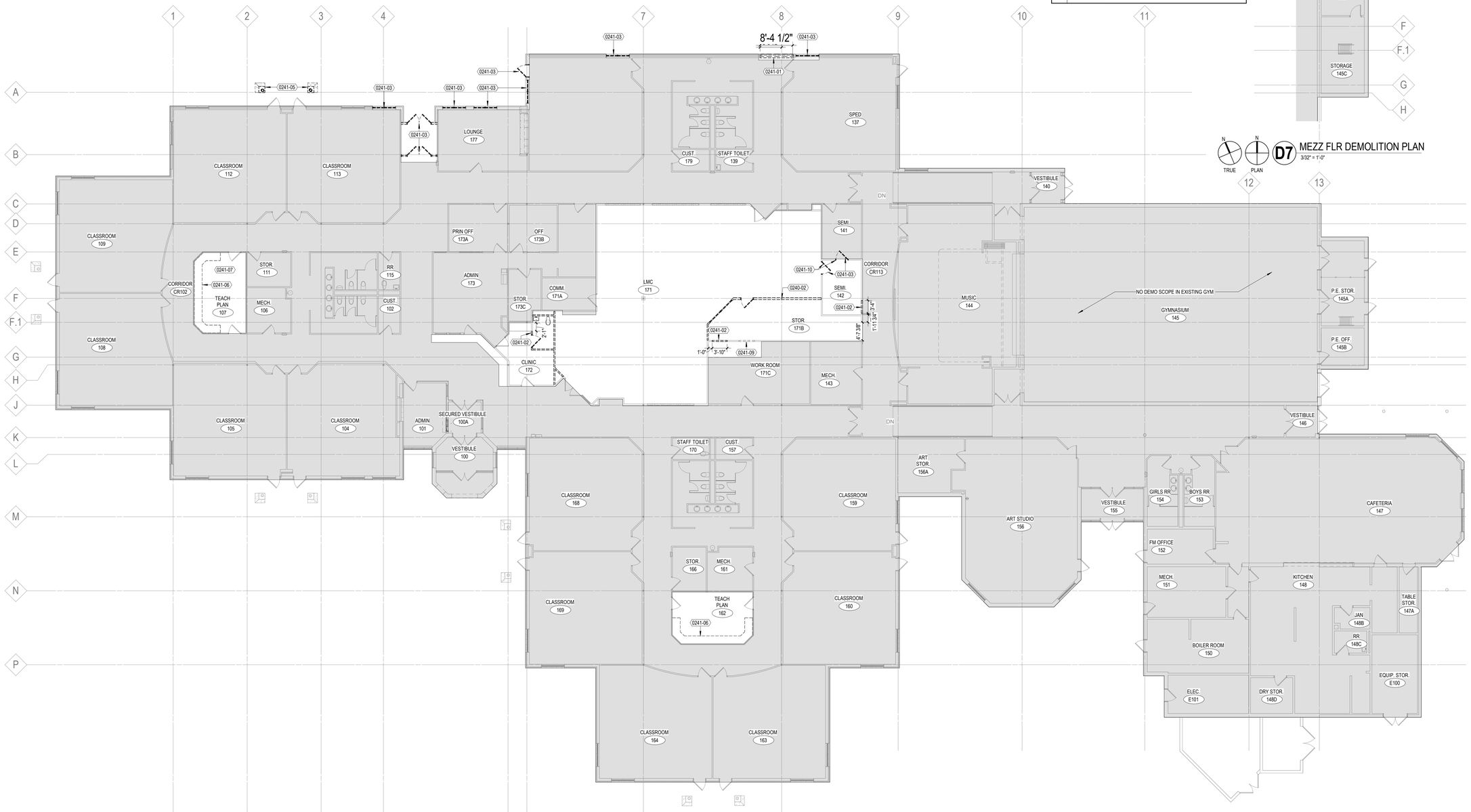
1.	PRIOR TO BEGINNING WORK, NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED BETWEEN THE PROPOSED SCOPE OF WORK AND THE EXISTING CONDITIONS.
2.	CONTRACTOR TO COORDINATE DEMOLITION WORK WITH NEW CONSTRUCTION AS SHOWN ON DRAWINGS. REPORT ANY CONFLICTS TO ARCHITECT BEFORE DEMOLITION WORK BEGINS.
3.	SEE MEP PLANS FOR ADDITIONAL DEMOLITION ITEMS AND NOTES.
4.	SCOPE OF DEMOLITION AND REMOVAL WORK SHALL NOT BE LIMITED BY THESE DRAWINGS BUT SHALL INCLUDE ALL WORK NECESSARY TO FACILITATE NEW CONSTRUCTION.
5.	PRIOR TO BIDDING, CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS, PRODUCTS TO BE USED, AND QUANTITIES REQUIRED.
6.	IT IS NOT EXPECTED THAT HAZARDOUS MATERIALS WILL BE ENCOUNTERED IN THIS WORK. IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB; IMMEDIATELY NOTIFY ARCHITECT AND OWNER. OWNER WILL REMOVE HAZARDOUS MATERIALS UNDER A SEPARATE CONTRACT.
7.	REFER TO FINISH PLANS TO IDENTIFY ALL AREAS BEING ALTERED INCLUDING ROOMS WHERE ALTERATIONS ARE LIMITED TO NEW FINISHES. AT ALL ALTERED LOCATIONS, REMOVE ALL INTERIOR AND WALL MOUNTED ITEMS. REMOVE ALL FINISHES AND RESIDUAL GLUE.
8.	COORDINATE REMOVAL OF EXISTING CABINETS AND CASEWORK WITH OWNER. SALVAGE OR REMOVE AS DIRECTED.
9.	COORDINATE REMOVAL OF EXISTING DOORS, FRAMES AND HARDWARE WITH OWNER. SALVAGE OR REMOVE AS DIRECTED.
10.	CONTRACTOR TO PROTECT AREAS ADJACENT TO DEMOLITION. ANY INADVERTENT DAMAGE DONE TO ADJACENT AREAS NOT SPECIFICALLY SCHEDULED FOR DEMOLITION SHALL BE REPLACED BY THE CONTRACTOR AT NO CHARGE TO THE OWNER.
11.	REMOVE AND SALVAGE THE FOLLOWING ITEMS UNLESS SPECIFICALLY DIRECTED BY THE OWNER MEDICAL EQUIPMENT, WINDOW TREATMENTS, CASEWORK, SECURITY DEVICES, SIGNAGE, ARTWORK, TELEVISIONS, TOILET ACCESSORIES, FULL CEILING TILES IN GOOD CONDITION, CROWN MOLDING, CHAIR RAILS, OTHER WOOD TRIM, CUBICLE CURTAINS AND/OR TRACKS, RAILINGS AND LIGHT FIXTURES.
12.	BUILDING TO REMAIN OPERATIONAL DURING REMODELING/ CONSTRUCTION. CONTRACTOR TO INSTALL TEMPORARY CONSTRUCTION BARRIERS TO CONTROL DUST AND PROTECT THE PUBLIC FROM HARM FOR THE DURATION OF ALL CONSTRUCTION WORK. PROPER EGRESS TO BE MAINTAINED THROUGHOUT CONSTRUCTION.

KEYNOTES PER SHEET

0240-01	NO DEMO SCOPE IN EXISTING GYM
0240-02	VIF. EXISTING COLUMN TO REMAIN. PROTECT IN PLACE
0241-01	DEMO PORTION OF EXISTING CMU/STUD WALL FOR NEW OPENING, LOOSE LINTELS PROVIDED TO SUPPORT MASONRY ABOVE
0241-02	DEMO PORTION OF EXISTING WALL AS INDICATED
0241-03	DEMO EXISTING WINDOW AND DOOR FRAME/DOOR
0241-05	DEMO FULL EXTENTS OF EXISTING GABLE ROOF AND COLUMNS
0241-06	DEMO EXISTING COUNTERTOP AND CASEWORK.
0241-07	DEMO EXISTING CARPET AND SAVE FOR RENOVATION SCOPE. MAKE SURE STORAGE ROOM HAS LEVEL, CONSISTENT FLOOR COVERING.
0241-09	PREP EXISTING OPENING TO BE INFILLED
0241-10	SALVAGE DOORS AS NEEDED



N TRUE N PLAN **D7** MEZZ FLR DEMOLITION PLAN
3/32" = 1'-0"



N TRUE N PLAN **A1** 1ST FLR DEMOLITION PLAN
3/32" = 1'-0"

1 2 3 4 5 6 7

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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

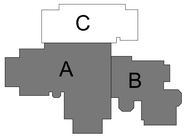
1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

1ST FLR DEMOLITION PLAN - OVERALL

AD101

DEMO SYMBOLS

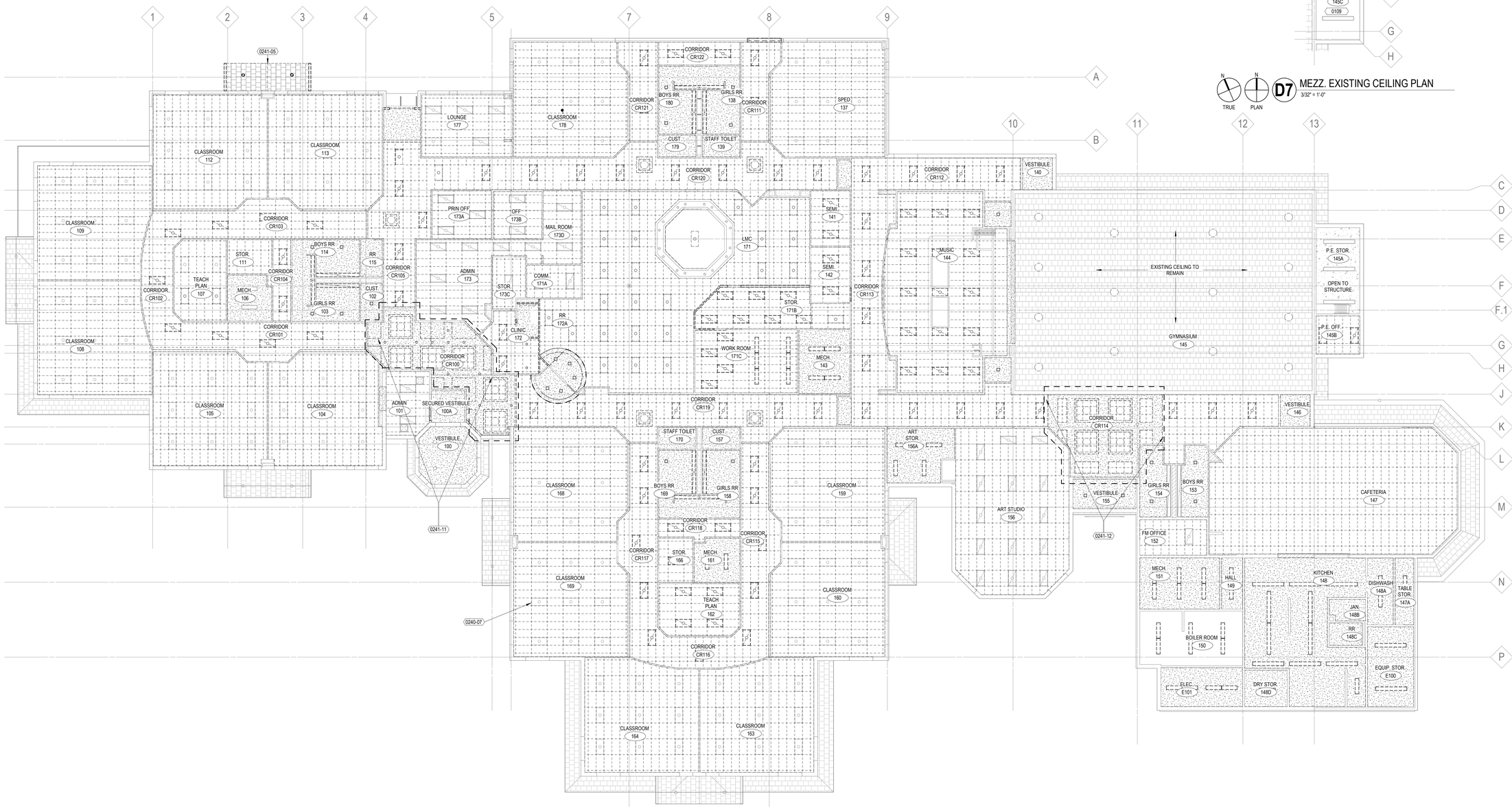
- EXISTING 2x4 CEILING DEMO GRID - PREP TO ACCEPT NEW
- EXISTING GYP. CEILING TO REMAIN
- EXISTING 2X4 LIGTHING TO REMAIN REMOVE DURING FIRE SPRINKLER WORK
- EXISTING 2x4 LIGHTING TO BE DEMO

SHEET NOTES - DEMOLITION

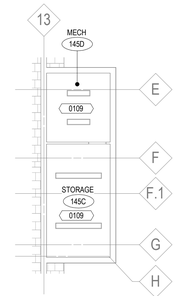
1.	PRIOR TO BEGINNING WORK, NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED BETWEEN THE PROPOSED SCOPE OF WORK AND THE EXISTING CONDITIONS.
2.	CONTRACTOR TO COORDINATE DEMOLITION WORK WITH NEW CONSTRUCTION AS SHOWN ON DRAWINGS. REPORT ANY CONFLICTS TO ARCHITECT BEFORE DEMOLITION WORK BEGINS.
3.	SEE MEP PLANS FOR ADDITIONAL DEMOLITION ITEMS AND NOTES.
4.	SCOPE OF DEMOLITION AND REMOVAL WORK SHALL NOT BE LIMITED BY THESE DRAWINGS BUT SHALL INCLUDE ALL WORK NECESSARY TO FACILITATE NEW CONSTRUCTION.
5.	PRIOR TO BIDDING, CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS, PRODUCTS TO BE USED, AND QUANTITIES REQUIRED.
6.	IT IS NOT EXPECTED THAT HAZARDOUS MATERIALS WILL BE ENCOUNTERED IN THIS WORK. IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB; IMMEDIATELY NOTIFY ARCHITECT AND OWNER. OWNER WILL REMOVE HAZARDOUS MATERIALS UNDER A SEPARATE CONTRACT.
7.	REFER TO FINISH PLANS TO IDENTIFY ALL AREAS BEING ALTERED INCLUDING ROOMS WHERE ALTERATIONS ARE LIMITED TO NEW FINISHES. AT ALL ALTERED LOCATIONS, REMOVE ALL INTERIOR AND WALL MOUNTED ITEMS. REMOVE ALL FINISHES AND RESIDUAL GLUE.
8.	COORDINATE REMOVAL OF EXISTING CABINETS AND CASEWORK WITH OWNER. SALVAGE OR REMOVE AS DIRECTED.
9.	COORDINATE REMOVAL OF EXISTING DOORS, FRAMES AND HARDWARE WITH OWNER. SALVAGE OR REMOVE AS DIRECTED.
10.	CONTRACTOR TO PROTECT AREAS ADJACENT TO DEMOLITION. ANY INADVERTENT DAMAGE DONE TO ADJACENT AREAS NOT SPECIFICALLY SCHEDULED FOR DEMOLITION SHALL BE REPLACED BY THE CONTRACTOR AT NO CHARGE TO THE OWNER.
11.	REMOVE AND SALVAGE THE FOLLOWING ITEMS UNLESS SPECIFICALLY DIRECTED BY THE OWNER MEDICAL EQUIPMENT, WINDOW TREATMENTS, CASEWORK, SECURITY DEVICES, SIGNAGE, ARTWORK, TELEVISIONS, TOILET ACCESSORIES, FULL CEILING TILES IN GOOD CONDITION, CROWN MOLDING, CHAIR RAILS, OTHER WOOD TRIM, CUBICLE CURTAINS AND/OR TRACKS, RAILINGS AND LIGHT FIXTURES.
12.	BUILDING TO REMAIN OPERATIONAL DURING REMODELING/ CONSTRUCTION. CONTRACTOR TO INSTALL TEMPORARY CONSTRUCTION BARRIERS TO CONTROL DUST AND PROTECT THE PUBLIC FROM HARM FOR THE DURATION OF ALL CONSTRUCTION WORK. PROPER EGRESS TO BE MAINTAINED THROUGHOUT CONSTRUCTION.

KEYNOTES PER SHEET

0109	OPEN TO STRUCTURE
0240-07	ALL CLASSROOM LIGHT FIXTURES TO BE SALVAGED AND REUSED IN SAME LOCATION
0241-05	DEMO FULL EXTENTS OF EXISTING GABLE ROOF AND COLUMNS
0241-11	DEMO EXISTING GYP STEPPED CEILINGS REPLACE WITH NEW ACT, REF. CEILING PLANS
0241-12	DEMO EXISTING GYP STEPPED CEILINGS, REPLACE WITH NEW ACT, REF. CEILING PLANS



N TRUE N PLAN **A1** 1ST FLR CEILING DEMOLITION PLAN
3/32" = 1'-0"



N TRUE N PLAN **D7** MEZZ. EXISTING CEILING PLAN
3/32" = 1'-0"

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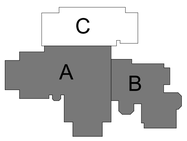


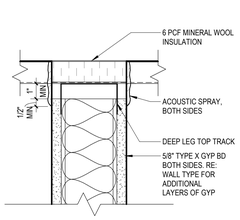
SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

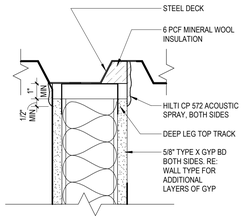
1ST FLR CEILING DEMOLITION PLAN - OVERALL

AD111

1 2 3 4 5 6 7



PERPENDICULAR TO DECKING



PARALLEL TO DECKING

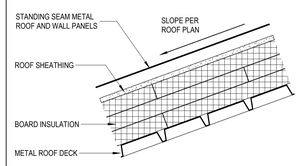
UL SYSTEM # HW-D-0060
1 HR RATED STUD PARTITION TO METAL DECK - 1" JOINT (100% COMPRESSION OR EXTENSION)

E1 METAL STUD WALL / DECK - S#A S11/11
3" = 1'-0"

SHEET NOTES - PARTITION TYPES

1.	REFER TO LIFE SAFETY SHEETS (G-SERIES) FOR WALL RATINGS, LOCATIONS AND REQUIREMENTS.
2.	PROVIDE MOISTURE- AND MOLD-RESISTANT GYP BD ON WALLS AT ALL WET LOCATIONS, INCLUDING BUT NOT LIMITED TO, TOILET ROOMS, JANITOR CLOSETS, MECHANICAL ROOMS, SHOWERS, DRINKING FOUNTAINS, SINKS, LAVATORIES AND EYEWASHES.
3.	REPLACE GYP BD LAYER WITH CEMENTITIOUS BACKER BOARD WHERE WALLS ARE SCHEDULED TO RECEIVE CERAMIC TILE OR SOLID SURFACE WALL CLADDING.
4.	PROVIDE UL LISTING FIRESTOP ASSEMBLIES AT ALL PENETRATIONS AND OPENINGS THROUGH RATED WALL ASSEMBLIES TO MATCH FIRE/SMOKE RATING.
5.	SEAL ALL PENETRATIONS AND OPENINGS, INCLUDING WALL PERIMETER, AT SOUND-RATED WALLS.

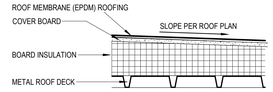
B3010-03



NOTES
- STAGGER JOINTS @ INSULATION BOARD
- SELF-ADHERING HIGH-TEMPERATURE SHEET UNDERLAYMENT OVER ENTIRE ROOF DECK AT STANDING SEAM METAL ROOFING
- R-30 MIN. ROOF INSULATION

Metal Roof - Struct Slope
1 1/2" = 1'-0"

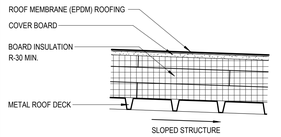
B3010-02



NOTES
- STAGGER JOINTS @ INSULATION BOARD
- R-30 MIN. AGGREGATE ROOF INSULATION

EPDM - Adhered - Taper - Canopy
1 1/2" = 1'-0"

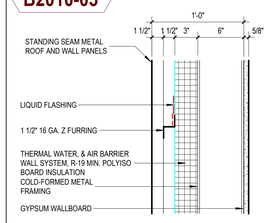
B3010-01



NOTES
- STAGGER JOINTS @ INSULATION BOARD
- R-30 MIN. ROOF INSULATION

EPDM - Adhered - Struct Slope
1 1/2" = 1'-0"

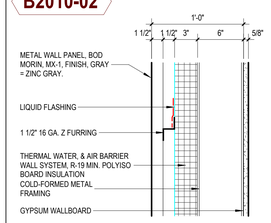
B2010-03



NOTES
- SEE SPECIFICATIONS FOR TREATMENT OF CAVITY BOARD INSULATION JOINTS

Mtl Panel Standing Seam - Ins - 6" Mtl Stud
1 1/2" = 1'-0"

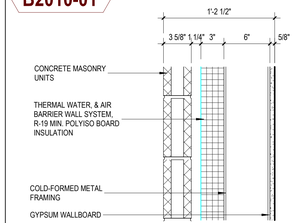
B2010-02



NOTES
- SEE SPECIFICATIONS FOR TREATMENT OF CAVITY BOARD INSULATION JOINTS

Mtl Panel - Ins - 6" Mtl Stud
1 1/2" = 1'-0"

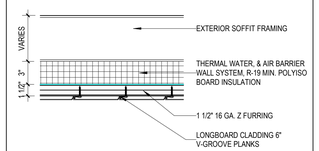
B2010-01



NOTES
- SEE SPECIFICATIONS FOR TREATMENT OF CAVITY BOARD INSULATION JOINTS

CMU Veneer - Ins - 6" Mtl Stud
1 1/2" = 1'-0"

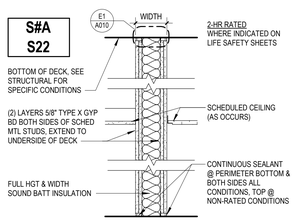
B2040-01



NOTES
- SEE SPECIFICATIONS FOR TREATMENT OF INSULATION BOARD JOINTS

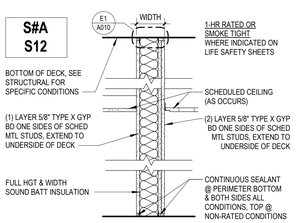
Mtl Soffit Cladding - Ins - Exterior Framing
1 1/2" = 1'-0"

S#A S22



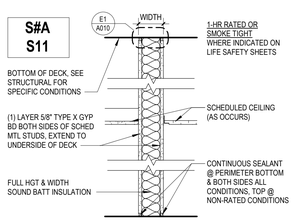
PARTITION #	DESCRIPTION	WIDTH	REF TEST	STC
-	-	-	-	-
S1A - S22	1-5/8" MTL STUDS	4-1/8"	-	-
S2A - S22	2-1/2" MTL STUDS	5"	UL U411	-
S3A - S22	3-5/8" MTL STUDS	6-1/8"	UL U411	54
S4A - S22	4" MTL STUDS	6-1/2"	UL U411	54
S6A - S22	6" MTL STUDS	8-1/2"	UL U411	55

S#A S12



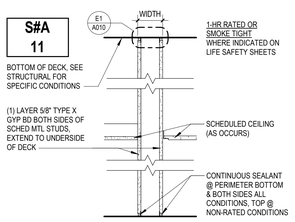
PARTITION #	DESCRIPTION	WIDTH	REF TEST	STC
-	-	-	-	-
S1A - S12	1-5/8" MTL STUDS	3-1/2"	-	-
S2A - S12	2-1/2" MTL STUDS	4-3/8"	-	-
S3A - S12	3-5/8" MTL STUDS	5-1/2"	UL U465	45
S4A - S12	4" MTL STUDS	5-7/8"	UL U465	45
S6A - S12	6" MTL STUDS	7-7/8"	UL U465	50

S#A S11



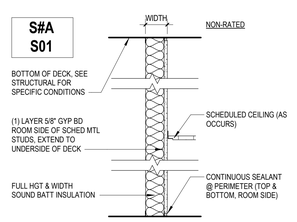
PARTITION #	DESCRIPTION	WIDTH	REF TEST	STC
-	-	-	-	-
S1A - S11	1-5/8" MTL STUDS	2-7/8"	-	-
S2A - S11	2-1/2" MTL STUDS	3-3/4"	-	-
S3A - S11	3-5/8" MTL STUDS	4-7/8"	UL U465	45
S4A - S11	4" MTL STUDS	5-1/4"	UL U465	45
S6A - S11	6" MTL STUDS	7-1/4"	UL U465	45

S#A 11



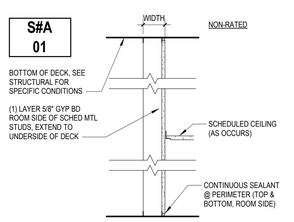
PARTITION #	DESCRIPTION	WIDTH	REF TEST	STC
-	-	-	-	-
S1A - 11	1-5/8" MTL STUDS	2-7/8"	-	-
S2A - 11	2-1/2" MTL STUDS	3-3/4"	-	-
S3A - 11	3-5/8" MTL STUDS	4-7/8"	UL U465	39
S4A - 11	4" MTL STUDS	5-1/4"	UL U465	40
S6A - 11	6" MTL STUDS	7-1/4"	UL U465	40

S#A S01



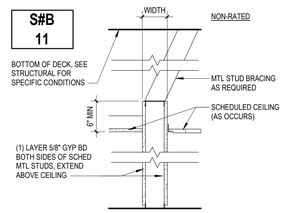
PARTITION #	DESCRIPTION	WIDTH	REF TEST	STC
S0A - S01	7/8" MTL FURRING CHANNELS	1-1/2"	-	-
S1A - S01	1-5/8" MTL STUDS	2-1/4"	-	-
S2A - S01	2-1/2" MTL STUDS	3-1/8"	-	27
S3A - S01	3-5/8" MTL STUDS	4-1/4"	-	27
S4A - S01	4" MTL STUDS	4-5/8"	-	27
S6A - S01	6" MTL STUDS	6-5/8"	-	28

S#A 01



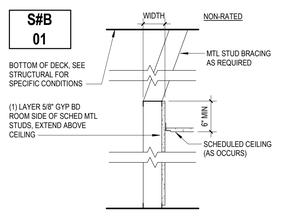
PARTITION #	DESCRIPTION	WIDTH	REF TEST	STC
S0A - 01	7/8" MTL FURRING CHANNELS	1-1/2"	-	-
S1A - 01	1-5/8" MTL STUDS	2-1/4"	-	-
S2A - 01	2-1/2" MTL STUDS	3-1/8"	-	26
S3A - 01	3-5/8" MTL STUDS	4-1/4"	-	26
S4A - 01	4" MTL STUDS	4-5/8"	-	26
S6A - 01	6" MTL STUDS	6-5/8"	-	26

S#B 11



PARTITION #	DESCRIPTION	WIDTH	REF TEST	STC
-	-	-	-	-
S1B - 11	1-5/8" MTL STUDS	2-7/8"	-	-
S2B - 11	2-1/2" MTL STUDS	3-3/4"	-	-
S3B - 11	3-5/8" MTL STUDS	4-7/8"	-	-
S4B - 11	4" MTL STUDS	5-1/4"	-	-
S6B - 11	6" MTL STUDS	7-1/4"	-	-

S#B 01



PARTITION #	DESCRIPTION	WIDTH	REF TEST	STC
S0B - 01	7/8" MTL FURRING CHANNELS	1-1/2"	-	-
S1B - 01	1-5/8" MTL STUDS	2-1/4"	-	-
S2B - 01	2-1/2" MTL STUDS	3-1/8"	-	-
S3B - 01	3-5/8" MTL STUDS	4-1/4"	-	-
S4B - 01	4" MTL STUDS	4-5/8"	-	-
S6B - 01	6" MTL STUDS	6-5/8"	-	-

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KEY PLAN

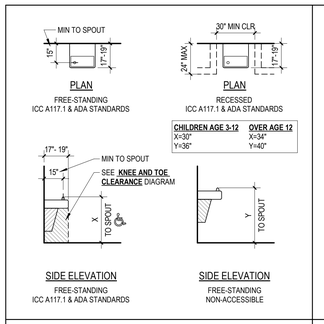
SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

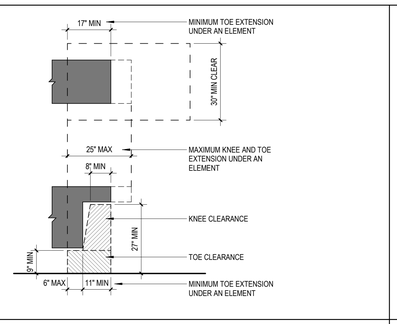
ASSEMBLY & PARTITION TYPES

A010

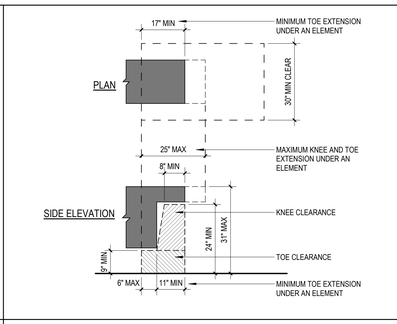
1 2 3 4 5 6 7
E D C B A



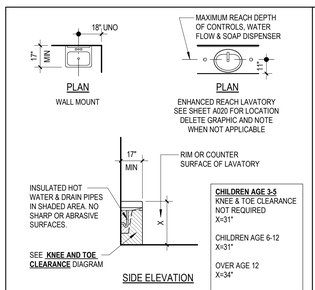
DRINKING FOUNTAINS



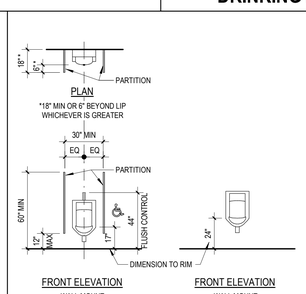
KNEE & TOE CLEARANCE OVER AGE 12 (NTS)



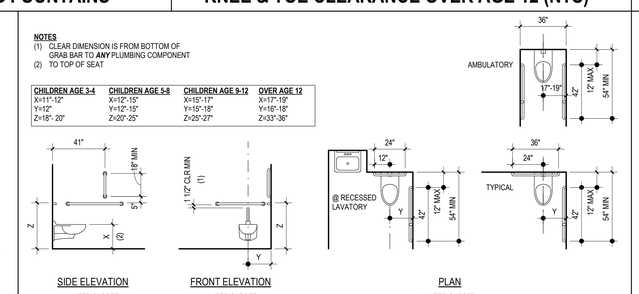
KNEE & TOE CLEARANCE AGE 6-12 (NTS)



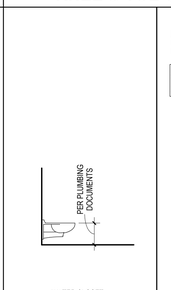
LAVATORIES



URINALS & PARTITIONS



TOILETS & GRAB BARS



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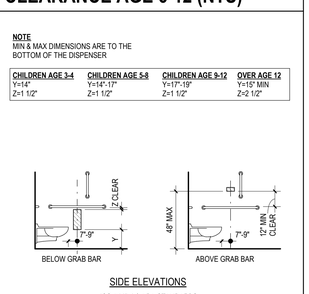
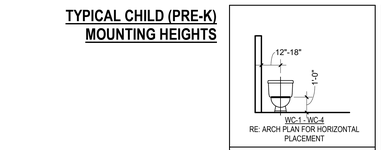
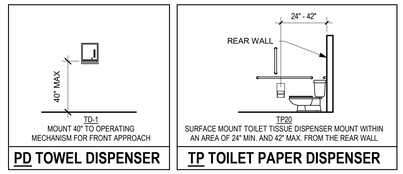


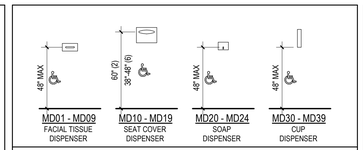
TP DISPENSERS

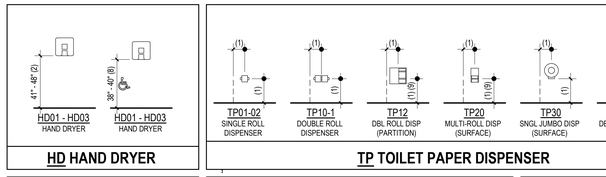


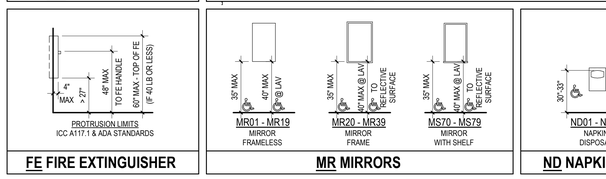


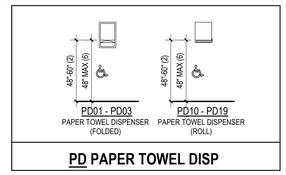
DIMENSION NOTES

(1) SEE TP DISPENSER DIAGRAM FOR ADDITIONAL MOUNTING INFORMATION
(2) NON-ACCESSIBLE
(3) TOP OF SHELF
(4) TOP OF BAR OR PIN
(5) TOP OF WASTE OPENING
(6) TOP OF DISPENSER OPENING
(7) TOP OF HOOK
(8) TOP OF OPERABLE PART
(9) BOTTOM ROLL
(10) TOP OF CHANGING BED









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STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

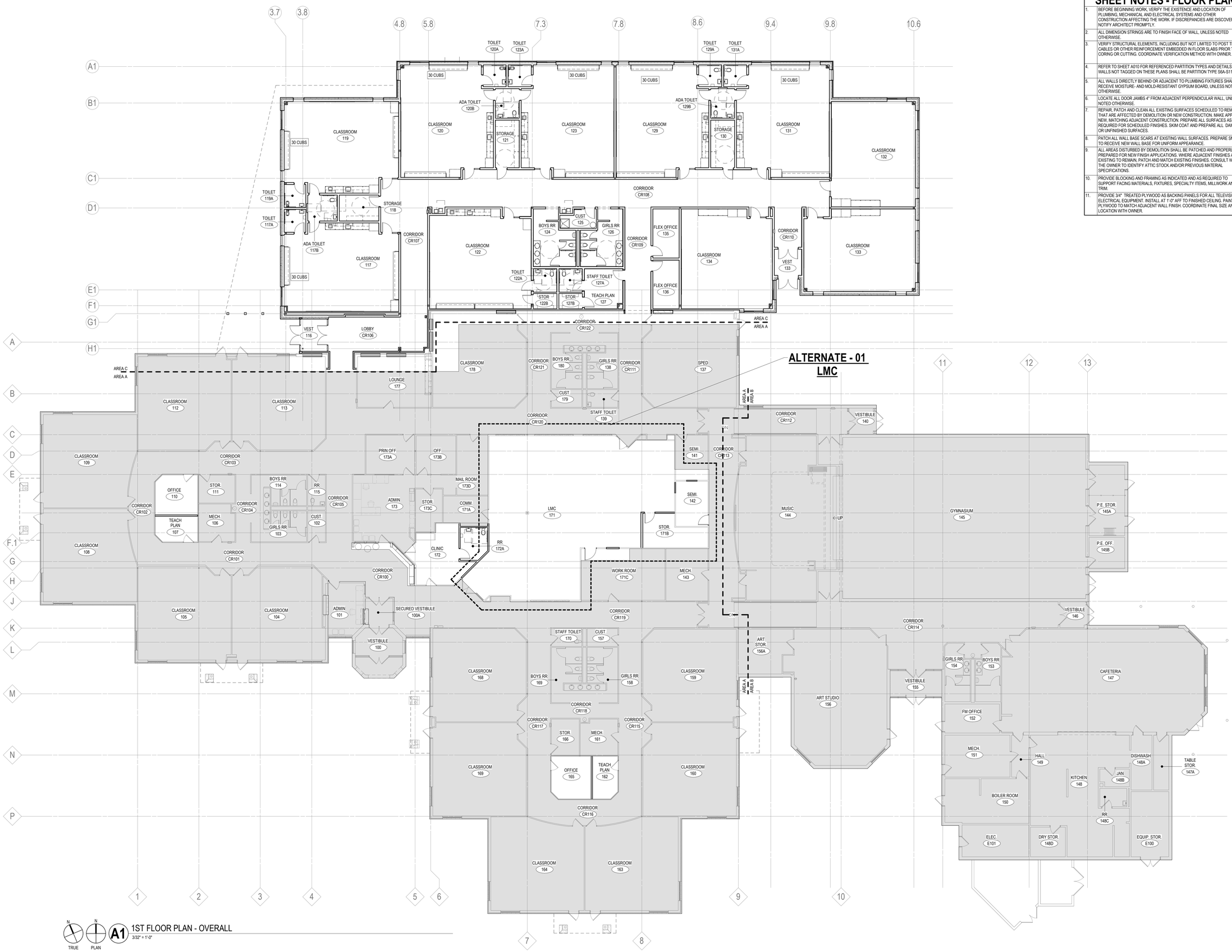
PROJECT MANAGER JC
PROJECT NUMBER 822808-01

ADA REQUIREMENTS

A020

1 2 3 4 5 6 7

E D C B A



N TRUE N PLAN **A1** 1ST FLOOR PLAN - OVERALL
3/32" = 1'-0"

SHEET NOTES - FLOOR PLAN

1.	BEFORE BEGINNING WORK, VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTING THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2.	ALL DIMENSION STRINGS ARE TO FINISH FACE OF WALL, UNLESS NOTED OTHERWISE.
3.	VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO CORING OR CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4.	REFER TO SHEET A010 FOR REFERENCED PARTITION TYPES AND DETAILS. WALLS NOT TAGGED ON THESE PLANS SHALL BE PARTITION TYPE S6A-S11
5.	ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6.	LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
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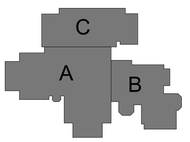
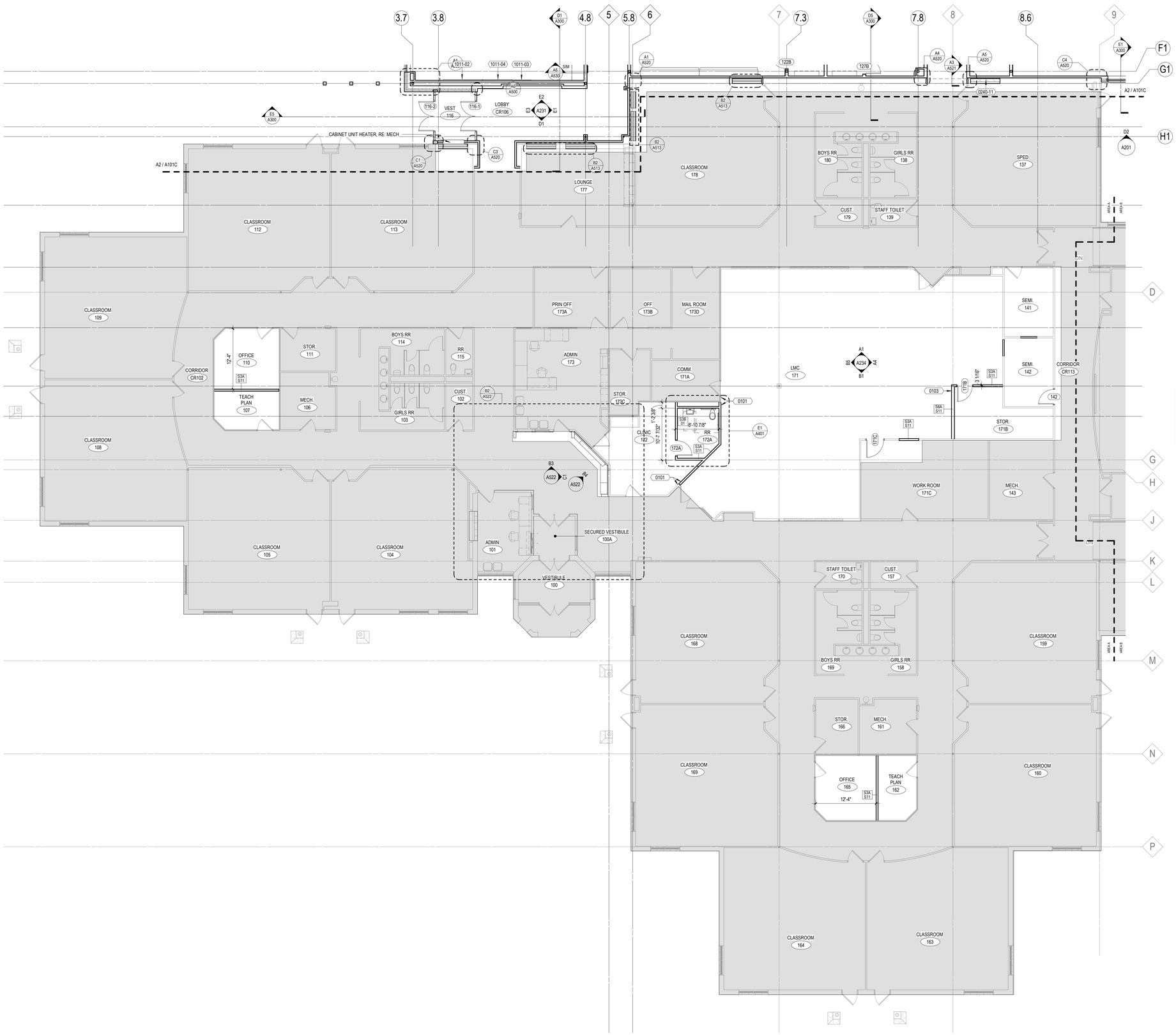


SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

1ST FLR PLAN - OVERALL

A101



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KEYNOTES PER SHEET

0101	ALIGN
0103	CENTER WALL ON GRID LINE
0240-11	INFILL OPENING WITH CMU AND FURRING; RE: STRUCTURAL
1011-02	MARKER BOARD 4'X8'
1011-03	CORK TACK BOARD 4'X4'
1011-04	MARKER BOARD 4'X6'

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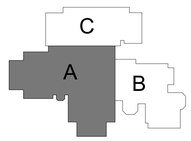
KEY PLAN



SHEET INFORMATION

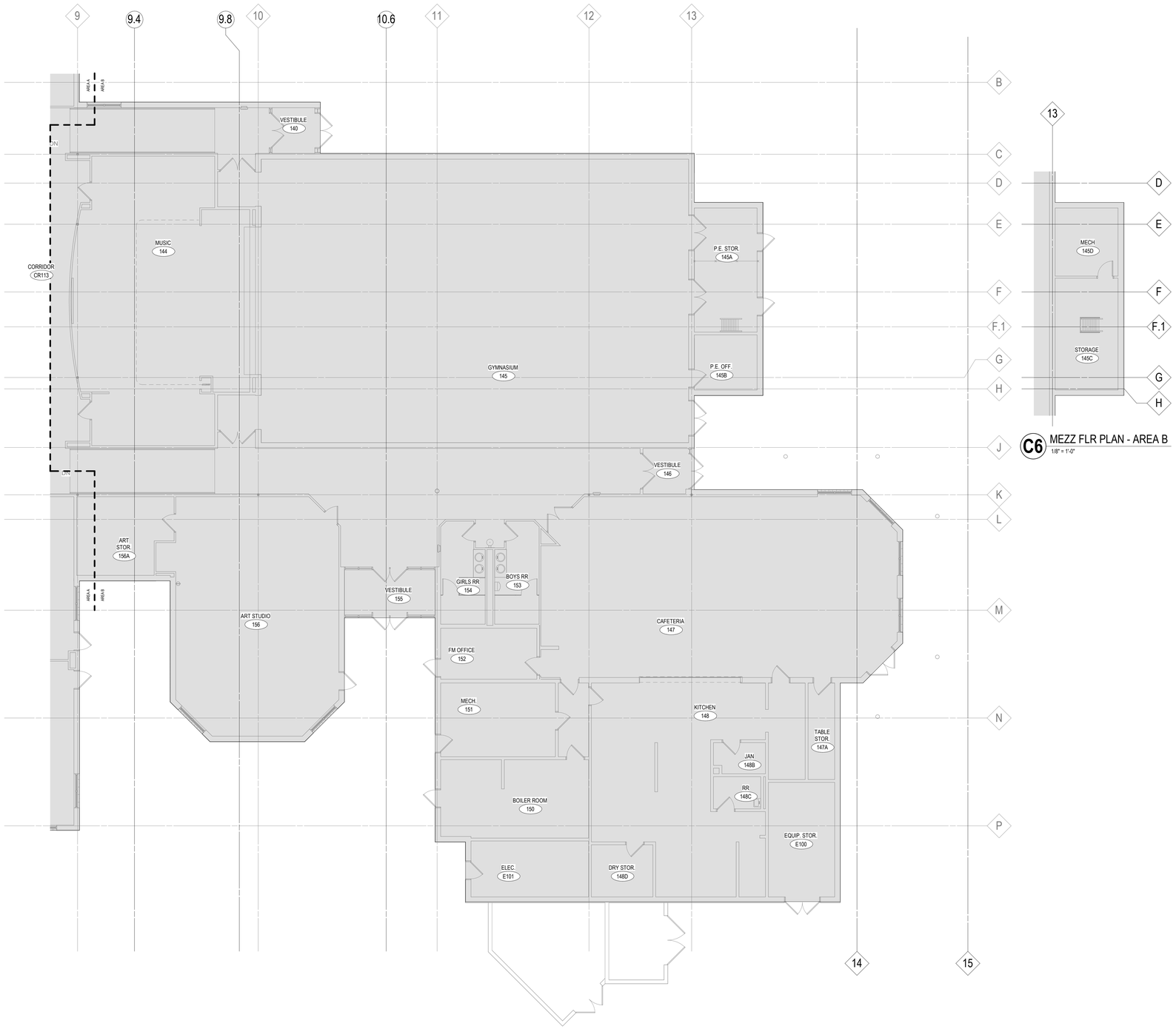
PROJECT MANAGER JC
PROJECT NUMBER 822808-01

1ST FLR PLAN - AREA A

A101A

N TRUE N PLAN A1 1ST FLR - AREA A PLAN
1/8" = 1'-0"

1 2 3 4 5 6 7



A1 1ST FLR - AREA B ALTERNATE
1/8" = 1'-0"

C6 MEZZ FLR PLAN - AREA B
1/8" = 1'-0"

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KEYNOTES PER SHEET

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JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

1ST FLR PLAN - AREA B

A101B

NOTE

ALL DIMINENSIONS FOR AREA C WILL BE ON SHEET A101C.1

SHEET NOTES - FLOOR PLAN

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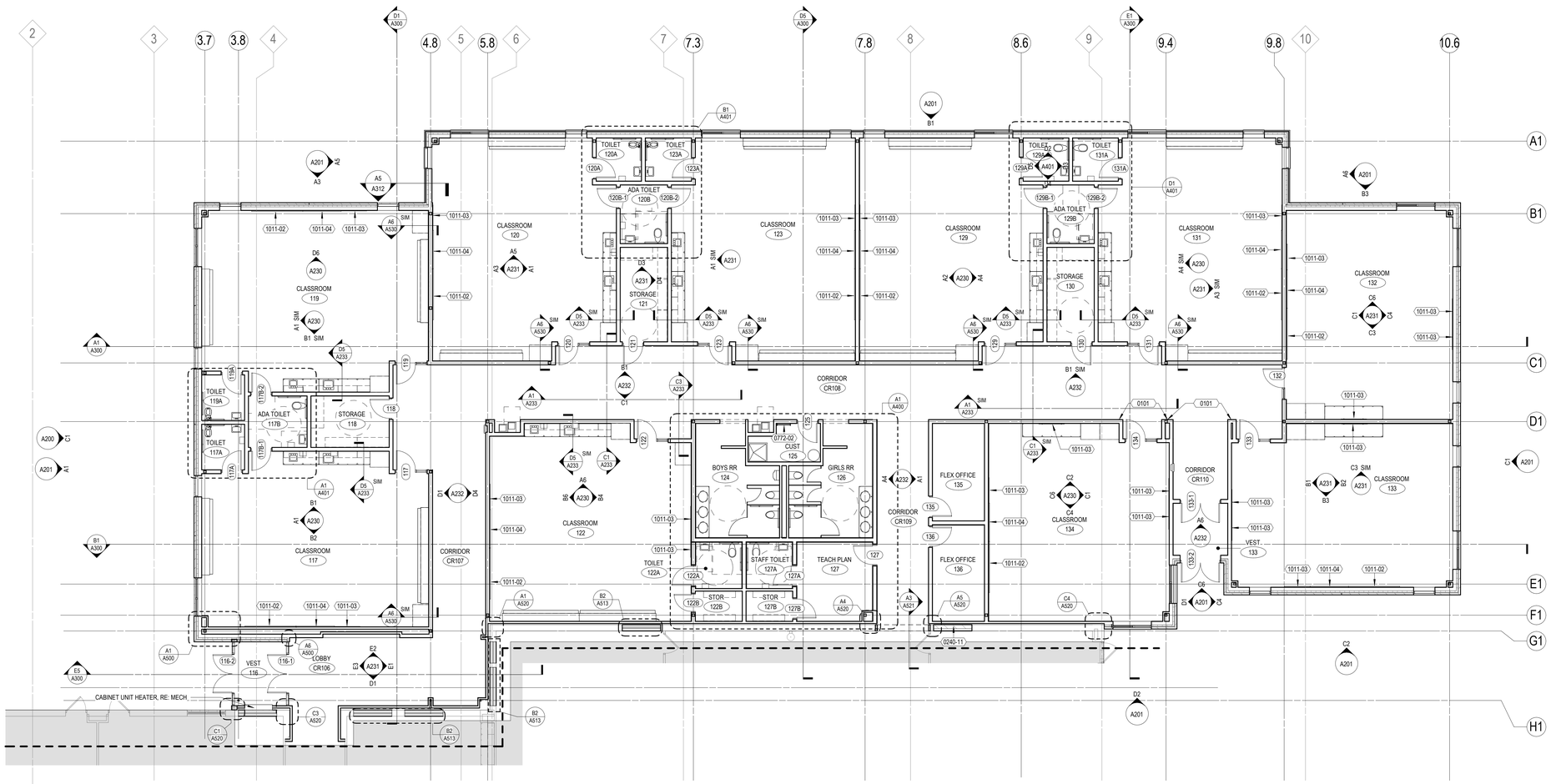
KEYNOTES PER SHEET

0101	ALIGN
0240-11	INFILL OPENING WITH CMU AND FURRING; RE: STRUCTURAL
0772-02	INTERIOR ROOF LADDER
1011-02	MARKER BOARD 4'X8'
1011-03	CORK TACK BOARD 4'X4'
1011-04	MARKER BOARD 4'X6'



A2 1ST FLR - AREA C PLAN
1/8" = 1'-0"

TRUE N PLAN N

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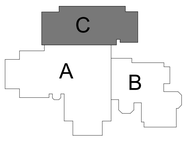

SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

1ST FLR PLAN - AREA C

A101C

SHEET NOTES - FLOOR PLAN

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KEYNOTES PER SHEET

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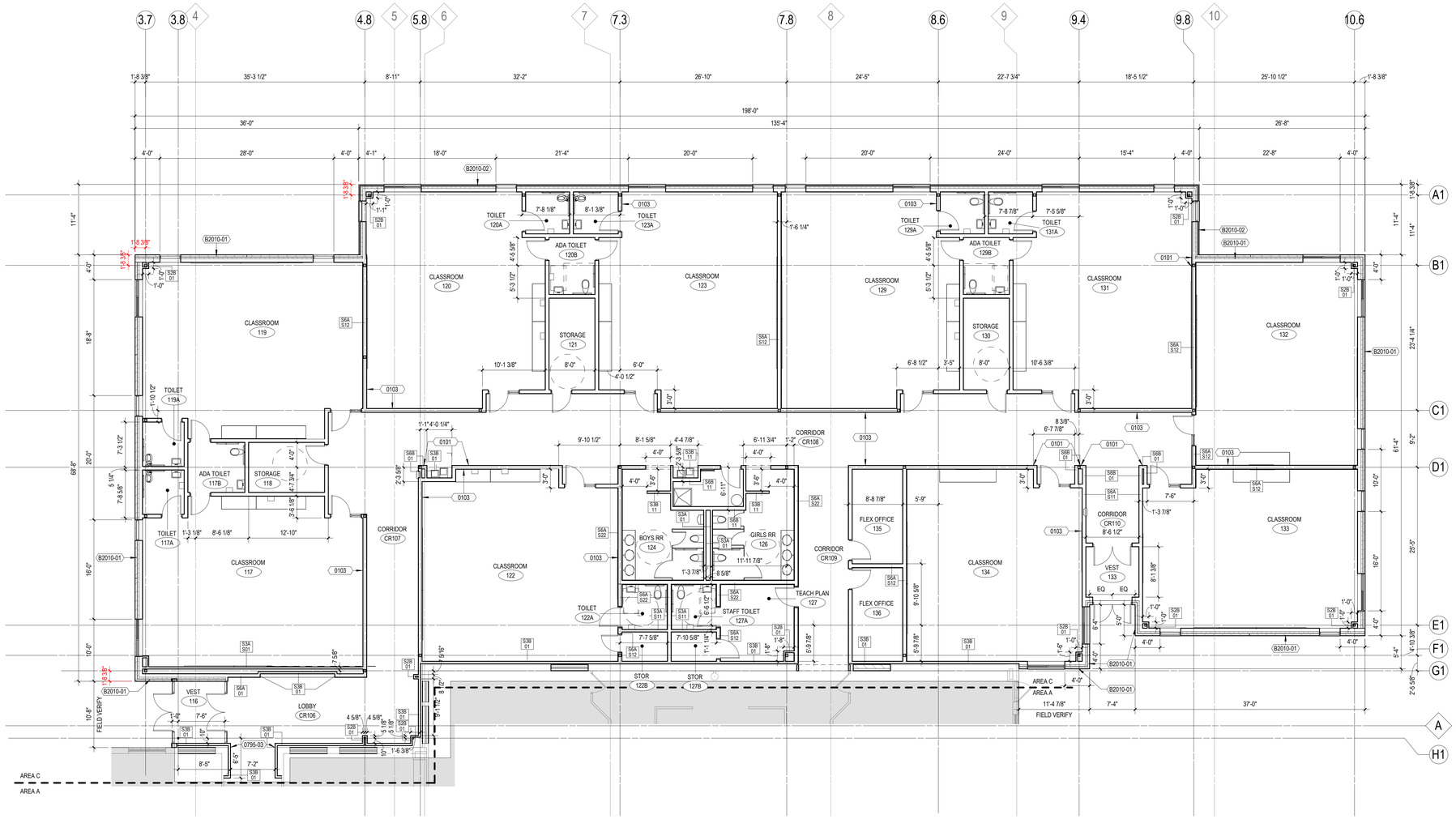
0103	CENTER WALL ON GRID LINE
0795-03	WALL EXPANSION JOINT COVER
B2010-01	REFER TO SHEET A010
B2010-02	REFER TO SHEET A010



N TRUE N PLAN **A1** 1ST FLR - AREA C DIMENSION PLAN
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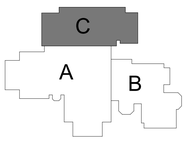
KEY PLAN

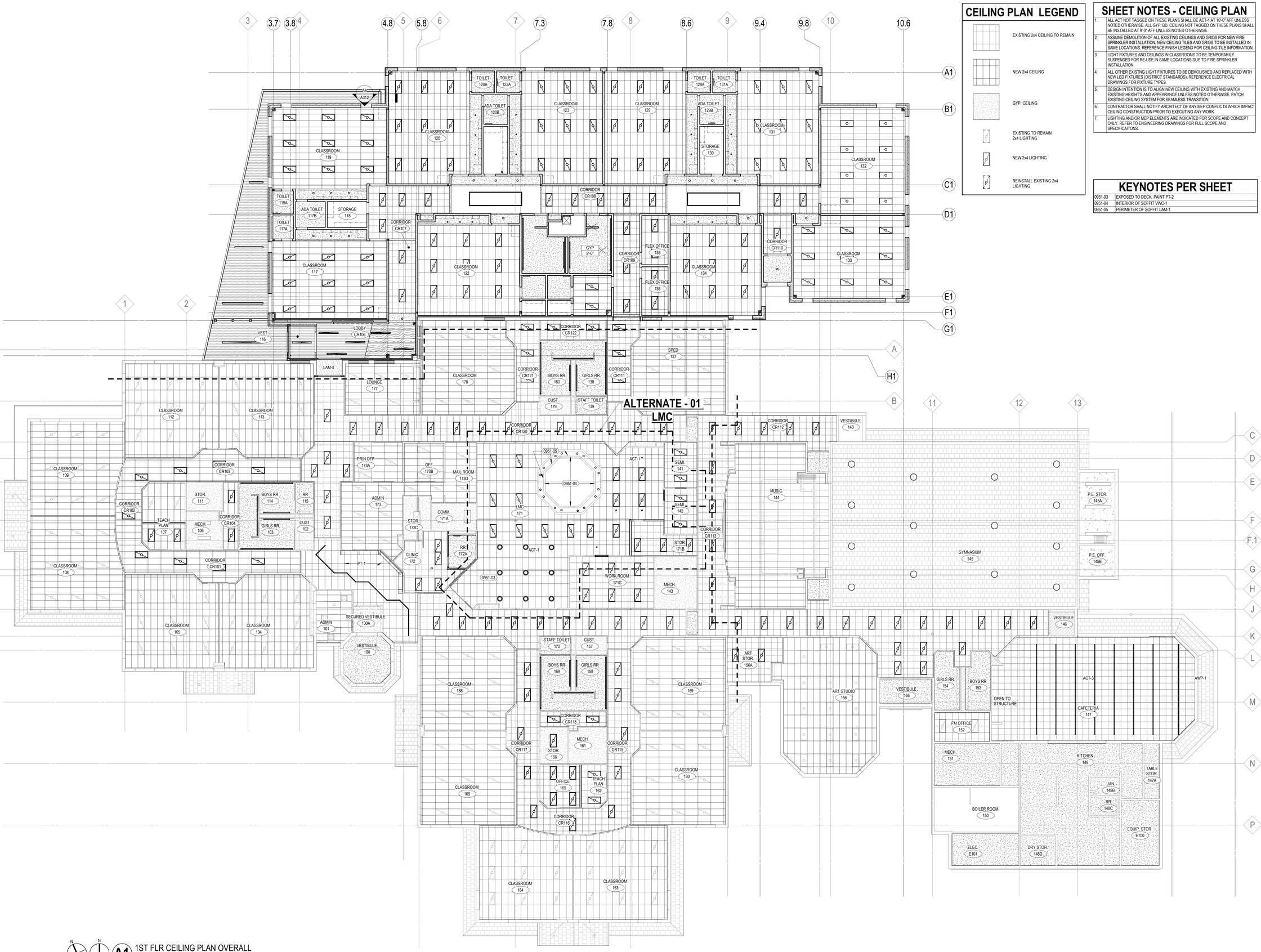


SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

1ST FLR PLAN - AREA C DIMENSIONING

A101C.1



CEILING PLAN LEGEND

- EXISTING 2x4 CEILING TO REMAIN
- NEW 2x4 CEILING
- GYP. CEILING
- EXISTING TO REMAIN 2x4 LIGHTING
- NEW 2x4 LIGHTING
- REINSTALL EXISTING 2x4 LIGHTING

SHEET NOTES - CEILING PLAN

1.	ALL ACT NOT TAGGED ON THESE PLANS SHALL BE ACT-1 AT 10'-0" AFF UNLESS NOTED OTHERWISE. ALL GYP. BD. CEILING NOT TAGGED ON THESE PLANS SHALL BE INSTALLED AT 9'-0" AFF UNLESS NOTED OTHERWISE.
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3.	LIGHT FIXTURES AND CEILINGS IN CLASSROOMS TO BE TEMPORARILY SUSPENDED FOR RE-USE IN SAME LOCATIONS DUE TO FIRE SPRINKLER INSTALLATION
4.	ALL OTHER EXISTING LIGHT FIXTURES TO BE DEMOLISHED AND REPLACED WITH NEW LED FIXTURES (DISTRICT STANDARDS), REFERENCE ELECTRICAL DRAWINGS FOR FIXTURE TYPES.
5.	DESIGN INTENTION IS TO ALIGN NEW CEILING WITH EXISTING AND MATCH EXISTING HEIGHTS AND APPEARANCE UNLESS NOTED OTHERWISE. PATCH EXISTING CEILING SYSTEM FOR SEAMLESS TRANSITION.
6.	CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY MEP CONFLICTS WHICH IMPACT CEILING CONSTRUCTION PRIOR TO EXECUTING ANY WORK.
7.	LIGHTING AND/OR MEP ELEMENTS ARE INDICATED FOR SCOPE AND CONCEPT ONLY. REFER TO ENGINEERING DRAWINGS FOR FULL SCOPE AND SPECIFICATIONS.

KEYNOTES PER SHEET

0951-03	EXPOSED TO DECK, PAINT PT-2
0951-04	INTERIOR OF SOFFIT VWC-1
0951-05	PERIMETER OF SOFFIT LAM-1

N TRUE N PLAN **A1** 1ST FLR CEILING PLAN OVERALL
3/32" = 1'-0"

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Denver, CO 80202
(303) 595-4500
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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

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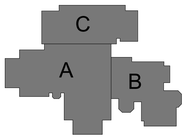
07/31/2023	CONSTRUCTION DOCUMENTS

STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN



SHEET INFORMATION

PROGRESS DOCUMENTS NOT FOR CONSTRUCTION

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and shall not be used for final bidding or construction-related purposes.

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

1ST FLR CEILING PLAN - OVERALL

A111

SHEET NOTES - CEILING PLAN

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6.	CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY MEP CONFLICTS WHICH IMPACT CEILING CONSTRUCTION PRIOR TO EXECUTING ANY WORK.
7.	LIGHTING AND/OR MEP ELEMENTS ARE INDICATED FOR SCOPE AND CONCEPT ONLY. REFER TO ENGINEERING DRAWINGS FOR FULL SCOPE AND SPECIFICAITONS.

KEYNOTES PER SHEET

0951-04	INTERIOR OF SOFFIT VWC-1
0951-08	PAINT EXISTING SOFFIT ALL SIDES PT-12

ALTERNATE 01
LMC

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STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

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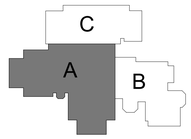


B

SHEET INFORMATION

A

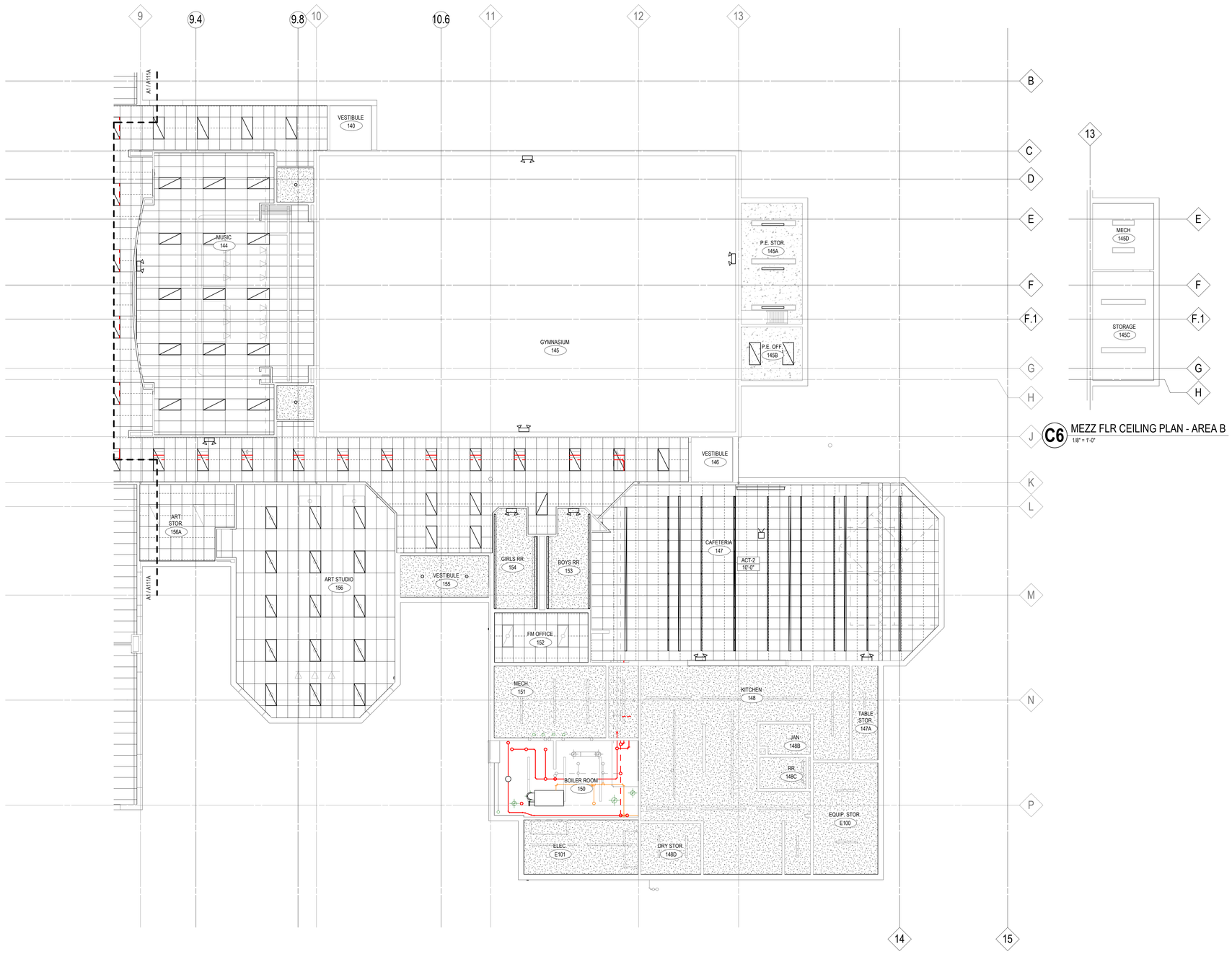
PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

1ST FLR CEILING PLAN - AREA A

A111A

N TRUE N PLAN **A1** 1ST FLR CEILING PLAN - AREA A
1/8" = 1'-0"

1 2 3 4 5 6 7



C6 MEZZ FLR CEILING PLAN - AREA B
1/8" = 1'-0"

A2 1ST FLR CEILING PLAN - AREA B
1/8" = 1'-0"

N TRUE N PLAN

SHEET NOTES - CEILING PLAN

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402502
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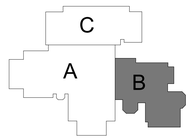

SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

1ST FLR CEILING PLAN - AREA B

A111B

KEYNOTES PER SHEET

0101	ALIGN
0105	START ANGLE AT CORNER
0106	OPEN TO STRUCTURE REF A233
0107	CENTER LIGHT IN CEILING IN ALL DIRECTIONS

SHEET NOTES - CEILING PLAN

1. ALL ACT NOT TAGGED ON THESE PLANS SHALL BE ACT-1 AT 10'-0" AFF UNLESS NOTED OTHERWISE. ALL GYP. BD. CEILING NOT TAGGED ON THESE PLANS SHALL BE INSTALLED AT 9'-0" AFF UNLESS NOTED OTHERWISE.
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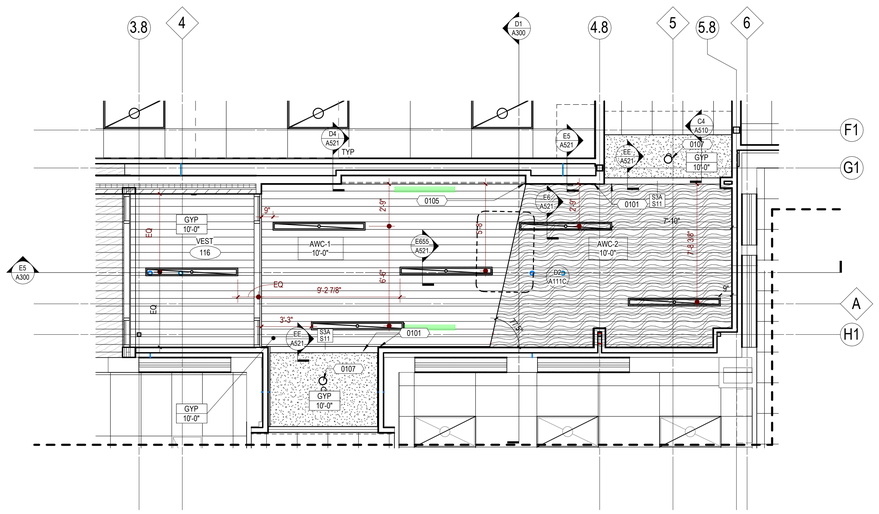
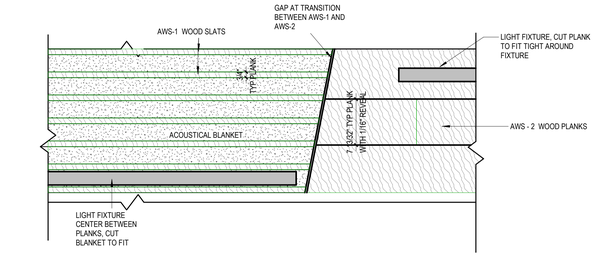
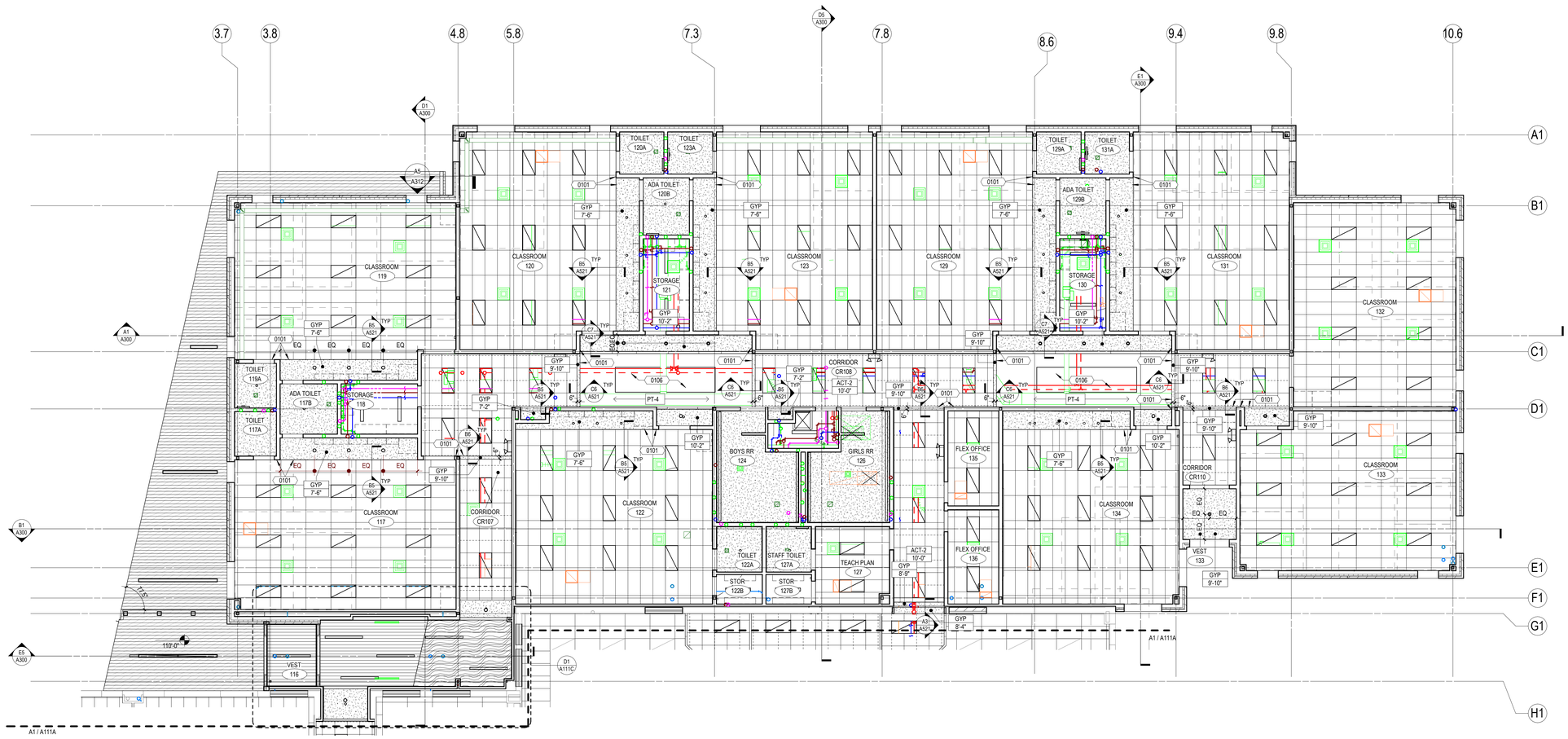


D1 1ST FLR CEILING PLAN - VESTIBULE
1/4" = 1'-0"



D2 ENLARGED PLAN WOOD CEILING
1 1/2" = 1'-0"



A2 1ST FLR CEILING PLAN - AREA C
1/8" = 1'-0"

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PROJECT INFORMATION

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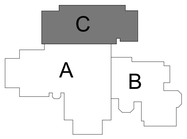
STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN



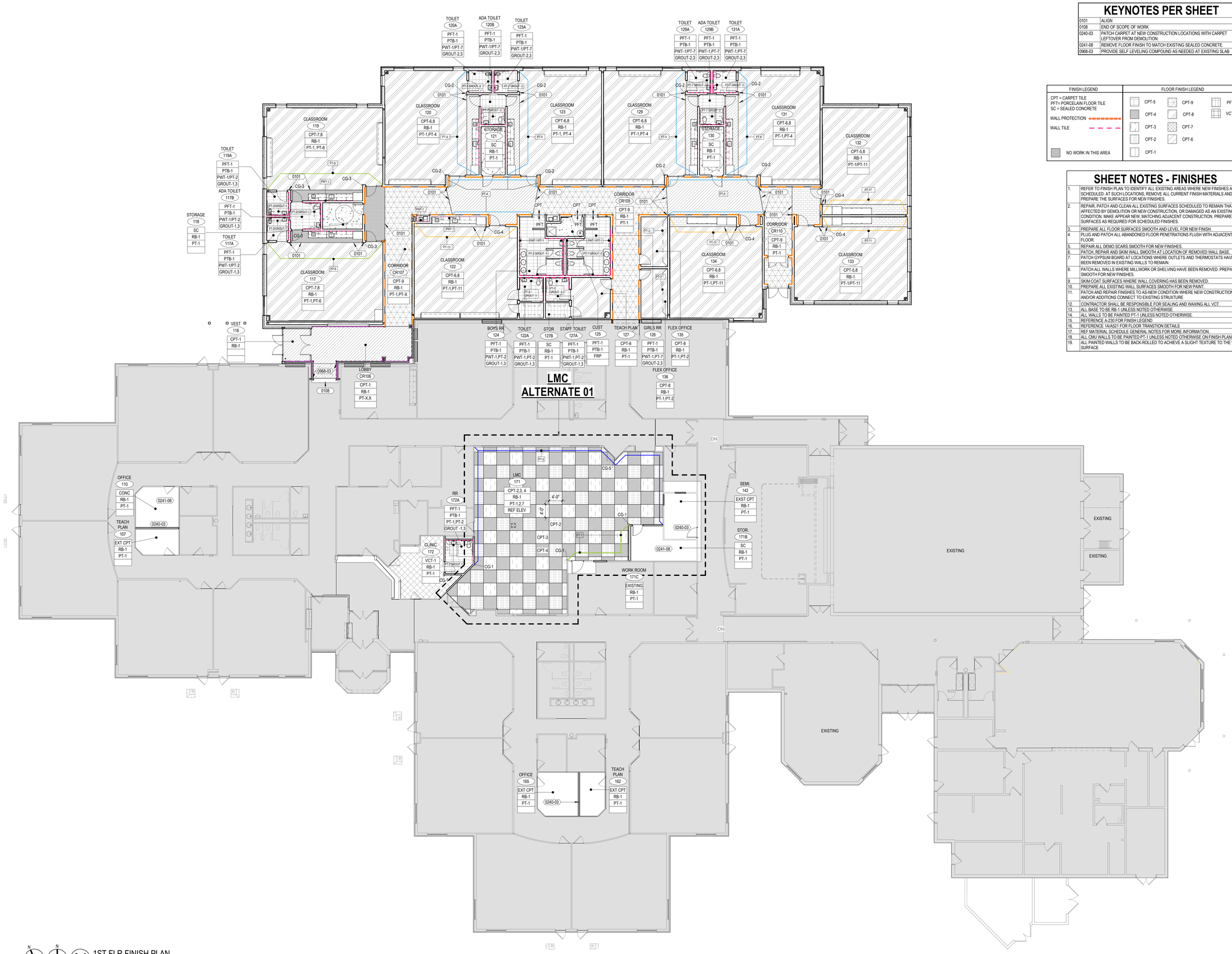
SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

1ST FLR CEILING PLAN - AREA C

A111C

1 2 3 4 5 6 7



KEYNOTES PER SHEET

0101	ALIGN
0108	END OF SCOPE OF WORK
0240-03	PATCH CARPET AT NEW CONSTRUCTION LOCATIONS WITH CARPET LEFTOVER FROM DEMOLITION.
0241-08	REMOVE FLOOR FINISH TO MATCH EXISTING SEALED CONCRETE.
0968-03	PROVIDE SELF LEVELING COMPOUND AS NEEDED AT EXISTING SLAB

FINISH LEGEND	FLOOR FINISH LEGEND
CPT = CARPET TILE PFT= PORCELAIN FLOOR TILE SC = SEALED CONCRETE	CPT-5, CPT-4, CPT-3, CPT-2, CPT-1, CPT-9, CPT-8, CPT-7, CPT-6, PFT-1, VCT-1
WALL PROTECTION	
WALL TILE	
NO WORK IN THIS AREA	

SHEET NOTES - FINISHES

1.	REFER TO FINISH PLAN TO IDENTIFY ALL EXISTING AREAS WHERE NEW FINISHES ARE SCHEDULED. AT SUCH LOCATIONS, REMOVE ALL CURRENT FINISH MATERIALS AND PREPARE THE SURFACES FOR NEW FINISHES.
2.	REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION, OR DAMAGED AS AN EXISTING CONDITION. MAKE APPEAR NEW, MATCHING ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES.
3.	PREPARE ALL FLOOR SURFACES SMOOTH AND LEVEL FOR NEW FINISH.
4.	PLUG AND PATCH ALL ABANDONED FLOOR PENETRATIONS FLUSH WITH ADJACENT FLOOR.
5.	REPAIR ALL DEMO SCARS SMOOTH FOR NEW FINISHES.
6.	PATCH, REPAIR AND SKIM WALL SMOOTH AT LOCATION OF REMOVED WALL BASE.
7.	PATCH GYPSUM BOARD AT LOCATIONS WHERE OUTLETS AND THERMOSTATS HAVE BEEN REMOVED IN EXISTING WALLS TO REMAIN.
8.	PATCH ALL WALLS WHERE MILLWORK OR SHELVING HAVE BEEN REMOVED. PREPARE SMOOTH FOR NEW FINISHES.
9.	SKIM COAT SURFACES WHERE WALL COVERING HAS BEEN REMOVED.
10.	PREPARE ALL EXISTING WALL SURFACES SMOOTH FOR NEW PAINT.
11.	PATCH AND REPAIR FINISHES TO AS-NEW CONDITION WHERE NEW CONSTRUCTION AND/OR ADDITIONS CONNECT TO EXISTING STRUXTURE
12.	CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING AND WAXING ALL VCT.
13.	ALL BASE TO BE RB-1 UNLESS NOTED OTHERWISE.
14.	ALL WALLS TO BE PAINTED PT-1 UNLESS NOTED OTHERWISE.
15.	REFERENCE A-230 FOR FINISH LEGEND
16.	REFERENCE TA/A521 FOR FLOOR TRANSITION DETAILS
17.	REF MATERIAL SCHEDULE GENERAL NOTES FOR MORE INFORMATION.
18.	ALL CMU WALLS TO BE PAINTED PT-1 UNLESS NOTED OTHERWISE ON FINISH PLANS
19.	ALL PAINTED WALLS TO BE BACK-ROLLED TO ACHIEVE A SLIGHT TEXTURE TO THE WALL SURFACE

N TRUE N PLAN **A1** 1ST FLR FINISH PLAN
3/32" = 1'-0"

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Denver, CO 80202
(303) 595-4500
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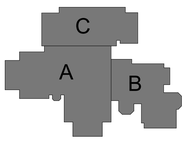

SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

1ST FLR PLAN - FINISHES

A120

1 2 3 4 5 6 7

SHEET NOTES - ROOF PLAN

1.	ALL CONTRACTORS SHALL COORDINATE AND LOCATE ALL ROOF OPENINGS AND PENETRATIONS WITH STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS.
2.	PROVIDE WATER TIGHT INTEGRITY AT ALL PENETRATIONS AND EQUIPMENT PER ROOFING MANUFACTURERS STANDARD DETAILS AND REQUIREMENT FOR WARRANTY AND CURRENT NRCA STANDARDS.
3.	PROVIDE 4'-0" X 4'-0" PANS AT ROOF DRAINS TO ACCOMMODATE FOR SLOPE AT ACTUAL LOCATION OF ROOF DRAINS AT COLUMNS.
4.	PROVIDE TAPERED INSULATION SADDLES AND CRICKETS AT 1/4" PER FOOT AT ALL ROOF TOP EQUIPMENT AND PENETRATIONS TO ENSURE POSITIVE DRAINAGE.

KEYNOTES PER SHEET

0240-06	EXISTING ROOF MEMBRANE, COPING, FASCIA TO REMAIN, UNLESS NOTED OTHERWISE
0753-10	WALKWAY PADS
0762-02	PREFINISHED METAL COPING
0772-01	ROOF HATCH, THERMALLY BROKEN
0795-02	EXPANSION JOINT ROOF COVER ASSEMBLY
2214-01	ROOF DRAIN
2240-01	PRIMARY AND OVERFLOW ROOF DRAIN
B3010-01	REFER TO SHEET A010
B3010-03	REFER TO SHEET A010

EXTERIOR WALL BELOW
TO WALL BELOW
EXHAUST FAN, RE: MECHANICAL
RTU, RE: MECHANICAL
EXHAUST FAN, RE: MECHANICAL
EXHAUST FAN, RE: MECHANICAL
RELIEF HOODS, RE: MECHANICAL
MECH UNIT, RE: MECHANICAL
1 3/4" EJ
1'-8" / 1'-2"
1/4" / 1'-2"
1/4" / 1'-2"
1/4" / 1'-2"
1/4" / 1'-2"
1/4" / 1'-2"
116'-0"
115'-4"

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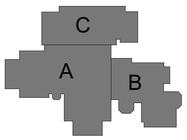


B

SHEET INFORMATION

A

PROJECT MANAGER JC

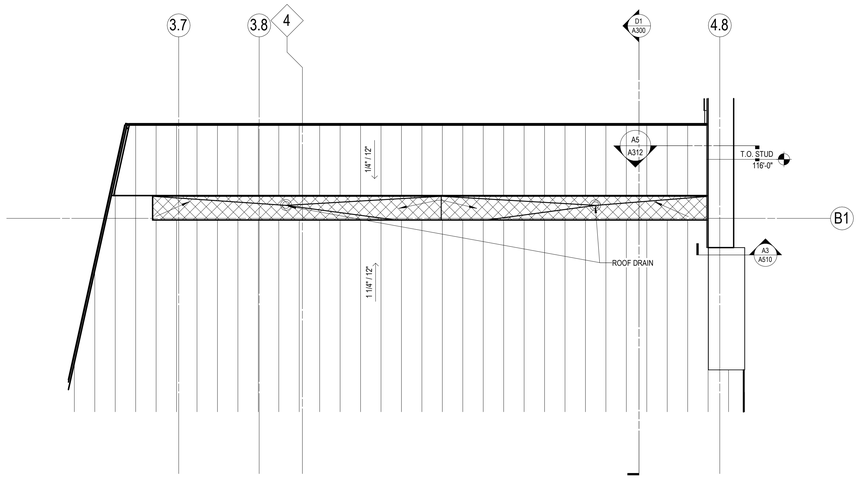
PROJECT NUMBER 822808-01

ROOF PLAN

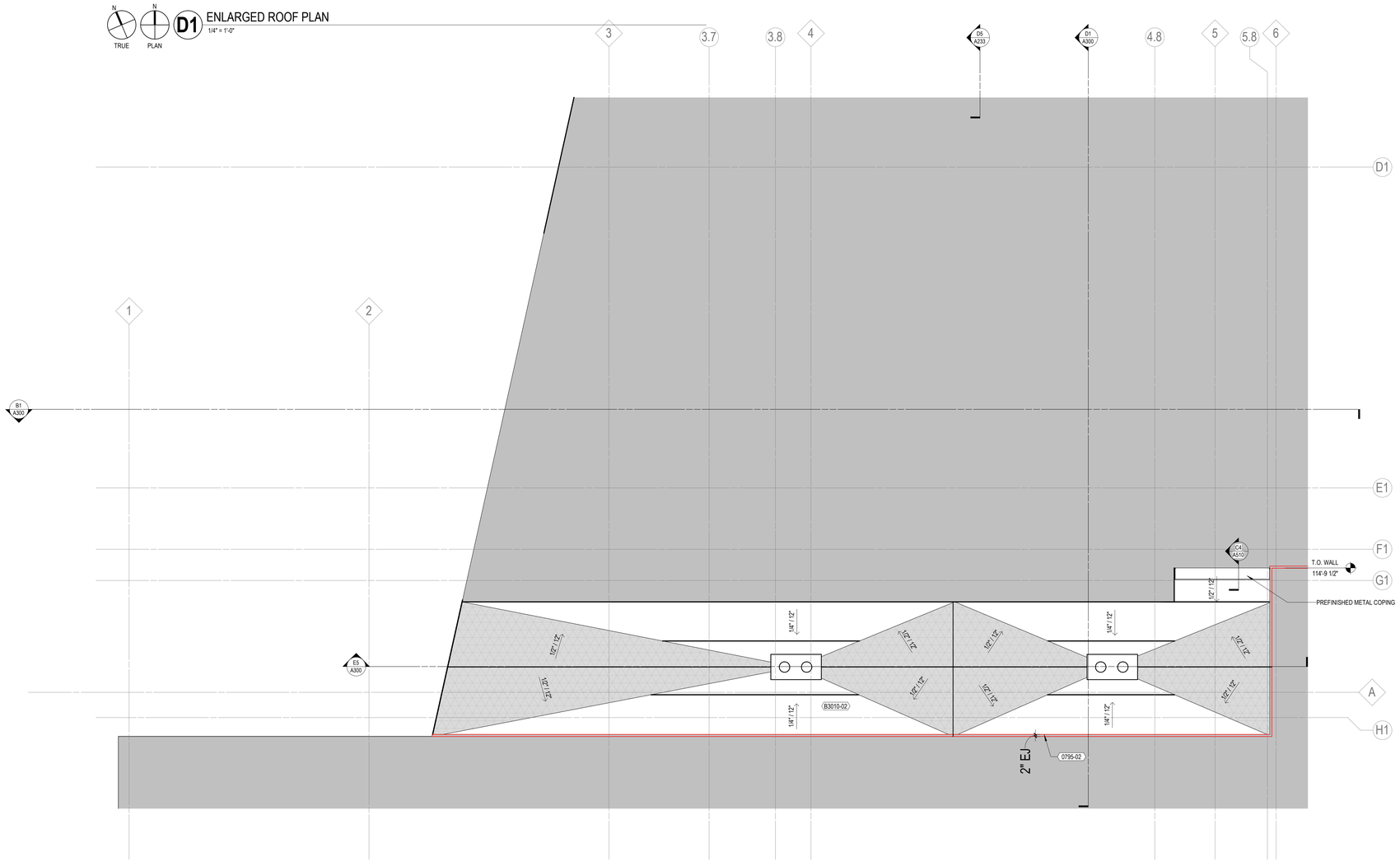
A140

A1 ROOF PLAN
3/32" = 1'-0"

1 2 3 4 5 6 7



N TRUE N PLAN **D1** ENLARGED ROOF PLAN
1/4" = 1'-0"



N TRUE N PLAN **A1** LOW ROOF PLAN
1/4" = 1'-0"

SHEET NOTES - ROOF PLAN

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KEYNOTES PER SHEET

0762-02	PREFINISHED METAL COPING
0795-02	EXPANSION JOINT ROOF COVER ASSEMBLY
2214-01	ROOF DRAIN
B3010-02	REFER TO SHEET A010

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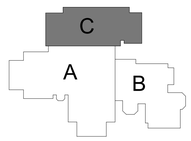
LICENSED ARCHITECT

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

LOW ROOF PLAN

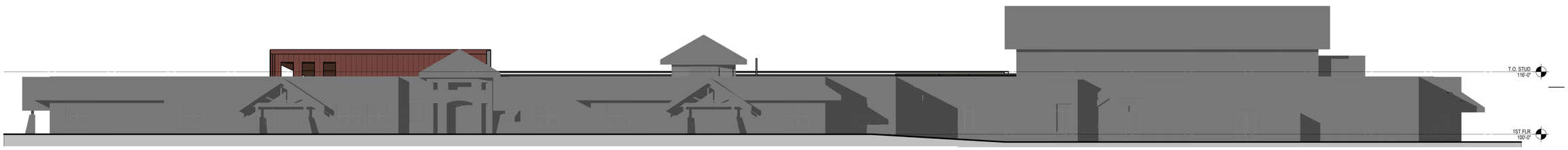
A141

1 2 3 4 5 6 7

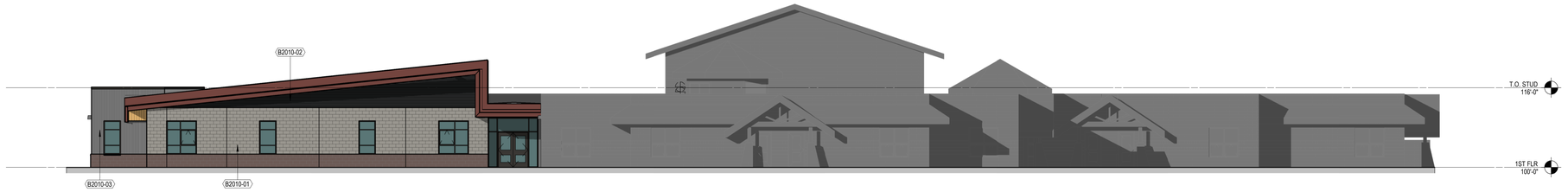
KEYNOTES PER SHEET	
B2010-01	REFER TO SHEET A010
B2010-02	REFER TO SHEET A010
B2010-03	REFER TO SHEET A010
B3010-03	REFER TO SHEET A010

SHEET NOTES - EXTERIOR ELEVATIONS

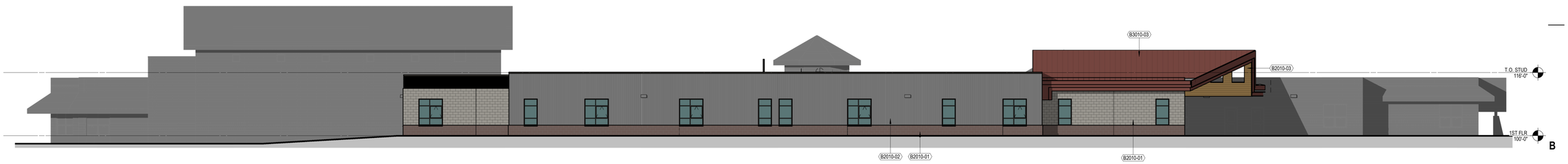
1. SEE SHEET A600 FOR EXTERIOR FRAME TYPES AND DIMENSIONS.
2. PROVIDE CONTINUOUS SEALANT AND BACKER ROD AT ALL PRECAST CONCRETE JOINTS.
3. ALL INSIDE AND OUTSIDE CORNERS OF PRECAST TRIM TO NOT BE MITERED.
4. EXTERIOR SIGNAGE ON BUILDING TO BE COORDINATED AND VERIFIED WITH ARCHITECT, OWNER AND SIGNAGE VENDOR.
5. ALL VERTICAL INSIDE CORNERS TO HAVE 1/2" MOVEMENT JOINT.
6. MJ = INDICATES MOVEMENT JOINT - 1/2" GAP.
7. PJ = INDICATES METAL PANEL JOINT - 1/2" GAP.



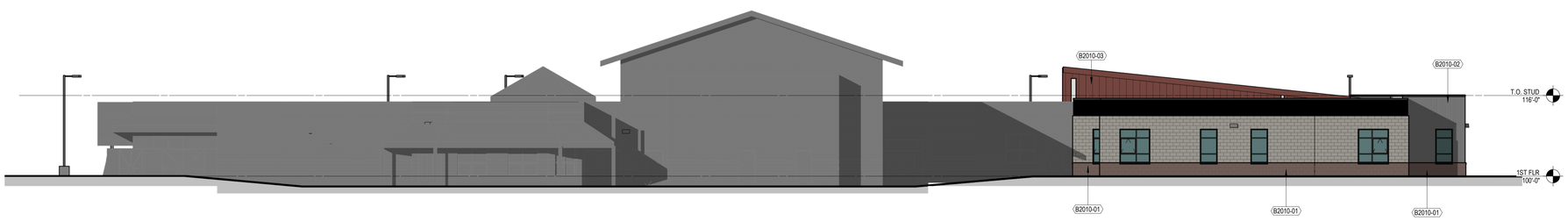
D1 SOUTH EXTERIOR ELEVATION - OVERALL
3/32" = 1'-0"



C1 WEST EXTERIOR ELEVATION - OVERALL
3/32" = 1'-0"



B1 NORTH EXTERIOR ELEVATION - OVERALL
3/32" = 1'-0"



A1 EAST EXTERIOR ELEVATION - OVERALL
3/32" = 1'-0"

1 2 3 4 5 6 7

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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

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07/31/2023	CONSTRUCTION DOCUMENTS

STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

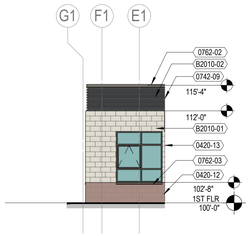
PROJECT MANAGER JC
PROJECT NUMBER 822808-01

EXTERIOR ELEVATIONS - OVERALL

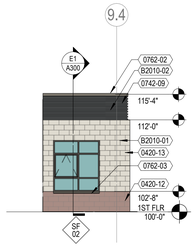
A200

KEYNOTES PER SHEET

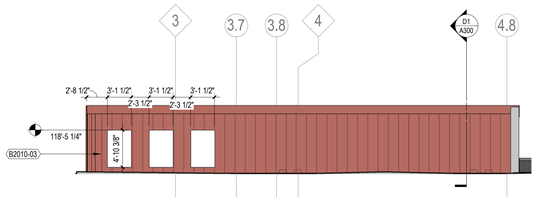
0420-12	CMU-1: BASALITE 668WR GROUND FACE MEDIUM WEIGHT
0420-13	CMU-2: BASALITE 970WR GROUND FACE MEDIUM WEIGHT
0742-09	MP-1 - HORIZONTAL METAL PANEL
0742-10	MP-2 - VERTICAL METAL PANEL
0762-02	PREFINISHED METAL COPING
0762-03	PREFINISHED METAL FLASHING
B2010-01	REFER TO SHEET A010
B2010-02	REFER TO SHEET A010
B2010-03	REFER TO SHEET A010



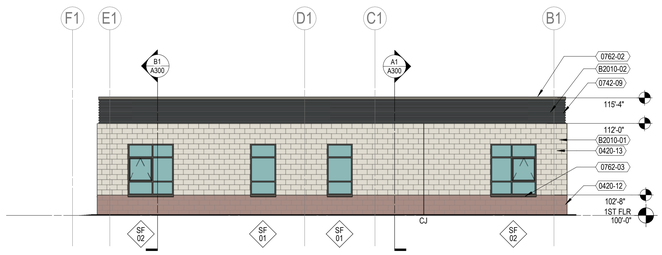
D1 EXTERIOR EAST ELEVATION - CLASSROOM 135
1/8" = 1'-0"



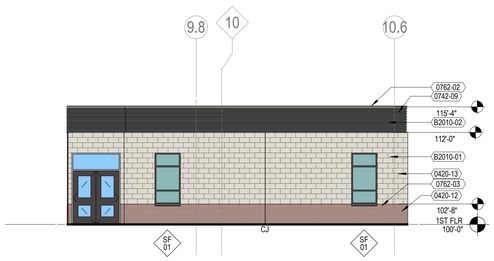
D2 EXTERIOR SOUTH - ELEVATION - CLASSROOM 135
1/8" = 1'-0"



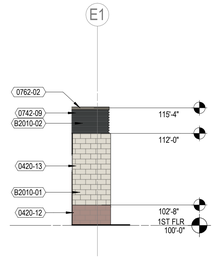
D4 EXTERIOR ELEVATION - UPPER WALL - NORTH
1/8" = 1'-0"



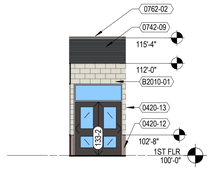
C1 EXTERIOR EAST ELEVATION - CLASSROOM 132 & 133
1/8" = 1'-0"



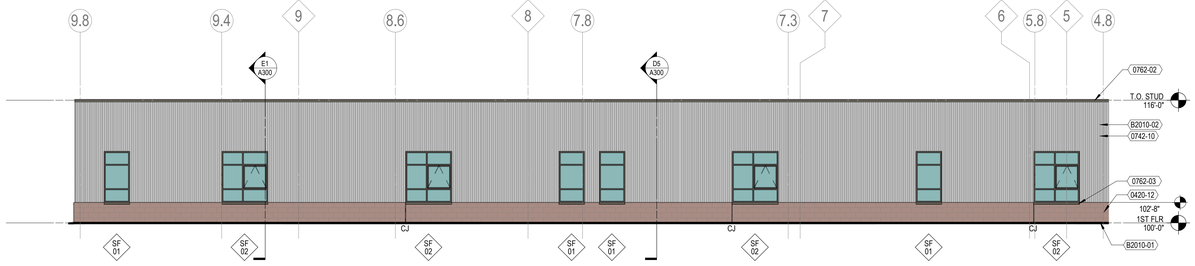
C2 EXTERIOR SOUTH ELEVATION - CLASSROOM 133
1/8" = 1'-0"



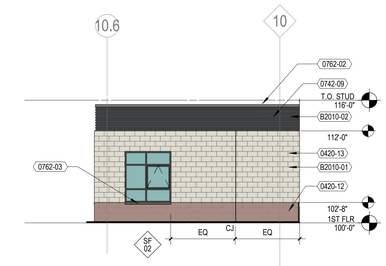
C4 EXTERIOR WEST ELEVATION - VEST 133
1/8" = 1'-0"



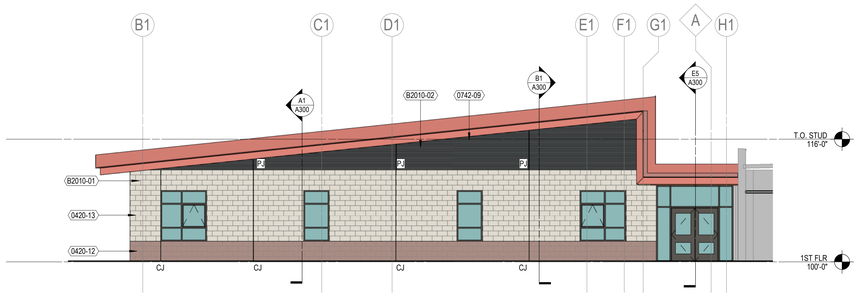
C6 EXTERIOR SOUTH ELEVATION - CR110
1/8" = 1'-0"



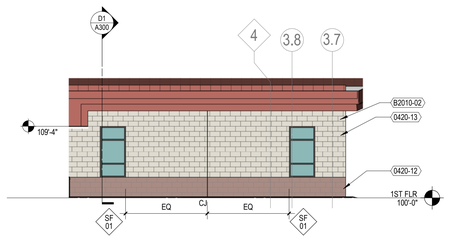
B1 EXTERIOR SOUTH ELEVATION - CLASSROOM 121, 125, 131 & 134
1/8" = 1'-0"



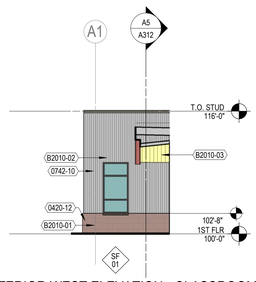
B3 EXTERIOR NORTH ELEVATION - CLASSROOM 132
1/8" = 1'-0"



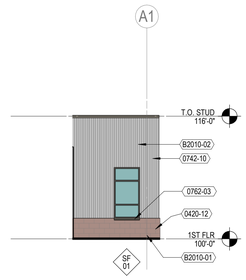
A1 EXTERIOR EAST ELEVATION - CLASSROOM 117 & 120
1/8" = 1'-0"



A3 EXTERIOR SOUTH ELEVATION - CLASSROOM 120
1/8" = 1'-0"



A5 EXTERIOR WEST ELEVATION - CLASSROOM 119
1/8" = 1'-0"



A6 EXTERIOR EAST ELEVATION - CLASSROOM 131
1/8" = 1'-0"

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KEY PLAN

SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

EXTERIOR ELEVATIONS

A201

1 2 3 4 5 6 7

A B C D E

C2 PK/K NORTHEAST
NTS

A2 PK/K ENTRY
NTS

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PROJECT MANAGER JC
PROJECT NUMBER 822808-01

EXTERIOR RENDERINGS

A205

1 2 3 4 5 6 7

MATERIAL SCHEDULE

CODE	DESCRIPTION	MANUFACTURER	PRODUCT #	COLOR	FINISH	SIZE	CONTACT	COMMENTS
A								
ACT-1	ACOUSTICAL CEILING TILE	USG	MARS	WHITE		2x4		HIGH NRC MIN STC RATING 39, NEW ADDITION CLASSROOMS, LMC
ACT-2	ACOUSTICAL CEILING TILE	USG	ECLIPSE ILLUSION 78785	WHITE		2X4		CORRIDORS
ACT-3	ACOUSTICAL CEILING TILE	USG	MARS 88136/ FINELINE BEVEL	ATMOSPHERE 3681		2X4		ENTRY VESTIBULE/ MATCHING GRID COLOR
AWC-1	ACOUSTICAL WOOD CEILING	9-WOOD	1112-4 CROSS PIECE GRILLE	WESTERN HEMLOCK	TEAK	3'4" WIDTH, 1 3/8" DEPTH		NEW ADDITION ENTRY LOBBY
AWC-2	ACOUSTICAL WOOD CEILING	9-WOOD	KERF REVEAL 2717-2	WESTERN HEMLOCK	TEAK	3/4" MEMBER DEPTH, 6" O.C. SPACING		NEW ADDITION ENTRY LOBBY
C								
CG-1	CORNER GUARD	INPRO	WHITE 949			REF ELEVATIONS		SCREW ATTACHMENT
CG-2	CORNER GUARD	INPRO	MORNING DEW 1585			REF ELEVATIONS		SCREW ATTACHMENT
CG-3	CORNER GUARD	INPRO	CUCUMBER 1595			REF ELEVATIONS		SCREW ATTACHMENT
CG-4	CORNER GUARD	INPRO	CANTELOPE 1583			REF ELEVATIONS		SCREW ATTACHMENT
CG-5	CORNER GUARD	INPRO	BALTIC BLUE 1526			REF ELEVATIONS		SCREW ATTACHMENT
CPT-1	CARPET	INTERFACE FLOR	INDUSTRIOUS	IRON				
CPT-2	CARPET	MANNINGTON	BOUCLE	TEAL 44287		24" X 24"		
CPT-3	CARPET	MANNINGTON	BOUCLE	VERDITE 43292		24" X 24"		
CPT-4	CARPET	MANNINGTON	BOUCLE	HEMATITE 13296		24" X 24"		
CPT-5	CARPET	INTERFACE FLOR	INDUSTRIOUS	MARIGOLD				
CPT-6	CARPET	INTERFACE FLOR	INDUSTRIOUS	COBALT				
CPT-7	CARPET	INTERFACE FLOR	INDUSTRIOUS	LIME				
CPT-8	CARPET	MANNINGTON	MOMENTO 34636	UNION				CLASSROOMS
CPT-9	CARPET	MANNINGTON	RELIC 34636	UNION				CORRIDORS
F								
FRP-1	INPRO	FRP	WHITE					JANITOR CLOSETS ALL WALLS
FP-1	FELT PANEL	FELT RIGHT	CORAL					LMC WALL PANEL, DIRECT GLUE
FP-2	FELT PANEL	FELT RIGHT	BABY BLUE					LMC WALL PANEL, DIRECT GLUE
FP-3	FELT PANEL	FELT RIGHT	MUSTARD					LMC WALL PANEL, DIRECT GLUE
FP-4	FELT PANEL	FELT RIGHT	ATLANTIC					LMC WALL PANEL, DIRECT GLUE
G								
GROUT -1	COLOR GROUT	TILE DOCTOR LITKOL	350 BLU ZAFFIRO			EPOXY	WALL TILE GROUT ONLY	PRE-K TOILETS, AND CLASSROOM. DRINKING FOUNTAIN WALLS, ROOM 124
GROUT 2	COLOR GROUT	TILE DOCTOR LITKOL	430 VERDE PRATO			EPOXY	WALL TILE GROUT ONLY	KINDER TOILETS AND CLASSROOM, ROOM 126
GROUT 3	STANDARD GROUT		DARK GRAY			EPOXY	FLOOR GROUT, WALL GROUT	ARCHITECT TO SLECT GROUT
L								
LAM-1	LAMINATE	WILSONART	7911-60	MANITOBA MAPLE				
M								
MB-1	MARBERBOARD	DEKO	DIAMOND SERIES	WHITE				
P								
PWT-1	PORCELAIN WALL TILE	FLORIDA TILE	EMOTIVE EMV1S	ASTONISHED WHITE		3X12 SILK		USE 3X12 BULLNOSE AT BASE WITH SCHLUTER DILEX TRIM WHERE WALL MEETS FLOOR. USE SCHLUTER JOLLY AT WALL TILE EXPOSED EDGE
PFT-1	PORCELAIN FLOOR TILE	CROSSVILLE	SHADES 2.0	SHD44 MIST UPS		12X24		USE EPOXY GROUT - STANDARD GRAY
PT-1	PAINT	BENJAMIN MOORE	OC-17	WHITE DOVE				FIELD PAINT
PT-2	PAINT	BENJAMIN MOORE	CW-615	RANDOLPH BLUE				LMC ACCENT
PT-3	PAINT	BENJAMIN MOORE	2022-40	BANANA YELLOW				ENTRY MILLWORK
PT-4	PAINT	BENJAMIN MOORE	2052-50	POOL BLUE				CLASSROOM ACCENT WAL
PT-5	PAINT	BENJAMIN MOORE	2052-10	OCEAN TROPIC				DOOR FRAME ACCENT
PT-6	PAINT	BENJAMIN MOORE	541	VERANDA VIEW				CLASSROOM ACCENT WAL
PT-7	PAINT	BENJAMIN MOORE	412	SPRINGHILL GREEN				LMC ACCENT WALL
PT-8	PAINT	BENJAMIN MOORE	2130-50	NEW HOPE GRAY				DOOR FRAME PAINT, NEW CORRIDOR ACCENT
PT-9	PAINT	BENJAMIN MOORE	2172-30	MEXICANA				DOOR FRAME PAINT
PT-10	PAINT	BENJAMIN MOORE						GIRLS RR ACCENT
PT-11	PAINT	BENJAMIN MOORE	BM-104	SIENNA CLAY				CLASSROOM ACCENT WAL
PT-12	PAINT	BENJAMIN MOORE	2065-20	DARK ROYAL BLUE				LMC SKYLIGHT GYP ACCENT, DOR FRAME ACCENT
PT-13	PAINT	BENJAMIN MOORE	811	OLD GLORY				WAINSCOT PAINT IN EXISTING BUILDING
R								
RB-1	RUBBER BASE	TARKETT - JOHNSONITE	TG-3	IRON MOUNTAIN CG				BASE
RB-2	RUBBER BASE	TARKETT - JOHNSONITE	TG-7	CANARY				BASE AT ENTRY MILLWORK
RV-1	REVEAL	FRY REGLET	REVEAL			1/2"		WHITE
RV-2	REVEAL	FRY REGLET	CORNER TRIM			3/8"		WHITE
RV-3	REVEAL	FRY REGLET	MILLWORK CHANNEL L ANGLE W RETURN KEY			3/4"		WHITE
S								
SC-1	SEALED CONCRETE							
SS-1	SOLID SURFACE	FORMICA	417	GAMMA GRAY				
VCT-1	VCT	TARKETT		CLOUDY SKIES				
W								
WC-1	WALL COVERING	KNOLL TEXTILES	BESPOKE WALL WC2339/8	SNAPDRAGON				
WD-1	WOOD			WHITE OAK WITH STAIN		1" X 4"		HARDWOOD TRIM FOR CHAIR RAIL, ARCHITECT TO APPROVE STAIN SAMPLE

MATERIAL SCHEDULE GENERAL NOTES

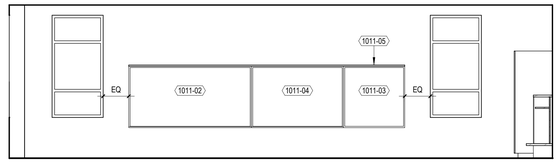
SPECIFICATION	NOTE
DIV 09	MATERIALS IN THIS SCHEDULE ARE REFERENCED IN MULTIPLE LOCATIONS OF THE DRAWING SET.
DIV 09	REFER TO INTERIOR ELEVATIONS FOR WALL FINISHES AND MILLWORK FINISHES.
DIV 09	PROVIDE ATTIC STOCK OF FINISH MATERIALS SUCH AS FLOORING, PAINT, WALLCOVERING, CEILING TILE AND SIMILAR. VERIFY TYPES AND QUANTITIES WITH OWNER AND/OR TENANT.
DIV 08	REFER TO DOOR SCHEDULE FOR FINISHES FOR NON-FACTORY FINISHED DOORS AND FRAMES.
06 40 00	INSTALL ALL WOOD GRAIN PLASTIC LAMINATE ON VERTICAL SURFACES WITH A VERTICAL GRAIN ORIENTATION, UNLESS NOTED OTHERWISE.
09 30 00	ALL TILE SIZES INDICATED ARE NOMINAL, UNLESS NOTED OTHERWISE.
09 30 00	SUBMIT A FLOOR PLAN PROVIDING PROPOSED CONTROL JOINT LOCATIONS FOR ARCHITECT'S APPROVAL PRIOR TO INSTALLATION.
09 30 00	AT AREAS TO RECEIVE HARD TILE, PROVIDE CRACK ISOLATION MEMBRANE AT CONTROL JOINT LOCATIONS.
09 30 00	PROVIDE WATERPROOF MEMBRANE WHERE TOILETS, URINALS, AND FLOOR SINKS OCCUR.
09 30 00	PROVIDE 1/8" GROUT JOINT FOR RECTIFIED TILE WHERE TILE IS NOT MESH MOUNTED. PROVIDE 3/16" GROUT JOINT FOR NON-RECTIFIED TILE WHERE TILE IS NOT MESH MOUNTED. GROUT JOINT SHALL BE AT LEAST THREE TIMES THE ACTUAL FACIAL VARIATION OF THE TILE.
09 50 00	REFER TO REFLECTED CEILING PLANS FOR CEILING FINISHES.
09 60 00	CARPET TILE SHALL BE INSTALLED USING THE MANUFACTURER'S GLUE-FREE METHOD WHEN AVAILABLE, SUCH AS TACTILES, LOCKDOTS OR SIMILAR.
09 60 00	AT DOOR OPENINGS, PLACE FLOORING TRANSITIONS BETWEEN DISSIMILAR MATERIALS, COLORS, OR PATTERNS. CENTER UNDER THE DOOR WHEN THE DOOR IS IN THE CLOSED POSITION. WHERE NO DOOR EXISTS IN THE OPENING, PLACE THE TRANSITION AT THE CENTER OF THE JAMB.
09 60 00	PROVIDE SMOOTH, EVEN FLOORING TRANSITIONS BETWEEN DISSIMILAR FLOORING MATERIALS. PROVIDE APPROPRIATE TRANSITION MATERIAL TO CAP AN EXPOSED EDGE OR END OF A MATERIAL.
09 60 00	WHERE HARD TILE ABUTS CARPETING OR RESILIENT TILE, PROVIDE MANUFACTURER'S RECOMMENDED UNDERLAYMENT MATERIAL OR LEVELING COMPOUND UNDER THE CARPET OR RESILIENT FLOOR IN A MANNER THAT REDUCES THE HEIGHT DIFFERENCE AT THE TRANSITION TO THE GREATEST POSSIBLE EXTENT. THE APPLICATION OF THE UNDERLAYMENT MATERIAL SHALL NOT HAVE A SLOPE GREATER THAN 1/16" PER 12", AND IN NO CASE GREATER THAN THE LEVELNESS TOLERANCES REQUIRED FOR DOORS AND BY FURNITURE AND EQUIPMENT MANUFACTURERS.
09 60 00	FLOORING TRANSITIONS TO BE THE FOLLOWING, UNLESS NOTED OTHERWISE: (A) CARPET TO HARD TILE: PROVIDE SCHLUTER SCHIENE-EB WITH BRUSHED STAINLESS STEEL FINISH. INSTALL PER MANUFACTURER RECOMMENDATIONS. (B) VCT TO CARPET: SCHLUTERSCHIENE-EB WITH BRUSHED STAINLESS STEEL FINISH. INSTALL PER MANUFACTURER RECOMMENDATIONS. (C) CONCRETE TO VCT. PROVIDE BROWN/BLACK RUBBER TRANSITION STRIP. ADJUST THINSET GROUT AS NECESSARY.
09 60 00	EXTEND FLOOR FINISH MATERIAL FULLY UNDERNEATH ALL CABINETRY, UNLESS NOTED OTHERWISE.
09 60 00	FOR RESILIENT BASE INSTALLATION, PROVIDE LONGEST LENGTHS AVAILABLE, AND PROVIDE PREFORMED CORNERS.
09 60 00	INSTALL STANDARD METAL COVE CAP WHERE RESILIENT FLASH COVE BASE IS INDICATED, UNLESS NOTED OTHERWISE.
09 90 00	INCLUDE RECOMMENDED TINTED PRIMER AND FINISH COATS FOR ALL ACCENT PAINT COLORS. PAINT ALL WALLS WITH ONE (1) COAT PRIMER AND TWO (2) FINISH COATS TO ACHIEVE UNIFORM COVERAGE AND FINISH.
09 90 00	INTERIOR PAINT FINISHES (TYPICAL): FLAT: GYP BD CEILINGS, SOFFITS AND BULKHEADS EGGSHELL: WALL SATIN OR SEMI-GLOSS: HM DOORS, HM FRAMES, MDF DOORS VERIFY SHEEN WITH MANUFACTURER WATER-BASED EPOXY: TOILET ROOM WALLS AND CEILINGS
09 90 00	PROVIDE PAINT DRAW-DOWNS FOR ALL PAINT SHOWING COLOR AND FINISH.
09 90 00	PAINT GYP BD SOFFITS AND BULKHEADS PT-1 UNLESS NOTED OTHERWISE. PAINT SOFFITS WITH A SINGLE COLOR ON HORIZONTAL AND VERTICAL SURFACES, UNLESS NOTED OTHERWISE.
09 90 00	PAINT ALL EXPOSED CEILINGS INCLUDING STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS, REF CEILING PLAN FOR PAINT COLOR
09 90 00	WHERE EXPOSED OR PARTIALLY EXPOSED TO VIEW, PAINT WOOD CLEATS SUPPORTING CASEWORK TO MATCH ADJACENT WALL COLOR, UNLESS NOTED OTHERWISE.
10 20 00	INSTALL ALL CORNER GUARDS WITH BOTTOM EDGE ALIGNING AT TOP OF WALL BASE, UNLESS NOTED OTHERWISE.
	ALL CORNER GUARDS TO BE CG-1 UNLESS NOTED OTHERWISE. CORNER GUARD HEIGHTS VARY, REFERENCE ELEVATIONS.
	ALL WOOD CHAIR RAIL, REFERENCE FINISH LEGEND FOR WD-1
	ASSUME ALL WALLS ARE PT-1 UNO
	ALL EXPOSED TILE EDGES (AT WALLS) TO RECEIVE SCHLUTER JOLLY BUSHED STAINLESS ACG, SIZE VARIES FOR TILE THICKNESS. USE SCHLUTER DILEX AT TRANSITION BETWEEN FLOOR AND WALL TILES.
	REFERENCE A6/A231 FOR TYPICAL CORRIDOR FINISH INFORMATION
	ALL FLOOR GROUT TO BE GROUT -3. ASSUME ALL WALL GROUT IS GROUT-3 UNLESS NOTED OTHERWISE. WHEN GROUT IS NOTED, IT IS FOR ACCENT WALLS ONLY.
	ASSUME BLINDS AT ALL EXTERIOR WINDOWS IN NEW ADDITION.

SHEET NOTES - INTERIOR ELEVATIONS

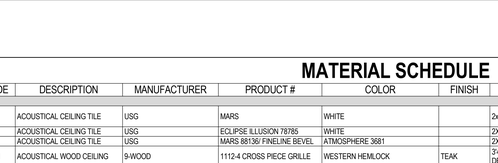
1.	UNLESS NOTED OTHERWISE, ALL DIMENSION STRINGS ARE TO FINISH FACE OF WALL.
2.	THE FINISHES FOR ALL SURFACES ARE NOT INDICATED ON THE ELEVATIONS. REFER TO FINISH PLANS.
3.	CONFIRM AND COORDINATE THE REQUIRED OPENING AND CLEARANCE DIMENSIONS FOR ALL APPLIANCES AND EQUIPMENT THAT ARE BUILT INTO OR ARE ADJACENT TO CASEWORK, MILLWORK, WALL OPENINGS, ETC.
4.	WHERE NOT INDICATED ON THE ELEVATION, REFER TO SHEET A020 FOR REQUIRED ACCESSIBILITY MOUNTING HEIGHTS AND CLEARANCES AT AND AROUND FIXTURES AND ACCESSORIES.

KEYNOTES PER SHEET

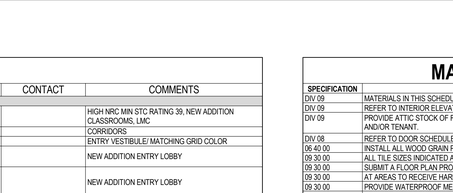
0101	ALIGN
1011-02	MARKER BOARD 4'X8'
1011-03	CORK TACK BOARD 4'X4'
1011-04	MARKER BOARD 4'X8'
1011-05	1" TACK BOARD STRIP
1294-01	CUBBY 577: 60" X 49 1/2" X 20 1/2" <FINISH>



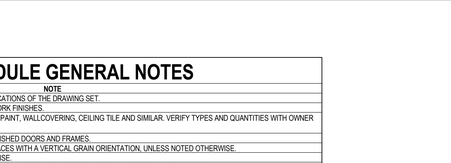
D6 CLASSROOM 119 TEACHING WALL
1/4" = 1'-0"



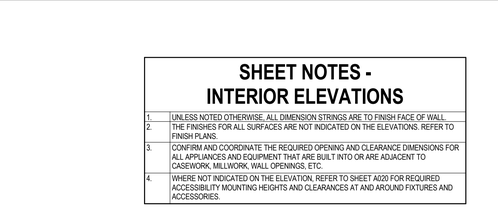
C1 CLASSROOM 134 - EAST
1/4" = 1'-0"



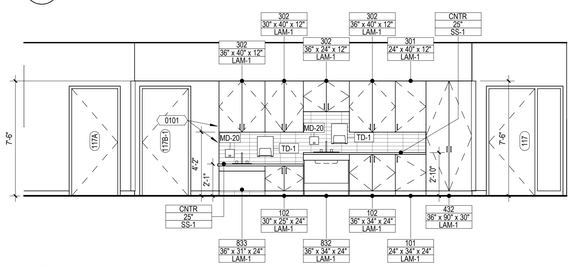
C2 CLASSROOM 134 CASEWORK ELEVATION
1/4" = 1'-0"



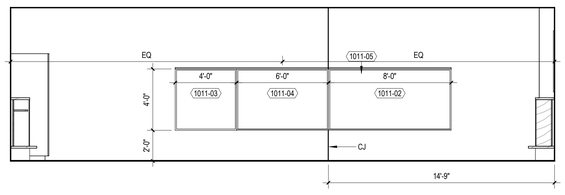
C4 CLASSROOM 134 - SOUTH
1/4" = 1'-0"



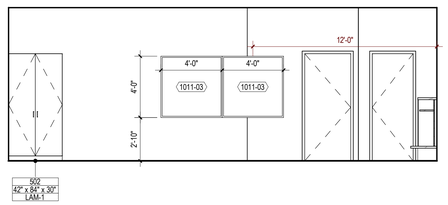
C6 CLASSROOM 134 - TEACHING WALL
1/4" = 1'-0"



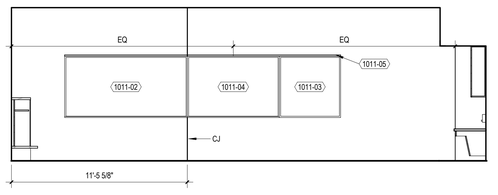
B1 CLASSROOM 117 - NORTH
1/4" = 1'-0"



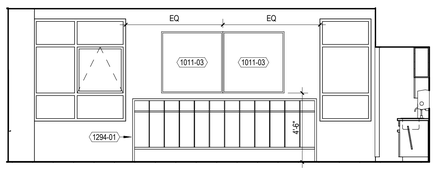
B2 CLASSROOM 117 - TEACHING WALL (SOUTH)
1/4" = 1'-0"



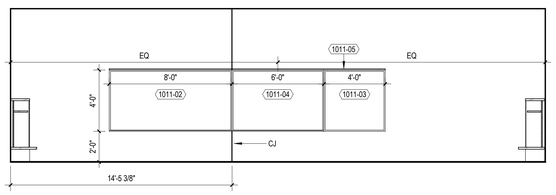
B4 CLASSROOM 122 - EAST
1/4" = 1'-0"



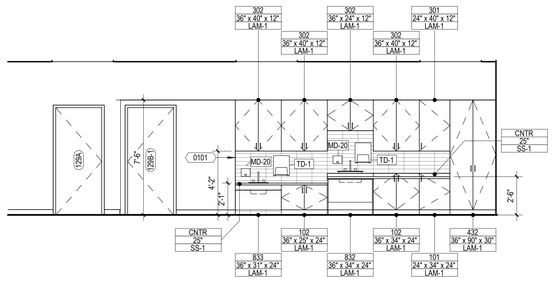
B6 CLASSROOM 122 - TEACHING WALL
1/4" = 1'-0"



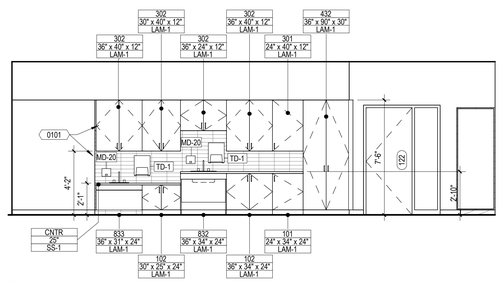
A1 CLASSROOM 117 - CUBIES
1/4" = 1'-0"



A2 CLASSROOM 129 TEACHING WALL
1/4" = 1'-0"



A4 CLASSROOM 129 CASEWORK ELEVATION
1/4" = 1'-0"



A6 CLASSROOM 122 - NORTH
1/4" = 1'-0"

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1899 Wynkoop Street, Suite 700
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STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER JC

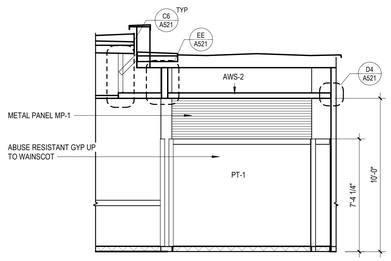
PROJECT NUMBER 822808-01

INTERIOR ELEVATIONS AND MATERIAL SCHED

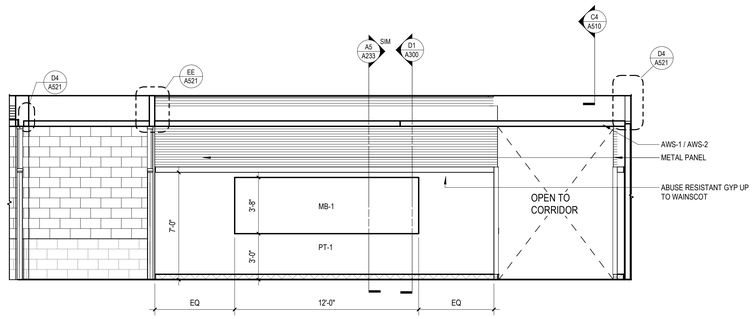
A230

1 2 3 4 5 6 7

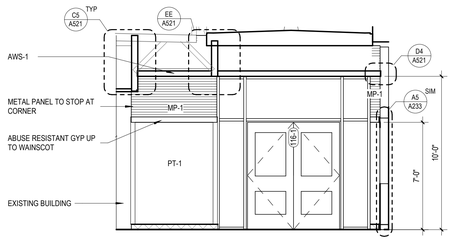
A B C D E



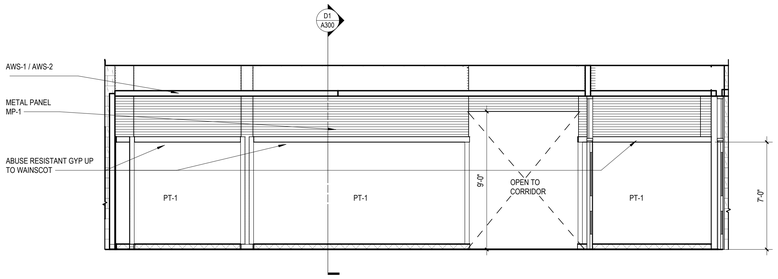
E1 LOBBY CR106 EAST
1/4" = 1'-0"



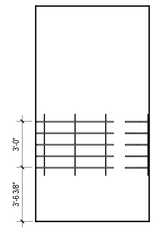
E2 LOBBY CR106 NORTH
1/4" = 1'-0"



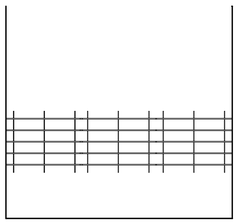
E3 LOBBY CR106 WEST
1/4" = 1'-0"



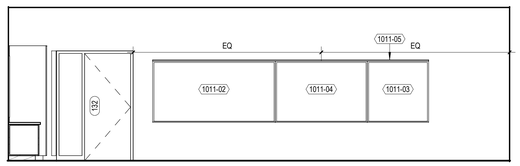
D1 LOBBY CR106 SOUTH
1/4" = 1'-0"



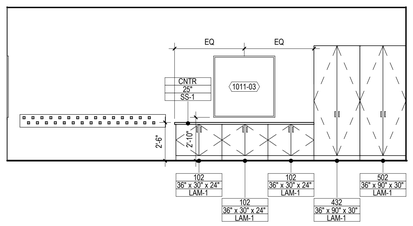
D3 STORAGE 121 - NORTH
1/4" = 1'-0"



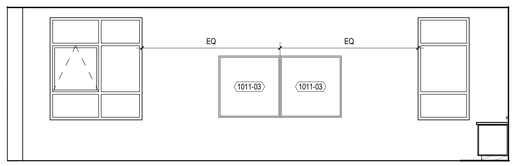
D4 STORAGE 121 - EAST
1/4" = 1'-0"



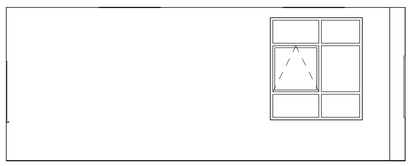
C1 CLASSROOM 132 - TEACHING WALL
1/4" = 1'-0"



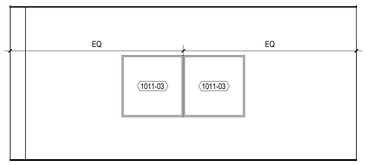
C3 CLASSROOM 132 - CASEWORK
1/4" = 1'-0"



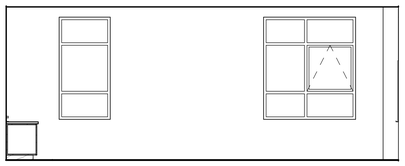
C4 CLASSROOM 132 - EAST
1/4" = 1'-0"



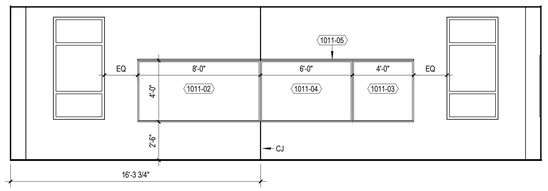
C6 CLASSROOM 132 - NORTH
1/4" = 1'-0"



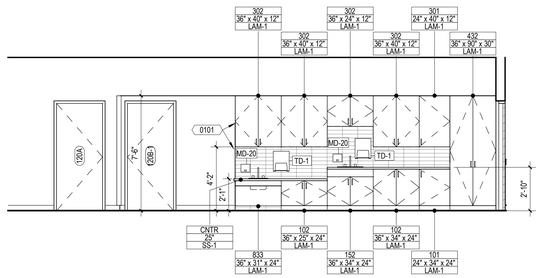
B1 CLASSROOM 133 - WEST
1/4" = 1'-0"



B2 CLASSROOM 133 - EAST
1/4" = 1'-0"

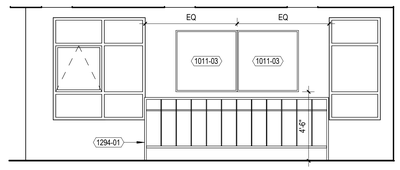


B3 CLASSROOM 133 - TEACHING WALL
1/4" = 1'-0"

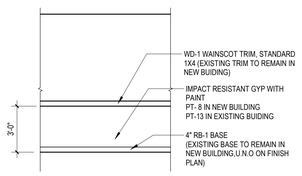


A1 CLASSROOM 120 - EAST
1/4" = 1'-0"

A3 CLASSROOM 120 - WEST
1/4" = 1'-0"



A5 CLASSROOM 120 - NORTH
1/4" = 1'-0"



A6 TYP CORRIDOR PROFILE WITH TRIM
1/4" = 1'-0"

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ISSUANCE AND REVISIONS

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07/31/2023	CONSTRUCTION DOCUMENTS

STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

INTERIOR ELEVATIONS

A231

1 2 3 4 5 6 7

E D C B A

SHEET NOTES - INTERIOR ELEVATIONS

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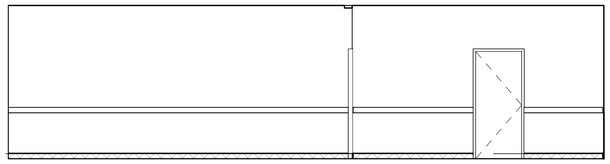
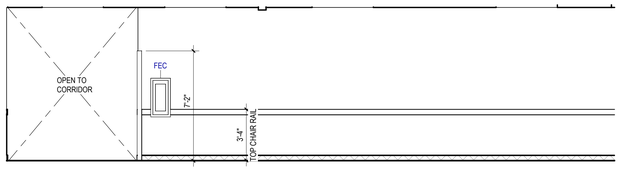
3.	CONFIRM AND COORDINATE THE REQUIRED OPENING AND CLEARANCE DIMENSIONS FOR ALL APPLIANCES AND EQUIPMENT THAT ARE BUILT INTO OR ARE ADJACENT TO CASEWORK, MILLWORK, WALL OPENINGS, ETC.
4.	WHERE NOT INDICATED ON THE ELEVATION, REFER TO SHEET A020 FOR REQUIRED ACCESSIBILITY MOUNTING HEIGHTS AND CLEARANCES AT AND AROUND FIXTURES AND ACCESSORIES.

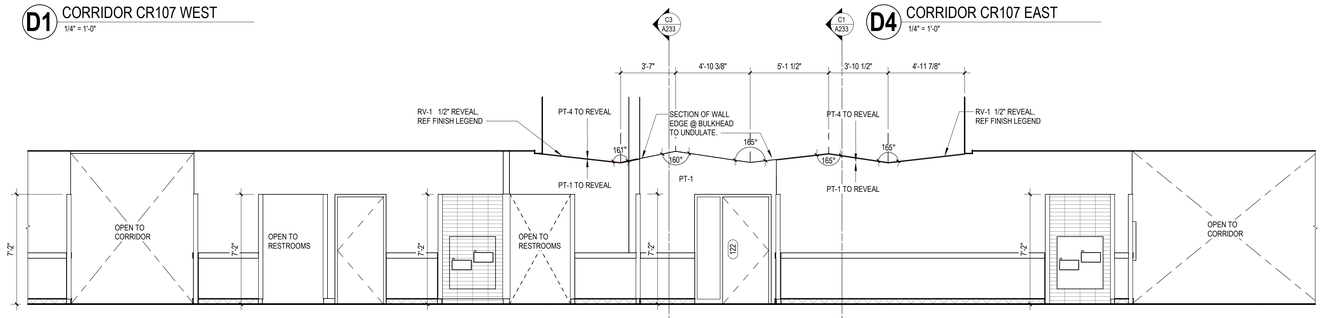
KEYNOTES PER SHEET



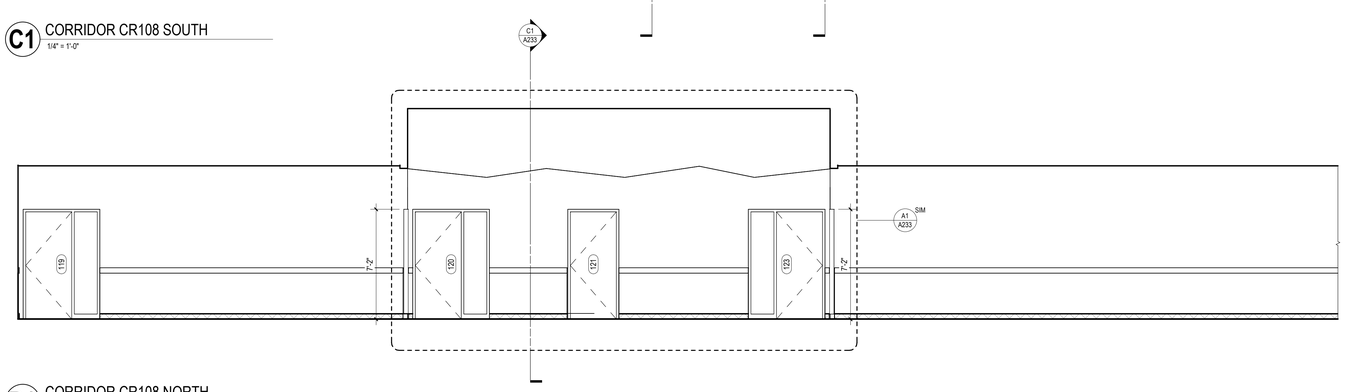


D1 CORRIDOR CR107 WEST
1/4" = 1'-0"

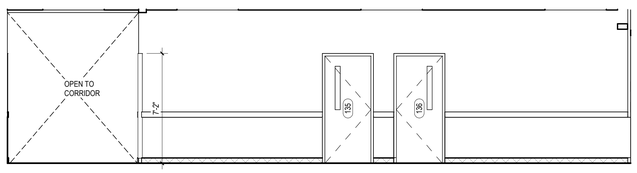
D4 CORRIDOR CR107 EAST
1/4" = 1'-0"



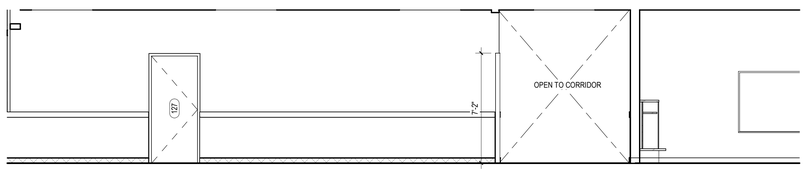
C1 CORRIDOR CR108 SOUTH
1/4" = 1'-0"



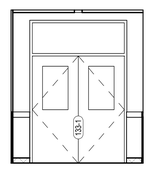
B1 CORRIDOR CR108 NORTH
1/4" = 1'-0"



A1 CORRIDOR ACR109 EAST
1/4" = 1'-0"



A4 CORRIDOR ACR109 WEST
1/4" = 1'-0"



A6 INTERIOR SOUTH ELEVATION - VEST 133
1/4" = 1'-0"

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STATE OF COLORADO
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JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

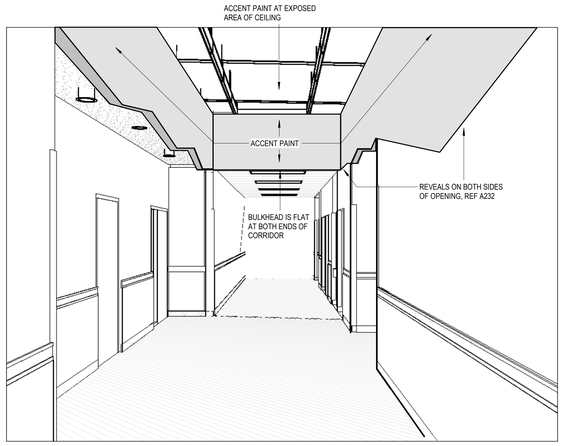
SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

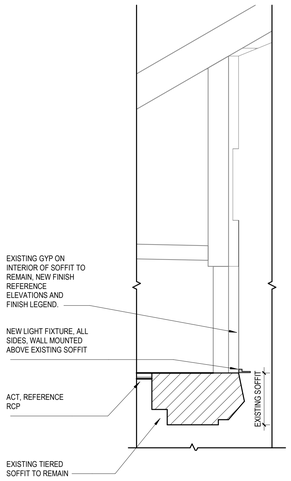
INTERIOR ELEVATIONS

A232

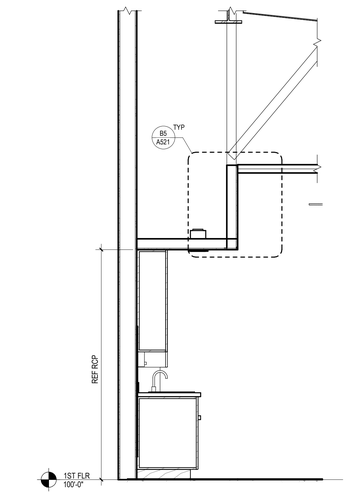
1 2 3 4 5 6 7



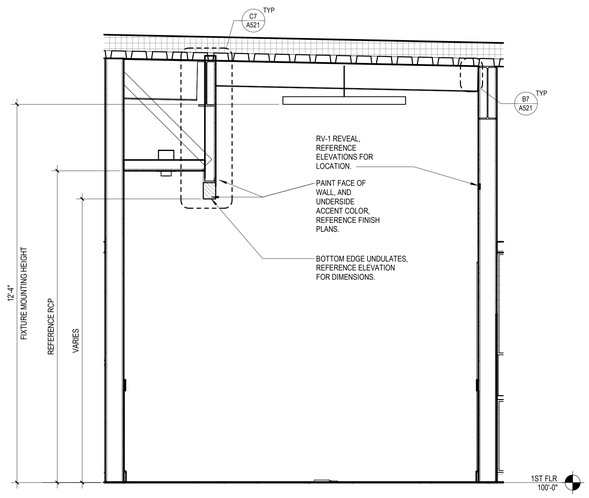
D1 3D VIEW OF CORRIDOR AT EXPOSED AREAS, TYP.
1 1/2" = 1'-0"



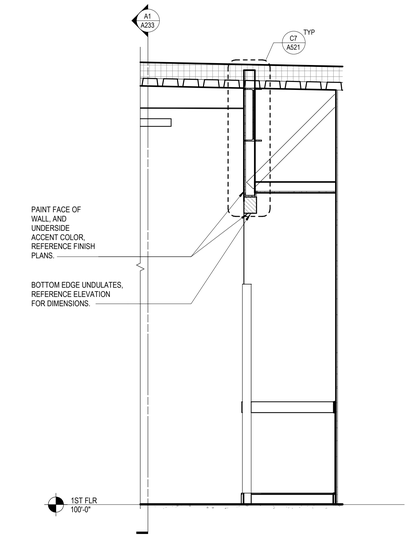
D3 SECTION AT EXISTING SKYLIGHT
1/2" = 1'-0"



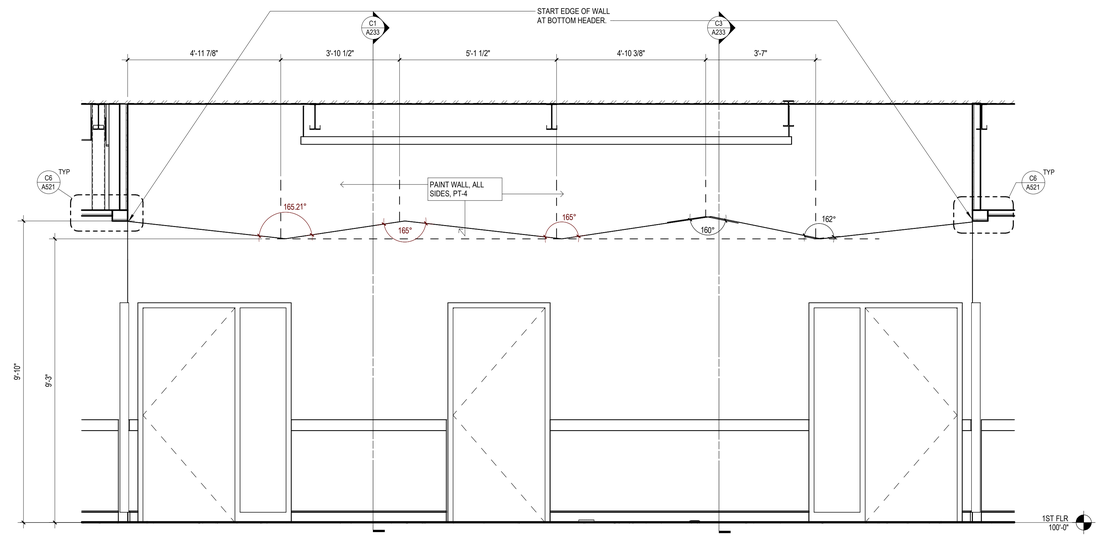
D5 SECTION AT TYPICAL CASEWORK
1/2" = 1'-0"



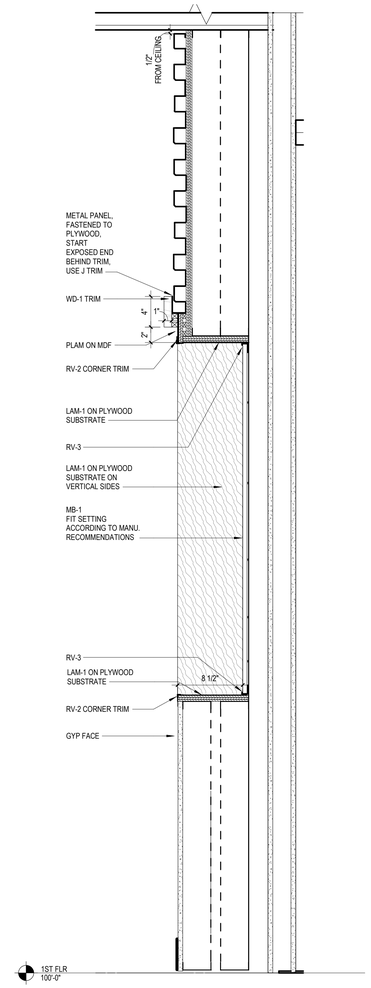
C1 NORTH SOUTH SECTION AT WALL TO DECK
1/2" = 1'-0"



C3 NORTH SOUTH SECTION AT POP UP AT ACT
1/2" = 1'-0"



A1 EAST WEST SECTION AT CORRIDOR EXPOSED TO STRUCTURE
1/2" = 1'-0"



A5 SECTION AT ENTRY MILLWORK WALL
1 1/2" = 1'-0"

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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
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ISSUANCE AND REVISIONS

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STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

INTERIOR SECTIONS & DETAILS

A233

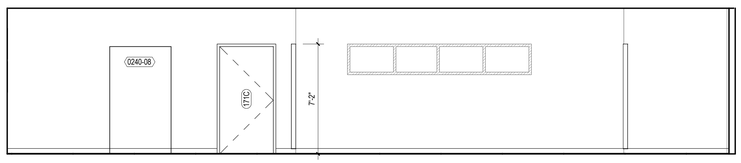
1 2 3 4 5 6 7

SHEET NOTES - INTERIOR ELEVATIONS

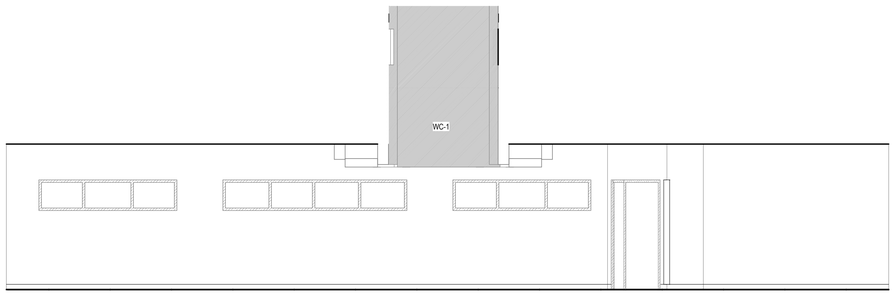
1.	UNLESS NOTED OTHERWISE, ALL DIMENSION STRINGS ARE TO FINISH FACE OF WALL.
2.	THE FINISHES FOR ALL SURFACES ARE NOT INDICATED ON THE ELEVATIONS. REFER TO FINISH PLANS.
3.	CONFIRM AND COORDINATE THE REQUIRED OPENING AND CLEARANCE DIMENSIONS FOR ALL APPLIANCES AND EQUIPMENT THAT ARE BUILT INTO OR ARE ADJACENT TO CASEWORK, MILLWORK, WALL OPENINGS, ETC.
4.	WHERE NOT INDICATED ON THE ELEVATION, REFER TO SHEET A020 FOR REQUIRED ACCESSIBILITY MOUNTING HEIGHTS AND CLEARANCES AT AND AROUND FIXTURES AND ACCESSORIES.

KEYNOTES PER SHEET

0240-08	INFILL WALL TO MATCH EXISTING CONSTRUCTION
1152-01	EXISTING SMART BOARD, REMAIN IN PLACE

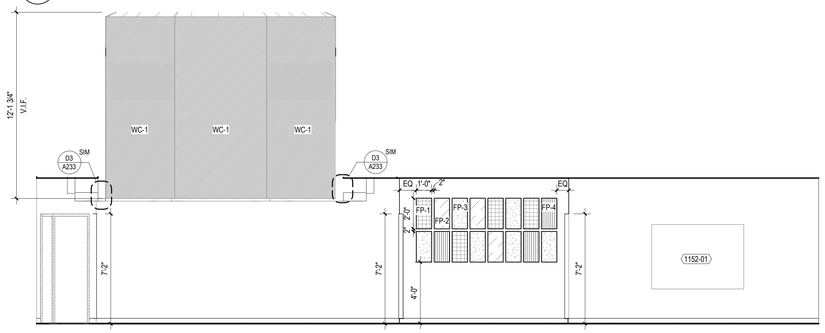


B1 LMC 171 - SOUTH
1/4" = 1'-0"



A1 LMC 171 - NORTH
1/4" = 1'-0"

B5 LMC 171 - WEST
1/4" = 1'-0"



A4 LMC 171 - EAST
1/4" = 1'-0"

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KEY PLAN

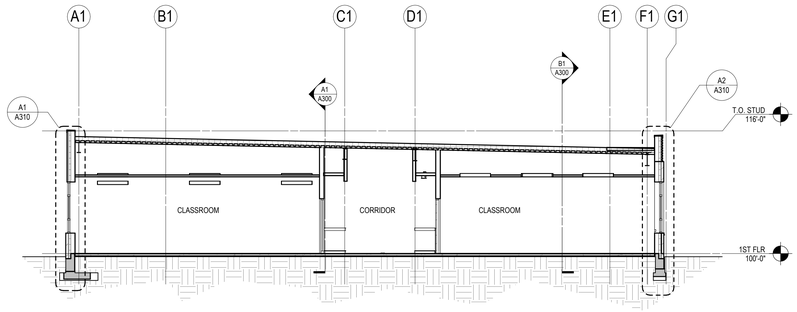
SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

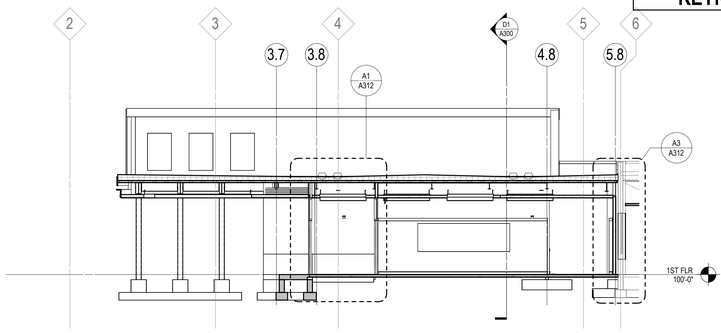
INTERIOR ELEVATIONS - ALTERNATE 01 - LMC

A234

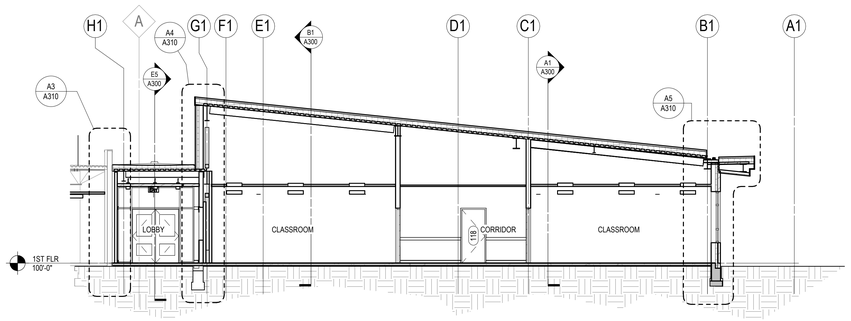
1 2 3 4 5 6 7



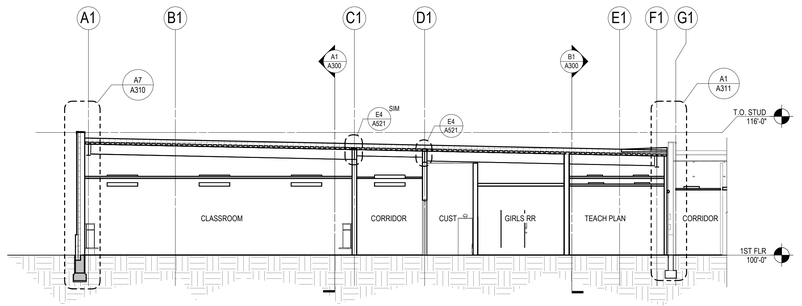
E1 BUILDING SECTION EAST1
1/8" = 1'-0"



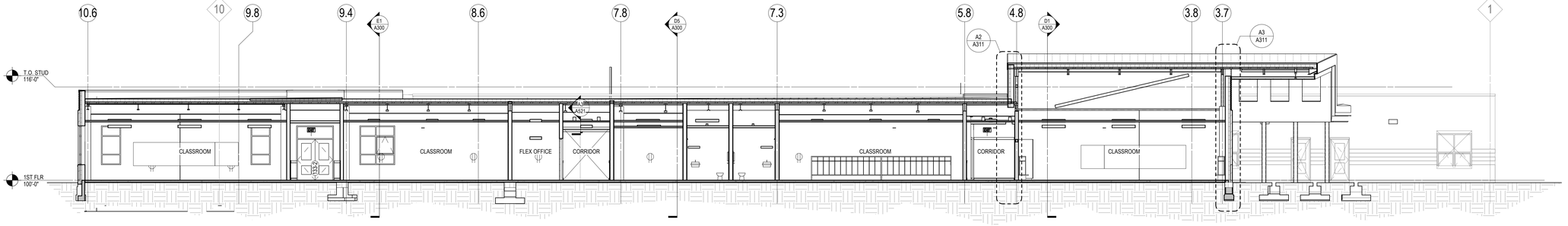
E5 BUILDING SECTION LOBBY 116
1/8" = 1'-0"



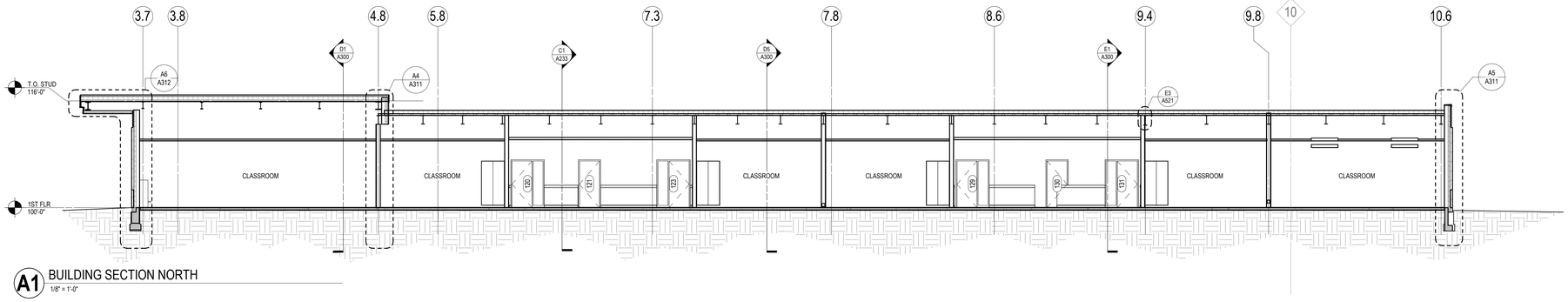
D1 BUILDING SECTION WEST
1/8" = 1'-0"



D5 BUILDING SECTION EAST
1/8" = 1'-0"



B1 BUILDING SECTION SOUTH
1/8" = 1'-0"



A1 BUILDING SECTION NORTH
1/8" = 1'-0"

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KEY PLAN

SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

BUILDING SECTIONS

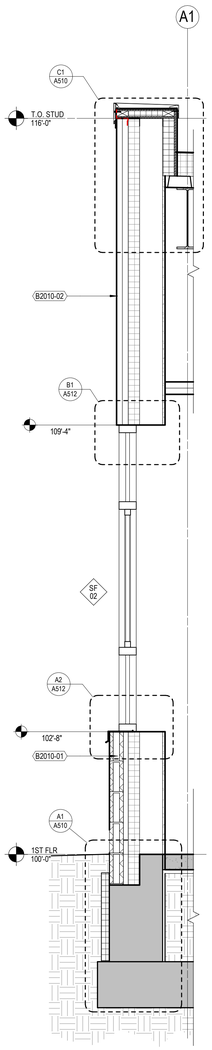
A300

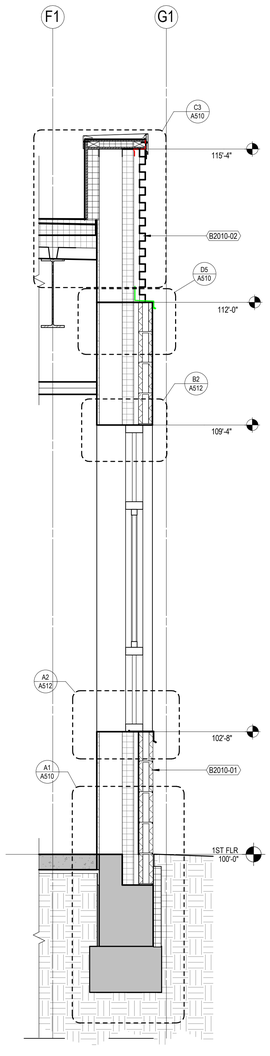
KEYNOTES PER SHEET

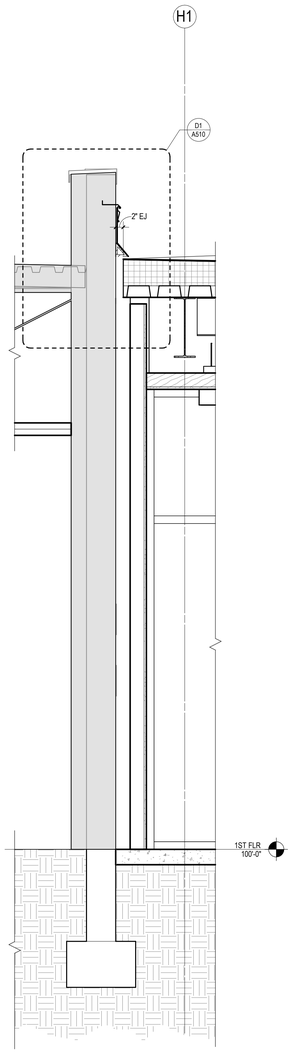
1 2 3 4 5 6 7

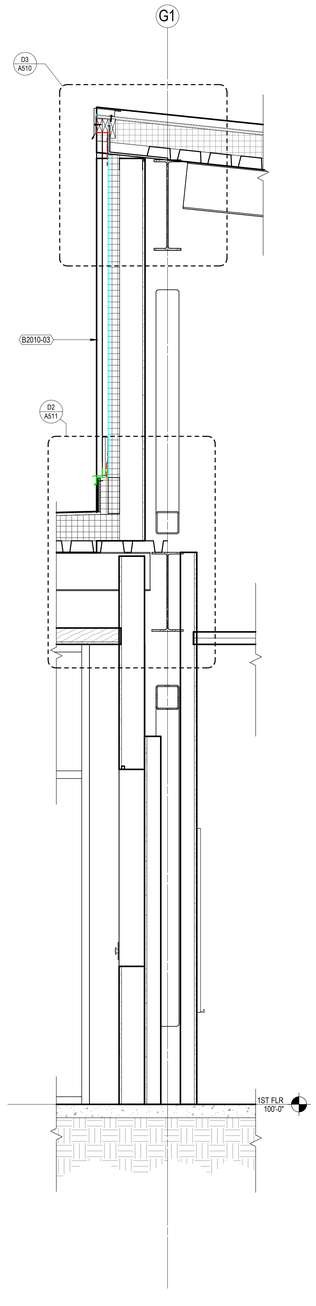
KEYNOTES PER SHEET

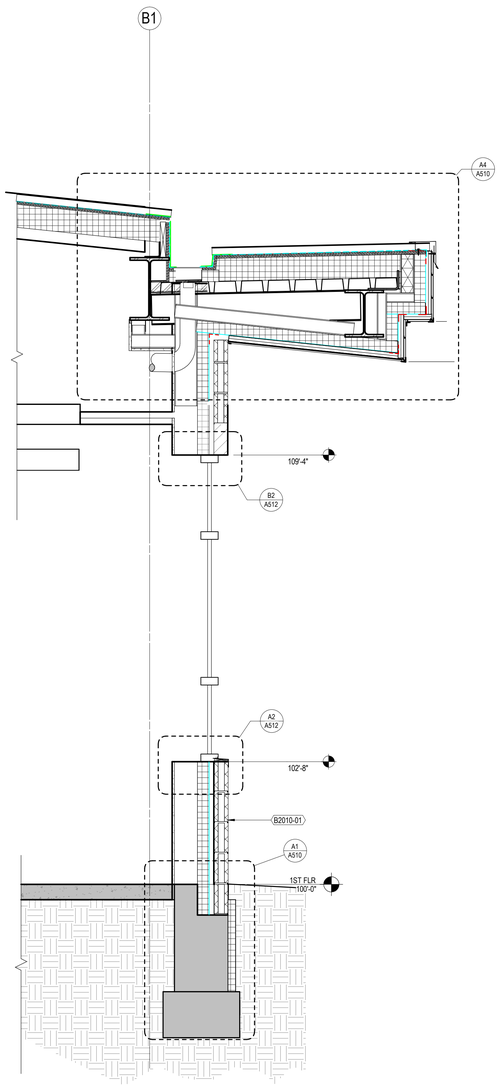
B2010-01	REFER TO SHEET A010
B2010-02	REFER TO SHEET A010
B2010-03	REFER TO SHEET A010

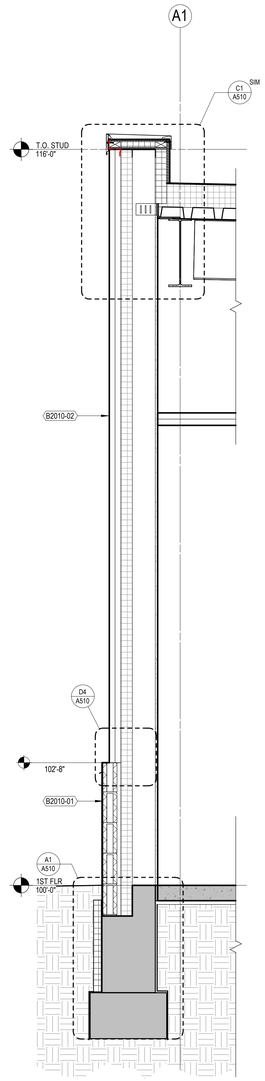












A1 WALL SECTION EAST 1
3/4" = 1'-0"

A2 WALL SECTION EAST 2
3/4" = 1'-0"

A3 WALL SECTION SOUTH @ EXISTING
3/4" = 1'-0"

A4 SECTION SOUTH @ ROOF CLEARSTORY
3/4" = 1'-0"

A5 WALL SECTION NORTH - ADDITION
3/4" = 1'-0"

A7 WALL SECTION NORTH/EAST - ADDITION
3/4" = 1'-0"

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SHEET INFORMATION

PROGRESS DOCUMENTS NOT FOR CONSTRUCTION

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PROJECT MANAGER JC

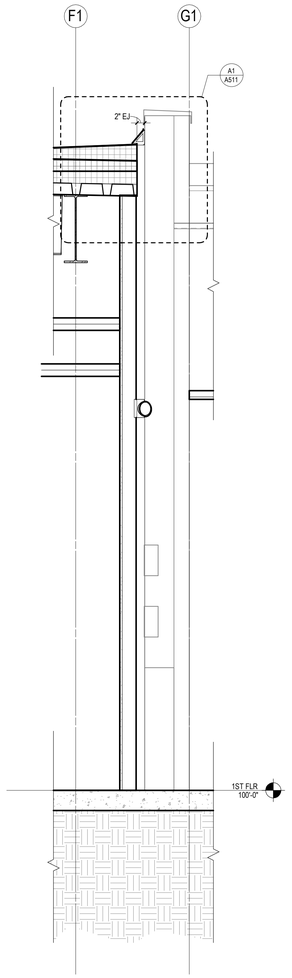
PROJECT NUMBER 822808-01

WALL SECTIONS

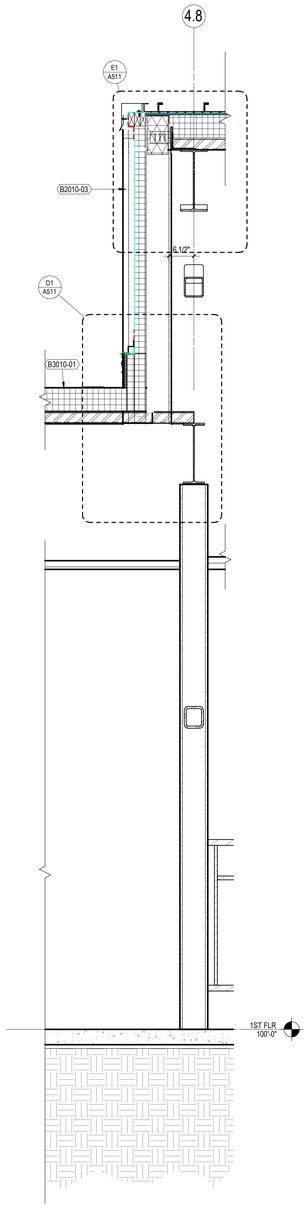
A310

KEYNOTES PER SHEET

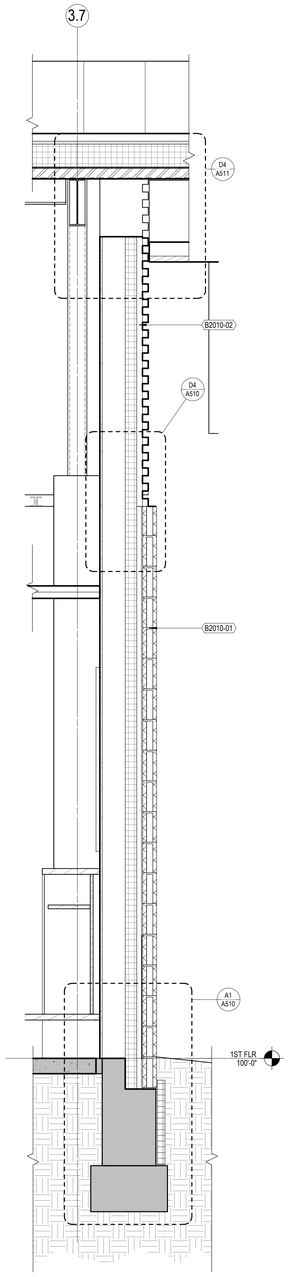
B2010-01	REFER TO SHEET A010
B2010-02	REFER TO SHEET A010
B2010-03	REFER TO SHEET A010
B3010-01	REFER TO SHEET A010



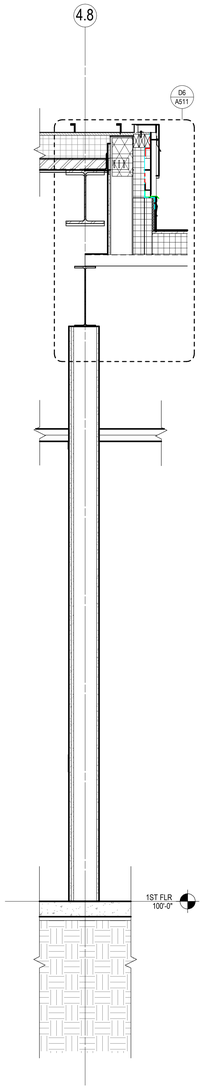
A1 WALL SECTION SOUTH - ADDITION
3/4" = 1'-0"



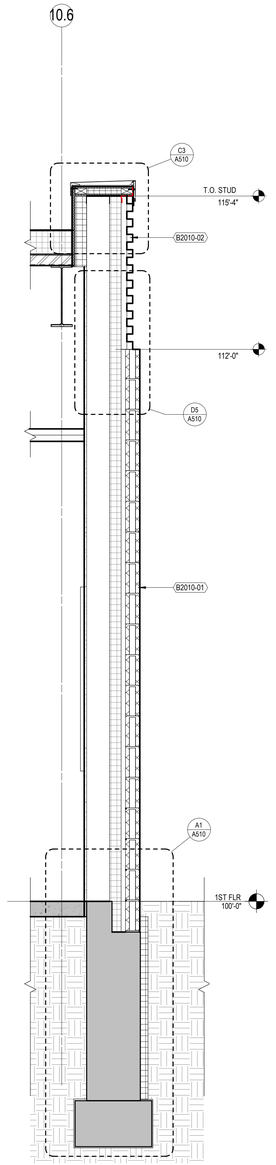
A2 WALL SECTION SOUTH
3/4" = 1'-0"



A3 WALL SECTION - METAL PANEL W/ FOUNDATION
3/4" = 1'-0"



A4 WALL SECTION WEST - ADDITION 1
3/4" = 1'-0"



A5 WALL SECTION WEST - ADDITION 2
3/4" = 1'-0"

1 2 3 4 5 6 7

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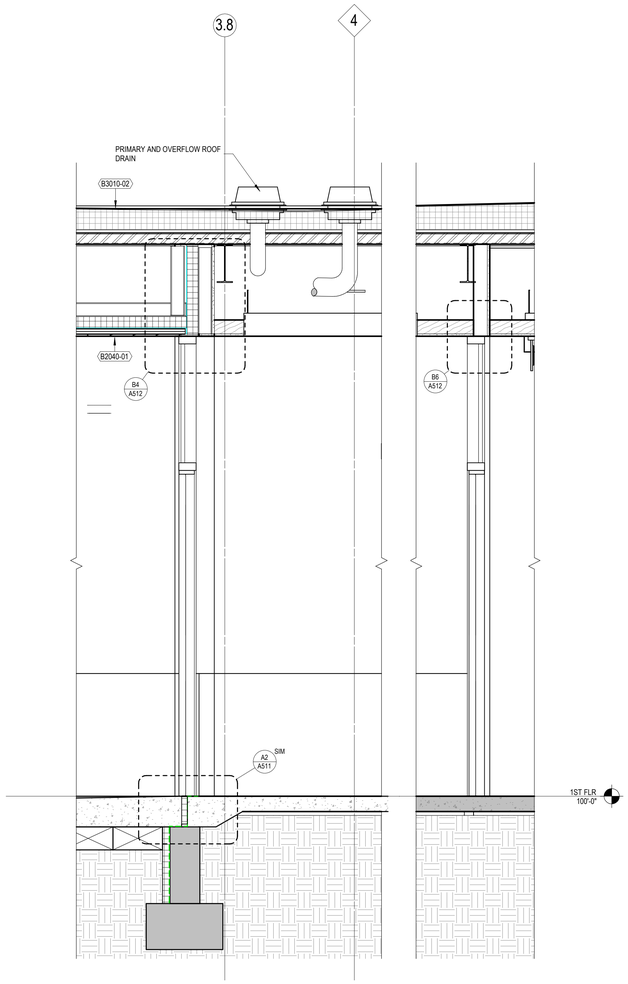
PROJECT MANAGER JC

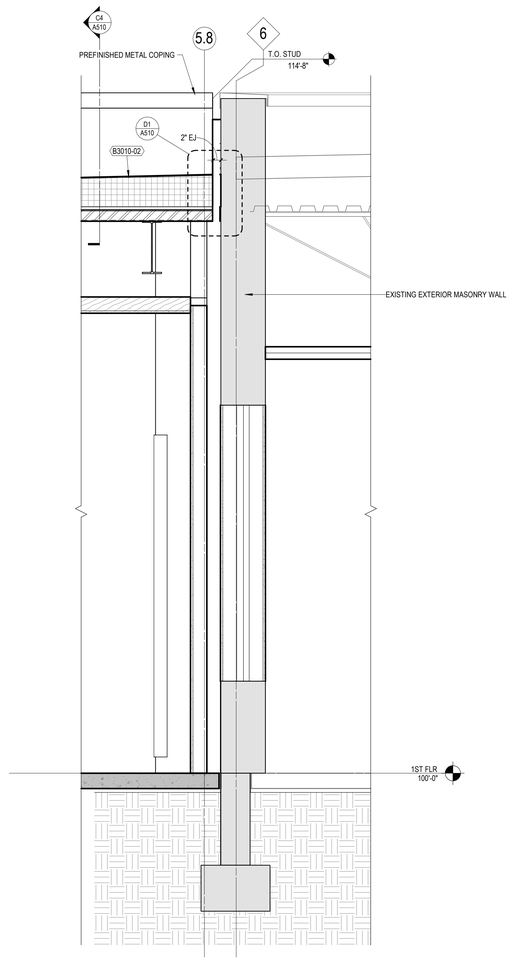
PROJECT NUMBER 822808-01

WALL SECTIONS

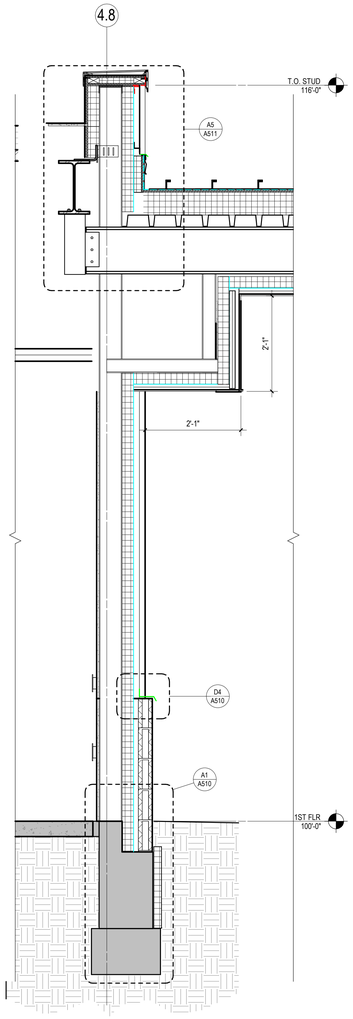
A311



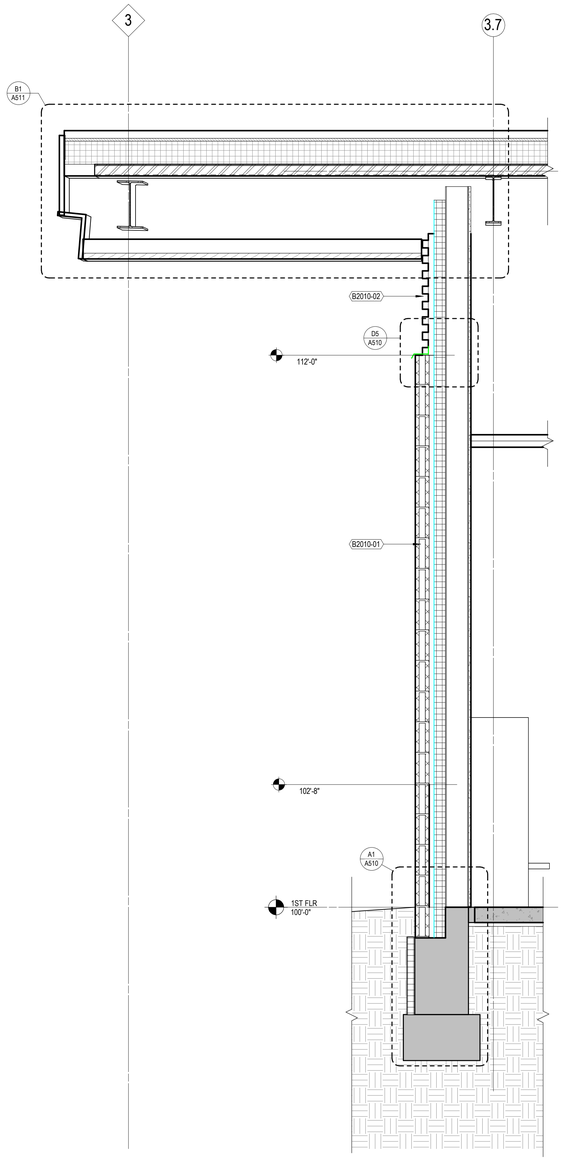
A1 WALL SECTION - VESTIBULE ADDITION - WEST
3/4" = 1'-0"



A3 WALL SECTION - LOBBY CR106 - WEST
3/4" = 1'-0"



A5 WALL SECTION - SOFFIT TRANSITION
3/4" = 1'-0"



A6 WALL SECTION - MASONRY W/ METAL PANEL WALL
3/4" = 1'-0"

1 2 3 4 5 6 7

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PROJECT MANAGER JC
PROJECT NUMBER 822808-01

WALL SECTIONS

A312

PLAN SYMBOLS

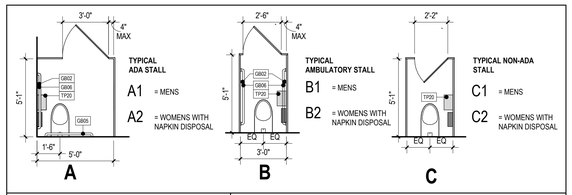
CPT-1

CPT-2

EXTENT OF MATERIAL AT WALL

TOILET ROOM ACCESSORIES

Assembly Code	TAG	DESCRIPTION	LENGTH	MANUFACTURER	MODEL	REMARKS	PROVIDED BY	INSTALLED BY
C1090.40	CH02	BABY CHANGING STATION RECESSED	<varies>				CONTRACTOR	CONTRACTOR
C1090.40	GB02	GRAB BAR STRAIGHT	1'-6"				CONTRACTOR	CONTRCACTOR
C1090.40	GB05	GRAB BAR STRAIGHT	3'-0"				CONTRACTOR	CONTRACTOR
C1090.40	GB06	GRAB BAR STRAIGHT	3'-6"				CONTRACTOR	CONTRACTOR
C1090.40	HD01	HAND DRYER		AMERICAN DRYER	AIR-EXT		CONTRACTOR	CONTRACTOR
C1090.40	MD20	SOAP DISPENSER SURFACE		NOBLE CHEMICAL	NOVO PRO SERIES		CONTRACTOR	CONTRACTOR
C1090.40	MR01	MIRROR WITH FRAME		BOBRICK	B-165 SERIES 24X36		CONTRACTOR	CONTRACTOR
C1090.40	MR02	MIRROR WITH FRAME		BOBRICK	B-165 SERIES 18x30		CONTRACTOR	CONTRACTOR
C1090.40	MS10	ROBE HOOK					CONTRACTOR	CONTRACTOR
C1090.40	TD-1	ROLL PAPER TOWEL DISPENSER		BOBRICK	B-72860		CONTRACTOR	CONTRACTOR
C1090.40	TP20	DUAL PARTITION MOUNTED TOILET PAPER DISPENSER		BOBRICK	B-4288		<varies>	<varies>



TYPICAL TOILET STALLS

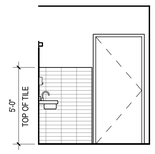
SHEET NOTES - ENLARGED PLANS

1. PRIOR TO BEGINNING WORK, NOTIFY ARCHITECT IF DISCREPANCIES ARE DISCOVERED BETWEEN THE PROPOSED SCOPE OF WORK AND EXISTING CONDITIONS.
2. REFER TO SHEET A010 FOR REFERENCED PARTITION TYPES. WALLS NOT TAGGED ON THESE PLANS SHALL BE PARTITION TYPE S3A-S11.
3. UNLESS NOTED OTHERWISE, ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD.
4. UNLESS NOTED OTHERWISE, ALL DIMENSION STRINGS ARE TO FINISH FACE OF WALL.
5. WHERE NOT INDICATED ON THE PLAN, REFER TO SHEET A020 FOR REQUIRED ACCESSIBILITY CLEARANCES AT DOOR, OPENINGS AND AROUND FIXTURES AND ACCESSORIES.
6. PROVIDE BLOCKING IN WALLS AS REQUIRED FOR NEW MILLWORK, CASEWORK, DOOR BUMPERS, ACCESSORIES, EQUIPMENT, FIXTURES, AND OWNER'S WALL-MOUNTED EQUIPMENT, INCLUDING BUT NOT LIMITED TO, TELEVISIONS/MONITORS, MARKER BOARDS, TACK BOARDS AND SIGNAGE. OPEN EXISTING WALLS AS NEEDED TO INSTALL CONCEALED BLOCKING WHERE REQUIRED, AND PATCH WALLS TO MATCH EXISTING CONSTRUCTION. COORDINATE WITH OWNER ON LOCATIONS OF WALL-MOUNTED EQUIPMENT.

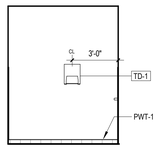
KEYNOTES PER SHEET

0682-02	FRP PANELING EACH SIDE OF MOP SINK AND EXTEND 12" BEYOND EDGE
0772-02	INTERIOR ROOF LADDER

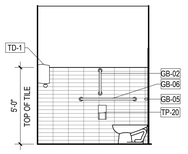
D3 STAFF RESTROOM 134G - NORTH
1/4" = 1'-0"



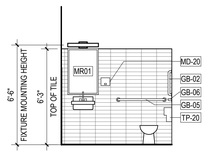
D4 STAFF RESTROOM 134G - EAST
1/4" = 1'-0"



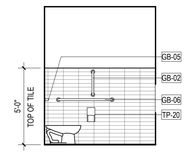
D5 STAFF RESTROOM 134G - SOUTH
1/4" = 1'-0"



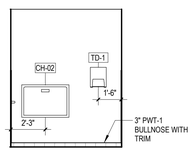
D6 STAFF RESTROOM 134G - WEST
1/4" = 1'-0"



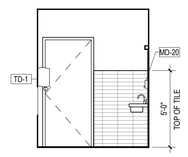
C3 RESTROOM 122A - NORTH
1/4" = 1'-0"



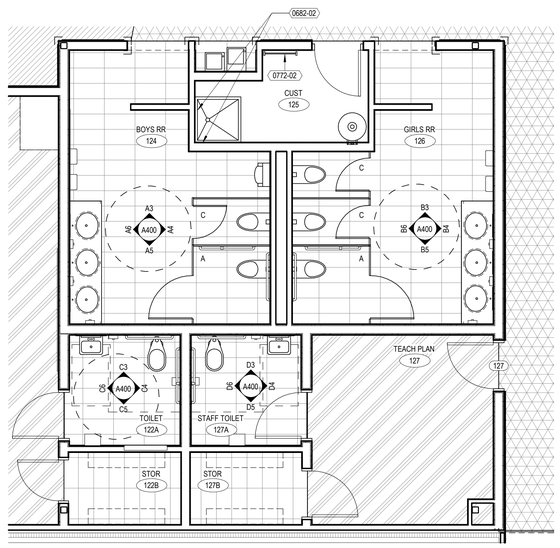
C4 RESTROOM 122A - EAST
1/4" = 1'-0"



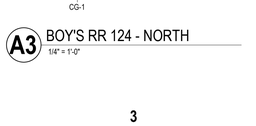
C5 RESTROOM 122A - SOUTH
1/4" = 1'-0"



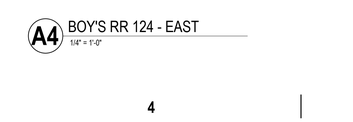
C6 RESTROOM 122A - WEST
1/4" = 1'-0"



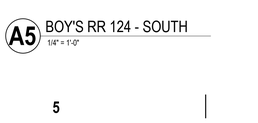
A1 ENLARGED RESTROOM PLAN - 1ST FLR
1/4" = 1'-0"



A3 BOY'S RR 124 - NORTH
1/4" = 1'-0"

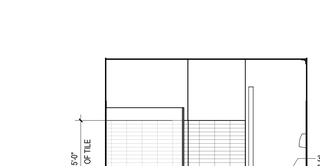


A4 BOY'S RR 124 - EAST
1/4" = 1'-0"

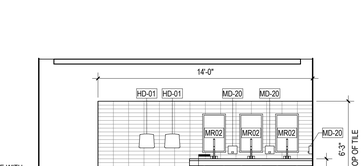


A5 BOY'S RR 124 - SOUTH
1/4" = 1'-0"

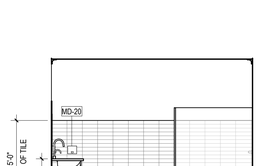
A6 BOY'S RR 124 - WEST
1/4" = 1'-0"



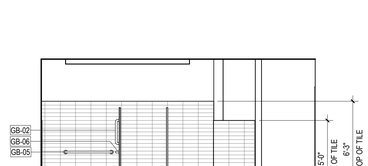
B3 GIRL'S RR 125 - NORTH
1/4" = 1'-0"



B4 GIRL'S RR 125 - EAST
1/4" = 1'-0"



B5 GIRL'S RR 125 - SOUTH
1/4" = 1'-0"



B6 GIRL'S RR 125 - WEST
1/4" = 1'-0"

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1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

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06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

PROGRESS DOCUMENTS NOT FOR CONSTRUCTION

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PROJECT MANAGER JC

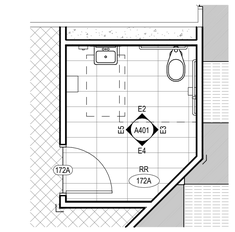
PROJECT NUMBER 822808-01

ENLARGED RR FLOOR PLANS & ELEVATIONS

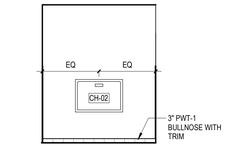
A400

1 2 3 4 5 6 7

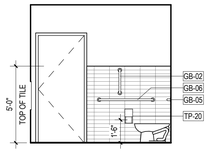
A B C D E



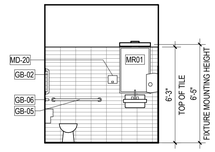
B1 ENLARGED TYP. CLASSROOM RESTROOMS
1/4" = 1'-0"



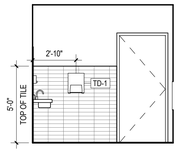
C2 TYP. SHARED TOILET - NORTH
1/4" = 1'-0"



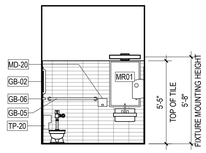
C3 TYP. SHARED TOILET - EAST
1/4" = 1'-0"



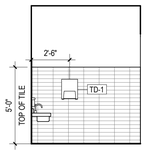
C4 TYP. SHARED TOILET - SOUTH
1/4" = 1'-0"



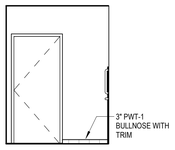
C5 TYP. SHARED TOILET - WEST
1/4" = 1'-0"



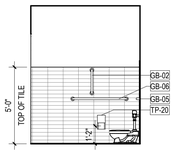
B2 TYP. PRE-K RESTROOM - NORTH
1/4" = 1'-0"



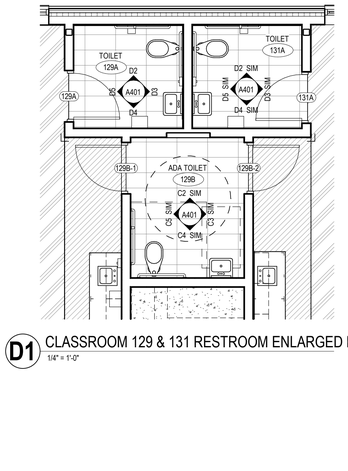
B3 TYP. PRE-K RESTROOM - EAST
1/4" = 1'-0"



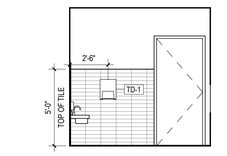
B4 TYP. PRE- RESTROOM - SOUTH
1/4" = 1'-0"



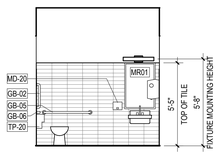
B5 TYP. PRE-K RESTROOM - WEST
1/4" = 1'-0"



A1 PRE-K TOILET PLAN
1/4" = 1'-0"

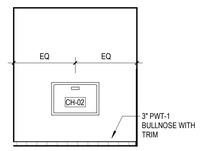


A2 SHARED PRE-K RESTROOM - NORTH
1/4" = 1'-0"



A3 SHARED PRE-K RESTROOM - EAST
1/4" = 1'-0"

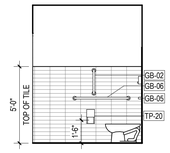
A4 SHARED PRE-K RESTROOM - SOUTH
1/4" = 1'-0"



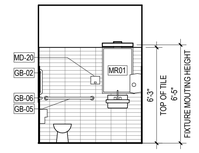
A5 SHARED PRE-K RESTROOM - WEST
1/4" = 1'-0"

1	2	3	4	5	6	7

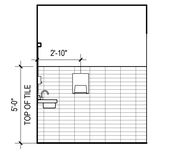
D1 CLASSROOM 129 & 131 RESTROOM ENLARGED PLAN
1/4" = 1'-0"



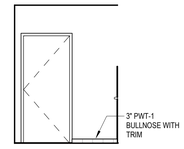
D2 RESTROOM 129A - NORTH
1/4" = 1'-0"



D3 RESTROOM 129A - EAST
1/4" = 1'-0"



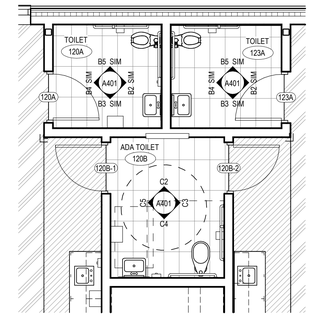
D4 RESTROOM 129A - SOUTH
1/4" = 1'-0"



D5 RESTROOM 129A - WEST
1/4" = 1'-0"

TOILET ROOM ACCESSORIES

Assembly Code	TAG	DESCRIPTION	LENGTH	MANUFACTURER	MODEL	REMARKS	PROVIDED BY	INSTALLED BY
C1090.40	CH02	BABY CHANGING STATION RECESSED	<varies>				CONTRACTOR	CONTRACTOR
C1090.40	GB02	GRAB BAR STRAIGHT	1'-6"				CONTRACTOR	CONTRCACTOR
C1090.40	GB05	GRAB BAR STRAIGHT	3'-0"				CONTRACTOR	CONTRACTOR
C1090.40	GB06	GRAB BAR STRAIGHT	3'-6"				CONTRACTOR	CONTRACTOR
C1090.40	HD01	HAND DRYER		AMERICAN DRYER	AIR-EXT		CONTRACTOR	CONTRACTOR
C1090.40	MD20	SOAP DISPENSER SURFACE		NOBLE CHEMICAL	NOVO PRO SERIES		CONTRACTOR	CONTRACTOR
C1090.40	MR01	MIRROR WITH FRAME		BOBRICK	B-165 SERIES 24X36		CONTRACTOR	CONTRACTOR
C1090.40	MR02	MIRROR WITH FRAME		BOBRICK	B-165 SERIES 18x30		CONTRACTOR	CONTRACTOR
C1090.40	MS10	ROBE HOOK					CONTRACTOR	CONTRACTOR
C1090.40	TD-1	ROLL PAPER TOWEL DISPENSER		BOBRICK	B-72860		CONTRACTOR	CONTRACTOR
C1090.40	TP20	DUAL PARTITION MOUNTED TOILET PAPER DISPENSER		BOBRICK	B-4288		<varies>	<varies>



B1 ENLARGED TYP. CLASSROOM RESTROOMS
1/4" = 1'-0"

C2 TYP. SHARED TOILET - NORTH
1/4" = 1'-0"

C3 TYP. SHARED TOILET - EAST
1/4" = 1'-0"

C4 TYP. SHARED TOILET - SOUTH
1/4" = 1'-0"

C5 TYP. SHARED TOILET - WEST
1/4" = 1'-0"

B2 TYP. PRE-K RESTROOM - NORTH
1/4" = 1'-0"

B3 TYP. PRE-K RESTROOM - EAST
1/4" = 1'-0"

B4 TYP. PRE- RESTROOM - SOUTH
1/4" = 1'-0"

B5 TYP. PRE-K RESTROOM - WEST
1/4" = 1'-0"

A1 PRE-K TOILET PLAN
1/4" = 1'-0"

A2 SHARED PRE-K RESTROOM - NORTH
1/4" = 1'-0"

A3 SHARED PRE-K RESTROOM - EAST
1/4" = 1'-0"

A4 SHARED PRE-K RESTROOM - SOUTH
1/4" = 1'-0"

A5 SHARED PRE-K RESTROOM - WEST
1/4" = 1'-0"

1	2	3	4	5	6	7

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Denver, CO 80202
(303) 595-4500
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PROJECT INFORMATION

Bergen Valley
Elementary School
Addition & Reno

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ISSUANCE AND REVISIONS

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PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

ENLARGED RR
FLOOR PLANS &
ELEVATIONS

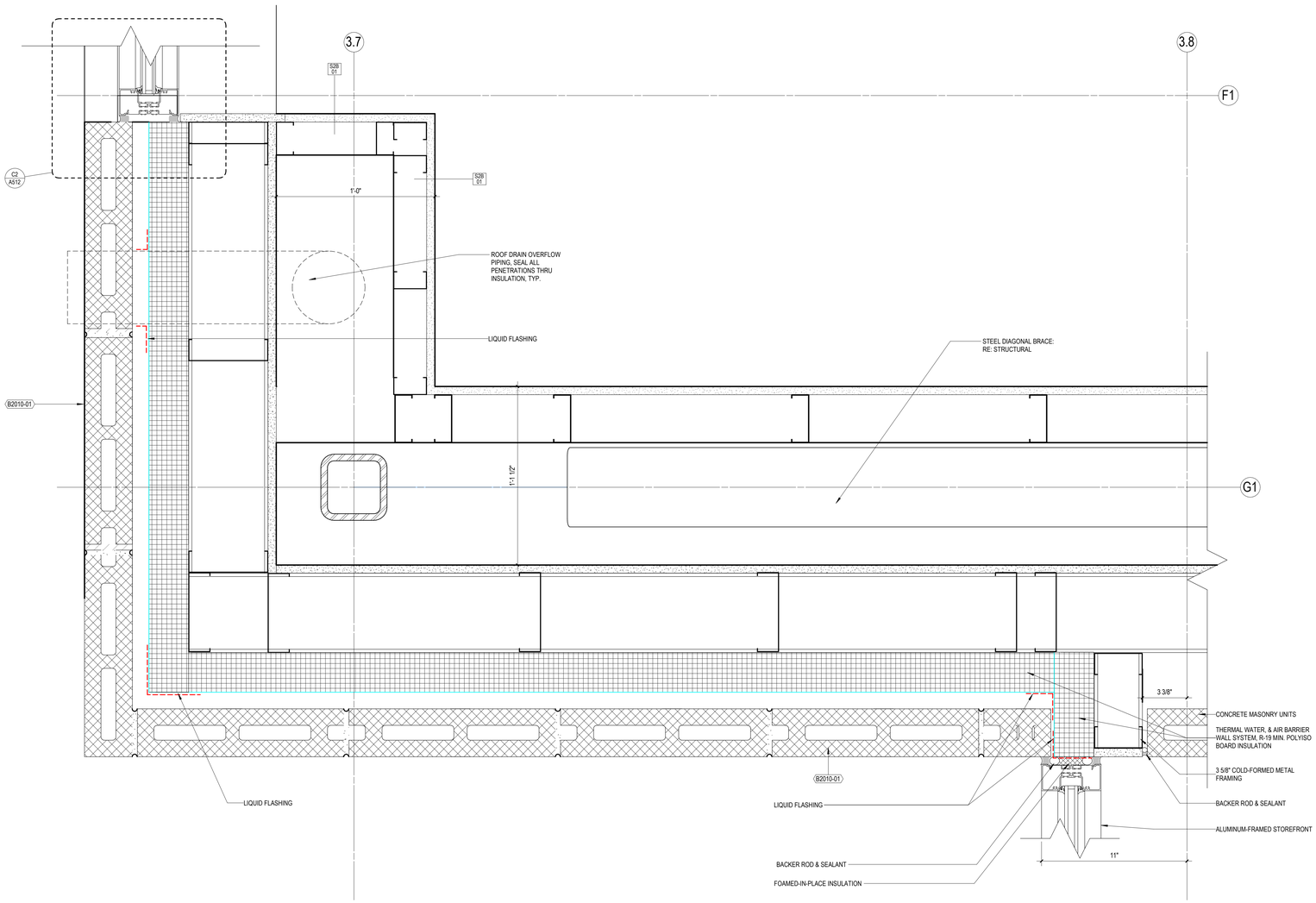
A401

BARRIERS AND FLASHING LEGEND

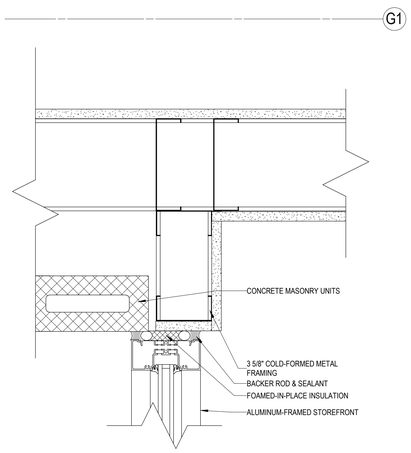
- LIQUID FLASHING
- SELF-ADHERED HIGH TEMP SHEET UNDERLAYMENT
- SELF-ADHERED FLEXIBLE FLASHING
- THROUGH WALL FLEXIBLE FLASHING
- DAMPPROOFING

KEYNOTES PER SHEET

0420-01	CONCRETE MASONRY UNITS
0420-04	THROUGH WALL FLEXIBLE FLASHING
0540-08	3 5/8" COLD-FORMED METAL FRAMING
0713-04	DAMPPROOFING
0721-09	FOAMED-IN-PLACE INSULATION
0723-01	THERMAL WATER, & AIR BARRIER WALL SYSTEM, R-19 MIN. POLYISO BOARD INSULATION
0723-03	LIQUID FLASHING
0725-03	SELF-ADHERED FLEXIBLE FLASHING
0762-16	SELF-ADHERED HIGH TEMP SHEET UNDERLAYMENT
0790-02	BACKER ROD & SEALANT
0843-01	ALUMINUM-FRAMED STOREFRONT
B2010-01	REFER TO SHEET A010



A1 EXTERIOR PLAN DETAIL - VESTIBULE ENTRANCE JAMB
3" = 1'-0"



A6 EXTERIOR PLAN DETAIL - INNER VESTIBULE ENTRANCE JAMB
3" = 1'-0"

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STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

EXTERIOR PLAN DETAILS

A500

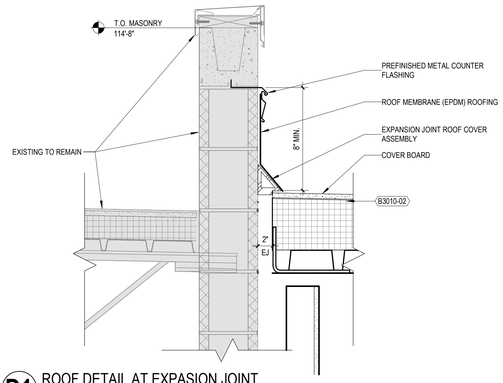
1 2 3 4 5 6 7

BARRIERS AND FLASHING LEGEND

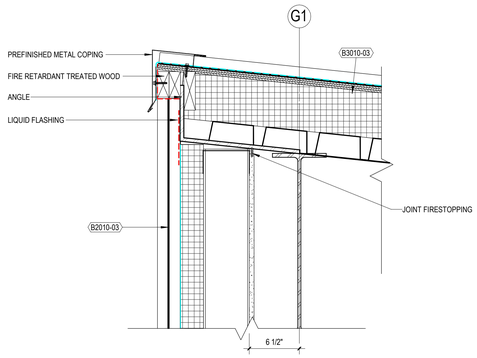
- LIQUID FLASHING
- SELF-ADHERED HIGH TEMP SHEET UNDERLAYMENT
- SELF-ADHERED FLEXIBLE FLASHING
- THROUGH WALL FLEXIBLE FLASHING
- DAMPPROOFING

KEYNOTES PER SHEET

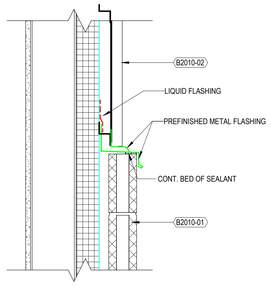
0240	EXISTING TO REMAIN
0330-06	JOINT FILLER & SEALANT
0420-04	THROUGH WALL FLEXIBLE FLASHING
0420-05	TERMINATION BAR
0420-06	STAINLESS STEEL DRIP EDGE FLASHING
0420-07	CAVITY MORTAR CONTROL
0420-08	WEEP/ VENT
0420-09	GROUT SOLID
0512-02	ANGLE
0540-04	1 1/2" 16 GA. Z FURRING
0540-08	3 5/8" COLD-FORMED METAL FRAMING
0540-10	2 1/2" COLD-FORMED METAL FRAMING
0540-11	EXTERIOR SOFFIT FRAMING
0540-12	SEALER GASKET
0540-13	DEFLECTION TRACK
0610-05	FIRE RETARDANT TREATED WOOD
0610-12	ROOF SHEATHING
0610-13	FIRE RETARDANT TREATED PLYWOOD
0610-16	PRESERVATIVE TREATED 2X WOOD BLOCKING
0610-17	PRESERVATIVE TREATED PLYWOOD
0713-04	DAMPPROOFING
0721-01	EXTRUDED POLYSTYRENE BOARD INSULATION
0721-02	POLYISOCYANURATE BOARD INSULATION
0721-04	MINERAL WOOL INSULATION
0723-01	THERMAL WATER, & AIR BARRIER WALL SYSTEM, R-19 MIN. POLYISO BOARD INSULATION
0723-03	LIQUID FLASHING
0725-03	SELF-ADHERED FLEXIBLE FLASHING
0725-05	VAPOR BARRIER / RETARDER, SEAL TO FOUNDATION
0741-01	STANDING SEAM METAL ROOF AND WALL PANELS
0741-07	PREFINISHED SIDE WALL METAL FLASHING
0746-02	LONGBOARD CLADDING TRIM
0753-01	ROOF MEMBRANE (EPDM) ROOFING
0753-06	BOARD INSULATION
0753-08	COVER BOARD
0762-02	PREFINISHED METAL COPING
0762-03	PREFINISHED METAL FLASHING
0762-04	PREFINISHED METAL COUNTER FLASHING
0762-16	SELF-ADHERED HIGH TEMP SHEET UNDERLAYMENT
0784-03	JOINT FIRESTOPPING
0790-02	BACKER ROD & SEALANT
0795-02	EXPANSION JOINT ROOF COVER ASSEMBLY
2214-01	ROOF DRAIN
B2010-01	REFER TO SHEET A010
B2010-02	REFER TO SHEET A010
B2010-03	REFER TO SHEET A010
B2040-01	REFER TO SHEET A010
B3010-01	REFER TO SHEET A010
B3010-02	REFER TO SHEET A010
B3010-03	REFER TO SHEET A010



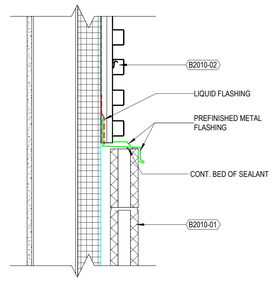
D1 ROOF DETAIL AT EXPASION JOINT
1 1/2" = 1'-0"



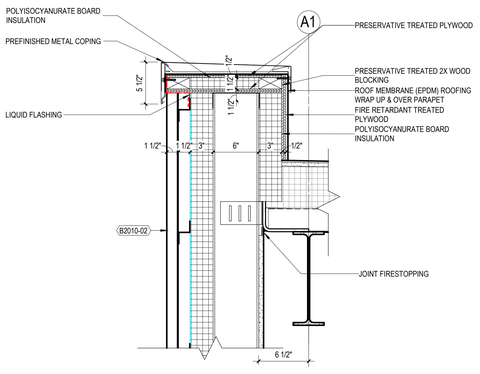
D3 DETAIL @ ROOF HIGH POINT
1 1/2" = 1'-0"



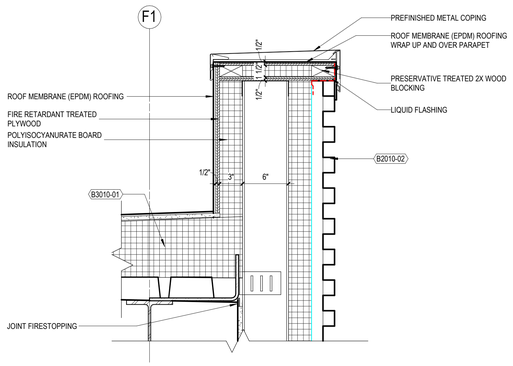
D4 METAL PANEL VERTICAL @ CMU
1 1/2" = 1'-0"



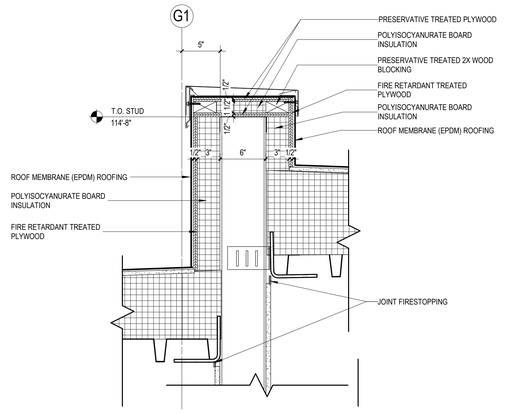
D5 METAL PANEL HORIZONTAL @ CMU
1 1/2" = 1'-0"



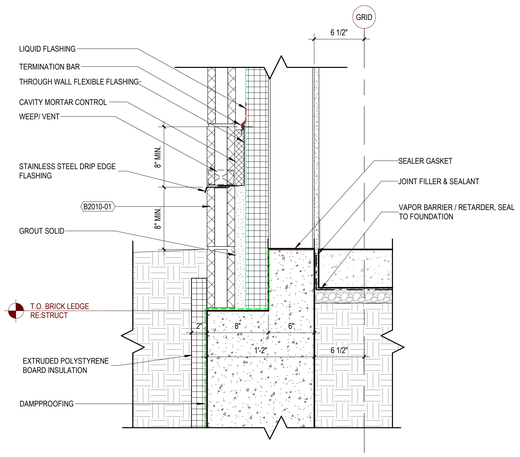
C1 TYPICAL PARAPET DETAIL - VERT. METAL PANEL ON MTL STUD
1 1/2" = 1'-0"



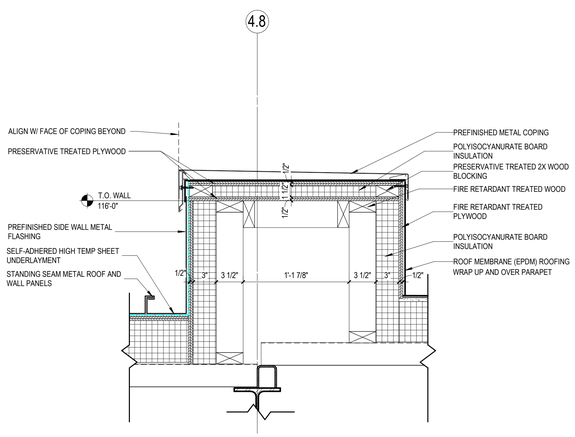
C3 TYP. PARAPET DETAIL - HORIZ. METAL PANEL ON MTL STUD
1 1/2" = 1'-0"



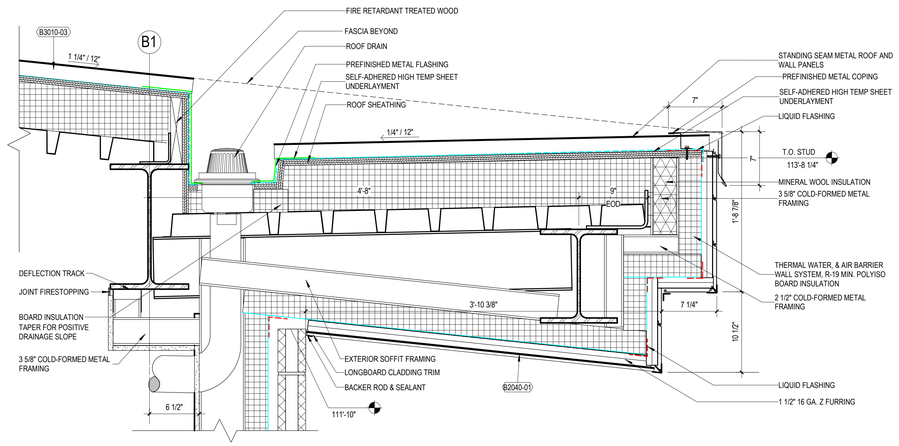
C4 LOW ROOF DETAIL LOBBY
1 1/2" = 1'-0"



A1 TYPICAL FOUNDATION DETAIL AT STUD WALL WITH VENEER
1 1/2" = 1'-0"



A3 ROOF TRANSITION DETAIL
1 1/2" = 1'-0"



A4 DETAIL AT METAL PANEL & ROOF
1 1/2" = 1'-0"

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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

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STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

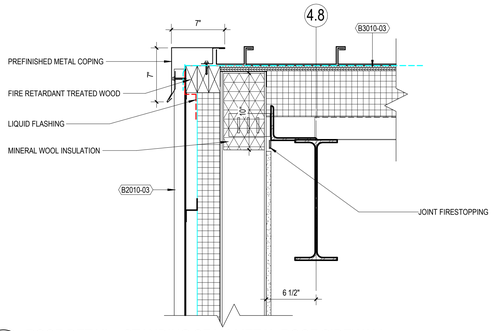
PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

EXTERIOR SECTION DETAILS

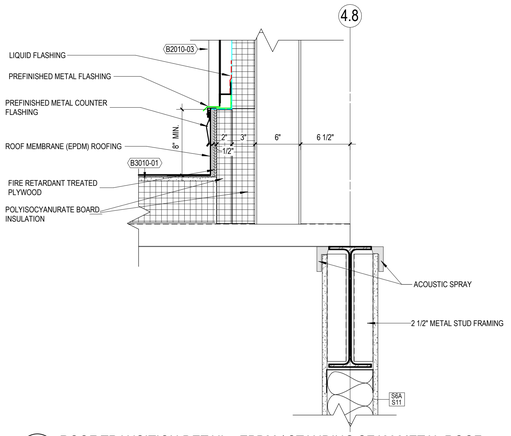
A510

1 2 3 4 5 6 7

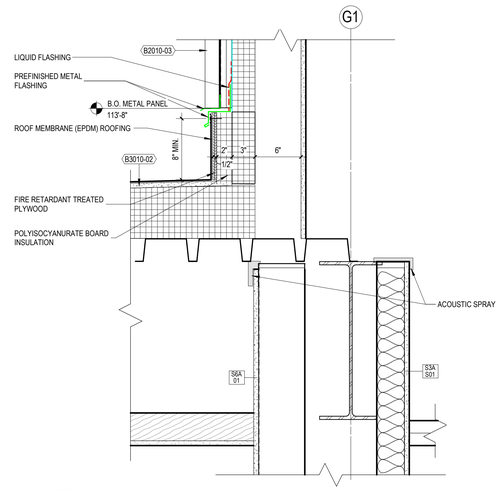
E D C B A



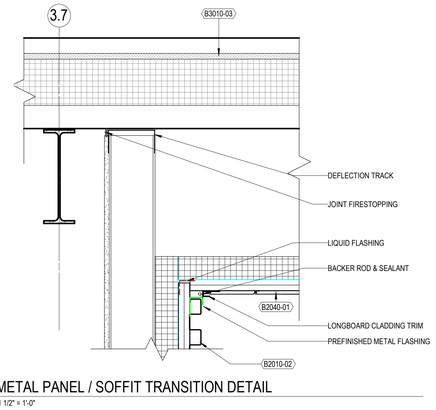
E1 ROOF DETAIL - STANDING SEAM METAL ROOF SIDEWALL
1 1/2" = 1'-0"



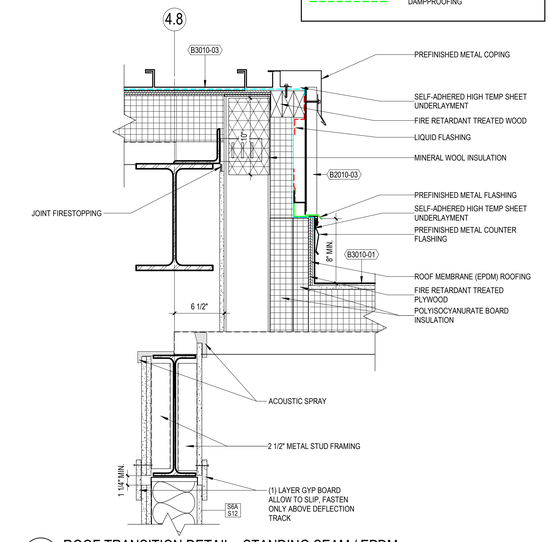
D1 ROOF TRANSITION DETAIL - EPDM / STANDING SEAM METAL ROOF
1 1/2" = 1'-0"



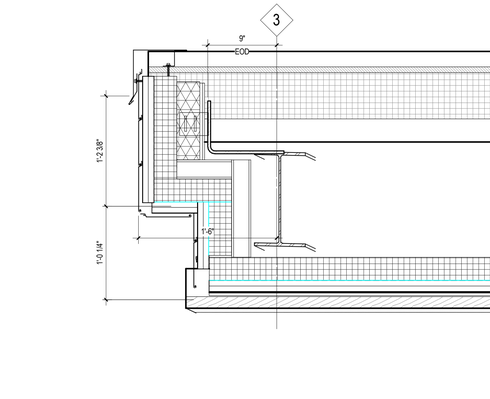
D2 DETAIL AT ROOF & LOW CANOPY
1 1/2" = 1'-0"



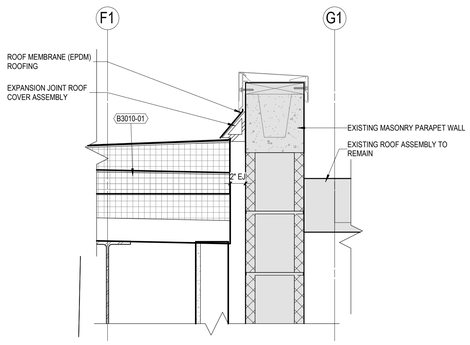
D4 METAL PANEL / SOFFIT TRANSITION DETAIL
1 1/2" = 1'-0"



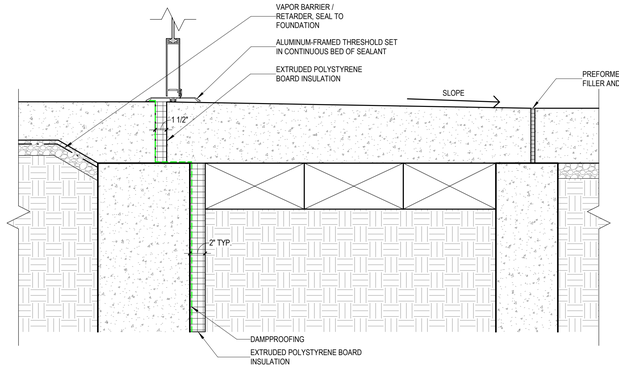
D6 ROOF TRANSITION DETAIL - STANDING SEAM / EPDM
1 1/2" = 1'-0"



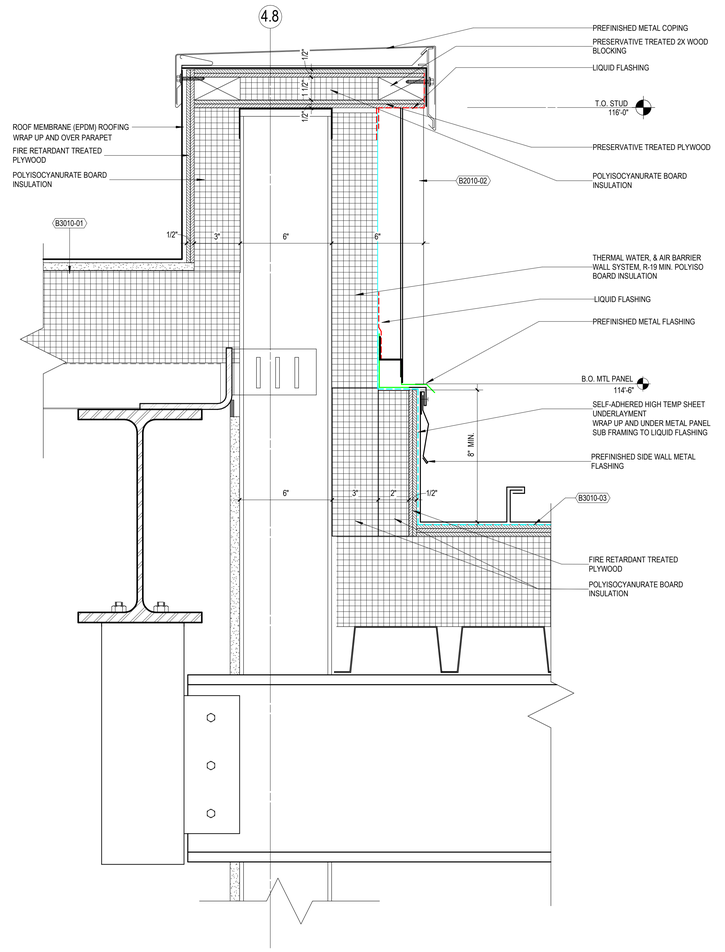
B1 DETAIL METALL WALL AT ROOF CONNECTION
1 1/2" = 1'-0"



A1 DETAIL NEW ROOF CONNECTION AT EXISTING
1 1/2" = 1'-0"



A2 DOOR THRESHOLD AT STRUCTURAL STOOP
1 1/2" = 1'-0"



A5 ROOF TRANSITION DETAIL - STANDING SEAM METAL ROOF / METAL PANEL
3" = 1'-0"

BARRIERS AND FLASHING LEGEND

- LIQUID FLASHING
- SELF-ADHERED HIGH TEMP SHEET UNDERLAYMENT
- SELF-ADHERED FLEXIBLE FLASHING
- THROUGH WALL FLEXIBLE FLASHING
- DAMPPROOFING

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402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

EXTERIOR SECTION DETAILS

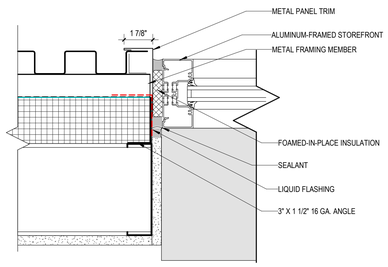
A511

1 2 3 4 5 6 7

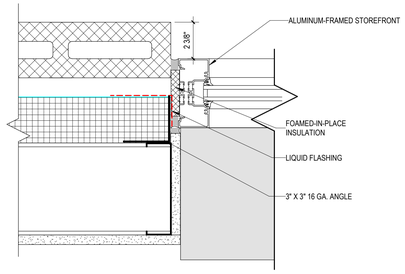
A B C D E

BARRIERS AND FLASHING LEGEND

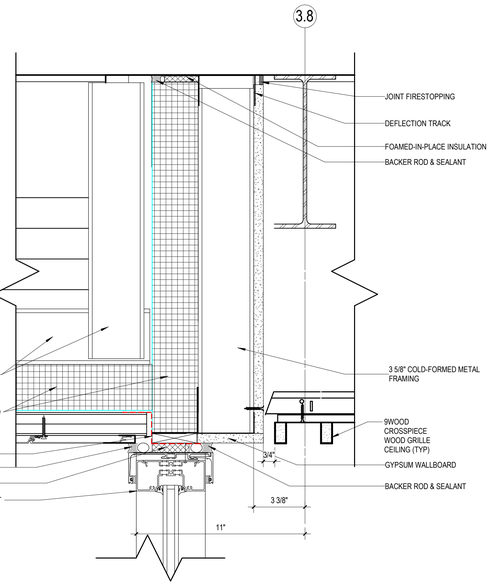
- LIQUID FLASHING
- SELF-ADHERED HIGH TEMP SHEET UNDERLAYMENT
- SELF-ADHERED FLEXIBLE FLASHING
- THROUGH WALL FLEXIBLE FLASHING
- DAMPPROOFING



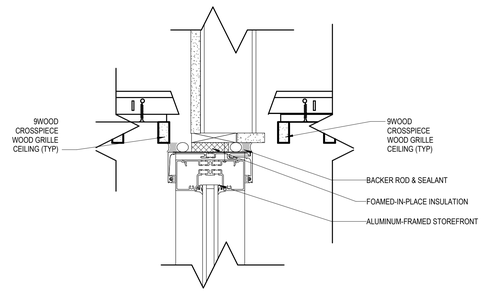
C1 H MTL Panel-SF Jamb @ Stud Backup
3" = 1'-0"



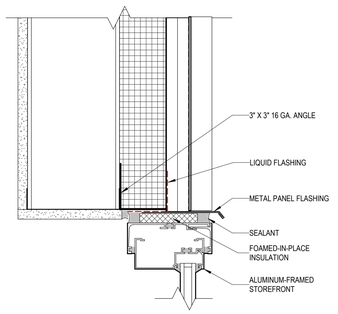
C2 STOREFRONT JAMB @ MASONRY - STUD BACK
3" = 1'-0"



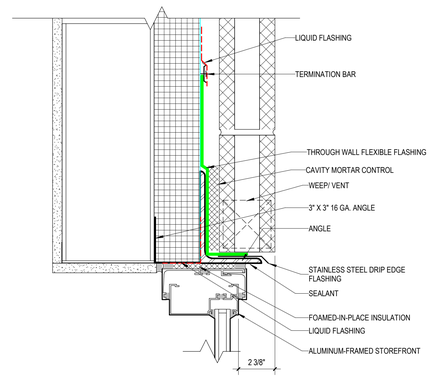
B4 STOREFRONT HEAD @ VESTIBULE 116
3" = 1'-0"



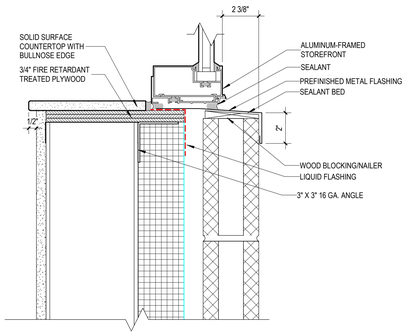
B6 STOREFRONT HEAD @ VESTIBULE 116
3" = 1'-0"



B1 STOREFREONT HEAD @ METAL PANEL- STUD BACK
3" = 1'-0"



B2 STOREFREONT HEAD @ MASONRY - STUD BACK
3" = 1'-0"



A2 STOREFRONT SILL @ MASONRY - STUD BACK
3" = 1'-0"

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PROJECT INFORMATION

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402502
LICENSED ARCHITECT

KEY PLAN

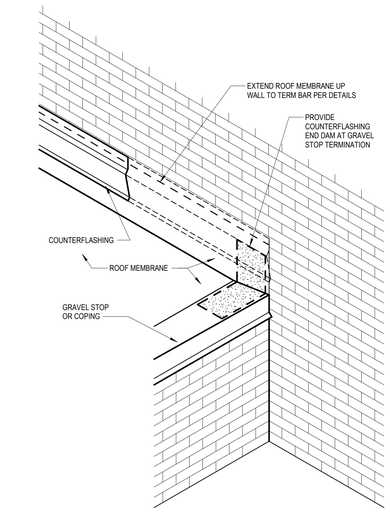
SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

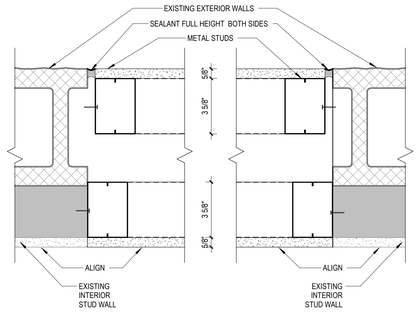
EXTERIOR STOREFRONT DETAILS

A512

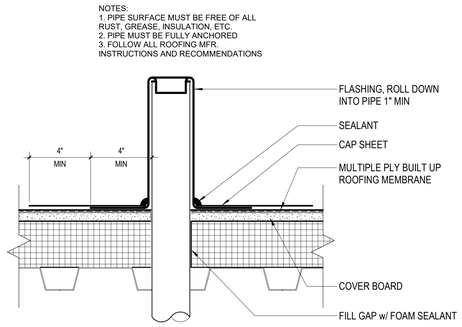
1 2 3 4 5 6 7



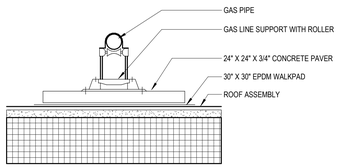
B1 ROOF FLASHING ISOMETRIC
3/4" = 1'-0"



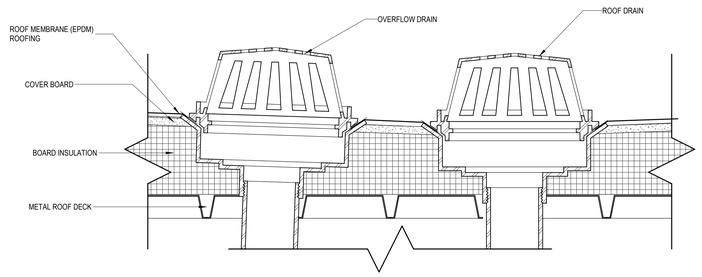
B2 TYP. METAL STUD INFILL WALL @ EXISTING WALL PLAN
3" = 1'-0"



A1 TYPICAL ROOF PENETRATION
3" = 1'-0"



A2 TYPICAL EQUIPMENT SUPPORT
3" = 1'-0"



A4 ROOF DETAIL - ROOF DRAIN & OVERFLOW DRAIN
3" = 1'-0"

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PROJECT INFORMATION

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1422 Sugarbush Dr
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KEY PLAN

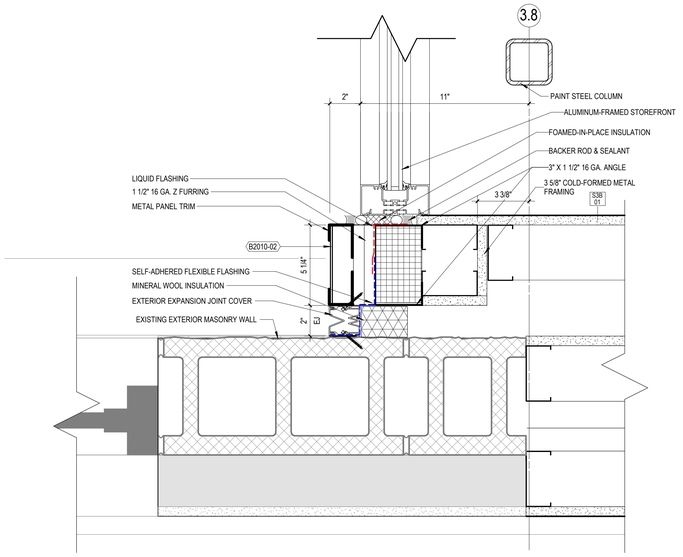
SHEET INFORMATION

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

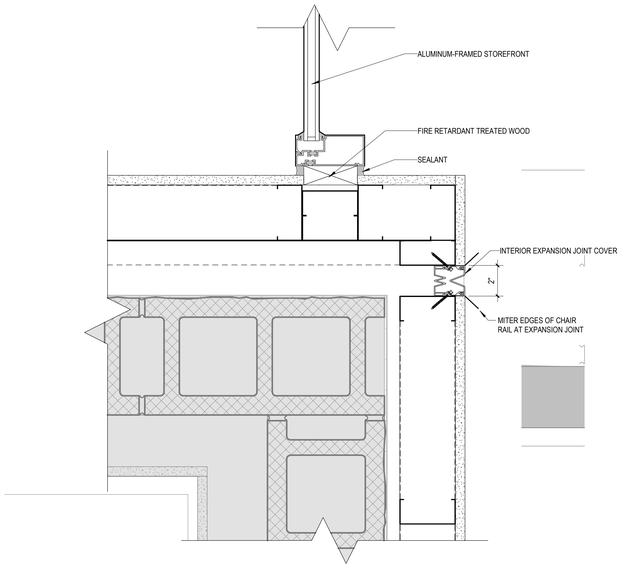
EXTERIOR TYPICAL DETAILS

A513

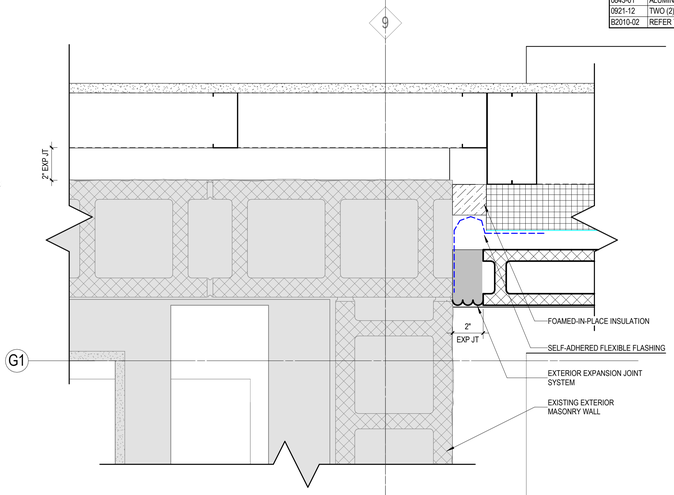
1 2 3 4 5 6 7



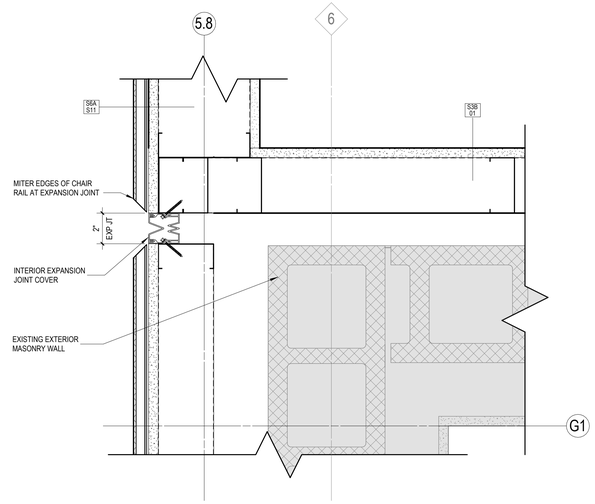
C1 DETAIL - NEW WALL AT EXISTING WALL CONNECTION
3" = 1'-0"



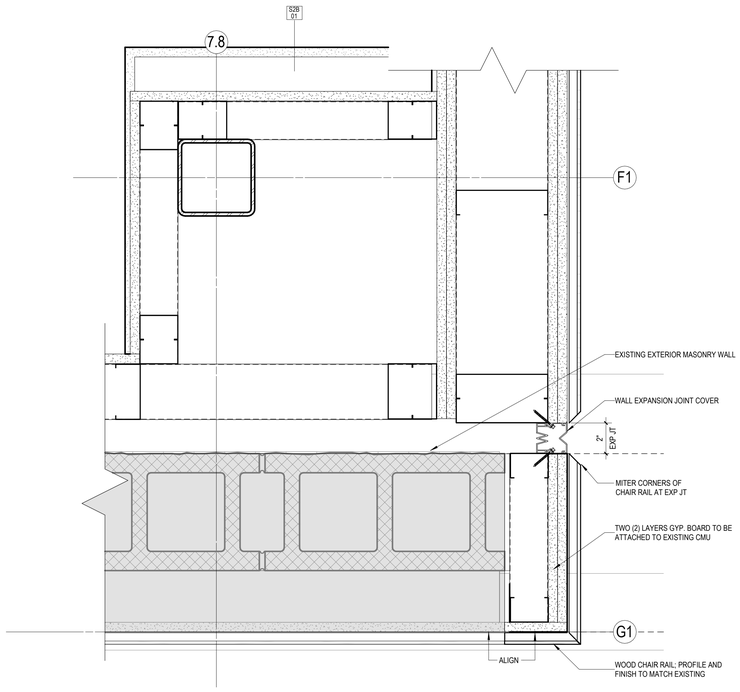
C3 CORRIDOR OPENING AT EXSITING BUILDING
3" = 1'-0"



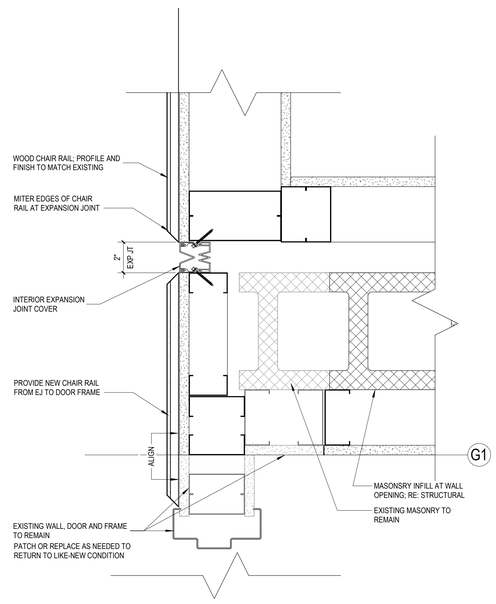
C4 EXPANSION JOINT @ EAST EXTERIOR WALL
3" = 1'-0"



A1 DETAIL - NEW WALL WRAP AT EXISTING WALL CONNECTION
3" = 1'-0"



A4 EXPANSION JOINT AT WEST DOUBLE DOOR OPENING
3" = 1'-0"



A5 EXPANSION JOINT AT WEST OPENING
3" = 1'-0"

BARRIERS AND FLASHING LEGEND

- LIQUID FLASHING
- SELF-ADHERED HIGH TEMP SHEET UNDERLAYMENT
- SELF-ADHERED FLEXIBLE FLASHING
- THROUGH WALL FLEXIBLE FLASHING
- DAMPPROOFING

KEYNOTES PER SHEET

0240-09	EXISTING EXTERIOR MASONRY WALL
0240-12	EXISTING WALL, DOOR AND FRAME TO REMAIN
0420-04	THROUGH WALL FLEXIBLE FLASHING
0540-04	1 1/2" 16 GA. Z FURRING
0540-07	3" X 1 1/2" 16 GA. ANGLE
0540-08	3 5/8" COLD-FORMED METAL FRAMING
0610-05	FIRE RETARDANT TREATED WOOD
0620-01	WOOD CHAIR RAIL; PROFILE AND FINISH TO MATCH EXISTING
0713-04	DAMPPROOFING
0721-04	MINERAL WOOL INSULATION
0721-09	FOAMED-IN-PLACE INSULATION
0723-03	LIQUID FLASHING
0725-03	SELF-ADHERED FLEXIBLE FLASHING
0742-07	METAL PANEL TRIM
0762-16	SELF-ADHERED HIGH TEMP SHEET UNDERLAYMENT
0790-01	SEALANT
0790-02	BACKER ROD & SEALANT
0795-03	WALL EXPANSION JOINT COVER
0795-04	EXTERIOR EXPANSION JOINT COVER
0795-05	INTERIOR EXPANSION JOINT COVER
0795-06	EXTERIOR EXPANSION JOINT SYSTEM
0843-01	ALUMINUM-FRAMED STOREFRONT
0921-12	TWO (2) LAYERS GYP. BOARD TO BE ATTACHED TO EXISTING CMU
B2010-02	REFER TO SHEET A010

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KEY PLAN

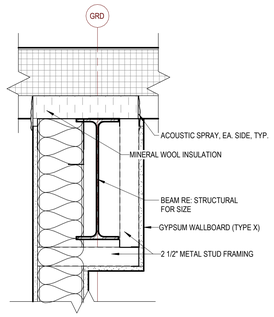
SHEET INFORMATION

PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

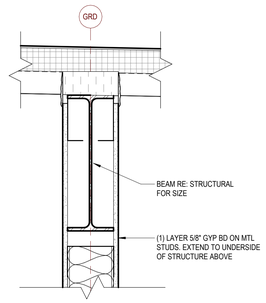
EXPANSION JOINT PLAN DETAILS

A520

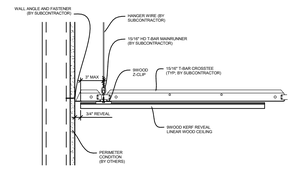
1 2 3 4 5 6 7



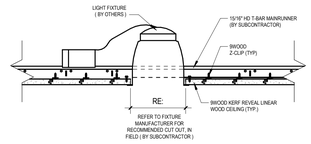
E3 DETAIL AT BEAM GYP WRAP OFFSET TYP
1 1/2" = 1'-0"



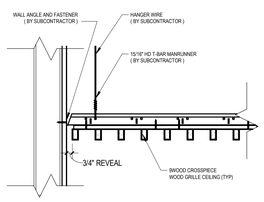
E4 DETAIL AT BEAM GYP WRAP TYP
1 1/2" = 1'-0"



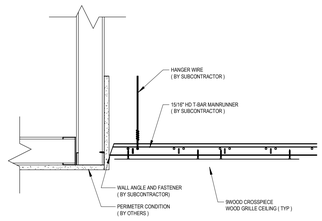
E5 AWS-2 WOOD CEILING AT PERIMTER
1 1/2" = 1'-0"



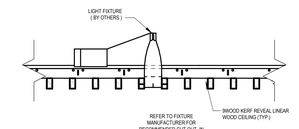
E6 LIGHT FIXTURE AT AWS-2 WOOD SLAT CEILING
1 1/2" = 1'-0"



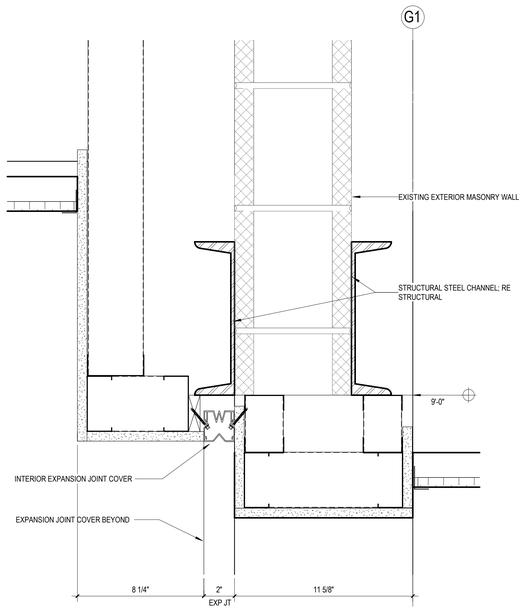
D4 AWS-1 WOOD CEILING AT PERIMETER
1 1/2" = 1'-0"



EE SOFFIT DETAIL @ WOOD SLAT CEILING
1 1/2" = 1'-0"



E655 LIGHT FIXTURE AT AWS-1 WOOD SLAT CEILING
1 1/2" = 1'-0"

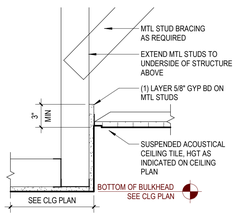


A3 SOFFITS AT EXP JOINT
3" = 1'-0"

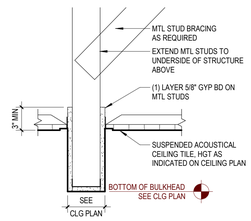
C5 SOFFIT @ SUSPENDED GYP
1 1/2" = 1'-0"

C6 TYP SOFFIT @ ACT TRANSITION
1 1/2" = 1'-0"

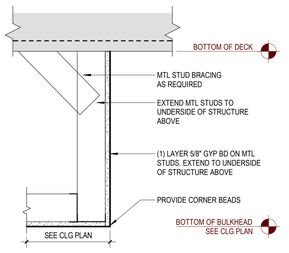
C7 SOFFIT @ ANGLED BULKHEAD
1 1/2" = 1'-0"



B5 SOFFIT @ SUSPENDED ACT
1 1/2" = 1'-0"



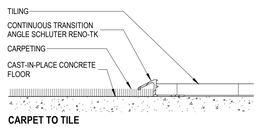
B6 BULKHEAD @ SUSPENDED ACT
1 1/2" = 1'-0"



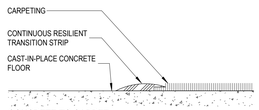
B7 SOFFIT OR GYP CEILING @ EXPOSED DECK
1 1/2" = 1'-0"

FLOORING TRANSITION NOTES

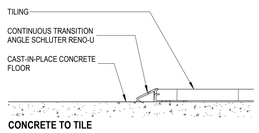
1. USE SUBFLOOR LEVELER SYSTEM TO FLOAT FLOORING FOR FLUSH INSTALLATIONS AND TO AVOID ABRUPT CHANGES IN HEIGHT.
2. FOR CURVED FLOOR PATTERNS, USE SCHLUTER R RADIUS SERIES TRANSITIONS.
3. AT TILE INSTALLATIONS, COMPLETELY FILL PROFILE WITH THIN SET MORTAR TO AVOID DIRECT CONTACT BETWEEN TILE AND TRANSITION STRIP.



CARPET TO TILE



CONCRETE TO CARPET



CONCRETE TO TILE

A1 FLOOR TRANSITIONS_
6" = 1'-0"

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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

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06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER JC

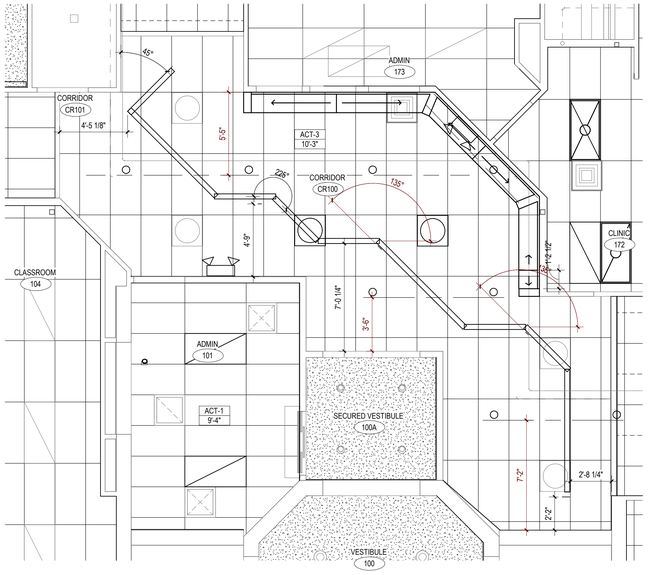
PROJECT NUMBER 822808-01

INTERIOR DETAILS

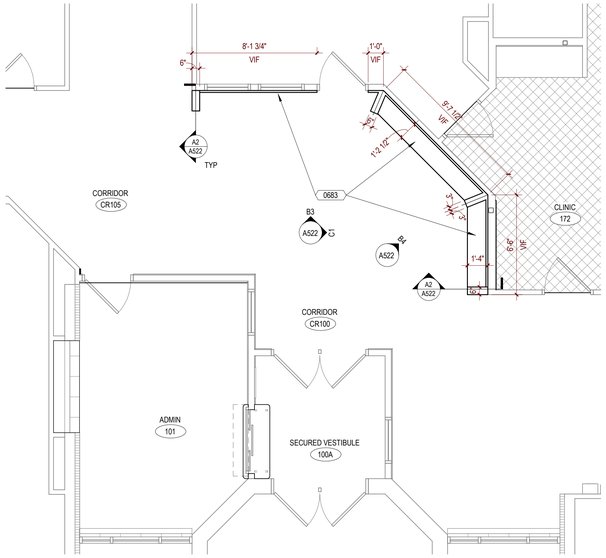
A521

1 2 3 4 5 6 7

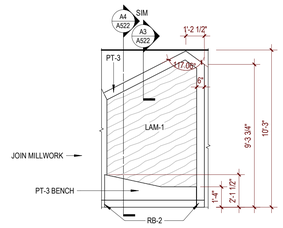
E D C B A



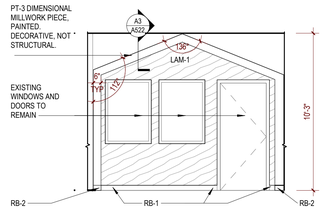
B1 1ST FLR CEILING PLAN - ENLARGED PLAN
1/4" = 1'-0"



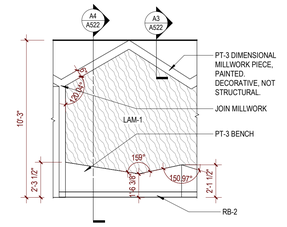
B2 ENLARGED LOBBY AREA PLAN
1/4" = 1'-0"



C1 MAIN LOBBY EAST ELEVATION
1/4" = 1'-0"

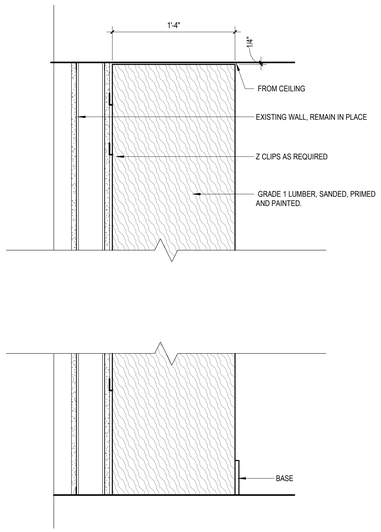


B3 MAIN LOBBY NORTH ELEVATION
1/4" = 1'-0"

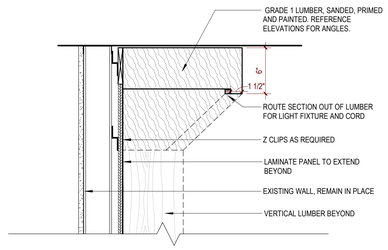


B4 MAIN LOBBY NORTH WEST VIEW
1/4" = 1'-0"

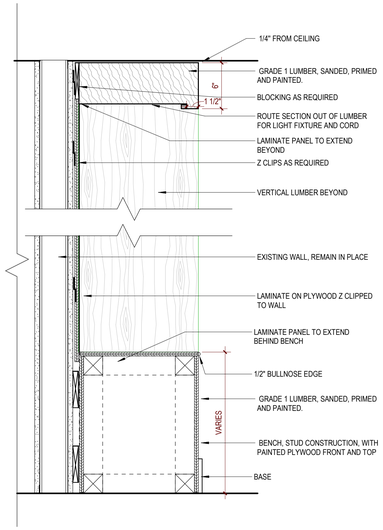
DESIGN CONCEPT RENDERING



A2 SECTION AT ENTRY WALL MILLWORK
1 1/2" = 1'-0"



A3 SECTION AT ENTRY WALL MILLWORK TOP
1 1/2" = 1'-0"



A4 SECTION AT ENTRY WALL MILLWORK @ BENCH
1 1/2" = 1'-0"

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STATE OF COLORADO
07/31/2023
JANE M. CRISLER
402502
LICENSED ARCHITECT

KEY PLAN

SHEET INFORMATION

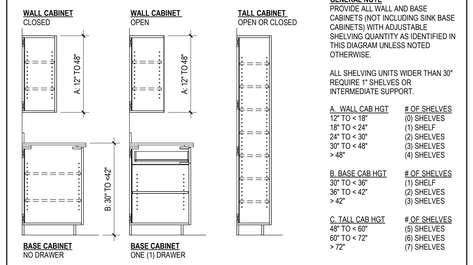
PROJECT MANAGER	JC
PROJECT NUMBER	822808-01

DETAILS MAIN LOBBY

A522

1 2 3 4 5 6 7

A B C D E



GENERAL NOTE
PROVIDE ALL WALL AND BASE CABINETS (NOT INCLUDING SINK BASE CABINETS) WITH ADJUSTABLE SHELVING QUANTITY AS IDENTIFIED IN THIS DIAGRAM UNLESS NOTED OTHERWISE.

ALL SHELVING UNITS WIDER THAN 30" REQUIRE 1" SHELVES OR INTERMEDIATE SUPPORT.

A. WALL CAB HGT	# OF SHELVES
12" TO < 18"	(0) SHELVES
18" TO < 24"	(1) SHELF
24" TO < 30"	(2) SHELVES
30" TO < 48"	(3) SHELVES
> 48"	(4) SHELVES

B. BASE CAB HGT	# OF SHELVES
30" TO < 36"	(1) SHELF
36" TO < 42"	(2) SHELVES
> 42"	(3) SHELVES

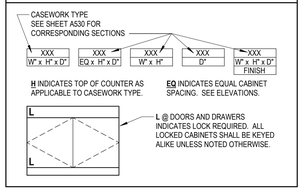
C. TALL CAB HGT	# OF SHELVES
48" TO < 60"	(5) SHELVES
60" TO < 72"	(6) SHELVES
> 72"	(7) SHELVES

SHELVING QUANTITY DIAGRAM

KEYNOTES PER SHEET

0641-22	DRAWER BOX
0641-24	HINGED DOOR
0641-28	FIXED SHELF. SEE SHELVING DIAGRAM SHEET <A000> FOR QTY
0641-29	ADJUSTABLE SHELF. SEE SHELVING DIAGRAM SHEET <A000> FOR QTY
0641-31	SHELF STANDARD
0641-32	1 1/2" OC HOLE FOR SHELF PIN TYP
0641-42	FIXED PNL
0641-43	REMOVABLE PNL
0641-49	DUST SHIELD ABOVE ALL DRAWERS UNLESS DIRECTLY BELOW COUNTERTOP
0641-51	FIXED APRON PNL
0641-72	<WIRE, TAB OR ROD> PULL
0641-73	CLOSET ROD WITH FLANGES
0641-79	TRASH FLIPPER
1236-16	<SCHED MAT> COUNTERTOP WITH EASED EDGE. BACK & SIDE SPLASH WITH EASED EDGE
2242-16	UNDERMOUNT SINK <WITH OFFSET TRAP>. ACCESSORIES BY PLUMBING CONTRACTOR, COORDINATE COUNTERTOP OPENING, SEE PLUMBING DOCUMENTS
2242-17	SURFACE MOUNT SINK <WITH OFFSET TRAP>. ACCESSORIES BY PLUMBING CONTRACTOR, COORDINATE COUNTERTOP OPENING, SEE PLUMBING DOCUMENTS

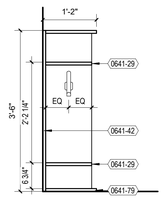
CASEWORK LEGEND



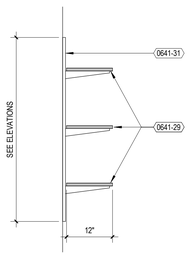
H INDICATES TOP OF COUNTER AS APPLICABLE TO CASEWORK TYPE.

EQ INDICATES EQUAL CABINET SPACING. SEE ELEVATIONS.

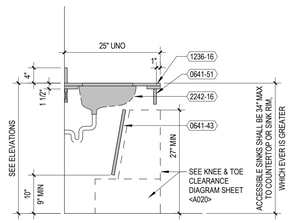
L @ DOORS AND DRAWERS INDICATES LOCK REQUIRED. ALL LOCKED CABINETS SHALL BE KEYED ALIKE UNLESS NOTED OTHERWISE.



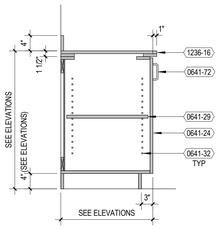
B1 577 PRE-K CUBBY
3/4" = 1'-0"



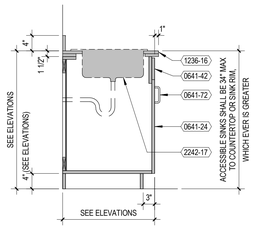
B2 HEAVY DUTY OPEN SHELF, STANDARD & BRACKET
3/4" = 1'-0"



B3 831/ 832 / 833 ACCESSIBLE LAVATORY
3/4" = 1'-0"

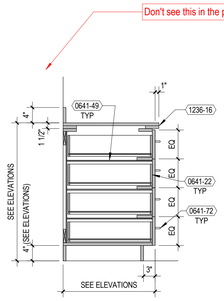


A1 101-102 DOOR
3/4" = 1'-0"

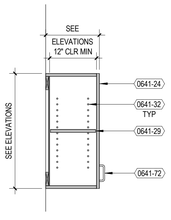


A2 151-152 SINK
3/4" = 1'-0"

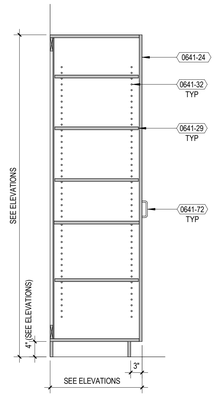
Don't see this in the project



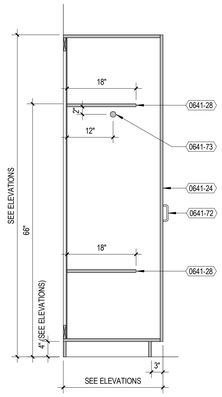
A3 254 FOUR (4) EQUAL DWRS
3/4" = 1'-0"



A4 301-302 DOOR
3/4" = 1'-0"



A5 432 (2) DOORS
3/4" = 1'-0"



A6 501-502 WARDROBE & SHOE SHELF
3/4" = 1'-0"

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KEY PLAN

SHEET INFORMATION

PROGRESS DOCUMENTS NOT FOR CONSTRUCTION
These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and shall not be used for final bidding or construction-related purposes.

PROJECT MANAGER JC
PROJECT NUMBER 822808-01

INTERIOR CASEWORK DETAILS

A530

1 2 3 4 5 6 7

A B C D E

DOOR AND FRAME SCHEDULE

NUMBER	DOOR LEAF QTY	DOOR SIZE WIDTH	DOOR SIZE HGT	DOOR TYPE	DOOR MAT	DOOR FIN	DOOR GL	SIDELITE & TRANSOM SIZE WIDTH	SIDELITE & TRANSOM GL	FRAME TYPE	FRAME MAT	FRAME FIN	FRAME DETAIL HEAD	FRAME DETAIL JAMB	FRAME DETAIL SILL	HDWE TAG	RATING (MIN)	REMARKS	NUMBER
1ST FLR																			
116-1	2	3'-0"	7'-0"	FG	ALUM		S-1T		S-1TL	10	ALUM					AL-01			116-1
116-2	2	3'-0"	7'-0"	FG	ALUM		IG-6TL		IG-6TL	10	ALUM					AL-02			116-2
117	1	3'-0"	7'-0"	F	WD			1'-6"		05C	HM	PT-12	A7/A600	A6/A600		05			117
117A	1	3'-0"	7'-0"	F	WD					01	HM	PT-5	A7/A600	A6/A600		01			117A
117B-1	1	3'-0"	7'-0"	F	WD					01	HM	PT-5	A7/A600	A6/A600		01			117B-1
117B-2	1	3'-0"	7'-0"	F	WD					01	HM	PT-5	A7/A600	A6/A600		01			117B-2
118	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		10			118
119	1	3'-0"	7'-0"	F	WD			1'-6"		05C	HM	PT-12	A7/A600	A6/A600		05			119
119A	1	3'-0"	7'-0"	F	WD					01	HM	PT-5	A7/A600	A6/A600		01			119A
120	1	3'-0"	7'-0"	F	WD			1'-6"		05C	HM	PT-12	A7/A600	A6/A600		05			120
120A	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		01			120A
120B-1	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		01			120B-1
120B-2	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		01			120B-2
121	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		08			121
122	1	3'-0"	7'-0"	F	WD			1'-6"		05C	HM	PT-9	A7/A600	A6/A600		05			122
122A	1	3'-0"	7'-0"	F	WD					01	HM	PT-9	A7/A600	A6/A600		02			122A
122B	1	2'-8"	7'-0"	F	WD					01	HM	PT-9	A7/A600	A6/A600		07			122B
123	1	3'-0"	7'-0"	F	WD			1'-6"		05C	HM	PT-12	A7/A600	A6/A600		05			123
123A	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		01			123A
125	1	3'-0"	7'-0"	F	WD					01	HM	PT-8	A7/A600	A6/A600		09			125
127	1	3'-0"	7'-0"	F	WD					01	HM	PT-8	A7/A600	A6/A600		05			127
127A	1	3'-0"	7'-0"	F	WD					01	HM	PT-8	A7/A600	A6/A600		03			127A
127B	1	3'-0"	7'-0"	F	WD					01	HM	PT-8	A7/A600	A6/A600		06			127B
129	1	3'-0"	7'-0"	F	WD			1'-6"		05C	HM	PT-12	A7/A600	A6/A600		05			129
129A	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		01			129A
129B-1	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		01			129B-1
129B-2	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		01			129B-2
130	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		08			130
131	1	3'-0"	7'-0"	F	WD			1'-6"		05C	HM	PT-12	A7/A600	A6/A600		05			131
131A	1	3'-0"	7'-0"	F	WD					01	HM	PT-12	A7/A600	A6/A600		01			131A
132	1	3'-0"	7'-0"	F	WD			1'-6"		05C	HM	PT-9	A7/A600	A6/A600		05			132
133	1	3'-0"	7'-0"	F	WD			1'-6"		05C	HM	PT-9	A7/A600	A6/A600		05			133
133-1	2	3'-0"	7'-0"	G	ALUM					09	ALUM	PT-12	B7/A600	B6/A600		11			133-1
133-2	2	3'-0"	7'-0"	G	ALUM		IG-6TL		IG-6TL	09	ALUM	PT-12	B7/A600	B6/A600		12			133-2
134	1	3'-0"	7'-0"	F	WD			1'-6"		05C	HM	PT-9	A7/A600	A6/A600		05			134
135	1	3'-0"	7'-0"	N425	WD					01A	HM	PT-9	A7/A600	A6/A600		04			135
136	1	3'-0"	7'-0"	N425	WD					01A	HM	PT-9	A7/A600	A6/A600		04			136
142	1	3'-0"	7'-0"	N425	WD					01A	HM	PT-8	A7/A600	A6/A600		04			142
171B	1	3'-0"	7'-0"	F	WD					01	HM	PT-3	A7/A600	A6/A600		06			171B
171C	1	3'-6"	7'-0"	F	WD					01	HM	PT-5	A7/A600	A6/A600		04			171C
172A	1	3'-0"	7'-0"	F	WD					01	HM	MATCH EXISTING	A7/A600	A6/A600		03			172A

GENERAL NOTES - DOORS, FRAMES, & HARDWARE

1. FINISHES INDICATED FOR DOOR AND FRAME SCHEDULE ARE REFERENCED IN THE MATERIAL SCHEDULE. PAINT ALL DOOR FRAMES TO MATCH ADJACENT FRAME FINISHES.
2. CONFIRM AND COORDINATE SPECIFIC KEYING REQUIREMENTS WITH OWNER, SUCH AS TYPE OF CYLINDERS/CORES, KEYING ALIKE, MASTER KEYING AND QUANTITIES. CONTRACTOR TO CONDUCT KEYING MEETING WITH OWNER AND DOOR HARDWARE SUPPLIER.
3. HARDWARE SPECIFIED IN THE SCHEDULE ARE INCOMPLETE OR LIMITED TO BASIC LOCKSET TYPE ONLY. PROVIDE ALL NECESSARY ITEMS REQUIRED FOR COMPLETE INSTALLATION.
4. ALL ELECTRIC HARDWARE LISTED IN THE SCHEDULE OR SHOWN ON ELECTRIAL PLANS SHALL BE PROVIDED UNDER THE CONSTRUCTION CONTRACT, UNLESS SPECIFICALLY INDICATED TO BE BY OWNER'S SECURITY VENDOR.

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1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
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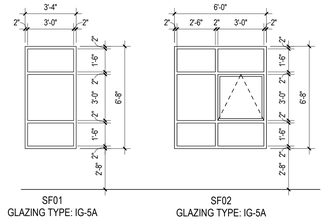
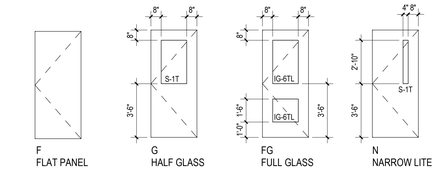
07/31/2023	CONSTRUCTION DOCUMENTS



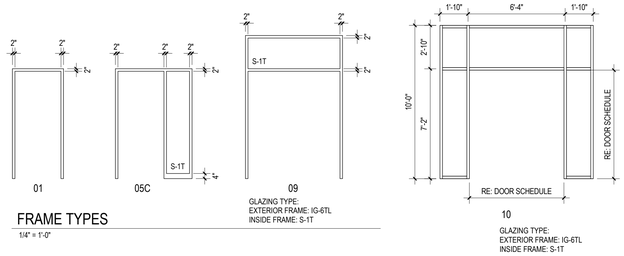
EXTERIOR FRAME TYPES
1/4" = 1'-0"



DOOR TYPES
1/4" = 1'-0"

DIMENSION NOTES

SIDELITE SILL HEIGHT, SIDELITE WIDTH, TRANSOM HEIGHT, DOOR HEIGHT AND DOOR WIDTH AS SCHEDULED UNLESS NOTED OTHERWISE.



FRAME TYPES
1/4" = 1'-0"

DIMENSION NOTES

WIDTH AND HEIGHT AS SCHEDULED UNLESS NOTED OTHERWISE. ADDITIONAL DIMENSIONS AS SPECIFIED.

A1 HM BORROWED LITE JAMB-GYP BD
3" = 1'-0"

A2 HM BORROWED LITE SILL-GYP BD
3" = 1'-0"

A3 HM BORROWED LITE HEAD-GYP BD
3" = 1'-0"

A6 HM DOOR JAMB-GYP BD
3" = 1'-0"

A7 HM DOOR HEAD-GYP BD
3" = 1'-0"

KEY PLAN

SHEET INFORMATION

PROGRESS DOCUMENTS NOT FOR CONSTRUCTION

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and shall not be used for final bidding or construction-related purposes.

PROJECT MANAGER JC

PROJECT NUMBER 822808-01

DOOR AND FRAME SCHEDULE

A600

1 2 3 4 5 6 7

A B C D E

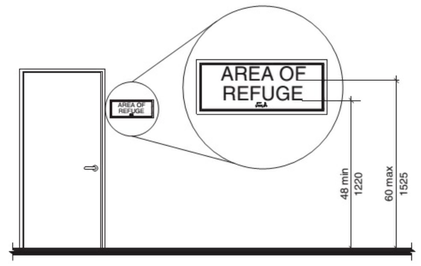


FIGURE 703.3.10 HEIGHT OF RAISED CHARACTERS ABOVE FLOOR

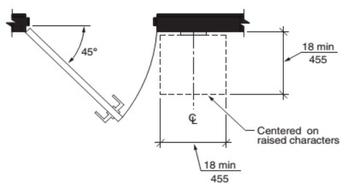


FIGURE 703.3.11 LOCATION OF SIGNS AT DOORS

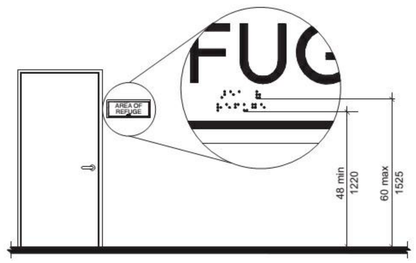
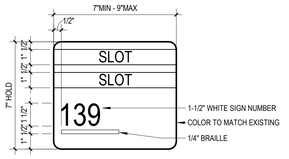
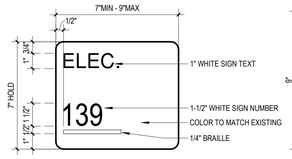


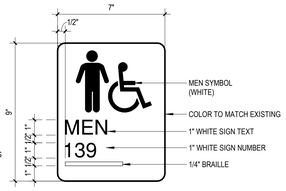
FIGURE 703.4.5 HEIGHT OF BRAILLE CHARACTERS ABOVE FLOOR



TYPE A



TYPE B



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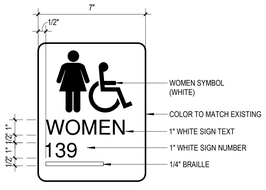
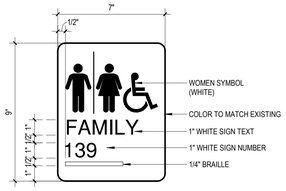
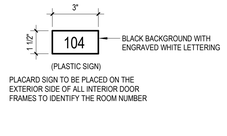


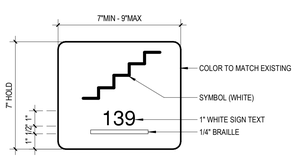
TYPE D



TYPE E

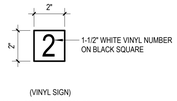


TYPE F

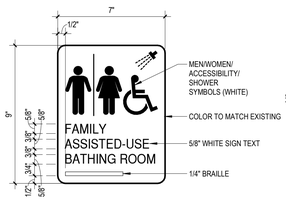


TYPE G

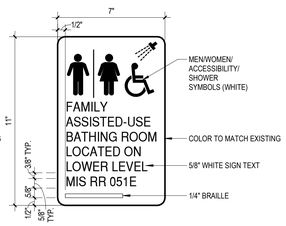
TYPE H



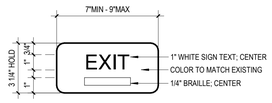
TYPE I



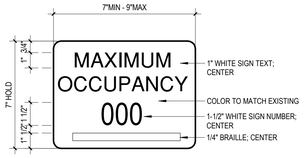
TYPE J



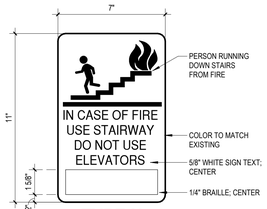
TYPE K



TYPE L



TYPE M



TYPE N

SIGN NOTES

SCOPE OF WORK:
1. PROVIDE SIGNAGE AT EVERY ROOM.
2. PROVIDE TYPE F SIGNS AT ALL DOORS ON THE CORRIDOR SIDE OF FRAME.
3. REFER TO SPECIFICATIONS FOR MOUNTING HEIGHTS AND LOCATIONS OF SIGNAGE.
4. ALL ROOM NUMBER TEXT TO BE HELVETICA MEDIUM FONT
5. ALL ROOM TITLE TEXT TO BE SANS SERIF FONT
6. FLEXIBLE/REMOVABLE INSERTS IN PERMANENT FIXED FRAMLESS HOLDER.
7. ONE PER DOOR OR OPENING
8. PROVIDE SLOTS FOR INSERTION OF OCCUPANTS AND/OR PRGRAM NAMES
9. 1/4 INCH THICK MONOLITHIC MOLDED PLYESTER COMPOSITE

SCOPE OF WORK:
10. INTEGRAL BODY, LETTER, GRAPHICS, COLOR.
11. RAISED (TACTILE) UPPER-CASE SANS SERIF CHARACTERS, PREFER 1-INCH HIGH; MAY PROVIDE 5/8 INCH TO 2 INCHES HIGH WITH APPROVAL OF DISTRICT PROJECT MANAGER.
12. CHARACTERS THAT CONTRAST 70-100% WITH BACKGROUND
13. GRADE II BRAILE
14. PICTROGRAMS NON-GLARE FINISH
15. INSTALL ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR PER ADAAG.
16. 1-12" HIGH x 3" WIDE WITH SQUARE CORNERS
17. ROOM NUMBER PRINTED IN 1" HELVETICA MEDIUM FONT.

SIGNAGE TYPES - TYPICAL

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1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

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PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

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12/23/2022	SCHEMATIC DESIGN
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07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER JC

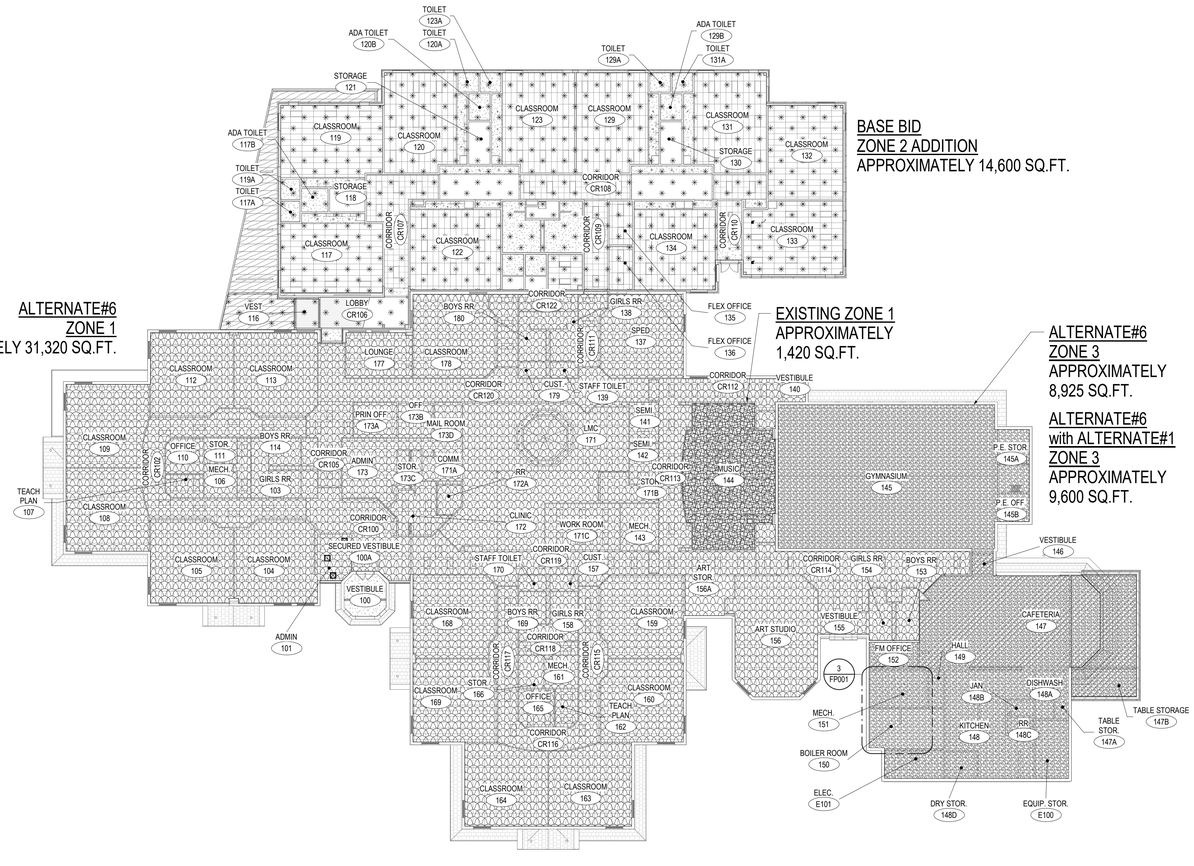
PROJECT NUMBER 822808-01

SIGNAGE

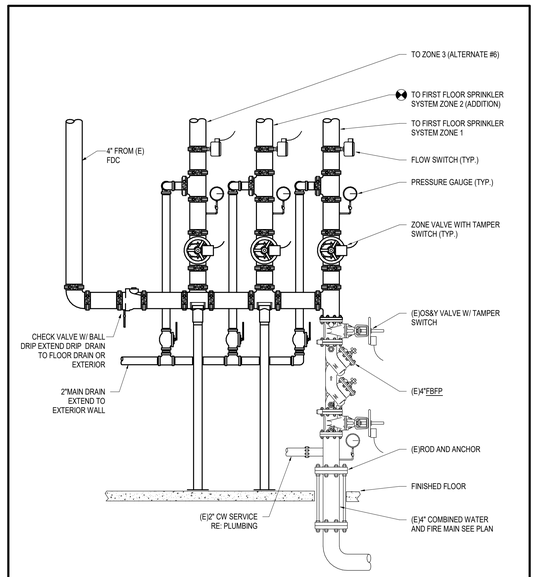
A610

1 2 3 4 5 6 7

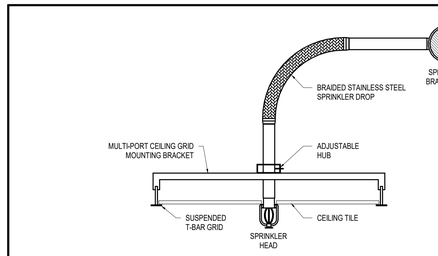
E D C B A



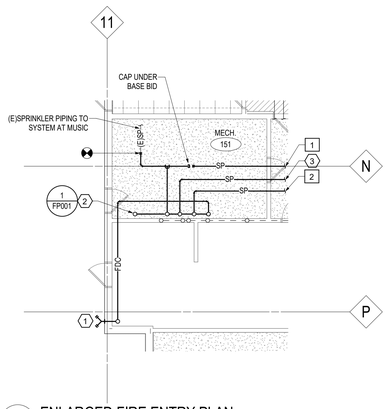
N **C1** 1ST FLR FIRE SPRINKLER ZONE MAP
3/64" = 1'-0"



1 FIRE SPRINKLER SERVICE ENTRY DETAIL
NOT TO SCALE



2 FLEXIBLE SPRINKLER HEAD DETAIL
NOT TO SCALE



N **3** ENLARGED FIRE ENTRY PLAN
1/8" = 1'-0"

DRAWING NOTES

1. EXISTING 4" FDC, HORN AND STROBE LOCATION. PROVIDE DRIP AT BASE AND EXTEND DISCHARGE THRU EXTERIOR WALL.
2. (E)4" COMBINED FIRE AND DOMESTIC WATER SERVICE UP IN MECHANICAL ROOM. REVISE RISER PIPING AND ZONING AS INDICATED ON DETAIL
3. FIRE SPRINKLER PIPING TO BUILDING ADDITION. RE: FP101 FOR CONTINUATIONS

ALTERNATE#6 NOTES

1. FIRE SPRINKLER PIPING FOR ZONE 1 EXTENSION UNDER ALTERNATE #6
2. FIRE SPRINKLER PIPING FOR ZONE 3 EXTENSION UNDER ALTERNATE #6

FIRE PROTECTION LEGEND

ALL SYMBOLS MAY NOT BE USED

SYMBOL	DESCRIPTION
F	FIRE PROTECTION WATER SUPPLY
FDC	FIRE DEPARTMENT CONNECTION
SP	SPRINKLER SYSTEM PIPING
ST	STAND PIPE SYSTEM PIPING
SP/ST	COMBINATION SPRINKLER/STANDPIPE PIPING
D	DRAIN PIPING
	FLOW SWITCH
	ISOLATION VALVE WITH TAMPER SWITCH
	ANGLE VALVE
	PRESSURE GAUGE
	REDUCER
	BALL VALVE
	CHECK VALVE
	ROOF MANIFOLD
	SIAMESE
	SIDEWALL SPRINKLER
	UPRIGHT SPRINKLER
	PENDANT SPRINKLER
E	EXISTING FIRE SPRINKLER
N	NEW FIRE SPRINKLER
N R	NEW FIRE SPRINKLER RELOCATED TO NEW LOCATION
D	FIRE SPRINKLER TO BE REMOVED AND REPLACED IN THE SAME LOCATION
	HORN AND STROBE

GENERAL

SYMBOL	DESCRIPTION
	CONNECT NEW TO EXISTING
* #	REFERENCE BUBBLE * SECTION NUMBER # SHEET NUMBER
A	REVISION NUMBER
* #	SECTION OR ELEVATION BUBBLE * SECTION OR ELEVATION LETTER # REFERENCE DRAWING NUMBER
* #	ISOMETRIC OR ELEVATION BUBBLE * ISOMETRIC OR ELEVATION LETTER # REFERENCE DRAWING NUMBER
#	DRAWING NOTE
#	DEMOLITION NOTE
X	DEMOLITION NOTE, ALTERNATE
#	DRAWING NOTE, ALTERNATE

FIRE SPRINKLER GENERAL NOTES

CODE NOTES
ABBREVIATIONS USED WITHIN INCLUDE:

YEAR	ABBREV.	CODE TYPE
2021	IBC	INTERNATIONAL BUILDING CODE
2021	IMC	INTERNATIONAL MECHANICAL CODE
2021	IECC	INTERNATIONAL ENERGY CONSERVATION CODE
2021	CPC	COLORADO PLUMBING CODE
2021	IFC	INTERNATIONAL FIRE CODE
2021	CFGC	COLORADO FUEL GAS CODE
2020	NEC	NATIONAL ELECTRICAL CODE
2017	ICC	INTERNATIONAL CODE COUNCIL (A117.1)
2017	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
2021	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION

1. ALL WORK SHALL COMPLY WITH APPLICABLE CODES AS NOTED ABOVE.
2. FIELD VERIFY BUILDING CONDITIONS PRIOR TO COMMENCING DESIGN RELATED WORK.
3. COORDINATE FIRE SPRINKLER SYSTEM INSTALLATION WITH OTHER TRADES AND BUILDING COMPONENTS PRIOR TO COMMENCING FABRICATION. RELOCATE SPRINKLER SYSTEM COMPONENTS FOUND TO BE IN CONFLICT WITH OTHER BUILDING SYSTEMS.
4. INSTALL SPRINKLER SYSTEM COMPONENTS AND PIPING TO ALLOW FOR ACCESS TO CEILING CAVITY AND TO OTHER SYSTEMS EQUIPMENT MOUNTED ABOVE CEILING.
5. PROVIDE SIGNAGE, LABELING AND ADDITIONAL IDENTIFICATION AS REQUIRED BY NFPA AND LOCAL JURISDICTIONAL AUTHORITY.
6. DESIGN AND INSTALLATION OF THE FIRE SPRINKLER SYSTEM SHALL COMPLY WITH ALL APPLICABLE NFPA AND LOCAL JURISDICTIONAL REQUIREMENTS. REVISE SPRINKLER SYSTEM INSTALLATION FOR FULL COMPLIANCE AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
7. DRAIN AND TEST OUTLET CONNECTIONS SHALL BE DISCHARGED TO THE BUILDING EXTERIOR OR TO A PROPERLY SIZED RECEPTOR WITHIN THE BUILDING. DRAIN AND TEST OUTLET LOCATIONS SHALL BE IDENTIFIED ON SHOP DRAWINGS FOR REVIEW AND APPROVAL.
8. COORDINATE ALL ELECTRICAL AND FIRE ALARM CONNECTIONS WITH EC PRIOR TO INSTALLATION.
9. REFER TO PROJECT MANUAL FOR SPRINKLER TYPES AND INSTALLATION REQUIREMENTS.
10. THE FIRE SPRINKLER SYSTEM INFORMATION CONTAINED ON THE PLANS IS PROVIDED AS A GUIDE FOR THE FIRE SPRINKLER SYSTEM INSTALLER AND IS NOT INTENDED TO SHOW ALL REQUIRED SYSTEM COMPONENTS; IT SHALL BE THE FIRE SPRINKLER SYSTEM INSTALLERS RESPONSIBILITY TO PROVIDE A COMPLETE, APPROVED AND OPERATIONAL FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA AND THE LOCAL JURISDICTIONAL REQUIREMENTS.
11. COORDINATE INSTALLATION LOCATION OF ALL EXPOSED SPRINKLER SYSTEM PIPING WITH ARCHITECT AND GENERAL CONTRACTOR PRIOR TO INSTALLATION.
12. ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF NFPA 13.

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899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com
DIRECT PHONE:
EMAIL ADDRESS:
ENVISION MECHANICAL ENGINEERS INC.
9777 Pyramid Court, Suite 260
Englewood, CO 80112
Tel: 303-688-0323
envisionmep.com
Project #222-063

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

D 1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

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KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED HENRY K. RIVERS 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS
PROJECT NUMBER 822808-01

FIRE PROTECTION CODE SHEET

FP001

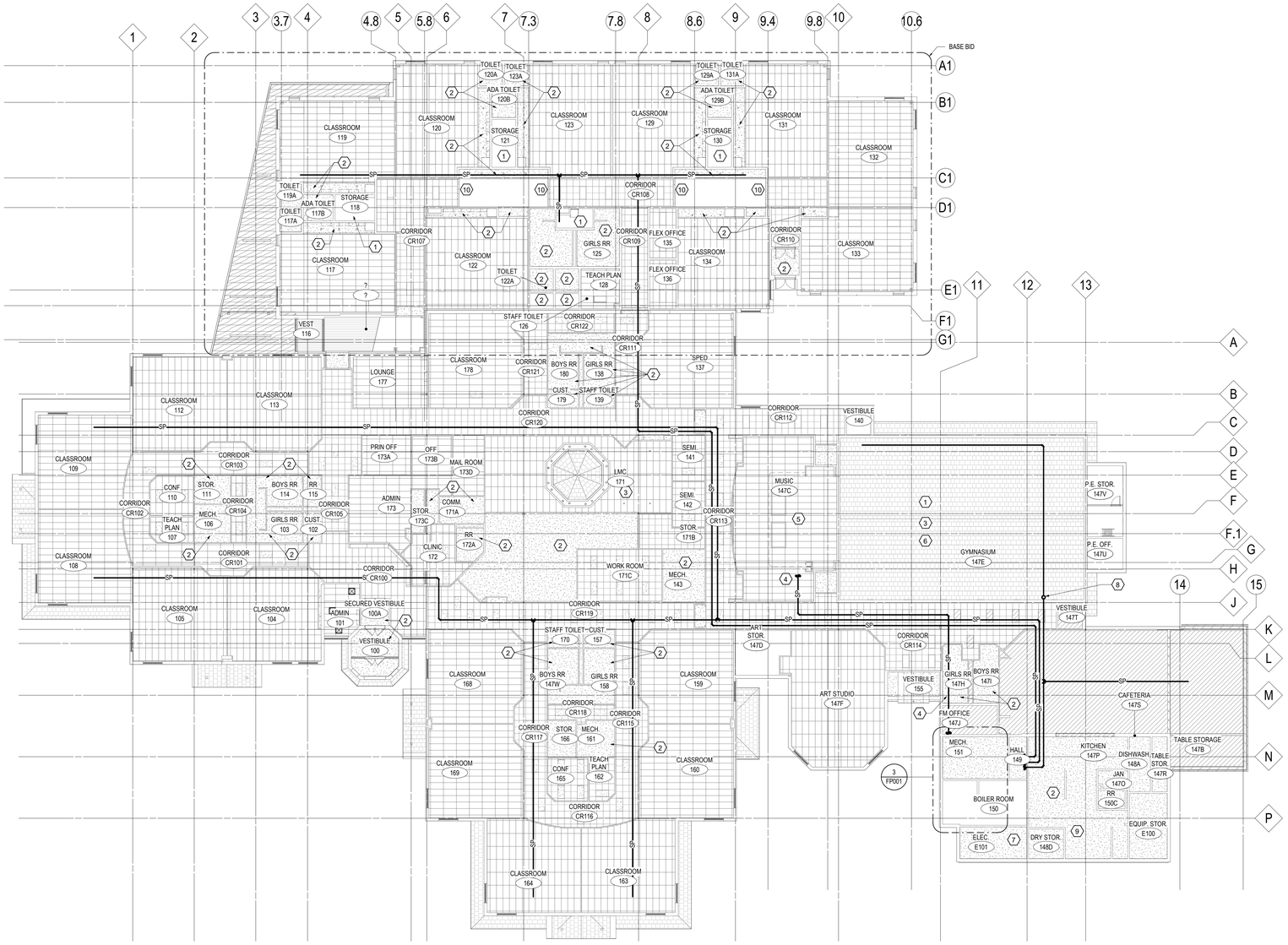
1 2 3 4 5 6 7

GENERAL NOTES

1. FIRE SPRINKLER CONTRACTOR SHALL SUBMIT ALL HYDRAULIC CALCULATIONS FOR THE ENTIRE SYSTEM ALONG WITH SYSTEM SHOP DRAWINGS IDENTIFYING HYDRAULIC NOTES FOR REVIEW; REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SPECIFICATIONS FOR SPECIFIC SPRINKLER STYLES WITHIN VARYING CEILING SYSTEMS.

BASE BID & ALTERNATE#6 DRAWING NOTES (#)

1. PROVIDE SPRINKLERS WITH WIRE GUARDS THIS AREA.
2. PROVIDE CONCEALED SPRINKLER HEADS IN AREAS WHERE HARD LID, WOOD SLAT, OR SPECIFIC ARCHITECTURALLY FEATURED CEILINGS EXIST, COORDINATE WITH GC FOR ACCESS OPENINGS AND PATCH REQUIREMENTS.
3. PROVIDE SPRINKLER COVERAGE AT HIGH STRUCTURE AND CEILING CLOUDS. RE: ARCH.
4. EXISTING SPRINKLER PIPING ABOVE CEILING SERVING MUSIC ROOM, FIELD VERIFY EXACT LOCATION AND ROUTING.
5. EXISTING SPRINKLER PIPING AND SPRINKLERS TO REMAIN WITHIN MUSIC ROOM. VERIFY SPACING OF SPRINKLERS AND ADJUST AS NECESSARY FOR FULL COVERAGE.
6. PROVIDE UPRIGHT SPRINKLERS IN OPEN STRUCTURE IN THIS AREA.
7. PROVIDE UPRIGHT SPRINKLERS WITH WIRE GUARDS IN ROOMS, COORDINATE SPRINKLER PIPE ROUTING AND SPRINKLER LOCATIONS WITH TECHNOLOGY SYSTEMS.
8. SPRINKLER SYSTEM RISER UP TO HIGH ROOF STRUCTURE. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION
9. PROVIDE DRY PENDANT SPRINKLERS IN WALK-IN COOLER & FREEZER.
10. PROVIDE FIRE SPRINKLER COVERAGE AT CLERESTORY/OPEN CEILING ARES WITHIN CORRIDOR. PROVIDE WITH SIDE WALL SPRINKLERS ON BOTH ENDS OF OPENINGS.



N

A1 FIRE SPRINKLER 1ST FLR PLAN

1/16" = 1'-0"

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9777 Pyramid Court, Suite 260
Englewood, CO 80112
TEL: 303-688-0223
envisionmep.com
Project #222-063

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED HENRY K. RIVERA 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER	ANS
PROJECT NUMBER	822808-01

FIRE SPRINKLER PLANS

FP101

FUEL-FIRED WATER HEATER SCHEDULE

SYMBOL	SERVICE	MANUFACTURER	MODEL NUMBER	STORAGE CAPACITY (GALLONS)	MBH INPUT	OUTLET WATER TEMPERATURE	RECOVERY RATE @ DEGREE RISE	EFFICIENCY	REMARKS
GWH-1	ADDITION	A.O. SMITH	BTH-150(A)	100	150	120° F	223 GPH @ 80° F	98%	1

REMARKS:
1. PROVIDE CONDENSATE NEUTRALIZATION KIT.

DOMESTIC WATER CIRCULATION PUMP SCHEDULE

SYMBOL	MANUFACTURER	MODEL NUMBER	INLET SIZE	OUTLET SIZE	FLOW RATE	HEAD	HP	RPM	ELECTRICAL CHARACTER	SERVICE	REMARKS
CP-1	B&G	ECOCIRC	1"	1"	5 GPM	10 FT.	N/A	3800	115 VOLT / 1 PHASE	GWH-1	1

REMARKS:
1. WATER TEMP: 120° F.
2. STAINLESS STEEL BODY AND IMPELLER; UL LISTED, SET FOR CONSTANT PRESSURE OPERATING MODE.
3. PUMP SHALL OPERATE DURING OCCUPIED BUILDING TIMES. PROVIDE WALL MOUNTED TIME CLOCK WITH TEMPERATURE SENSOR TO OPERATE PUMP CYCLING THERMOSTATIC CONTROL.

DOMESTIC WATER EXPANSION TANK SCHEDULE

SYMBOL	SERVES	MANUF.	MODEL NUMBER	INLET SIZE	TOTAL VOLUME (GALLONS)	ACCEPTANCE VOLUME IN GALLONS	DIAMETER (INCHES)	HEIGHT (INCHES)	INITIAL CHARGE PRESSURE	WEIGHT (LBS.)	REMARKS
DET-1	GWH-1	AMTROL	ST-12C-DD	3/4"	.46	.50	12	18	55 PSI	26	1

REMARKS:
1. PROVIDE WITH MANUFACTURER RECOMMENDED ACID NEURALIZATION KIT AND VENT TERMINATION.
2. PROVIDE WITH ASME RATED TANKS, PRESSURE AND TEMPERATURE RELIEF VALVES.

WATER MIXING VALVE SCHEDULE

SYMBOL	SERVICE	MANUF.	MODEL NUMBER	INLET SIZE	OUTLET SIZE	INLET TEMPERATURE (° F)		OUTLET TEMPERATURE (° F)	MINIMUM FLOW (GPM)	REMARKS
						CW	HW			
TMV-1	LAVISINK	POWERS	LFLM495-1	1/2"	1/2"	40	120	110	0.5	1,2,3

REMARKS:
1. SURFACE MOUNTED, PROVIDE COMPLETE WITH WALL MOUNTING BRACKET; LEAD FREE DESIGN, INLET STRAINER CHECKSTOPS, INTEGRAL DIAL THERMOMETER.
2. MINIMUM FLOW OF 0.5 GPM WITH OPERATIONAL CIRCULATION.
3. THERMOSTATIC MIXING VALVE TO MEET ASSE 1070.

PIPE INSULATION SCHEDULE

SERVICE	LOCATION	INSULATION MATERIAL	VAPOR BARRIER	JACKET	OPERATING TEMPERATURE (° F)	INSULATION CONDUCTIVITY		NOMINAL PIPE SIZE (IN)					REMARKS
						CONDUCTIVITY BTU * IN / (H * FT** ° F)	MEAN TEMP RATING (° F)	< 1	1 TO 1-1/2	1-1/2 TO 4	4 TO 8	≤ 8	
DOMESTIC COLD WATER	INTERIOR	GLASS FIBER WITH ASJ-SSL	YES	NONE	40 - 60	0.21 - 0.27	75	0.5	0.5	1	1	1	-
DOMESTIC HOT WATER & RECIRC.	INTERIOR	GLASS FIBER WITH ASJ-SSL	NONE	NONE	120 - 140	0.21 - 0.28	100	1	1.5	1.5	1.5	1.5	-
STORM & OVERFLOW DRAINAGE	INTERIOR	GLASS FIBER	YES	PVC	N / A	0.21 - 0.27	75	1	1	1	1	1	-
ROOF & OVERFLOW DRAIN BOWLS	INTERIOR	GLASS FIBER	YES	NONE	N / A	0.21 - 0.27	75	1	1	1	1	1	-

NOTES:
1. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INSULATION REQUIREMENTS.
2. (ASTM E84) ALL INSULATION MATERIALS INSTALLED WITHIN THE PLENUM SHALL MEET THE FLAME/SMOKE REQUIREMENTS OF 25/50.

REMARKS:
1. FOR PIPING SMALLER THAN 1-1/2" INSTALLED WITHIN A BUILDING PARTITION WITHIN A CONDITIONED SPACE. INSULATION REDUCTION OF UP TO 1" BUT NOT LESS THAN 1" PER IECC TABLE C403.2.1, NOTE A.

PLUMBING EQUIPMENT SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NUMBER	REMARKS
CN-1	CONDUCTOR NOZZLE	J.R. SMITH	1770	BRONZE FINISH WITH WALL FLANGE
FCO-1	FLOOR CLEANOUT	J.R. SMITH	4220	CAST IRON ADJUSTABLE CLEANOUT WITH ROUND BRONZE TOP AND ABS PLUG.
FD-1	FLOOR DRAIN (GENERAL)	J.R. SMITH	2005Y	6"Ø STRAINER W/ VANDAL RESISTANT SCREWS. PROVIDE WITH TRAP GUARD.
FD-2	FLOOR DRAIN (HVAC PUMPS)	J.R. SMITH	2330Y-FBS	12"Ø BAR GRATE AND BOTTOM STRAINER. PROVIDE WITH TRAP GUARD.
GCO-1	2-WAY GRADE CLEANOUT	J.R. SMITH	4261-L	(2) REQ'D. PROVIDE TYLER #003519 2-WAY CLEANOUT FITTING, VANDAL RESISTANT SCREWS.
HB-1	HOSE BIBB	WOODFORD	B75	BOX TYPE, 3/4" INLET, POLISHED CHROME
OD-1	OVERFLOW ROOF DRAIN	J.R. SMITH	1010Y-C-CID	NO-HUB BOTTOM OUTLET, PVC OVERFLOW STANDPIPE WITH UNDER DECK CLAMP, CAST IRON DOME STRAINER, SUMP RECEIVER.
RD-1	ROOF DRAIN	J.R. SMITH	1010Y-C-CID	NO HUB BOTTOM OUTLET, UNDER DECK CLAMP, CAST IRON DOME STRAINER, SUMP RECEIVER.
RD-2	ROOF DRAIN	J.R. SMITH	1330Y-LRU	NO HUB BOTTOM OUTLET, UNDER DECK CLAMP, CAST IRON DOME STRAINER, SUMP RECEIVER.
TBV-1	THERMOSTATIC BALANCING VALVE	THERMOMEGATECH	CSUA-1/2 CSUA-3/4	THERMOSTATICALLY ACTUATED, INLET/OUTLET BALL VALVES. CLOSE OFF TEMPERATURE EQUAL TO SYSTEM TEMP.
TG-1	TRAP GUARD	J.R. SMITH	2" = 2692-02 3" = 2692-03 4" = 2692-04	BARRIER TRAP SEAL GUARD (ASSE 1072). PROVIDE SIZE AS REQUIRED.
WCO-1	WALL CLEANOUT	J.R. SMITH	4710-U	STAINLESS STEEL SHALLOW COVER, ROUND FACE W/ VANDAL RESISTANT CENTER SCREW.
WH-1	WALL HYDRANT	WOODFORD	B67	BOX TYPE, 3/4" INLET, POLISHED CHROME
WHA-1	WATER HAMMER ARRESTOR	PPP	SC-500A	COMPLETE WITH SERVICE ISOLATION VALVE AND ACCESS PANEL.
WHA-2	WATER HAMMER ARRESTOR	PPP	SC-750B	COMPLETE WITH SERVICE ISOLATION VALVE AND ACCESS PANEL.
WHA-3	WATER HAMMER ARRESTOR	PPP	SC-1000C	COMPLETE WITH SERVICE ISOLATION VALVE AND ACCESS PANEL.

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.	ROUGH-IN CONNECTIONS						GPF	REMARKS
				TRAP	W	V	CW	HW	FLOW		
EWC-1	ELECTRIC WATER COOLER SUPPORT CARRIER	ELKAY ELKAY	EZSTL8WSVRLK 0830	1-1/4"	2"	2"	1/2"	-	0.13	-	1, 2
L-1	WALL HUNG LAVATORY FAUCET SUPPORT CARRIER	AM. STD. DELTA J.R. SMITH	0356.041 21C144 0700	1-1/4"	2"	2"	1/2"	1/2"	0.5	-	1, 4
L-2	COUNTERTOP LAVATORY FAUCET	AM. STD. DELTA	0476.028 21C144	1-1/4"	2"	2"	1/2"	1/2"	0.5	-	1, 3
MSB-1	MOP SERVICE BASIN FAUCET	FIAT CHICAGO	TSB100 445-897SRXKCCP	3"	3"	2"	1/2"	1/2"	-	-	5
S-1	CLASSROOM SINK FAUCET DRAIN STRAINER	ELKAY CHICAGO ELKAY	LRAD191960 786-E67VPABCP LK-35	1-1/2"	2"	2"	1/2"	1/2"	0.5	-	1, 6
S-2	CLASSROOM SINK FAUCET DRAIN STRAINER	ELKAY CHICAGO ELKAY	LRAD151755 786-E67VPABCP LK-35	1-1/2"	2"	2"	1/2"	1/2"	0.5	-	1, 6
UR-1	WALL HUNG URINAL FLUSH VALVE CARRIER	TOTO TOTO J.R. SMITH	UT447E(V) TMU1LN 0637	INT.	2"	2"	1"	-	-	0.5	1, 7
WC-1	WALL MTD. WATER CLOSET FLUSH VALVE SEAT	TOTO TOTO CHURCH	CT708E TMT1LN 9500SSC	INT.	4"	2"	1"	-	-	1.28	1, 9
WC-2	WALL MTD. WATER CLOSET ADA FLUSH VALVE SEAT	TOTO TOTO CHURCH	CT708E TMT1LN 9500SSC	INT.	4"	2"	1"	-	-	1.28	1, 9
WC-3	FLOOR MTD. WATER CLOSET FLUSH VALVE SEAT	TOTO TOTO CHURCH	CT705ULNX TMT1LN 9500SSC	INT.	4"	2"	1"	-	-	1.28	1, 10
WC-4	FLR MTD. WATER CLOSET ADA FLUSH VALVE SEAT	AM. STD. TOTO CHURCH	2282.001 TMT1LN 1580C	INT.	4"	2"	1"	-	-	1.28	1, 8

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHT ELEVATIONS OF ALL PLUMBING FIXTURES PRIOR TO INSTALLATION.
2. PROVIDE ALL FIXTURES WITH CHROME PLATED CAST BRASS, ADJUSTABLE 'P' TRAPS WITH CLEANOUT PLUGS, TUBING OUTLETS AND WALL FLANGES UNLESS FIXTURE IS FURNISHED WITH AN INTEGRAL TRAP OR IS PROVIDED ONE AS A STANDARD ACCESSORY.
3. PROVIDE ALL FIXTURES WITH CHROME PLATED SUPPLIES WITH ANGLE OR STRAIGHT PATTERN LOOSE KEY 1/4 TURN STOPS UNLESS FIXTURE IS FURNISHED WITH INTEGRAL STOPS OR STOPS ARE PROVIDED AS STANDARD ACCESSORIES.
4. ALL LAVATORIES AND SINKS DESIGNATED TO BE IN COMPLIANCE WITH ANSI-A117.1 SHALL BE PROVIDED WITH OFFSET TAILPIECE CONNECTIONS AND PROTECTIVE TRAP AND SUPPLY WRAPPING KITS, REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. FURNISH ALL BATTERY POWERED FAUCETS AND FLUSH VALVES WITH NEW SET OF BATTERIES FOLLOWING FINAL ACCEPTANCE OF THE PROJECT, COORDINATE WITH THE OWNER'S DESIGNATED REPRESENTATIVE.
6. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION WHICH MAY NOT BE NOTED HERE.
7. ALL EQUIPMENT AND MATERIALS USED IN THE DISTRIBUTION OF DOMESTIC POTABLE WATER SHALL BE APPROVED AND TESTED FOR SUCH APPLICATION WITH DOCUMENTED LISTINGS AND LABELING IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL PLUMBING CODE, PUBLIC LAW 111-380 AND ANSI/NSF-61, ANNEX G.

REMARKS:
1. FIXTURE DESIGNATED TO BE IN COMPLIANCE WITH ANSI-A117.1.
2. HI-LO WALL MOUNTED ELECTRIC WATER COOLER, FURNISH WITH ELKAY MODEL LKAPREZL APRON ON UPPER UNIT.
3. COUNTER MOUNTED LAVATORY, MANUAL FAUCET, 4" CENTERS, INSTALL MIXING VALVE BELOW LAVATORY PER MANUFACTURER'S STANDARD.
4. WALL MOUNTED LAVATORY, INFRARRED FAUCET, 4" CENTERS, CARRIER, CONCEALED ARMS SUPPORT; INSTALL MIXING BELOW LAVATORY.
5. 24x24 MOLDED STONE BASIN, MOUNT FAUCET WITH SPOUT 30" ABOVE BASIN RIM, MINIMUM. REMOVABLE VINYL-COATED RIM GUARD, PROVIDE STAINLESS STEEL WALL GUARD, PROVIDE STAINLESS STEEL STRAINER, CHROME PLATED FAUCET, CERAMIC DISC CARTRIDGES, 8" CENTERS, VACUUM BREAKER SPOUT, HOSE THREAD OUTLET, PAIL HOOK AND ADJUSTABLE WALL BRACE.
6. SINGLE COMPARTMENT, STAINLESS STEEL, 6" BOWL DEPTH, 3 HOLE, 4" CENTERS, SWING SPOUT FAUCET, CANOPY HANDLES, 0.5 GPM VANDAL RESISTANT PRESSURE COMPENSATING AERATOR, CERAMIC DISC CARTRIDGES, BASKET STRAINER WITH OFFSET CHROME PLATED TAILPIECE. PROVIDE WITH TMV-1.
7. WALL HUNG URINAL, MANUAL FLUSH VALVE, 0.5 GPF.
8. PRIMARY HEIGHT FLOOR MOUNTED WATER CLOSET, MANUAL FLUSH VALVE, 1.28 GPF.
9. WALL HUNG WATER CLOSET, MANUAL FLUSH VALVE, 1.28 GPF.
10. FLOOR MOUNTED WATER CLOSET, MANUAL FLUSH VALVE, 1.28 GPF.

MAXIMUM ALLOWABLE HEATED WATER SUPPLY PIPE LENGTH PER 2021 IECC			
TABLE C404.5.1 PIPING VOLUME AND MAXIMUM PIPING LENGTH			
NOMINAL PIPE SIZE (Inches)	VOLUME (Liquid Ounces Per Foot Length)	MAXIMUM PIPE LENGTH (Feet)	
		Public Lavatory Faucets	Other Fixtures and Appliances
1/4	0.33	6	50
5/16	0.5	4	50
3/8	0.75	3	50
1/2	1.5	2	43
5/8	2	1	32
3/4	3	0.5	21
7/8	4	0.5	16
1	5	0.5	13
1 1/4	8	0.5	8
1 1/2	11	0.5	6
2 or Larger	14	0.5	4

For SI: 1 inch = 25.4 mm, 1 Foot = 304.8 mm, 1 Liquid Ounce = 0.030 L, 1 Gallon = 128 Ounces

Job Title: Bergen Valley ES
Job #: 022-063
Date 7/18/2023

2021 IPC DOMESTIC WATER SIZING
PER APPENDIX E

WATER SUPPLY FIXTURE UNIT LOAD VALUES (1)											WASTE	
FIXTURE TYPE	OCCUPANCY	TYPE OF SUPPLY CONTROL	QTY	CW		HW		COMBINED HW & CW			FIX. DFU	TOTAL DFU
				PER FIX.	TOTAL	PER FIX	TOTAL	PER FIX.	TOTAL			
Dishwasher	Private	Automatic	1	0	0	1.4	1.4	1.4	1.4		2	2
Drinking Fountain	Public	Faucet	8	0.25	2	0	0	0.25	2		0.5	4
Kitchen Sink	Private	Faucet	1	1	1	1	1	1.4	1.4		2	2
Kitchen Sink	Hotel/Restaurant	Faucet	2	3	6	3	6	4	8		2	4
Classroom Sink	Public	Faucet	21	2.25	47.25	2.25	47.25	3	63		2	42
Lavatory	Private	Faucet	16	0.5	8	0.5	8	0.7	11.2		1	16
Lavatory	Public	Faucet	20	1.5	30	1.5	30	2	40		1	20
Service Sink/Basin	Offices	Faucet	6	2.25	13.5	2.25	13.5	3	18		2	12
Shower Head	Private	Mixing Valve	1	1	1	1	1	1.4	1.4		2	2
Urinal	Public	3/4" Flush Valve	5	5	25	0	0	5	25		2	10
Water Closet	Private	Flush Valve	16	6	96	0	0	6	96		3	48
Water Closet	Public	Flush Valve	23	10	230	0	0	10	230		4	92
Water Outlet Box (CW)	Public	Faucet	1	0.5	0.5	0	0	0.5	0.5		0	0
Hose Bib 1/2" Inlet	Public	Faucet	1	2	2	0	0	2	2		0	0
Wall Hydrant	Public	Faucet	1	5	5	0	0	5	5		0	0
Pre-Rinse/Disposer	Public	Faucet	1	3	3	3	3	4	4		3	3
Handsink	Public	Faucet	2	1.5	3	1.5	3	2	4		1	2
Dishwasher	Public	Automatic	1	0	0	5	5	5	5		0	0
TOTAL FU					473		119		517.90			259.00
TOTAL GPM (From Hunter's Curve or Demand Estimate Table)					139		73		145			102

WATER SERVICE SIZE	(E)2"	Per 2021 IPC Table E104.1: (Existing 2" service tap and meter with prv from 4" combined Fire/Dom. Water service.
WATER METER SIZE	(E)2"	Per 2021 IPC Table E104.1:
DISTRIBUTION SIZE	(E)2-1/2"	Per 2021 IPC Table E104.1: 145 GPM through 2-1/2" Type L copper distribution line has a velocity of 975 FPS and a 5.29 PSI/100' pressure loss
SANITARY SEWER SIZE	(E)6"	Per 2021 IPC Table 710.1(1) at 1/8" per foot slope.

PLUMBING GENERAL NOTES

CODE NOTES
ABBREVIATIONS USED WITHIN INCLUDE:

YEAR	ABBREV.	CODE TYPE
2021	IBC	INTERNATIONAL BUILDING CODE
2021	IMC	INTERNATIONAL MECHANICAL CODE
2021	IECC	INTERNATIONAL ENERGY CONSERVATION CODE
2018	CPC	COLORADO PLUMBING CODE
2021	IFC	INTERNATIONAL FIRE CODE
2019	CFGC	COLORADO FUEL GAS CODE
2020	NEC	NATIONAL ELECTRICAL CODE
2017	ICC	INTERNATIONAL CODE COUNCIL (A117.1)
2017	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
2021	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION

1. ALL WORK SHALL COMPLY WITH APPLICABLE CODES AS NOTED ABOVE.
2. ALL INFORMATION SHOWN ON THESE DRAWINGS INCLUDING LOCATION AND SIZES ARE BASED ON THE BEST INFORMATION AVAILABLE. INFORMATION SHOWN IS TO INDICATE THE INTENT OF THE PLUMBING SYSTEM WORK BUT MAY NOT REFLECT THE EXACT ROUTING AND LOCATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY EXISTING EQUIPMENT, PIPING, CONNECTIONS, STRUCTURE, ELECTRICAL, LIGHTING AND ARCHITECTURAL INFLUENCES PRIOR TO INSTALLATION OF THE NEW WORK TO AVOID ANY CONFLICTS WITH SYSTEMS REQUIRING MODIFICATIONS. NOTIFY ENGINEER OF ANY CONFLICTS, PRIOR TO PERFORMING WORK.
3. OFFSET ALL PIPING AS REQUIRED TO AVOID STRUCTURAL MEMBERS, FLASHING, MECHANICAL AND ELECTRICAL EQUIPMENT.
4. DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR FINAL LOCATIONS OF ALL PLUMBING FIXTURES, GENERAL PURPOSE FLOOR DRAINS, AND ADDITIONAL EQUIPMENT REQUIRING PLUMBING CONNECTIONS.
5. COORDINATE SANITARY DRAINAGE UTILITY LOCATIONS AND INVERT ELEVATIONS PRIOR TO COMMENCING WORK. NOTIFY ARCHITECT IMMEDIATELY IF CONDITIONS DISCOVERED WILL NOT ALLOW SYSTEM INSTALLATION AS DESIGNED.
6. SEE ISOMETRICS AND DIAGRAMS FOR BRANCH PIPE SIZES NOT INDICATED IN PLAN.
7. COORDINATE PLACEMENT OF SLEEVES THROUGH FLOORS, WALLS AND ROOF CONSTRUCTION PRIOR TO COMMENCING WORK.
8. SEE ARCHITECTURAL PLANS AND DETAILS FOR MOUNTING ELEVATIONS OF ALL PLUMBING FIXTURES.
9. MOUNT WALL HYDRANTS AND HOSE BIBBS AT 18" ABOVE SURROUNDING GRADE OR FINISHED FLOOR ELEVATIONS UNLESS SPECIFICALLY NOTED OTHERWISE.
10. FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES AND EQUIPMENT PRIOR TO COMMENCING WORK.
11. PROTECT EXISTING UTILITIES AND EQUIPMENT TO REMAIN DURING ENTIRE CONSTRUCTION PERIOD. REPLACE DAMAGED MATERIALS IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER.
12. COORDINATE EXACT ROUGH-IN CONNECTION LOCATIONS AND SIZES WITH EQUIPMENT SUPPLIER PRIOR TO COMMENCING WORK ASSOCIATED WITH EQUIPMENT BEING FURNISHED BY OTHERS.
13. SEE HVAC PLANS FOR FINAL LOCATION OF ALL HVAC EQUIPMENT, INSTALLATION.
14. ALL WORK SHALL AT A MINIMUM COMPLY WITH THE REQUIREMENTS OF THE 2021 INTERNATIONAL PLUMBING, 2021 COLORADO PLUMBING CODE AND THE 2021 INTERNATIONAL FUEL GAS CODES.
15. ALL MATERIALS IN THE PLENUM SPACE SHALL MEET THE FLAME SPREAD AND SMOKE DEVELOPMENT INDEX PER 2021 INTERNATIONAL MECHANICAL CODE SECTION 602.2.1, AND SHALL BE LISTED AND LABELED FOR INSTALLATION WITHIN A PLENUM.
16. ALL EQUIPMENT AND MATERIALS USED IN THE DISTRIBUTION OF DOMESTIC POTABLE WATER SHALL BE APPROVED AND TESTED FOR SUCH APPLICATION WITH DOCUMENTED LISTINGS AND LABELING IN ACCORDANCE WITH THE LATEST EDITION OF THE COLORADO PLUMBING CODE AND THE INTERNATIONAL PLUMBING CODE, PUBLIC LAW 111-380 AND ANSI/NSF-61, AND/OR 372.
17. EXTEND ALL VENT TERMINATIONS THROUGH THE ROOF A MINIMUM OF 20' FROM ALL OUTSIDE AIR INTAKES, AND OTHER BUILDING OPENINGS.
18. DOMESTIC HOT WATER RECIRCULATION PIPING SHALL MEET IECC/21- 404.5 REQUIREMENTS FOR MAXIMUM PIPING LENGTHS AS SHOWN IN TABLE C404.5.1. RE: IECC TABLE THIS SHEET.

PLUMBING ABBREVIATIONS

SYMBOL	DESCRIPTION
ABV	ABOVE
A.D.A.	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ANT	ACID NEUTRALIZATION TANK
AP	ACCESS PANEL
ARCH	ARCHITECT, ARCHITECTURAL
AVTR	ACID VENT THROUGH ROOF
BFP	BACK FLOW PREVENTER
BLW	BELOW
BV	BALL VALVE
C	COMMON
CFH	CUBIC FEET PER HOUR
C.I.	CAST IRON PIPING
CLG	CEILING
COL	COLUMN
CWV	COMBINATION WASTE & VENT
CONC	CONCRETE
CONN	CONNECT
CONT	CONTINUE
CONST	CONSTRUCT, CONSTRUCTION
COOR	COORDINATE
CS	CRAWLSPACE
CV	CHECK VALVE
DN	DOWN
DW	DISHWASHER
(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRIC, ELECTRICAL
ELEV	ELEVATION
EWC	ELECTRIC WATER COOLER
F	FAHRENHEIT
FLR	FLOOR
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HDR	HEADER
HORIZ	HORIZONTAL
HP	HORSEPOWER
IE	INVERT ELEVATION
IW	INDIRECT WASTE
INT	INTEGRAL
JST(S)	JOIST(S)
KEC	KITCHEN EQUIPMENT CONTRACTOR
LOC	LOCATION
MANUF	MANUFACTURE
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNIT PER HOUR
MC	MECHANICAL CONTRACTOR
MG	MEDIUM PRESSURE GAS
MIN	MINIMUM
MS	MEMORY STOP
(N)	NEW
NC	NORMALLY CLOSED
NO	NORMALLY OPEN / NUMBER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
PC	PLUMBING CONTRACTOR
PH	PHASE
P.O.C.	POINT OF CONNECTION
PROV	PROVIDE
PRV	PRESSURE REDUCING VALVE
PSIG	PRESSURE PER SQUARE INCH GAUGE
PTR	PRESSURE AND TEMPERATURE RELIEF
PVC	POLYVINYL CHLORIDE PIPING
(R)	RELOCATED
RE	REFERENCE
REQD	REQUIRED
SAN	SANITARY PIPING
SHT	SHEET
SQ	SQUARE
SIM	SIMILAR
SRV	SAFETY RELIEF VALVE
SS	STAINLESS STEEL
TCC	TEMPERATURE CONTROL
TYP	TYPICAL
V	VENT PIPING
VERT	VERTICAL
VB	VACUUM BREAKER
VTR	VENT THROUGH ROOF
W	WITH

PLUMBING LEGEND
ALL SYMBOLS MAY NOT BE USED

SYMBOL	DESCRIPTION
SD	STORM DRAIN, RAINWATER DRAIN
OD	OVERFLOW STORM DRAIN
SSD	SUBSOIL DRAIN, FOOTING DRAIN
SAN	SOIL, WASTE, OR SANITARY SEWER
SD	STORM / RAINWATER DRAIN BELOW FLOOR
SAN	SOIL / WASTE / SANITARY SEWER BELOW FLR
GD	GREASE DRAIN
V	VENT
ID	INDIRECT DRAIN
PD	PUMP DISCHARGE LINE
C	COLD WATER
H	HOT WATER SUPPLY (140° F)
HR	HOT WATER RECIRCULATING (140° F)
TW	TEMPERED HOT WATER (110° F)
TWR	TEMPERED HW RECIRCULATING (110° F)
CD	CONDENSATE DRAIN
F	FIRE PROTECTION WATER SUPPLY
G	GAS, LOW-PRESSURE
MG	GAS, MEDIUM-PRESSURE
	ISOLATION VALVE
	GLOBE VALVE
	ANGLE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	GAS COCK, GAS STOP
	COMBINATION FLOW MEASURING DEVICE AND BALANCING VALVE
	THERMOSTATIC BALANCING VALVE
	CHECK VALVE
	PLUG VALVE
S	SOLENOID VALVE
M	MOTOR-OPERATED VALVE [SPECIFY TYPE]
	PRESSURE REDUCING VALVE
P	PRESSURE-RELIEF VALVE
T	TEMPERATURE-PRESSURE-RELIEF VALVE
	HOSE BIBB
	VALVE IN YARD BOX (VALVE TYPE SYMBOL AS REQUIRED FOR VALVE USE)
	RECESSED-BOX HOSE BIBB OR WALL HYDRANT
	UNION (SCREWED)
	UNION (FLANGED)
	STRAINER
	PIPE ANCHOR
	PIPE GUIDE
	EXPANSION JOINT
	FLEXIBLE CONNECTOR
	TEE
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	AQUASTAT
FS	FLOW SWITCH
PS	PRESSURE SWITCH
	WATER HAMMER ARRESTER
	PRESSURE GAUGE WITH GAUGE COCK
	THERMOMETER
	VALVE IN RISER
	RISER DOWN (ELBOW)
	RISER UP (ELBOW)
	AIR CHAMBER
	RISE OR DROP
	BRANCH-TOP CONNECTION
	BRANCH-BOTTOM CONNECTION
	BRANCH-SIDE CONNECTION
	CAP ON END OF PIPE
	CLEANOUT PLUG
	CIRCULATION PUMP
	FLOOR CLEANOUT
	WALL CLEANOUT
	YARD CLEANOUT OR CLEANOUT TO GRADE
	FLOOR DRAIN
	FLOOR SINK
	CONDUCTOR NOZZLE
	DIRECTION OF FLOW
	INDICATES PIPE SLOPE DOWN
	NEW TO EXISTING CONNECTION
	INDICATES ITEMS TO BE REMOVED
	GAS TURRET

GENERAL

SYMBOL	DESCRIPTION
	CONNECT NEW TO EXISTING
* #	REFERENCE BUBBLE * SECTION NUMBER # SHEET NUMBER
#	REVISION NUMBER
* #	SECTION OR ELEVATION BUBBLE * SECTION OR ELEVATION LETTER # REFERENCE DRAWING NUMBER
* #	ISOMETRIC OR ELEVATION BUBBLE * ISOMETRIC OR ELEVATION LETTER # REFERENCE DRAWING NUMBER
#	DRAWING NOTE
#	DEMOLITION NOTE
X	DEMOLITION NOTE, ALTERNATE
#	DRAWING NOTE, ALTERNATE

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(303) 595-4500
www.eua.com

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EMAIL ADDRESS:

ENVISION MECHANICAL ENGINEERS INC.
9777 Pyramid Court, Suite 260
Englewood, CO 80112
Tel: 303-688-0323
envisionmep.com
Project #022-063

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

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KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED HENRY K. RIVAS 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS
PROJECT NUMBER 822808-01

PLUMBING CODE SHEET

P001

1 2 3 4 5 6 7
E D C B A

DEMOLITION NOTES

1. REMOVE EXISTING 6" STORM DRAIN CLEANOUT AND PIPING BELOW GRADE AND CAP FOR EXTENSION TO NEW FLOOR CLEANOUT.
2. REMOVE EXISTING 2" SANITARY PIPING FROM EXISTING SINK ABOVE TO WYE AND CAP FOR CONNECTION TO NEW. RE: NEW WORK FOR CONTINUATION.
3. REMOVE EXISTING 4" SANITARY PIPING FROM EXISTING WATER CLOSET ABOVE TO WYE. CAP FOR CONNECTION TO NEW. RE: NEW WORK FOR CONTINUATION.
4. REMOVE EXISTING 2" SANITARY PIPING FROM FLOOR SINK ABOVE TO WYE.
5. REMOVE EXISTING 4" SANITARY CLEANOUT AND PIPING BELOW GRADE AND CAP FOR EXTENSION TO NEW SANITARY CONNECTION.

(E)4" SANITARY FUTURE STUB, (70 DFU) TOTAL CAPACITY. NEW ADDITION EXCEEDS ALLOWABLE FIXTURE VALUE
(E)I.E.=95'-8"
(E)I.E.=95'-6"
(E)8" SD FUTURE STUB, (344 GPM) TOTAL CAPACITY
(E)3"
(E)SAN
(E)SD
(E)RESTROOM GROUP TO REMAIN
(E)4" (37 DFU)
(E)3" (6 DFU)
(E)6"
(E)8" SD, (714 GPM) TOTAL CAPACITY
(E)4" (43 DFU)
(E)2"
(57 DFU) (E)4"
(E)4" (105 DFU)
(E)6" (152 DFU)
(E)I.E.=93'-6"
(E)KITCHEN & RESTROOMS TO REMAIN
(E)8"

N
A1 UNDERGROUND PLUMBING DEMOLITION PLAN - OVERALL
3/32" = 1'-0"

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9777 Pyramid Court, Suite 260
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COLORADO REGISTERED JERRY K. RIVERS 37456 07.31.23 PROFESSIONAL ENGINEER

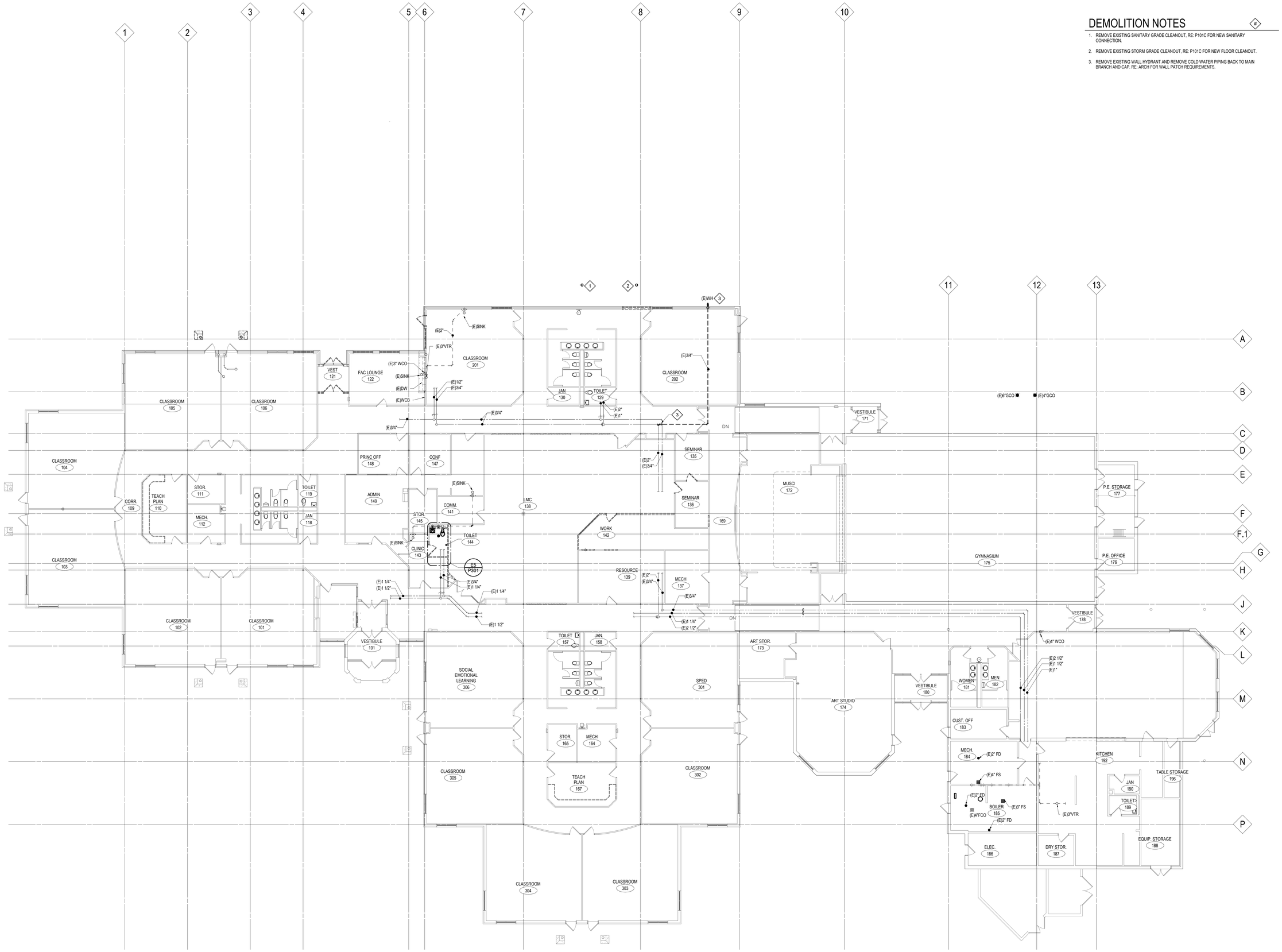
PROJECT MANAGER ANS
PROJECT NUMBER 822808-01

UNDERGROUND PLUMBING DEMOLTION PLAN

PD100

DEMOLITION NOTES

1. REMOVE EXISTING SANITARY GRADE CLEANOUT, RE: P101C FOR NEW SANITARY CONNECTION.
2. REMOVE EXISTING STORM GRADE CLEANOUT, RE: P101C FOR NEW FLOOR CLEANOUT.
3. REMOVE EXISTING WALL HYDRANT AND REMOVE COLD WATER PIPING BACK TO MAIN BRANCH AND CAP. RE: ARCH FOR WALL PATCH REQUIREMENTS.



N

A1 1ST FLR PLUMBING DEMOLITION PLAN - OVERALL

3/32" = 1'-0"

1 | 2 | 3 | 4 | 5 | 6 | 7

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9777 Pyramid Court, Suite 260
Englewood, CO 80112
TEL: 303-688-0323
envisionmep.com
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COLORADO REGISTERED JERRY K. RIVERA 37456 07.31.23 PROFESSIONAL ENGINEER

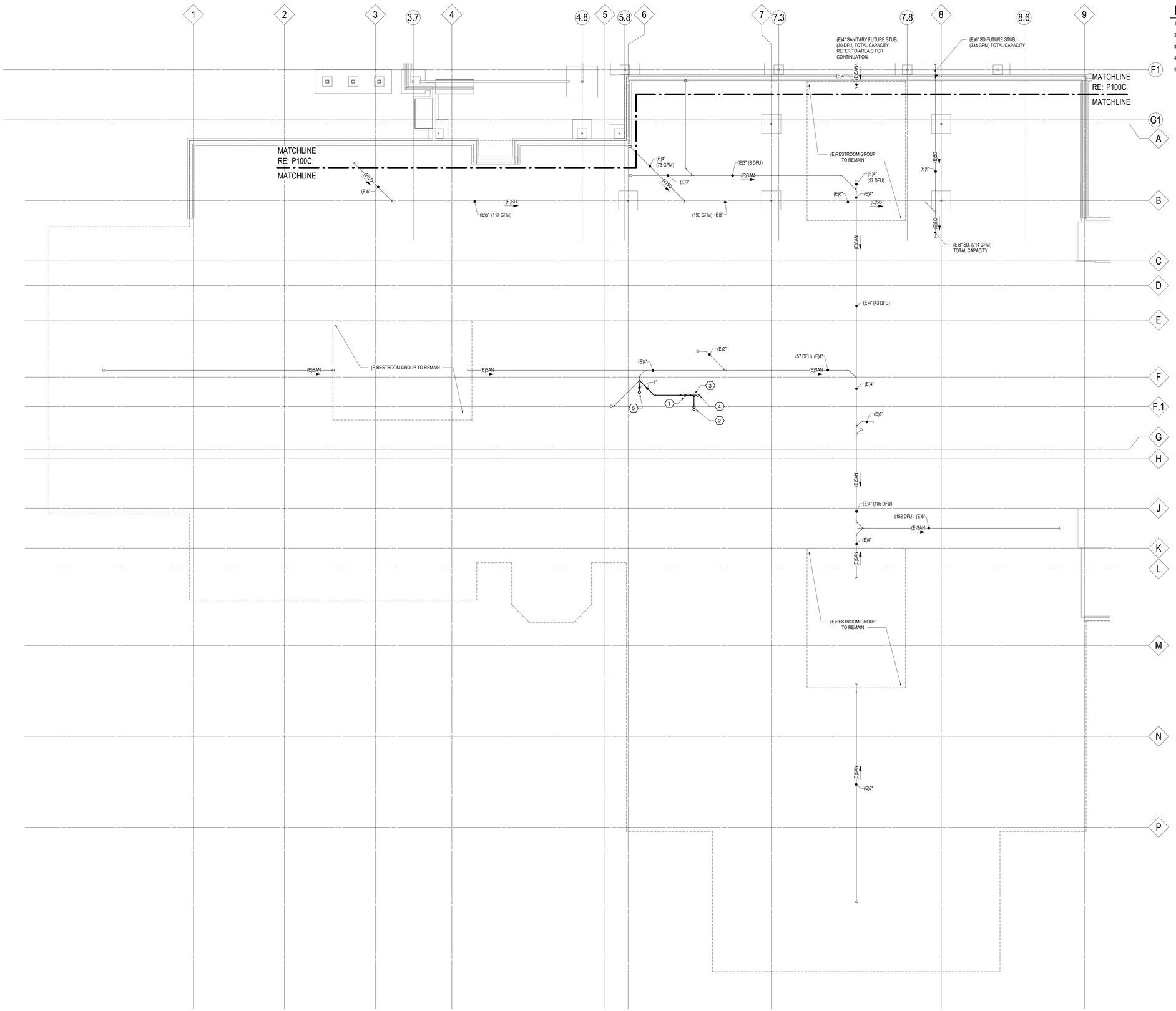
PROJECT MANAGER ANS

PROJECT NUMBER 822808-01

~~1ST FLR~~

DEMOLITION PLUMBING PLAN - OVERALL

PD101



DRAWING NOTES

1. 2" SANITARY UP TO SINK ABOVE.
2. 2" SANITARY WITH P-TRAP UP TO FLOOR DRAIN ABOVE.
3. 2" VENT UP TO FLOOR ABOVE.
4. 4" SANITARY UP TO WATER CLOSET ABOVE.
5. 4" SANITARY UP TO WALL CLEANOUT ABOVE.

N

A1 PLUMBING UNDERGROUND PLAN - AREA A

1/8" = 1'-0"

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9777 Pyramid Court, Suite 260
Englewood, CO 80112
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COLORADO REGISTERED JERRY K. RIVETT 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS

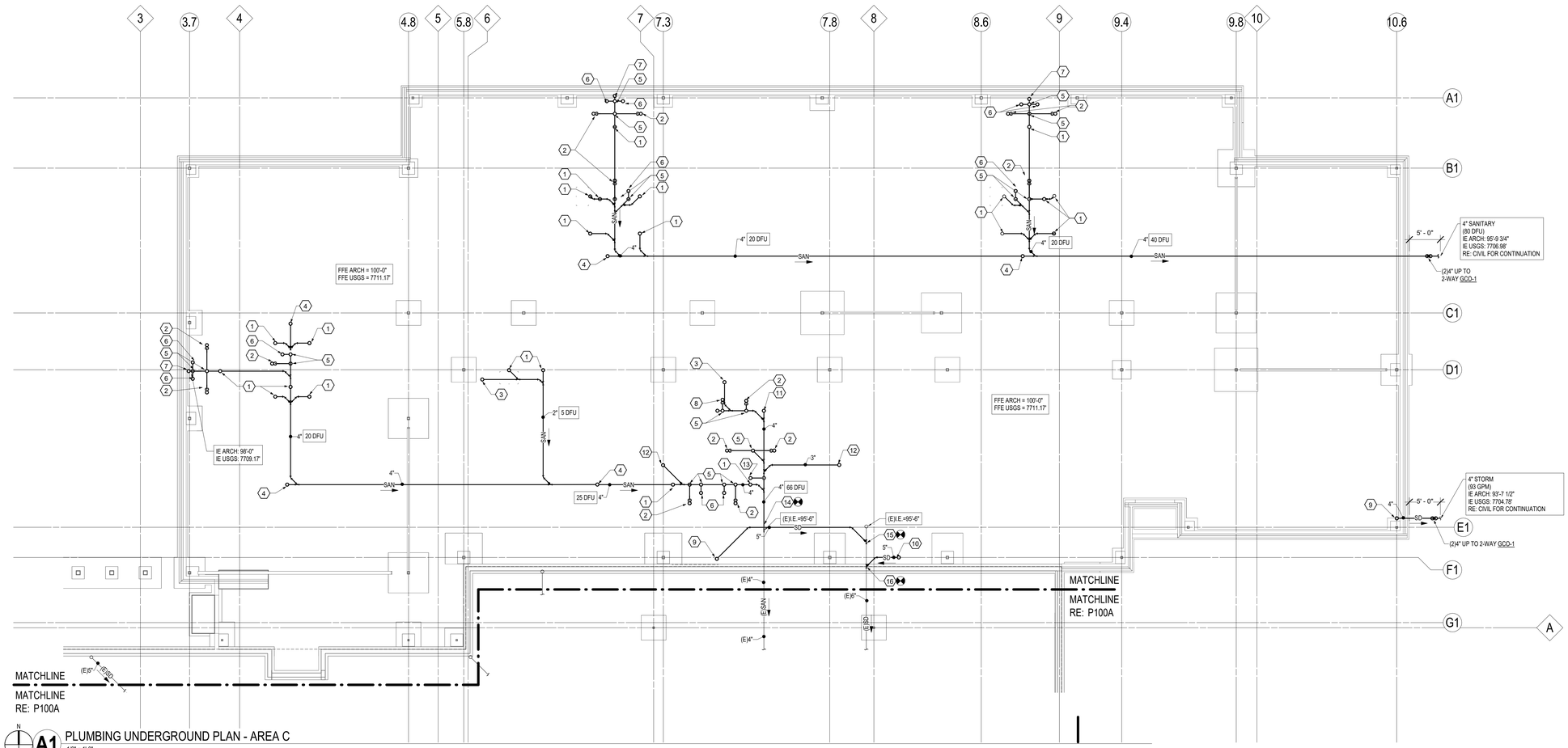
PROJECT NUMBER 822808-01

UNDERGROUND PLUMBING PLAN - AREA A

P100A

DRAWING NOTES

1. 2" SANITARY UP TO LAVATORY/SINK.
2. 2" SANITARY WITH P-TRAP UP TO FLOOR DRAIN.
3. 2" SANITARY UP TO ELECTRIC WATER COOLER.
4. 4" SANITARY UP TO FLOOR CLEANOUT.
5. 2" VENT UP IN WALL/CHASE ABOVE.
6. 4" SANITARY UP TO WATER CLOSET.
7. 4" SANITARY UP THROUGH SLAB IN WALL/CHASE ABOVE WITH WALL CLEANOUT.
8. 3" SANITARY WITH P-TRAP UP TO MOP SERVICE BASIN.
9. 5" STORM UP IN WALL/CHASE TO FLOOR ABOVE (142 GPM).
10. 5" STORM UP IN WALL/CHASE TO FLOOR ABOVE (135 GPM).
11. 4" SANITARY UP TO WALL CLEANOUT.
12. 3" SANITARY UP TO WALL CLEANOUT AND LAVATORY GROUP.
13. 4" SANITARY UP IN WALL/CHASE ABOVE.
14. CONNECT 4" SANITARY TO EXISTING 4" SANITARY.
15. CONNECT 5" STORM DRAIN TO EXISTING 6" STORM DRAIN.
16. CONNECT 5" STORM DRAIN TO EXISTING 6" STORM DRAIN.



N

A1 PLUMBING UNDERGROUND PLAN - AREA C

1/8" = 1'-0"

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Englewood, CO 80112
Tel: 303-688-0223
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COLORADO REGISTERED
JERRY K. RUTH
37456
07.31.23
PROFESSIONAL ENGINEER

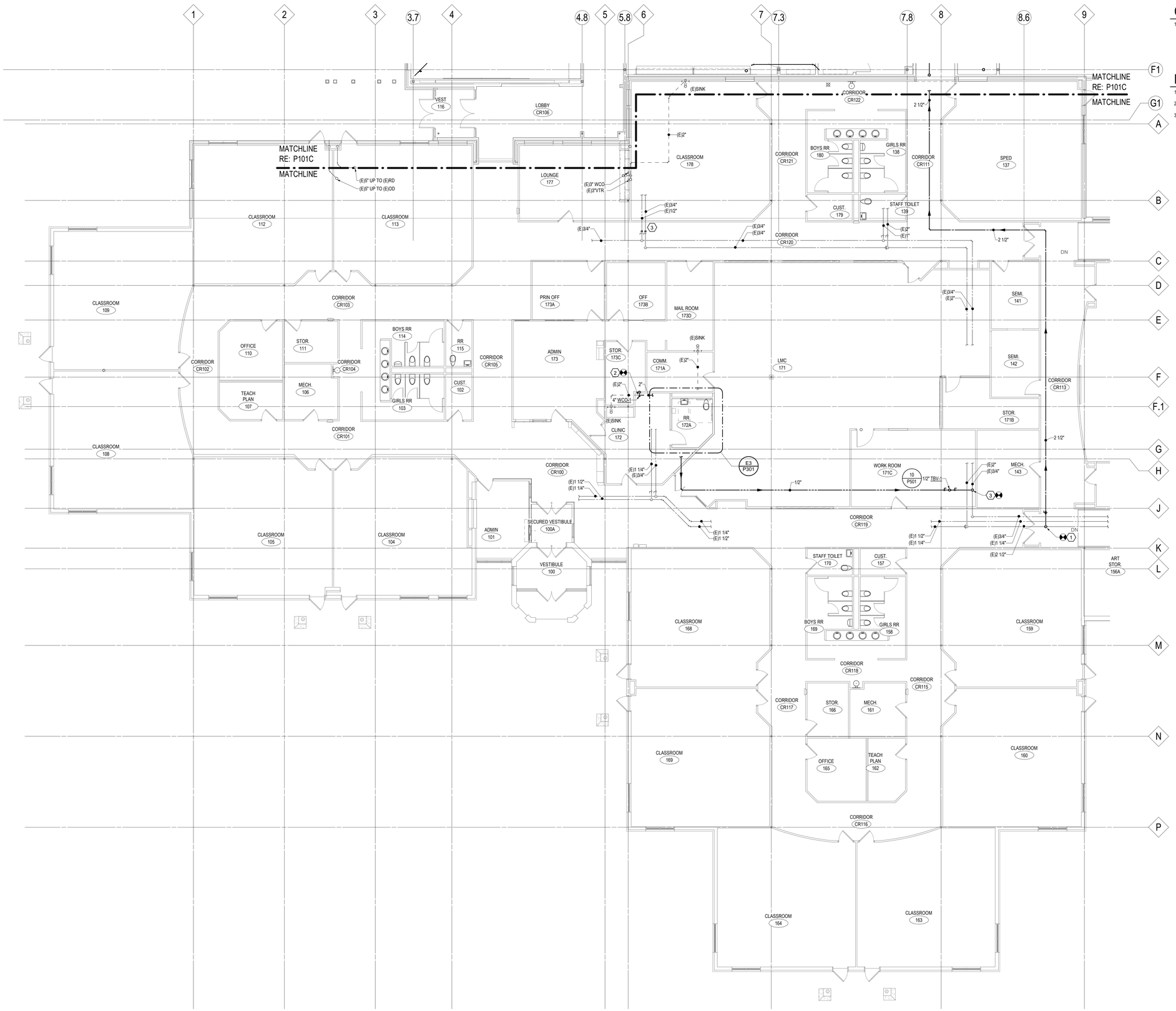
PROJECT MANAGER ANS

PROJECT NUMBER 822808-01

UNDERGROUND PLUMBING PLAN - AREA C

P100C

1 2 3 4 5 6 7



N

A1 1ST FLR PLUMBING FLOOR PLAN - AREA A

1/8" = 1'-0"

GENERAL NOTES

1. INSTALL NEW DOMESTIC WATER PIPING THROUGH EXISTING BUILDING AS HIGH AS POSSIBLE - TIGHT TO STRUCTURE OR WITHIN JOIST SPACE. COORDINATE INSTALLATION WITH EXISTING SHEETMETAL AND ELECTRICAL CONDUITS PRIOR TO INSTALLATION TO AVOID CONFLICTS.

DRAWING NOTES

1. CONNECT 2-1/2"CW TO EXISTING 2-1/2"CW.
2. CONNECT NEW 2" VENT TO EXISTING 2" VENT ABOVE CEILING.
3. CONNECT NEW 1/2" HWC TO EXISTING 3/4" HWC ABOVE CEILING. FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING PIPING PRIOR TO INSTALLATION.

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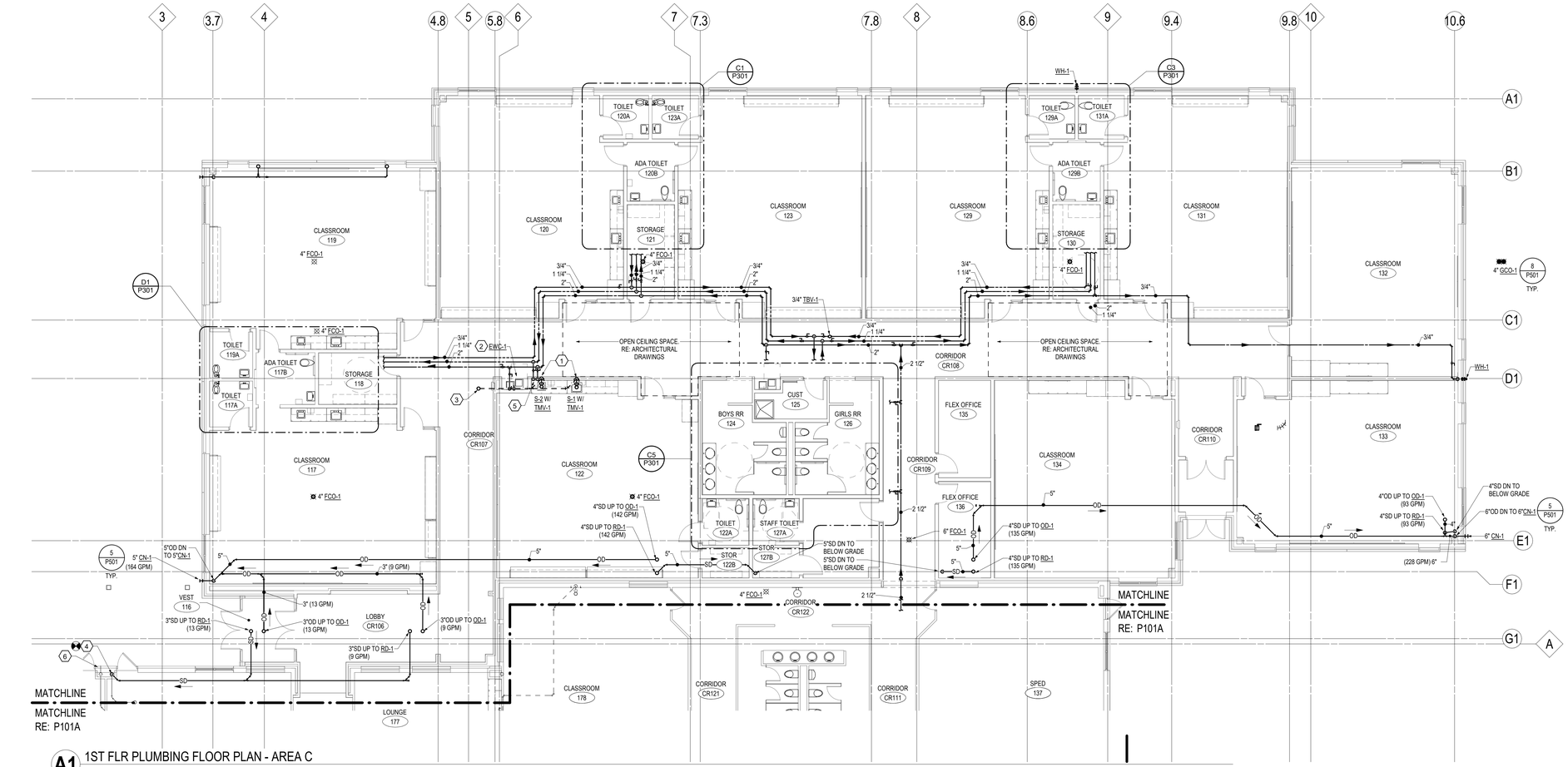
1ST FLR PLUMBING PLAN - AREA A

P101A

DRAWING NOTES

1. 1/2" CW, 1/2" HW, 2" SANITARY AND 2" VENT TO CLASSROOM SINK.
2. 1/2" CW, 2" SANITARY AND 2" VENT TO ELECTRIC WATER COOLER.
3. 2" VENT UP TO 3"VTR.
4. CONNECT NEW 3" STORM DRAIN PIPING TO EXISTING 5" STORM PIPING. FIELD VERIFY EXACT SIZE LOCATION AND CONDITION PRIOR TO INSTALLATION
5. 3/4" CW AND 3/4" HW DOWN IN WALL TO SINKS. TEE OFF IN WALL WITH 1/2"CW/HW CONNECTION TO EACH SINK.
6. EXISTING OVERFLOW DRAIN PIPING CONDUCTOR NOZZLE TO DISCHARGE ON NEW WALKABLE SIDEWALK AREA.



A1 1ST FLR PLUMBING FLOOR PLAN - AREA C
1/8" = 1'-0"

N

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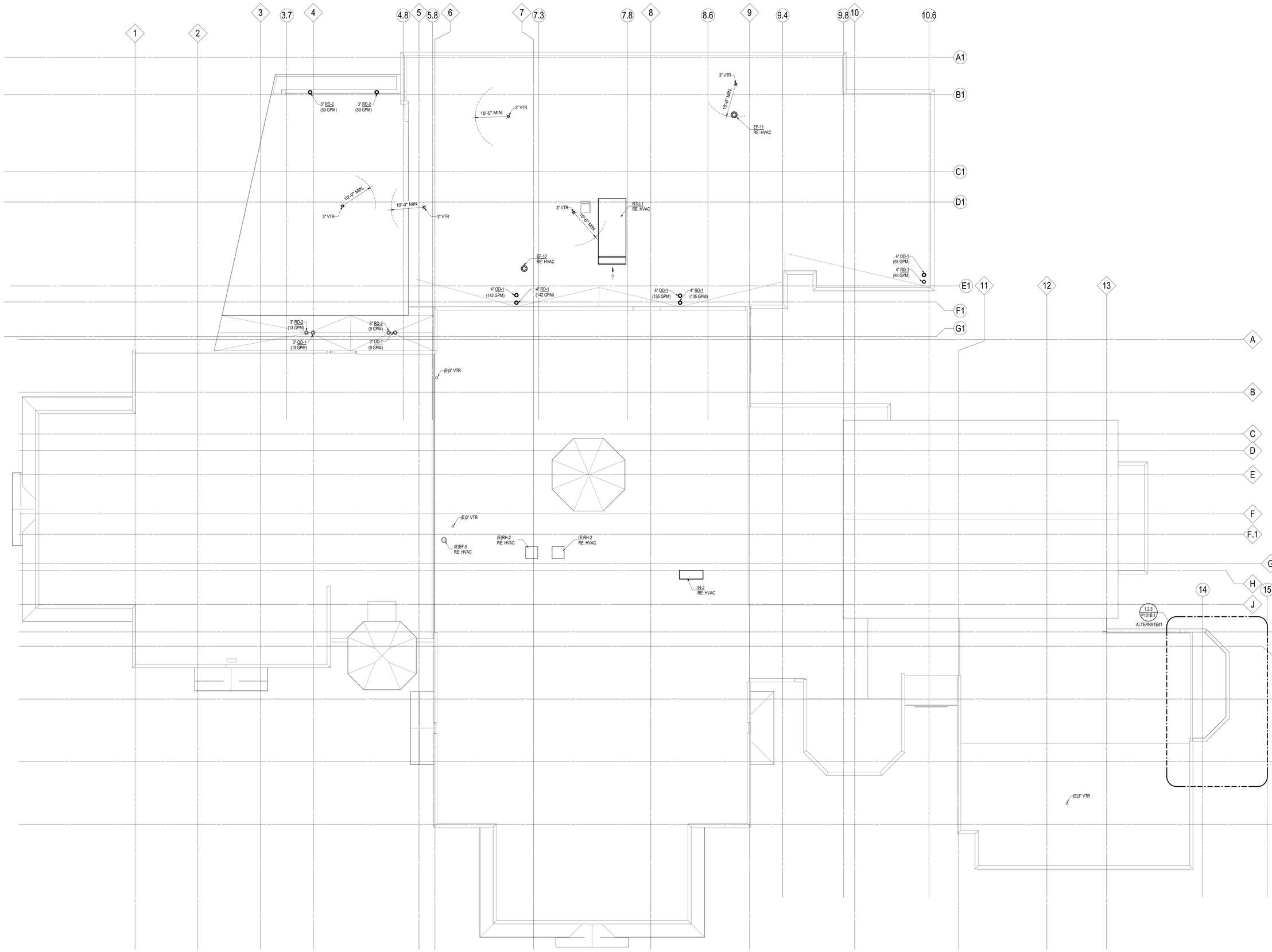
COLORADO REGISTERED HENRY K. RIVERA 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS
PROJECT NUMBER 822808-01

1ST FLR PLUMBING PLAN - AREA C

P101C

1 2 3 4 5 6 7



N A1 PLUMBING ROOF PLAN - OVERALL
3/32" = 1'-0"

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Englewood, CO 80112
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JERRY K. RIVERS
37456
07.31.23
PROFESSIONAL ENGINEER

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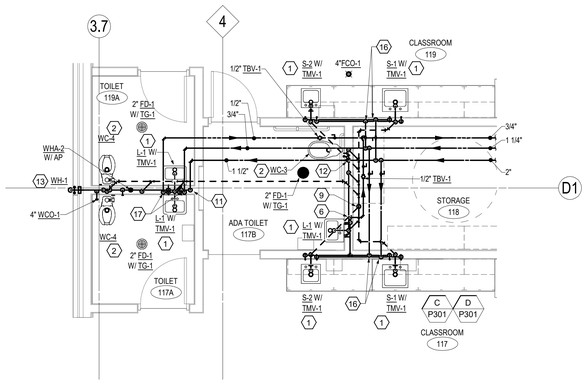
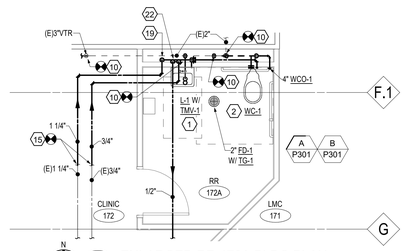
PROJECT NUMBER	822808-01

PLUMBING ROOF PLAN - OVERALL

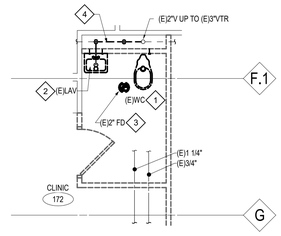
P140



N **D1** ENLARGED TOILET 117A / 117B / 119A PLBG PLAN
1/4" = 1'-0"



N **E3** ENLARGED RR 172A PLBG PLAN
1/4" = 1'-0"



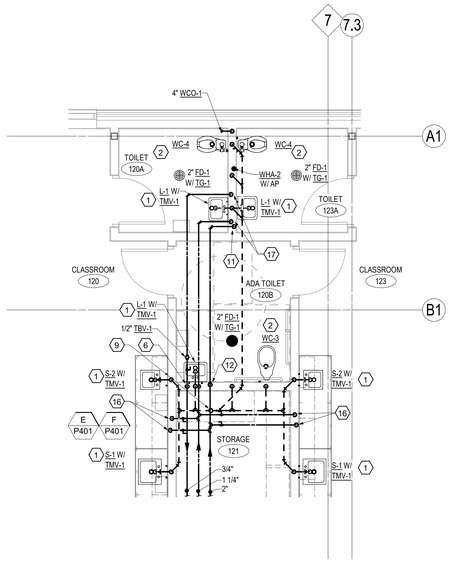
N **E5** ENLARGED TLT RM 172A PLBG DEMOLITION PLAN
1/4" = 1'-0"

DEMOLITION NOTES

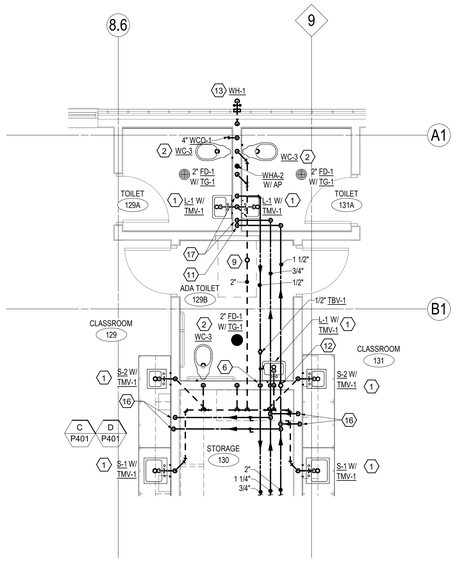
1. REMOVE EXISTING WATER CLOSET AND ALL ASSOCIATED PIPING AND CONNECTIONS BACK TO MAINS ABOVE CEILING AND SANITARY BELOW FLOOR AND CAP. RE: NEW WORK FOR PIPING ROUTING AND SIZES. FIELD VERIFY ALL EXISTING CONDITIONS, SIZES AND LOCATIONS OF EXISTING PIPING PRIOR TO COMMENCING WORK.
2. REMOVE EXISTING LAVATORY, FAUCET AND ALL ASSOCIATED PIPING, INCLUDING P-TRAPS AND STOPS, BACK TO MAINS AND CAP. RE: NEW WORK FOR PIPING ROUTING AND SIZES. FIELD VERIFY ALL EXISTING CONDITIONS, SIZES AND LOCATIONS OF EXISTING PIPING PRIOR TO COMMENCING WORK.
3. REMOVE EXISTING FLOOR DRAIN AND ACCOCIATED PIPING BACK TO MAINS. FIELD VERIFY EXISTING CONDITIONS, SIZES AND LOCATIONS PRIOR TO COMENCING WORK.
4. REMOVE EXISTING PIPING WITHIN EXISTING PLUMBING CHASE FROM FIXTURES TO BE REMOVED. RE: NEW WORK FOR RENOVATION AREA. FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK.

DRAWING NOTES

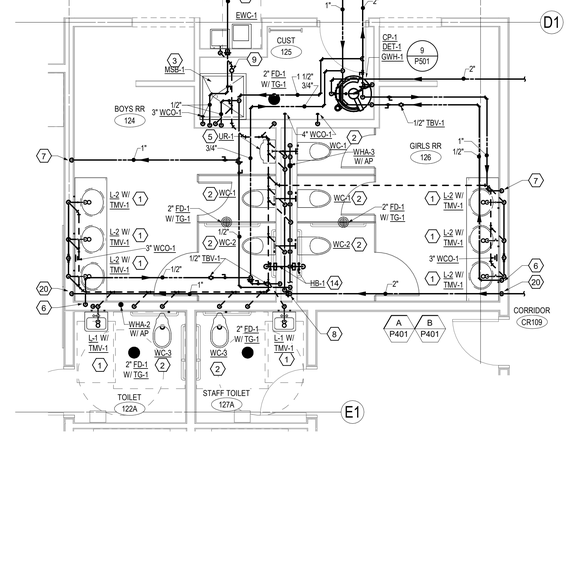
1. 1/2"CW, 1/2" HW, 2" SANITARY AND 2" VENT TO LAVATORY/SINK.
2. 1" CW, 4" SANITARY AND 2" VENT TO WATER CLOSET.
3. 1/2"CW, 1/2" HW, 3" SANITARY AND 2" VENT TO MOP SERVICE BASIN.
4. 1/2" CW, 2" SANITARY AND 2" VENT TO ELECTRIC WATER COOLER WITH BOTTLE FILLING STATION.
5. 3/4" CW, 2" SANITARY AND 2" VENT TO URINAL.
6. 1/2" HWC IN WALL TO LAVATORY. PROVIDE 1/2" HWC CONNECTION WITHIN 2' OF END OF HOT WATER SUPPLY.
7. 1" HW DOWN IN PLUMBING WALL/CHASE TO LAVATORY HEADER.
8. 2" CW DOWN IN CHASE. TEE OFF WITH 2" HEADER TO WATER CLOSETS AND URINALS WITH ISOLATION VALVE AND ACCESS PANEL. EXTEND 1-1/2" CW HEADER WITH ISOLATION VALVE AND ACCESS PANEL DOWN AND INTO ADJACENT PLUMBING WALL FOR TOILET 122A AND 134G.
9. 2" VENT UP TO 3"VTR.
10. CONNECT 2" VENT TO EXISTING 2" VENT.
11. 1-1/2"CW DN IN WALL TO PLUMBING FIXTURE HEADER
12. 1-1/4"CW DN IN WALL TO PLUMBING FIXTURE HEADER
13. 3/4" CW WITH ISOLATION VALVE AND ACCESS PANEL TO WALL HYDRANT.
14. 3/4" CW TO BOX STYLE HOSE BIBB.
15. CONNECT NEW 1-1/4" CW AND 3/4" HW TO EXISTING 1-1/4" CW AND 3/4" HW.
16. 3/4"CW AND 3/4" HW DOWN IN WALL. TEE OFF IN WALL WITH 1/2"CW AND 1/2"HW CONNECTION TO EACH SINK.
17. 3/4"HW AND 1/2"HWC IN WALL TO LAVATORIES. TEE OFF IN WALL WITH 1/2"HW TO EACH LAVATORY. PROVIDE 1/2" HWC CONNECTION WITHIN 2' OF END OF HOT WATER SUPPLY.



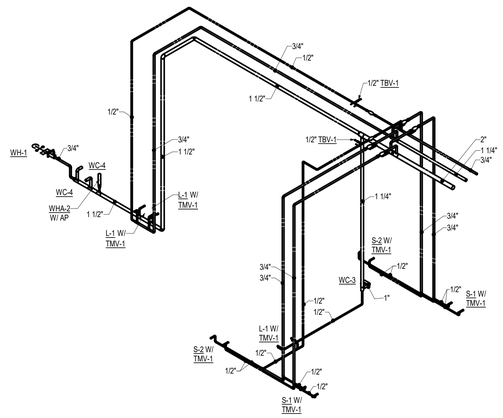
N **C1** ENLARGED TOILETS 120A / 120B / 123A PLBG PLAN
1/4" = 1'-0"



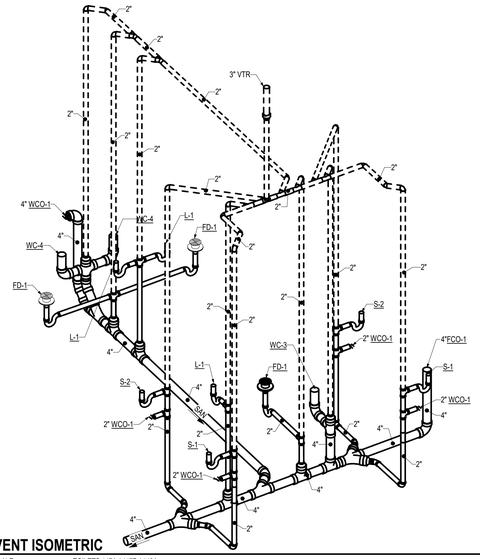
N **C3** ENLARGED TOILETS 129A / 129B / 131A PLBG PLAN
1/4" = 1'-0"



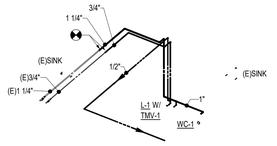
N **C5** ENLARGED TOILETS 122A / 124 / 126 / CUST 125 / & STAFF 127A PLBG PLAN
1/4" = 1'-0"



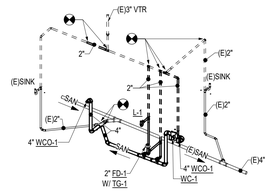
C **DOMESTIC WATER ISOMETRIC**
NOT TO SCALE TOILETS 117A / 117B / 119A



D **SAN/VENT ISOMETRIC**
NOT TO SCALE TOILETS 117A / 117B / 119A



A **DOMESTIC WATER ISOMETRIC**
NOT TO SCALE RR 172A



B **SAN/VENT ISOMETRIC**
NOT TO SCALE RR 172A

1 2 3 4 5 6 7

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(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

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9777 Pyramid Court, Suite 260
Englewood, CO 80112
TEL: 303-688-0223
envisionmep.com
Project #222-063

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

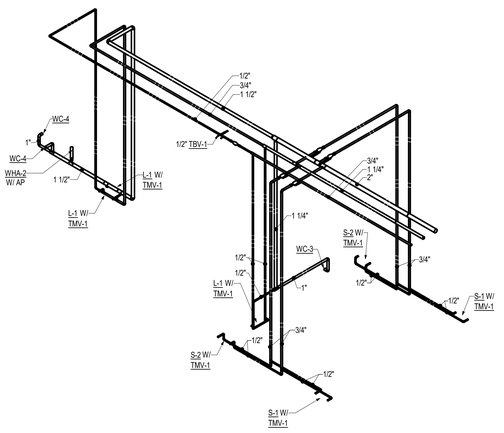
SHEET INFORMATION

COLORADO REGISTERED HENRY K. RIVERS 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER	ANS
PROJECT NUMBER	822808-01

ENLARGED PLUMBING PLANS & ISOMETRICS

P301



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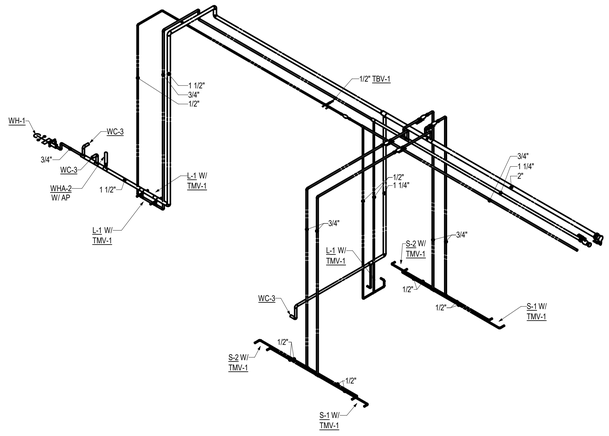
NOT TO SCALE — TOILETS 120A / 121 / 125A



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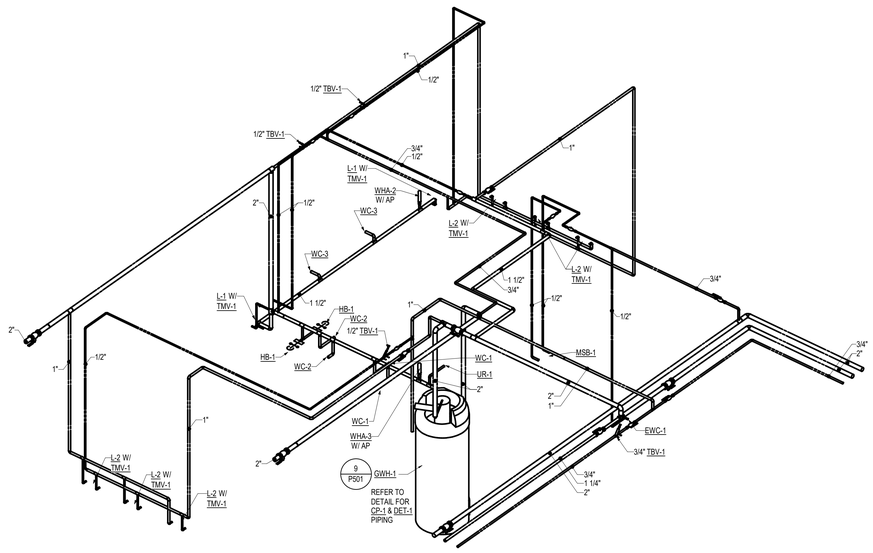
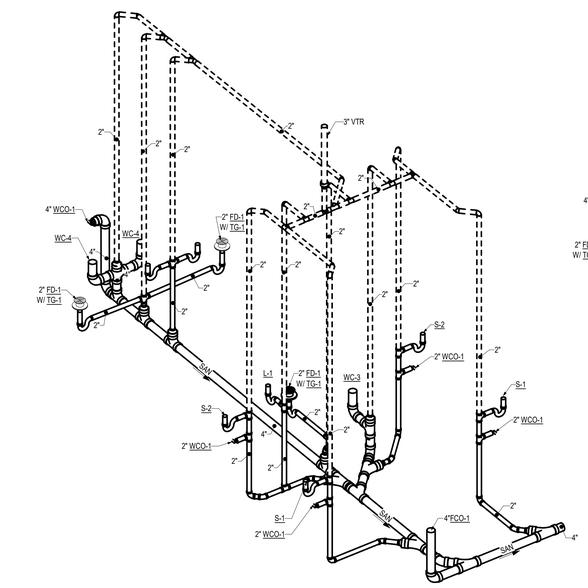


A DOMESTIC WATER ISOMETRIC
NOT TO SCALE — 122A / 124 / 125 / CUST 127, & STAFF 134G



F SAN/VENT ISOMETRIC
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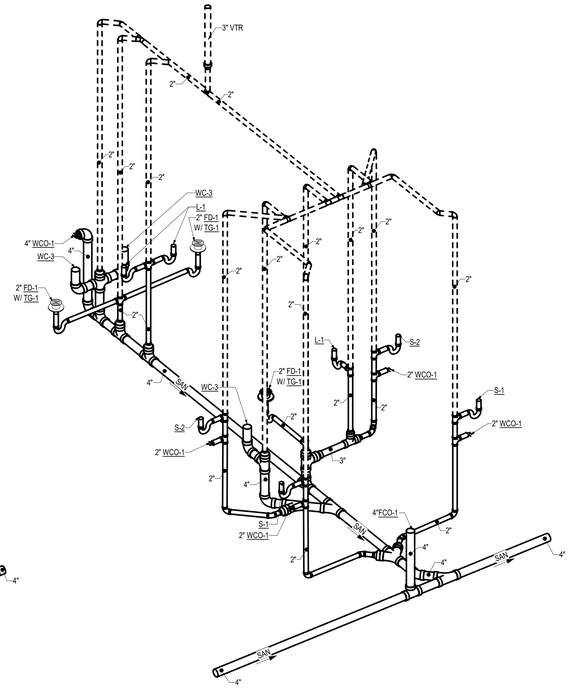

D SAN/VENT ISOMETRIC
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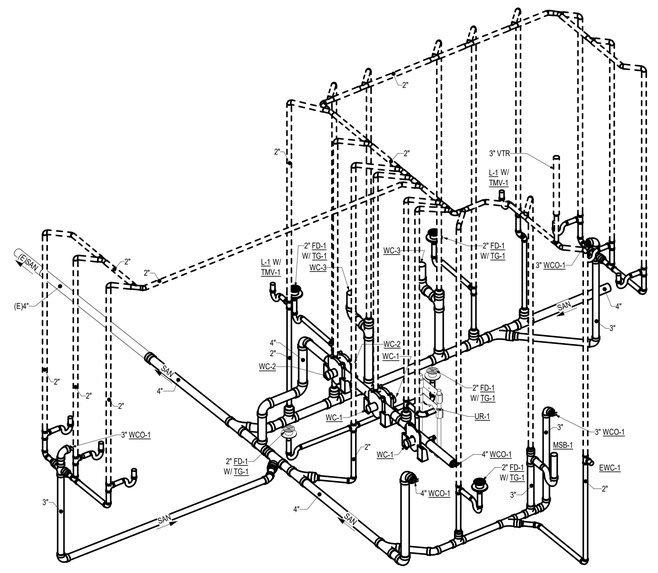

B SAN/VENT ISOMETRIC
NOT TO SCALE — 122A / 124 / 125 / CUST 127, & STAFF 134G

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Denver, CO 80202
(303) 595-4500
www.eua.com

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ENVISION
MECHANICAL ENGINEERS INC.
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KEY PLAN

SHEET INFORMATION

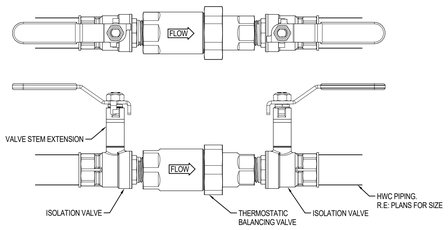
COLORADO REGISTERED
JERRY K. RIVERS
37456
07.31.23
PROFESSIONAL ENGINEER

PROJECT MANAGER	ANS
PROJECT NUMBER	822808-01

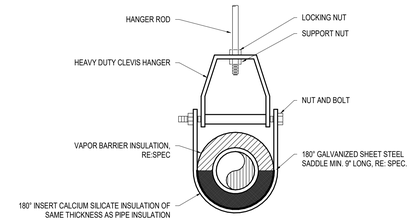
PLUMBING ISOMETRICS

P401

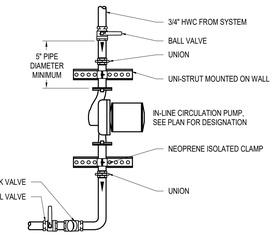
1 2 3 4 5 6 7



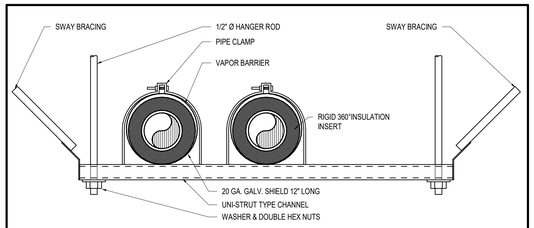
10 THERMOSTATIC BALANCING VALVE DETAIL
NOT TO SCALE



6 CLEVIS HANGER DETAIL
NOT TO SCALE

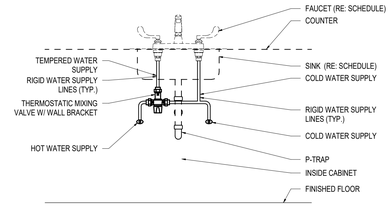


1 CIRCULATION PUMP DETAIL
NOT TO SCALE

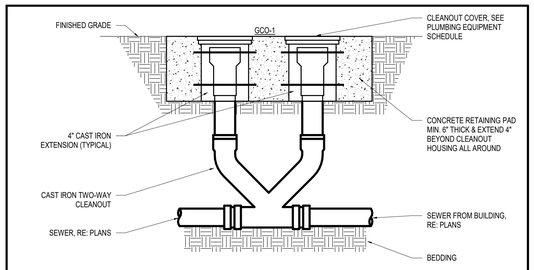


7 TRAPEZE HANGER DETAIL
NOT TO SCALE

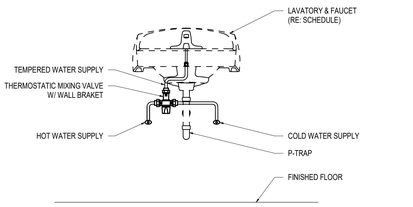
NOTE: PROVIDE FOR PIPING 2-1/2" AND SMALLER WHERE APPLICABLE



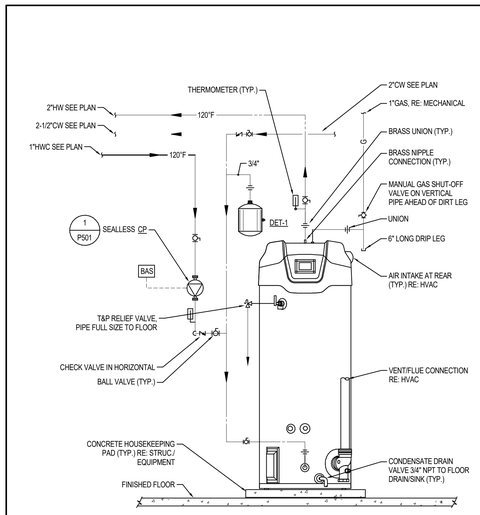
2 CABINET MIXING VALVE DETAIL
NOT TO SCALE



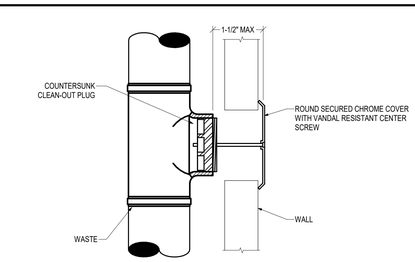
8 2-WAY GRADE CLEANOUT
NOT TO SCALE



3 LAVATORY MIXING VALVE DETAIL
NOT TO SCALE



9 GAS FIRE WATER HEATER DETAIL
NOT TO SCALE



4 WALL CLEANOUT DETAIL
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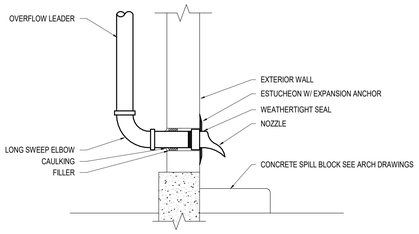

5 CONDUCTOR NOZZLE DETAIL
NOT TO SCALE

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Denver, CO 80202
(303) 595-4500
www.eua.com

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KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED KENT K. RIVERS 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS

PROJECT NUMBER 822808-01

PLUMBING DETAILS

P501

1 2 3 4 5 6 7

E D C B A

SYSTEM VENTILATION SCHEDULE
2021 INTERNATIONAL MECHANICAL CODE

SYSTEM	MODE	$\sum V_{TC}$ (CFM)	P_S (PEOPLE)	$\sum P_Z$ (PEOPLE)	D $P_S / \sum P_Z$	V_{OU} (CFM)	V_{PS} (CFM)	X_S	E_V	V_{OT} (CFM)	REMARKS
RTU-1	HEATING	10550	726	306	0.90	3891	10550	0.369	0.927	4197	
AHU-5	COOLING	5000	178	187	1.00	1968	17282	0.114	1.000	1968	
AHU-5	HEATING	5000	178	187	1.00	1968	5000	0.394	1.000	1968	

REMARKS:
1. XXX

VENTILATION SCHEDULE
2021 INTERNATIONAL MECHANICAL CODE

SYSTEM ZONE/ROOM	OCCUPANCY CATEGORY	R_P (CFM/P)	P_Z (PEOPLE)	R_A (CFM/FT²)	A_Z (FT²)	V_{ez} (CFM)	COOLING		HEATING	
							E_Z	V_{OU}(CFM)	E_Z	V_{OU}(CFM)
VAV-101 - 116 Classroom	Classroom	10.00	30.00	0.12	1140	437	1.00	437	1.00	437
VAV-102 - 119 Classroom	Classroom	10.00	30.00	0.12	996	420	1.00	420	1.00	420
VAV-103 - 120 Classroom	Classroom	10.00	30.00	0.12	981	418	1.00	418	1.00	418
VAV-104 - 125 Classroom	Classroom	10.00	30.00	0.12	2385	586	1.00	586	1.00	586
VAV-105 - 129 Classroom	Classroom	10.00	30.00	0.12	975	417	1.00	417	1.00	417
VAV-106 - 132 Classroom	Classroom	10.00	30.00	0.12	981	418	1.00	418	1.00	418
VAV-107 - 133 Classroom	Classroom	10.00	30.00	0.12	888	407	1.00	407	1.00	407
VAV-108 - 134 Classroom	Classroom	10.00	30.00	0.12	889	407	1.00	407	1.00	407
VAV-109 - 135 Classroom	Classroom	10.00	30.00	0.12	1038	425	1.00	425	1.00	425
VAV-110 - 136 Flex Office	Office	5.00	3.00	0.06	527	47	1.00	47	1.00	47
VAV-111 - 137 Flex Office	Office	5.00	3.00	0.06	404	39	1.00	39	1.00	39
VAV-112 - 123 Classroom	Classroom	10.00	30.00	0.12	965	416	1.00	416	1.00	416
AHU-5	CAFETERIA	7.50	187.00	0.18	3143	1968	1.00	1,968	1.00	1,968

COMcheck Software Version COMcheckWeb
Mechanical Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: 022-063 Bergen Valley Addition
Location: Evergreen, Colorado
Climate Zone: 5b
Project Type: Addition

Construction Site:
1422 Sugarbush Dr
Evergreen, Colorado 80439

Owner/Agent:
Jefferson County School District

Designer/Contractor:
Envision Mechanical Engineers
9777 Pyramid Court, Suite 260
Englewood, Colorado 80112

Mechanical Systems List

Quantity System Type & Description

1 RTU-1 (Multiple-Zone):
Heating: 1 each - Duct Furnace, Gas, Capacity = 590 kBtu/h
Proposed Efficiency = 80.00% Ec, Required Efficiency: 80.00 % Ec
Fan System: RTU-1 -- Compliance (Brake HP and fan efficiency method) : Passes

Fans:
FAN 1 Supply, Multi-Zone VAV, 10600 CFM, 15.0 motor nameplate hp, 9.4 design brake hp (9.4 max. BHP), 0.00 fan energy index , fan exception: Part of code listed equipment
FAN 2 Exhaust, Multi-Zone VAV, 9500 CFM, 2.0 motor nameplate hp, 1.5 design brake hp (1.5 max. BHP), 0.00 fan energy index , fan exception: Part of code listed equipment

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

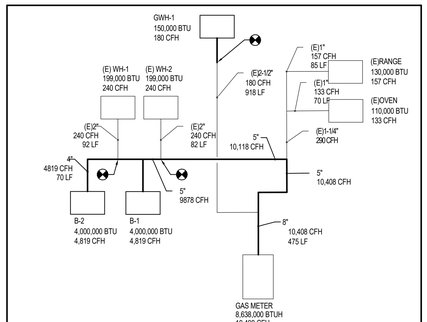
Name - Title | Signature | Date

Project Title: 022-063 Bergen Valley Addition
Data filename:
Report date: 06/07/23
Page 1 of 11

CONNECTED GAS LOAD SCHEDULE

NO. OF UNITS	EQUIPMENT	LOAD EACH (BTU / H)	TOTAL LOAD	PRESSURE REQUIRED MIN. / MAX.	LOCATION	REMARKS
EXISTING EQUIPMENT						
5	B-1 - B-5	394,000	1,970,000	-" WC / 6" WC	185 - BOILER ROOM	REMOVE
2	WH-1 & WH-2	199,000	398,000	-" WC / 6" WC	185 - BOILER ROOM	EXISTING TO REMAIN
1	RANGE	130,000	130,000	-" WC / 6" WC	192 - KITCHEN	EXISTING TO REMAIN
1	OVEN	110,000	110,000	-" WC / 6" WC	192 - KITCHEN	EXISTING TO REMAIN
TOTAL EXISTING LOAD			2,608,000			
TOTAL EXISTING LOAD TO REMAIN			638,000			
NEW EQUIPMENT						
1	B-1	4,000,000	4,000,000	4" WC / 14" WC	185 - BOILER ROOM	NEW
1	B-2	4,000,000	4,000,000	4" WC / 14" WC	185 - BOILER ROOM	NEW
1	GWH-1	150,000	150,000	3.5" WC / 14" WC	129 - CUSTODIAL	NEW
TOTAL NEW CONNECTED LOAD			8,150,000			
TOTAL CONNECTED LOAD ON METER			8,788,000			

NOTE:
1. MODIFICATIONS TO GAS METER AND/OR SERVICE PIPING SHALL BE PERFORMED BY THE GAS COMPANY. SUBMIT REQUIRED GAS SERVICE APPLICATION TO GAS COMPANY IN A TIMELY MANNER TO MEET THE CONSTRUCTION SCHEDULE.
2. GAS PIPE SIZING BASED UPON EXISTING PRESSURE AT REGULATOR OUTLET OF 6 INCHES WATER COLUMN. CONTRACTOR TO FIELD VERIFY OUTLET PRESSURE PRIOR TO STARTING WORK.



A GAS PIPING DIAGRAM
NOT TO SCALE

2021 CODE NOTES

CODE NOTES
ABBREVIATIONS USED WITHIN INCLUDE:

YEAR	ABBREV.	CODE TYPE
2021	IBC	INTERNATIONAL BUILDING CODE
2021	IEBC	INTERNATIONAL EXISTING BUILDING CODE
2021	IMC	INTERNATIONAL MECHANICAL CODE
2021	IECC	INTERNATIONAL ENERGY CONSERVATION CODE
2021	CPC	COLORADO PLUMBING CODE
2021	IFC	INTERNATIONAL FIRE CODE
2021	CFGC	COLORADO FUEL GAS CODE

1. ALL WORK SHALL COMPLY WITH APPLICABLE CODES AS NOTED ABOVE.
2. BOILER INSTALLATION SHALL BE IN ACCORDANCE WITH COLORADO BOILER CODE, AND SHALL BE INSPECTED BY COLORADO STATE BOILER INSPECTOR.
3. AN AIR BALANCE REPORT SHALL BE PROVIDED TO THE BUILDING INSPECTOR TO ASSURE THAT PROPER AIRFLOWS AND SYSTEM BALANCE IS ACHIEVED AT TIME OF FINAL INSPECTIONS.
4. A LETTER SHALL BE MADE AVAILABLE TO THE CODE OFFICIAL BY REQUEST, STATING THE OWNER OR OWNERS AUTHORIZED AGENT HAS RECEIVED THE PRELIMINARY COMMISSIONING DOCUMENTATION.
5. ALL MATERIALS INSTALLED WITHIN A PLENUM SHALL MEET THE FLAME/SMOKE LISTED INDEX OF 25/50 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723, OR BE INSTALLED TO COMPLY THE WITH REQUIREMENTS OF SECTION 703.3 OF THE IBC.
6. PIPE SUPPORTS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 305.4, AND ANSI/MSS SP-58.
7. ALL EQUIPMENT INSTALLED ON ELEVATED ROOFS SHALL BE LOCATED A MINIMUM OF *10'-0"* FROM ROOF EDGE PER 2021 IMC SECTION 306.
8. BUILDING HEATING AND COOLING LOADS ARE PERFORMED IN ACCORDANCE WITH ASHRAE/ACCA STANDARD 183, THROUGH THE USE OF COMPUTER LOAD CALCULATION PROCEDURES IN ACCORDANCE WITH 2021 IMC 312, AND 2021 IECC CHAPTER 3. THE METHODOLOGY UTILIZED IN LOAD CALCULATIONS IS TETD-TA1 IN ACCORDANCE WITH ASHRAE STANDARD 183 APPENDIX A. BUILDING PROPERTIES UTILIZED FOR HEATING AND COOLING LOAD CALCULATIONS HAVE BEEN PERFORMED BASED ON DESIGN ENVELOPE, FENESTRATION, LIGHTING, OCCUPANCY AS OUTLINED ON THE CONSTRUCTION DOCUMENTS, AND WEATHER CONDITIONS PER 2021 IECC SECTION 402.
9. MECHANICAL VENTILATION SHALL BE IN COMPLIANCE WITH 2021 IMC CHAPTER 4, SECTION 403 FOR MECHANICAL VENTILATION.
10. ALL DUCTWORK SHALL BE CONSTRUCTED, INSTALLED, AND SEALED PER 2021 IMC SECTION 603.
11. PIPING SHALL BE INSTALLED AS TO PREVENT DETRIMENTAL STRAINS AND STRESSES PER 2021 IMC SECTION 1206.
12. DUCT AND TRANSFER OPENINGS SHALL BE INSTALLED IN ACCORDANCE WITH 2021 IMC SECTION 607. FIRE DAMPERS, SMOKE DAMPERS, AND COMBINATION FIRE/SMOKE DAMPERS SHALL BE INSTALLED WHERE REQUIRED IN 2021 IBC SECTIONS 714.2 THROUGH 714.4.
13. BUILDING PROPERTIES UTILIZED FOR BUILDING HEATING AND COOLING LOAD CALCULATIONS SHALL BE PERFORMED BASED ON DESIGN ENVELOPE, FENESTRATION, LIGHTING, OCCUPANCY, AND WEATHER CONDITIONS AS OUTLINED ON THE CONSTRUCTION DOCUMENTS PER 2021 IECC SECTION C402. REFER TO ARCHITECTURAL AND ELECTRICAL FOR REPRESENTATIVE ENVELOPE AND LIGHTING INFORMATION.
14. BUILDING MECHANICAL HEATING AND COOLING EQUIPMENT SHALL MEET MINIMUM ENERGY EFFICIENCIES OUTLINED IN 2021 IECC SECTION C403.
15. DEMAND CONTROLLED VENTILATION SHALL BE PROVIDED FOR ALL SPACES MEETING THE REQUIREMENTS OF 2021 IECC C403.7.1
16. BUILDING MECHANICAL SYSTEMS SHALL BE COMMISSIONED AS OUTLINED IN 2021 IECC SECTION C408.
17. FUEL BURNING APPLIANCE FLUE, AND VENTS SHALL BE INSTALLED IN ACCORDANCE WITH 2021 IMC CHAPTER 8 AND 2021 IFGC CHAPTER 5.
18. CARBON MONOXIDE DETECTION SHALL BE INSTALLED IN ACCORDANCE WITH IBC SECTION 915.
19. WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY, THE FOLLOWING SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT PER 2021 IECC 408.2.5
   A. FINAL SYSTEM BALANCING REPORT
   B. FINAL COMMISSIONING REPORTS. EXCEPT DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF THE REPORT DUE TO CLIMATIC CONDITIONS.
20. WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY, THE FOLLOWING SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT PER 2021 IECC 408.3.2
   A. RECORD DOCUMENTS
   B. OPERATIONS AND MAINTENANCE MANUALS
   C. COMMISSIONING REPORT, INCLUDING RESULTS OF FUNCTIONAL TESTING, AND DISPOSITION OF DEFICIENCIES FOUND DURING TESTING AND CORRECTIVE MEASURES USED OR PROPOSED.

HVAC ABBREVIATIONS

SYMBOL	DESCRIPTION
ABV	ABOVE
AC	AIR CONDITIONER / CONDITIONING
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ALT	ALTITUDE
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE, APPROXIMATELY
ARCH	ARCHITECT, ARCHITECTURAL
BLW	BELOW
BTUH	BRITISH THERMAL UNITS PER HOUR
CAP	CAPACITY
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
ΔT °F	CHANGE IN TEMPERATURE DEGREES FAHRENHEIT
CONC	CONCRETE
CONT	CONTINUE
CONST	CONSTRUCT, CONSTRUCTION
COORD	COORDINATE
DDC	DIRECT DIGITAL CONTROL
DIA	DIAMETER
DN	DOWN
EAT	ENTERING AIR TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
EA	EACH
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRIC, ELECTRICAL
(E)	EXISTING
ESP	EXTERNAL STATIC PRESSURE
°F	DEGREES FAHRENHEIT
FT	FEET
FLR	FLOOR
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HZ	HERTZ
HORIZ	HORIZONTAL
HP	HORSEPOWER
IN	INCHES
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	1,000 BTUH
MFG	MANUFACTURER
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MTD	MOUNTED
(N)	NEW
NC	NORMALLY CLOSED, NOISE CRITERIA
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
OBD	OPPOSED BLADE DAMPER
PSIG	POUNDS PER SQUARE INCH GAUGE
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
(R)	RELOCATED
RA	RETURN AIR
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RPM	REVOLUTIONS PER MINUTE
Ø	ROUND, PHASE
SA	SUPPLY AIR
SEER	SEASONAL ENERGY EFFICIENCY RATING
SL	SEA LEVEL
SS	STAINLESS STEEL
TCC	TEMPERATURE CONTROL CONTRACTOR
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
T'STAT	THERMOSTAT
TYP	TYPICAL
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
V	VOLTS
WC	WATER COLUMN
WPD	WATER PRESSURE DROP
WT	WEIGHT

HVAC GENERAL NOTES

1. ALL INFORMATION SHOWN ON THESE DRAWINGS INCLUDING LOCATION AND SIZES ARE BASED ON THE BEST INFORMATION AVAILABLE. INFORMATION SHOWN IS TO INDICATE THE INTENT OF THE MECHANICAL SYSTEM WORK BUT MAY NOT REFLECT THE EXACT ROUTING AND LOCATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY EXISTING EQUIPMENT, PIPING, DUCTWORK, STRUCTURE, ELECTRICAL, LIGHTING AND ARCHITECTURAL INFLUENCES PRIOR TO INSTALLATION OF THE NEW WORK TO AVOID ANY CONFLICTS WITH SYSTEMS REQUIRING MODIFICATIONS. NOTIFY ENGINEER OF ANY CONFLICTS, PRIOR TO PERFORMING WORK.
2. PROVIDE NEW EQUIPMENT, DUCTWORK, AIR DEVICES, PIPING, CONTROLS, ETC. AS REQUIRED FOR COMPLETE AND OPERATIONAL SYSTEMS. THE INTENT OF THE DRAWINGS IS TO PROVIDE A COMPLETE WORKING MECHANICAL SYSTEM FOR THE BUILDING. INCLUDE ALL ITEMS REQUIRED TO PROVIDE COMPLETE WORKING MECHANICAL SYSTEMS.
3. ALL AIR DEVICE NECK SIZES SHALL BE SAME AS RUNOUT SIZE UNLESS NOTED OTHERWISE.
4. ALL DUCTWORK SIZES SHOWN ARE INSIDE DIMENSIONS. FOR DUCT INSULATION AND LINER REQUIREMENTS SEE SPECIFICATIONS.
5. PROVIDE BELL MOUTH SPIN-IN FITTINGS FOR ALL ROUND DUCT TAKEOFFS UNLESS ROUND RUN OUT SIZE IS WITHIN 2" OF MAIN DUCT HEIGHT THEN PROVIDE STRAIGHT SPIN-IN FITTINGS.
6. SEE DETAILS AND SPECIFICATIONS FOR MORE INSTALLATION INFORMATION AND REQUIREMENTS.
7. INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDED SERVICE CLEARANCES AND INSTALLATION INSTRUCTIONS. PROVIDE ACCESS DOORS AS REQUIRED TO PROVIDE SERVICE AND MAINTENANCE FOR ALL EQUIPMENT.
8. REVIEW THE DETAILS ON SHEETS M501 PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS. NOT ALL DETAILS ARE CALLED OUT BY DRAWING NOTES.
9. ALL HS AND HR PIPING TO VAV BOXES, HOT WATER CABINET UNIT HEATERS AND HOT WATER UNIT HEATERS IS 3/4" UNLESS NOTED OTHERWISE.
10. PROVIDE TRIM RING OR TRIM FRAME WHERE ROUND OR RECTANGULAR DUCT PENETRATES A WALL AND IS EXPOSED TO VIEW, COORDINATE FINISH OF TRIM WITH ARCHITECT.
11. PROVIDE TURNING VANES AT ALL DUCT SUPPLY AND RETURN 90° ELBOWS.
12. DESIGN AND LAYOUT OF EQUIPMENT BASED ON MANUFACTURER SPECIFIED IN SCHEDULES. ANY MODIFICATIONS OR ALTERATIONS REQUIRED FOR INSTALLATION OF AN APPROVED SUBSTITUTION TO THAT SPECIFIED IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.
13. MOUNT ALL THERMOSTATS, TEMPERATURE SENSORS, CO2 SENSORS, WALL SWITCHES, AND TIMERS AT 48" A.F.F.

HVAC LEGEND
ALL SYMBOLS MAY NOT BE USED

SYMBOL	DESCRIPTION
HS	HEATING WATER SUPPLY
HR	HEATING WATER RETURN
D	CONDENSATE DRAIN LINE
G	GAS, LOW-PRESSURE
MG	GAS, MEDIUM-PRESSURE
GV	GAS VENT
T	WALL MOUNTED THERMOSTAT
T	UNIT MOUNTED THERMOSTAT
S	TEMPERATURE SENSOR
C	CO2 / TEMPERATURE SENSOR
C_O	CO SENSOR
S	SWITCH
	FIRE DAMPER
	COMBINATION FIRE / SMOKE DAMPER
DDC	DDC PANEL
	SMOKE DAMPER
M	MANUAL VOLUME DAMPER WITH LOCKING QUADRANT
M	MOTORIZED DAMPER
	FLEXIBLE CONNECTOR
	DIRECTION OF FLOW
	INDICATES PIPE SLOPE DOWN
	PIPING CAP
	PIPING UP
	PIPING DOWN
	BOTTOM OF PIPE CONNECTION
	CONCENTRIC REDUCER
	FLEXIBLE CONNECTOR
	PIPING EXPANSION JOINT
	COMBINATION FLOW MEASURING DEVICE AND BALANCING VALVE
	AUTOMATIC 2-WAY TEMPERATURE CONTROL VALVE
	AUTOMATIC 3-WAY TEMPERATURE CONTROL VALVE
	PRESSURE REDUCING VALVE
P/T	PRESSURE/TEMPERATURE PORT
	FLOW SWITCH
	SHUT-OFF VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	BALL VALVE
	HOSE END DRAIN VALVE
	STRAINER WITH BLOW-OFF VALVE
	STRAINER
	UNION
	PRESSURE GAUGE
	THERMOMETER
	SAFETY RELIEF VALVE
	IN-LINE PUMP
	MANUAL AIR VENT
	RECTANGULAR SUPPLY AIR DUCT UP
	RECTANGULAR SUPPLY AIR DUCT DOWN
	RECTANGULAR RETURN / EXHAUST AIR DUCT UP
	RECTANGULAR RETURN / EXHAUST AIR DUCT DOWN
	ROUND DUCT UP
	ROUND DUCT DOWN
	BRANCH DUCT 45° TAKE-OFF
	RECTANGULAR DUCT ELBOW WITH TURNING VANES
	RADIUS ELBOW RECTANGULAR / ROUND DUCT
	DUCT TRANSITION
	FLEX CONNECTION
RISE	DUCT ELEVATION CHANGE: RISE IN THE DIRECTION OF FLOW
DROP	DUCT ELEVATION CHANGE: DROP IN THE DIRECTION OF FLOW
	MANUAL VOLUME DAMPER WITH LOCKING QUADRANT
	RIGID DUCTWORK WITH FLEXIBLE DUCT TAKE-OFF
	24X24 CEILING RETURN GRILLE WITH SOUND BOOT
	24X12 CEILING RETURN GRILLE WITH SOUND BOOT
	24X24 CEILING RETURN GRILLE
	24x12 CEILING RETURN GRILLE
	CEILING DIFFUSER, 4-WAY THROW
	CEILING DIFFUSER, 3-WAY THROW ARROWS INDICATE DIRECTION OF AIRFLOW
	CEILING DIFFUSER, 2-WAY THROW ARROWS INDICATE DIRECTION OF AIRFLOW
	CONICAL SPIN-IN FITTING WITH DAMPER
	FLEXIBLE DUCT
UC	UNDERCUT DOOR
	INDICATES ITEMS TO BE REMOVED

GENERAL

SYMBOL	DESCRIPTION
	CONNECT NEW TO EXISTING
# / #	REFERENCE BUBBLE * SECTION NUMBER # SHEET NUMBER
#	REVISION NUMBER
# / #	SECTION OR ELEVATION BUBBLE * SECTION OR ELEVATION LETTER # REFERENCE DRAWING NUMBER
# / #	ISOMETRIC OR ELEVATION BUBBLE * ISOMETRIC OR ELEVATION LETTER # REFERENCE DRAWING NUMBER
#	DRAWING NOTE
#	DEMOLITION NOTE
X	DEMOLITION NOTE, ALTERNATE
#	DRAWING NOTE, ALTERNATE

milwaukee | madison | green bay | denver | atlanta
899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

ENVISION MECHANICAL ENGINEERS INC.
9777 Pyramid Court, Suite 260
Englewood, CO 80112
TEL: 303-688-0223
envisionmep.com
Project #022-063

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED HENRY K. RIVERA 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS
PROJECT NUMBER 822808-01

MECHANICAL CODE SHEET

M001

PIPE INSULATION SCHEDULE

SERVICE	LOCATION	INSULATION MATERIAL	VAPOR BARRIER	JACKET	OPERATING TEMPERATURE (° F)	INSULATION CONDUCTIVITY		NOMINAL PIPE SIZE (IN)					REMARKS
						CONDUCTIVITY BTU * IN / (Ft * FT.* °F)	MEAN TEMP RATING (° F)	< 1	1 TO < 1-1/2	1-1/2 TO < 4	4 TO < 8	≥ 8	
HEATING WATER SUPPLY & RETURN	INTERIOR	GLASS FIBER WITH ASJ-SSL	YES	NONE	180	0.25-0.29	125	1.5	1.5	2	2	2	2
HEATING WATER SUPPLY & RETURN	INTERIOR (WITHIN PARTITION)	GLASS FIBER WITH ASJ-SSL	YES	NONE	180	0.25-0.29	125	1	1	2	2	2	1,2

NOTES:
1. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INSULATION REQUIREMENTS.
2. ALL INSULATION MATERIALS INSTALLED WITHIN THE PLENUM SHALL MEET THE FLAME / SMOKE REQUIREMENTS OF 25/50 (ASTM E84).

REMARKS:
1. FOR PIPING SMALLER THAN 1-1/2" INSTALLED WITHIN A BUILDING PARTITION WITHIN A CONDITIONED SPACE; INSULATION REDUCTION OF UP TO 1" BUT NOT LESS THAN 1" PER IECC TABLE C403.2.1, NOTE a.
2. UPPER LIMITS FOR HEATING WATER SUPPLY AND RETURN PIPING UTILIZED FOR MINIMUM INSULATION REQUIREMENTS.

PACKAGE ROOFTOP UNIT SCHEDULE (12-1/2 - 25 TONS)

SYMBOL	AREA SERVED	MANUFACTURER MODEL	CFM @ 7,200'	ESP (IN WC)	OSA CFM / DCV CFM	SUPPLY FAN HP / BHP	EXHAUST FAN DATA			HOT WATER HEATING COIL DATA						COOLING COIL DATA					REFRIGERANT DATA		ELECTRICAL DATA				FILTER DATA		APPROX. UNIT DIMENSIONS L" x W" x H"	OPERATING WEIGHT (LBS.)	REMARKS
							CFM @7,200'	ESP (IN WC)	HP / BHP	EAT (° F)	LAT (° F)	EWT (° F)	LWT (° F)	MBH @7,200'	GPM	WPD (FT)	EDB (° F)	EWB (° F)	LAT (° F)	TOTAL CAP. (MBH)	EFF @ AHRI (SEER)	TYPE	LBS	V / PH	MCA	MOCP	SCCR	TYPE	MERV			
RTU-1	ADDITION C	AAON RNA-026	10600	1.60	4400/1100	15 / 9.4	9500	0.5	2 / 1.5	31	93	180	130	590	25	3.5	NA	NA	NA	NA	NA	NA	NA	460 / 3	30	50	10 KAIC	THROW AWAY	8 / 13	209" x 100" x 67"	4400	1,2,3

NOTES:
1. REFER TO SPECIFICATIONS FOR UNIT CONSTRUCTION, OPTIONS, ACCESSORIES, AND REQUIREMENTS.
2. HEATING COIL SELECTIONS BASED ON 30% PROPYLENE GLYCOL.
3. COIL SELECTIONS BASED ON -10°F AMBIENT (HEATING).
4. PROVIDE UNIT WITH MULTIPLE COMPRESSORS, VARIABLE SPEED ON FIRST COMPRESSOR FOR CAPACITY CONTROL, AND CONDENSER COIL HAIL GUARDS.

REMARKS:
1. PROVIDE WITH SINGLE POWER POINT CONNECTION. VFD ON SA FAN, FACTORY ROOF CURB, 100% OSA ECONOMIZER, RA SMOKE DETECTOR.
2. PROVIDE WITH 2-WAY HEATING COIL CONTROL VALVE.
3. UNIT EXHAUST FAN POWERED THROUGH ROOFTOP UNIT MANUFACTURER'S WIRING HARNESS AND CONNECTION, AND FIELD CONNECTED.

VARIABLE AIR VOLUME TERMINAL BOX SCHEDULE

SYMBOL	AREA SERVED	MFG. MODEL	AIR INLET SIZE	COOLING CFM @7,300'	MIN. CFM / DCV CFM @7,300'	HEATING CFM @7,300'	MIN. SP @ INLET	AIR PD IN WC @ SL	NC @ 1.5" SP		HEATING COIL DATA				REMARKS
									RADIATED	DISCHARGE	MBH @7,300'	GPM	COIL PD FT WC		
VAV-1-01	117 CLASSROOM	PRICE SDV	9	1,050	437/437	790	0.75	0.41	--	--	23.4	1.4	0.56	1,3	
VAV-1-02	119 CLASSROOM	PRICE SDV	9	960	420/420	720	0.75	0.35	--	--	21.4	1.2	0.44	1,2	
VAV-1-03	120 CLASSROOM	PRICE SDV	9	960	418/418	720	0.75	0.35	--	--	21.4	1.2	0.44	1,2	
VAV-1-04	123 CLASSROOM	PRICE SDV	12	1,250	585/585	940	0.75	0.33	--	--	27.9	1.4	0.69	1,2	
VAV-1-05	129 CLASSROOM	PRICE SDV	9	960	420/420	720	0.75	0.35	--	--	21.4	1.2	0.44	1,2	
VAV-1-06	131 CLASSROOM	PRICE SDV	9	960	420/420	720	0.75	0.35	--	--	21.4	1.2	0.44	1,2	
VAV-1-07	132 TEACHER	PRICE SDV	9	960	410/410	720	0.75	0.35	--	--	21.4	1.2	0.44	1,2	
VAV-1-08	133 CLASSROOM	PRICE SDV	9	960	410/410	720	0.75	0.35	--	--	21.4	1.2	0.44	1,2	
VAV-1-09	134 CLASSROOM	PRICE SDV	9	960	410/410	720	0.75	0.35	--	--	21.4	1.2	0.44	1,2	
VAV-1-10	124,126,137 OFFICE/RR	PRICE SDV	8	450	135/135	338	0.75	0.18	--	--	10	0.5	0.05	1,2	
VAV-1-11	136 OFFICE	PRICE SDV	6	300	90/65	225	0.75	0.06	--	--	6.7	1.5	1.31	1,2	
VAV-1-12	122 CLASSROOM	PRICE SDV	9	960	415/415	720	0.75	0.35	--	--	21.4	1.2	0.44	1,2	
VAV-1-13	138 FLEX OFFICE	PRICE SDV	4	150	50/50	112	0.75	0.35	--	--	3.4	0.4	0.11	1,2	
VAV-1-14	CR106 LOBBY	PRICE SDV	6	250	80/65	190	0.75	0.04	--	21	5.7	1.3	0.7	1,3	

REMARKS:
1. HEATING CAPACITY BASED ON 160°F EWT, 55°F EAT, 90°F LAT AND 30% PROPYLENE GLYCOL SOLUTION.
2. PROVIDE WITH 2-WAY CONTROL VALVE.
3. PROVIDE WITH 3-WAY CONTROL VALVE.

AIR SEPARATOR SCHEDULE

SYMBOL	SERVICE	MANUFACTURER	MODEL	GPM	MAX PD FT H2O	INLET SIZE	OUTLET SIZE	CONNECTION TYPE	REMARKS
AS-1	HEATING WATER	B&G	CRS-5F	250	0.88	5	5	FLANGED	1,2,3

REMARKS:
1. MAXIMUM WORKING PRESSURE OF 125 PSIG.
2. PROVIDE WITH INTERNAL STRAINER AND AUTOMATIC AIR VENT.
3. SELECTION BASED ON 30% PROPYLENE GLYCOL.

EXPANSION TANK SCHEDULE

SYMBOL	SERVICE	MANUFACTURER MODEL	CAPACITY GALLONS	FLUID TYPE	DIA. (IN)	HEIGHT (IN)	TYPE	INITIAL / MAX. PRESSURE PSIG	SYSTEM VOLUME GALLONS	ACCEPTANCE VOLUME GALLONS	TEMP RANGE (° F)	WEIGHT (LBS.)	REMARKS
ET-1	HEATING WATER	B&G B400	106	30% PPG	30	49	BLADDER	20/40	850	106	60-180	300	-

REMARKS:
1. PROVIDE WITH FLOOR MOUNTING STAND.
2. APPROX. WEIGHT 100% FULL OCCURS IF BAG FAILS OR AIR CHARGE IS LOST.

DUCT INSULATION SCHEDULE (CLIMATE ZONES 5 THRU 8)

SERVICE	SIZE	LOCATION	INSULATION MATERIAL	INSULATION THICKNESS	REMARKS
ROUND SUPPLY, RETURN & OUTDOOR AIR	ALL	INDOOR CONCEALED	GLASS FIBER DUCT WRAP	R-6 MIN. INSTALLED	-
RECTANGULAR SUPPLY & RETURN	ALL	INDOOR CONCEALED	ACOUSTIC DUCT LINER	R-6 MIN. INSTALLED	-
RECTANGULAR OUTDOOR AIR	ALL	INDOOR CONCEALED	GLASS FIBER DUCT WRAP	R-6 MIN. INSTALLED	-
ROUND SUPPLY, RETURN & OUTDOOR AIR	ALL	INDOOR EXPOSED	NOT REQUIRED	-	1
RECTANGULAR SUPPLY & RETURN	ALL	INDOOR EXPOSED	ACOUSTIC DUCT LINER	R-6 MIN. INSTALLED	-
ROUND OUTDOOR AIR	ALL	INDOOR EXPOSED	GLASS FIBER DUCT WRAP	R-6 MIN. INSTALLED	-

NOTES:
1. REFER TO SPECIFICATIONS FOR INSULATION REQUIREMENTS.
2. DUCT INSULATION SHALL BE INSTALLED IN MULTIPLE LAYERS, OR OF THICKNESS SUFFICIENT TO PROVIDE LISTED R-VALUES PER 2021 IECC C403.2.9

REMARKS:
1. DUCT INSULATION NOT REQUIRED UNDER 2015 IECC C403.2.9 EXCEPTION 2, WHERE DESIGN TEMPERATURE BETWEEN INTERIOR AND EXTERIOR OF THE DUCT IS NOT GREATER THAN 15° F.

FAN SCHEDULE

SYMBOL	AREA SERVED	MANUFACTURER MODEL	TYPE	CFM @ 7,200'	ESP IN WC @7,200'	DRIVE TYPE	SONES [DBA]	FAN RPM	HP	ELECTRICAL DATA V / PH	CONTROL	WEIGHT (LBS.)	REMARKS
EF-11	FIRST FLOOR TOILET ROOMS	GREENHECK G-099-VG	CENTRIFUGAL EXHAUST	675	0.70	DIRECT	10	1554	1/4	115 / 1	DDC INTERLOCK	60	1
EF-12	124/125 BOYS/GIRLS RR	GREENHECK G-099-VG	CENTRIFUGAL EXHAUST	700	0.4	DIRECT	8.4	1291	1/4	115/1	DDC INTERLOCK	60	1

REMARKS:
1. PROVIDE WITH GRAVITY BACKDRAFT DAMPER, DAMPER TRAY, ECM MOTOR, AND ROOF CURB.

CONDENSING HOT WATER BOILER SCHEDULE

SYMBOL	SERVICE	MANUF. MODEL	FUEL TYPE	AGA GAS INPUT MBH	GAS INPUT CFH	GROSS OUTPUT MBH @ 7,300'	MIN. EFF% @ AHRI	ELECTRICAL DATA			PD (FT)	MAX PRESSURE RATING	LWT (° F)	BOILER CAPACITY GALLONS	WEIGHT (LBS.)	REMARKS
								V / PH	MCA	MOCP						
B-1	HEATING WATER	AERCO BMK4000	NAT GAS	4,000	4819	3,480	87%	120 / 1	28	-	11.6	160 PSI	180	77	2200	1,2,3,4
B-2	HEATING WATER	AERCO BMK4000	NAT GAS	4,000	4819	3,480	87%	120 / 1	28	-	11.6	160 PSI	180	77	2200	1,2,3,4

REMARKS:
1. PROVIDE BOILER-MANUFACTURER SUPPLIED INTEGRATED CONTROL SYSTEM FOR MULTIPLE BOILER CONTROL.
2. BOILER SHALL BE DESIGNED TO FIRE ON NATURAL GAS, 830 BTU/CUFT, 6"W.C.
3. MINIMUM BOILER TURNDOWN SHALL BE 15:1.
4. PROVIDE WITH MANUFACTURERS ACID NEUTRALIZATION KIT.

PUMP SCHEDULE

SYMBOL	SERVICE	FLUID TYPE & TEMP	MANUF.	MODEL NUMBER	INLET SIZE	OUTLET SIZE	FLOW RATE GPM	HEAD FT	IMPELLER DIAMETER	MOTOR DATA			WEIGHT (LBS.)	REMARKS
										HP	RPM	V / PH		
HWP-1	HEATING WATER	30% PPG	B&G	e-1510 2GB	3	2	250	125	11.625	15	1800	208 / 3	660	1,2,3
HWP-2	HEATING WATER	30% PPG	B&G	e-1510 2GB	3	2	250	125	11.625	15	1800	208 / 3	660	1,2,3

REMARKS:
1. PROVIDE WITH VFD, PUMP RATED FOR FULL CAPACITY, TO OPERATE IN PRIMARY STANDBY CONFIGURATION
2. PROVIDE WITH VFD, FOR USE IN SOFT START AND BALANCING, NOT VARIABLE FLOW CONTROL.
3. PROVIDE BASE MOUNTED PUMPS WITH INERTIA BASE.

AIR DEVICE SCHEDULE

SYMBOL	MANUFACTURER MODEL	TYPE	FRAME	MATERIAL	FINISH	DAMPER TYPE	INLET SIZE	ACCESSORIES	REMARKS
CD-1	PRICE SPD	CEILING DIFFUSER	LAY-IN	STEEL	STANDARD WHITE	-	SEE PLANS	-	1, 2
CD-2	PRICE SPD	CEILING DIFFUSER	SURFACE	STEEL	STANDARD WHITE	OBD	SEE PLANS	-	1,5
CG-1	PRICE 80	CEILING RETURN GRILLE	LAY-IN	ALUMINUM	STANDARD WHITE	-	24"x24"	-	1,2, 4
CG-2	PRICE 80	CEILING RETURN GRILLE	LAY-IN	ALUMINUM	STANDARD WHITE	-	24"x12"	-	1, 3, 4
CG-4	PRICE 80	CEILING RETURN GRILLE	SURFACE	ALUMINUM	STANDARD WHITE	-	SEE PLANS	-	1
ER-1	PRICE 80	CEILING EXHAUST REGISTER	SURFACE	ALUMINUM	STANDARD WHITE	OBD	24"x24"	-	1
LD-1	PRICE SDS 50	LINEAR SLOT DIFFUSER	LAY-IN	ALUMINUM	STANDARD WHITE	-	48" LENGTH	-	-

REMARKS:
1. SEE SPECIFICATIONS FOR OPTIONS, AND ACCESSORIES.
2. 24"x24" FACE SIZE.
3. 24"x12" FACE SIZE.
4. PROVIDE WITH RETURN AIR SOUND BOOT.
5. 12"x12" FACE SIZE

HOT WATER CABINET UNIT HEATER SCHEDULE

SYMBOL	AREA SERVED	MANUF. MODEL	CABINET TYPE	INLET / DISCHARGE CONFIGURATION	CFM@ 7,300'	OUTPUT (MBH)	EWT (° F)	MOTOR HP	GPM	ELECTRICAL			CONTROL	WEIGHT (LBS.)	REMARKS
										V / PH	MCA	MOCP			
CUH-2	116 VEST.	MODINE CW002	SEMI-RECESS	FRONT/ FRONT	250	11.5	190	1/4	1.3	115 / 1	3.7	-	24V WALL TSTAT	100	1,2,3
CUH-3	110A VEST.	MODINE CW002	SEMI-RECESS	FRONT/ FRONT	250	11.5	190	1/4	1.3	115 / 1	3.7	-	24V WALL TSTAT	100	1,2,3

REMARKS:
1. SELECTION BASED ON 30% PROPYLENE GLYCOL, 50° F. EAT, AND 30° F WATER ΔT.
2. PROVIDE WITH MOUNTING BRACKETS, SUPPORTS, AND PANELS FOR LISTED CABINET TYPE.
3. PROVIDE UNIT WITH INTEGRATED DISCONNECT AND LOCKBOX COVER ON THERMOSTAT.

GLYCOL FEEDER UNIT SCHEDULE

SYMBOL	MANUFACTURER MODEL	SERVICE	TANK GALLONS	PUMP DATA		SYSTEM VOLUME GALLONS	TOTAL GLYCOL GALLONS	WEIGHT (LBS.)	REMARKS
				HP [A]	V / PH				
GF-2	AXIOM SF100	HEATING WATER	55	[0.7]	115 / 1	850	255	40	1,2,3

REMARKS:
1. SEE SPECIFICATIONS FOR OPTIONS AND ACCESSORIES.
2. UNIT TO MAINTAIN 30% GLYCOL IN BUILDING SYSTEM HYDRONIC PIPING.
3. METER ACTUAL WATER VOLUME.

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milwaukee | madison | green bay | denver | atlanta
899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
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KEY PLAN

SR-1 PRICE 520

SHEET INFORMATION

COLORADO REGISTERED HENRY K. RIVERA 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS

PROJECT NUMBER 822808-01

MECHANICAL SCHEDULES

M002

1 2 3 4 5 6 7

E D C B A

DEMOLITION NOTES

1. REMOVE EXISTING TRANSFER AIR DUCT INCLUDING ALL ASSOCIATED AIR DEVICES, HANGERS, AND SUPPORTS.
2. PRIOR TO MODIFICATION OF EQUIPMENT, PRE-BALANCE READINGS SHALL BE NOTED FOR AIR DEVICES. INFORMATION SHALL BE LOGGED AND SUBMITTED TO THE OWNER. THESE READINGS WILL BE USED FOR VERIFICATION AFTER MODIFICATIONS HAVE BEEN MADE. MEASURE AND RECORD VALUES FOR AIRFLOWS THROUGH THE EXISTING AIR DEVICES. IF VALUE IS >15% FROM VALUES SHOWN ON PLAN, CONFIRM AIRFLOWS WITH ENGINEER PRIOR TO MODIFICATION FOR EQUIPMENT.
3. PRIOR TO MODIFICATION OF EQUIPMENT, PRE-BALANCE READINGS SHALL BE NOTED FOR EXISTING AHU. INFORMATION SHALL BE LOGGED AND SUBMITTED TO THE OWNER. THESE READINGS WILL BE USED FOR VERIFICATION AFTER MODIFICATIONS HAVE BEEN MADE. MEASURE AND RECORD VALUES FOR AIRFLOW, PRESSURE DROP, AND UNIT ESP AT DUCT MAIN. MEASUREMENTS SHALL BE TAKEN A FEW FEET UPSTREAM OF THE FIRST SUPPLY DUCTWORK TAKEOFF. IF VALUE IS >15% FROM VALUES SHOWN ON PLAN, CONFIRM AIRFLOW WITH ENGINEER PRIOR TO MODIFICATION FOR EQUIPMENT.
4. REMOVE EXISTING EXHAUST DUCT INCLUDING ALL ASSOCIATED AIR DEVICES, HANGERS, AND SUPPORTS TO POINT SHOWN AND CAP FOR CONNECTION TO NEW DUCTWORK.
5. REMOVE EXISTING SUPPLY DUCT INCLUDING ALL ASSOCIATED HANGERS SUPPORTS AND INSULATION BACK TO POINT SHOWN AND CAP FOR CONNECTION TO NEW DUCT.
6. REMOVE EXISTING AIR DEVICES INCLUDING ALL ASSOCIATED HANGERS.
7. REMOVE EXISTING THERMOSTAT AND RETAIN FOR INSTALLATION IN NEW LOCATION.
8. EXISTING THERMOSTAT TO REMAIN.
9. REMOVE EXITING GAS PIPING AND STUB FROM EXTERIOR TO WITHIN EXISTING CEILING AND CAP FOR RECONNECTING AND EXTENSION TO NEW GAS WATER HEATER AT ADDITION. FIELD VERIFY EXISTING CONDITIONS AND LOCATION PRIOR TO COMMENCING WORK.
10. REMOVE EXISTING GAS PIPING FROM BOILER ROOM BACK TO EXISTING GAS METER. CAP FOR NEW CONNECTION PIPING. CAP EXISTING BRANCH CONNECTIONS FOR RECONNECTION TO NEW PIPING.

N

A1 1ST FLR MECHANICAL DEMOLITION PLAN - OVERALL
3/32" = 1'-0"

eua
milwaukee | madison | green bay | denver | atlanta
899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

ENVISION MECHANICAL ENGINEERS INC.
9777 Pyramid Court, Suite 260
Englewood, CO 80112
TEL: 303-688-0223
envisionmep.com
Project #222-063

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

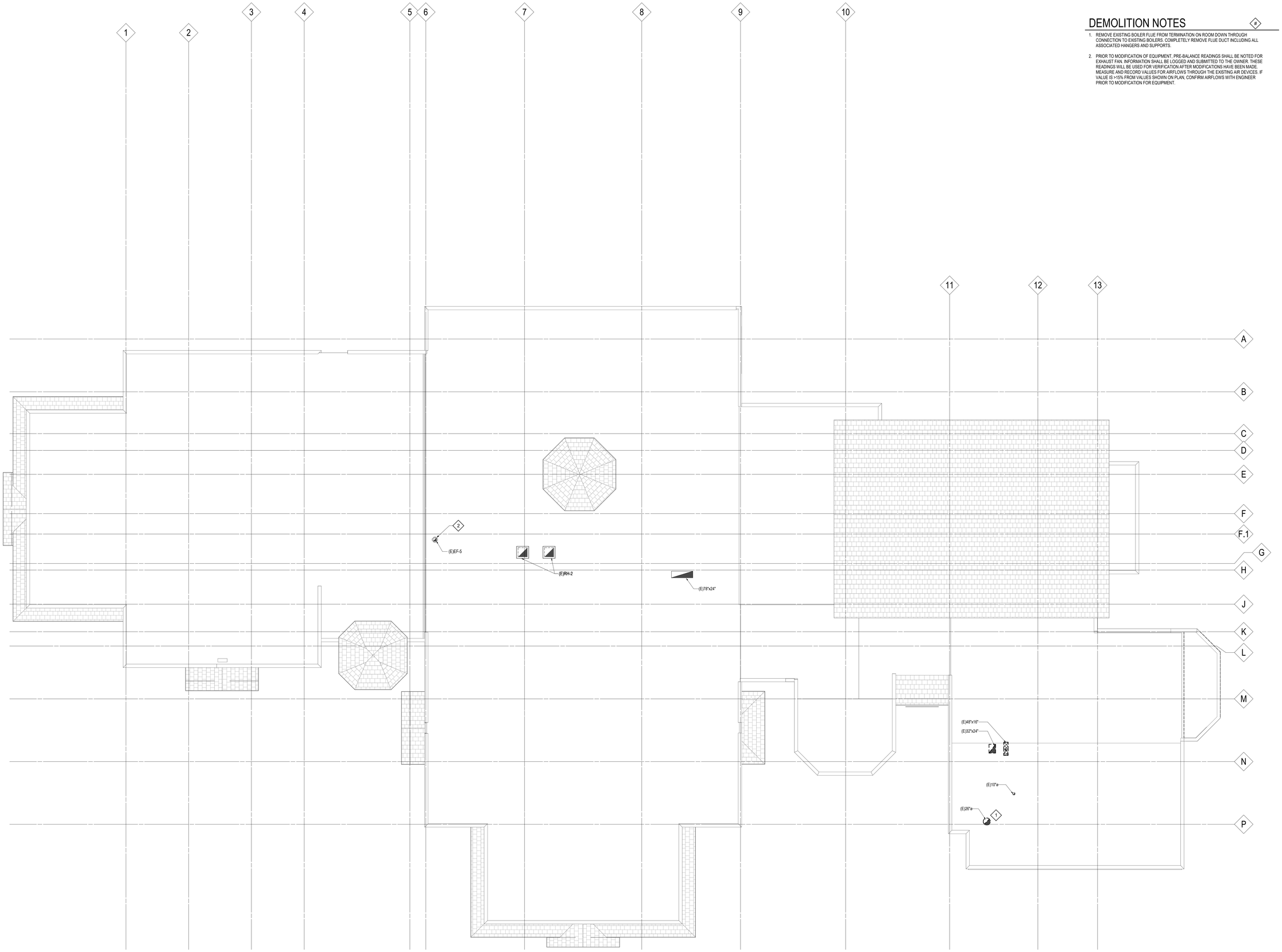
SHEET INFORMATION

COLORADO REGISTERED JERRY K. RIVERS 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS
PROJECT NUMBER 822808-01

~~1ST FLR~~
MECHANICAL DEMOLITION PLAN - OVERALL

MD101



DEMOLITION NOTES

1. REMOVE EXISTING BOILER FLUE FROM TERMINATION ON ROOM DOWN THROUGH CONNECTION TO EXISTING BOILERS. COMPLETELY REMOVE FLUE DUCT INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS.
2. PRIOR TO MODIFICATION OF EQUIPMENT, PRE-BALANCE READINGS SHALL BE NOTED FOR EXHAUST FAN. INFORMATION SHALL BE LOGGED AND SUBMITTED TO THE OWNER. THESE READINGS WILL BE USED FOR VERIFICATION AFTER MODIFICATIONS HAVE BEEN MADE. MEASURE AND RECORD VALUES FOR AIRFLOWS THROUGH THE EXISTING AIR DEVICES. IF VALUE IS >15% FROM VALUES SHOWN ON PLAN, CONFIRM AIRFLOWS WITH ENGINEER PRIOR TO MODIFICATION FOR EQUIPMENT.

N

A1 1ST FLR MECHANICAL DEMOLITION PLAN - OVERALL
3/32" = 1'-0"

1 2 3 4 5 6 7

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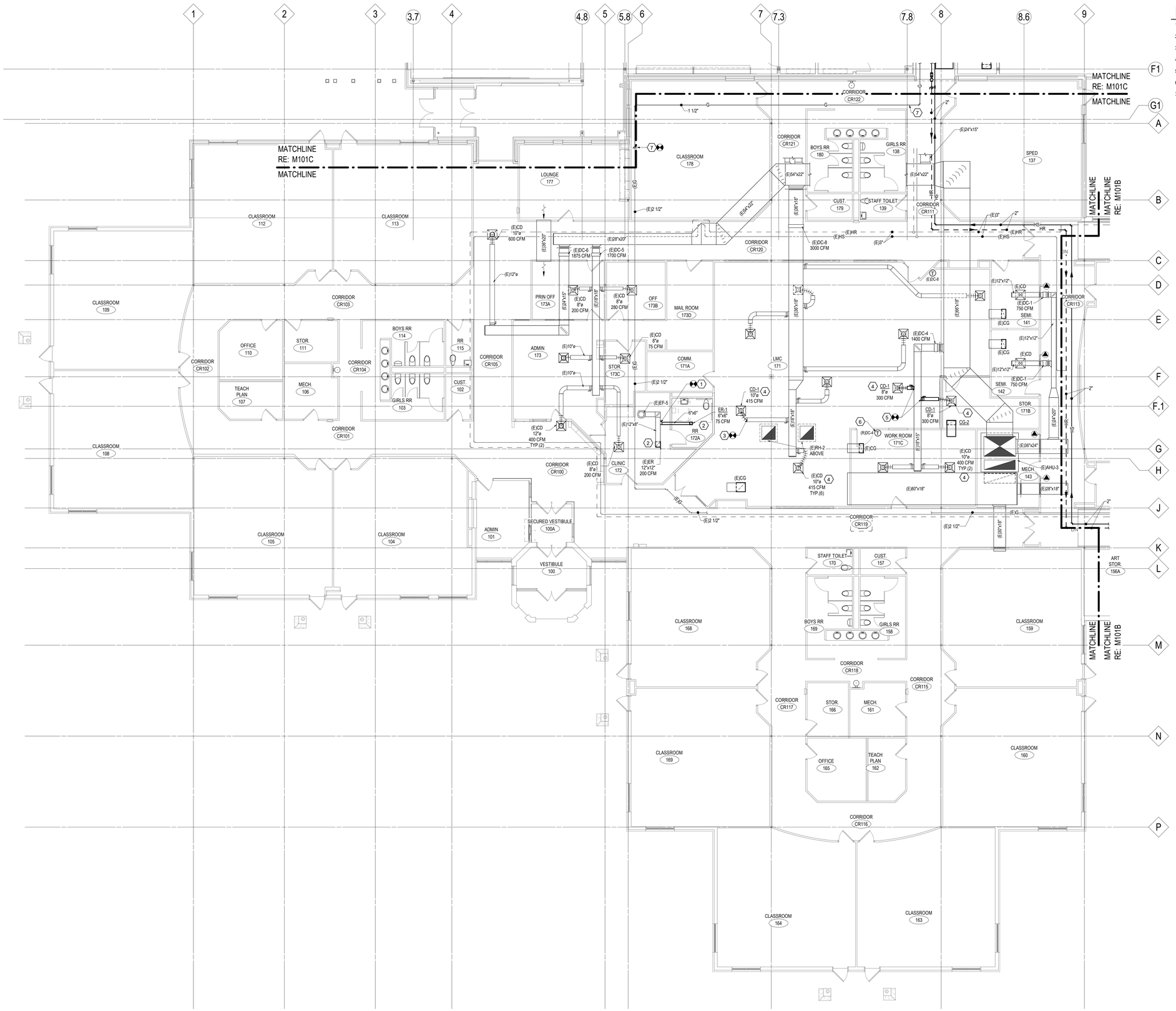
COLORADO REGISTERED JERRY K. RIVERA 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS
PROJECT NUMBER 822808-01

MECHANICAL ROOF DEMOLITION PLAN - OVERALL

MD140



DRAWING NOTES

1. CONNECT NEW 6x6 EXHAUST DUCT TO EXISTING 12x8 EXHAUST DUCT.
2. BALANCE EXHAUST REGISTERS TO AIRFLOWS SHOWN.
3. CONNECT NEW 10"Ø FLEX DUCT TO EXISTING 10"Ø SUPPLY DUCT.
4. BALANCE SUPPLY DIFFUSERS TO AIRFLOWS SHOW ON PLAN.
5. CONNECT NEW 8"Ø SUIPPLY DUCT TO EXISTING 18x15 SUPPLY DUCT.
6. RELOCATE EXISTING THERMOSTAT TO LOCATION SHOWN.
7. EXTEND NEW 1-1/2"G FROM EXISTING 2-1/2"G ABOVE CEILING TO NEW GAS HEATER AT NEW ADDITION. RE: M101C FOR CONTINUATION.

N

A1 1ST FLR MECHANICAL FLOOR PLAN - AREA A
1/8" = 1'-0"

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SHEET INFORMATION

COLORADO REGISTERED JENNY K. RIVAS 37456 07.31.23 PROFESSIONAL ENGINEER

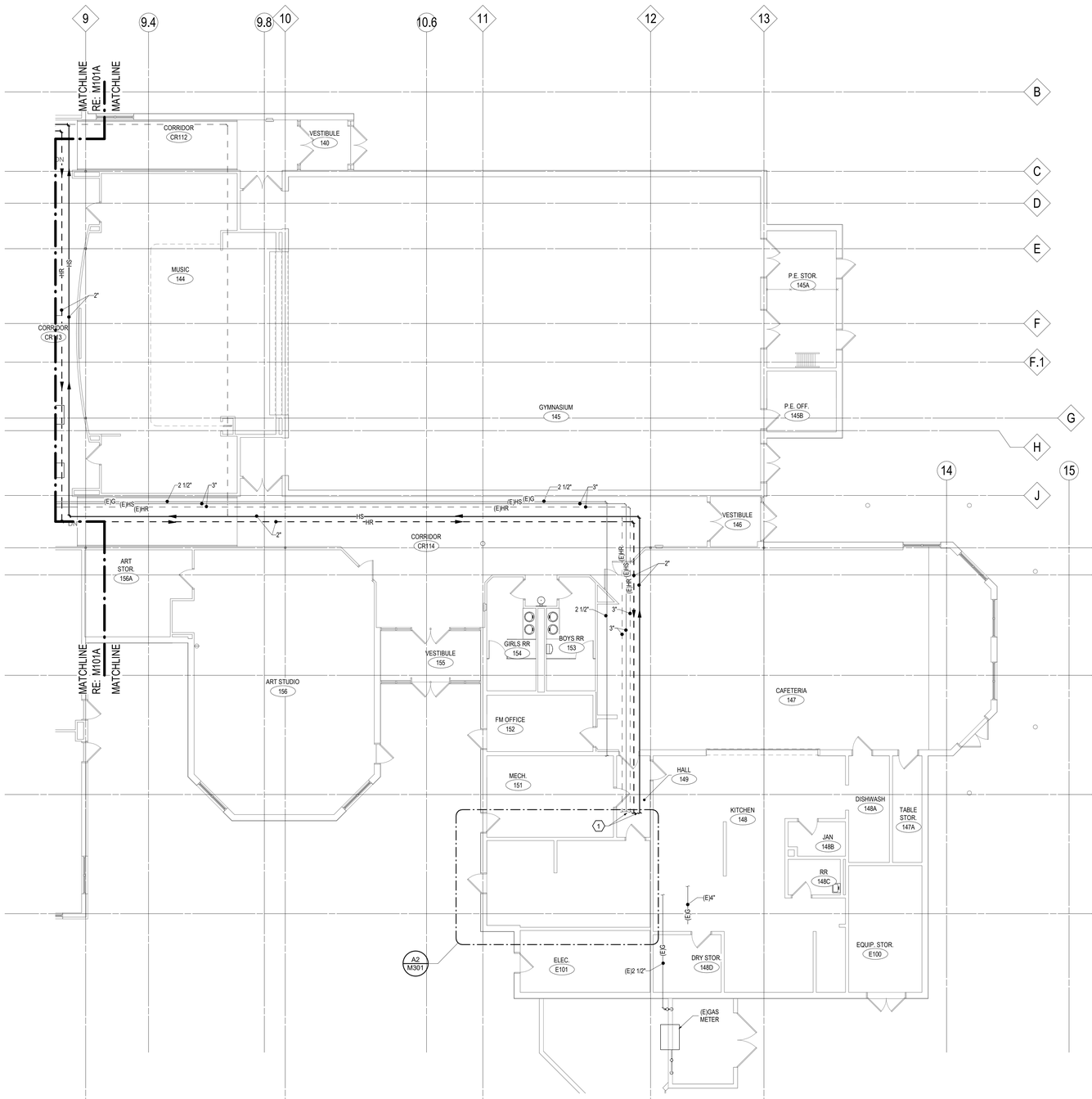
PROJECT MANAGER ANS
PROJECT NUMBER 822808-01

1ST FLR MECHANICAL PLAN - AREA A

M101A

DRAWING NOTES

1. SEE A2 ON SHEET M301 FOR CONTINUATION.



N A1 1ST FLR MECHANICAL FLOOR PLAN - AREA B
1/8" = 1'-0"

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COLORADO REGISTERED
JEREMY K. RIVERA
37456
07.31.23
PROFESSIONAL ENGINEER

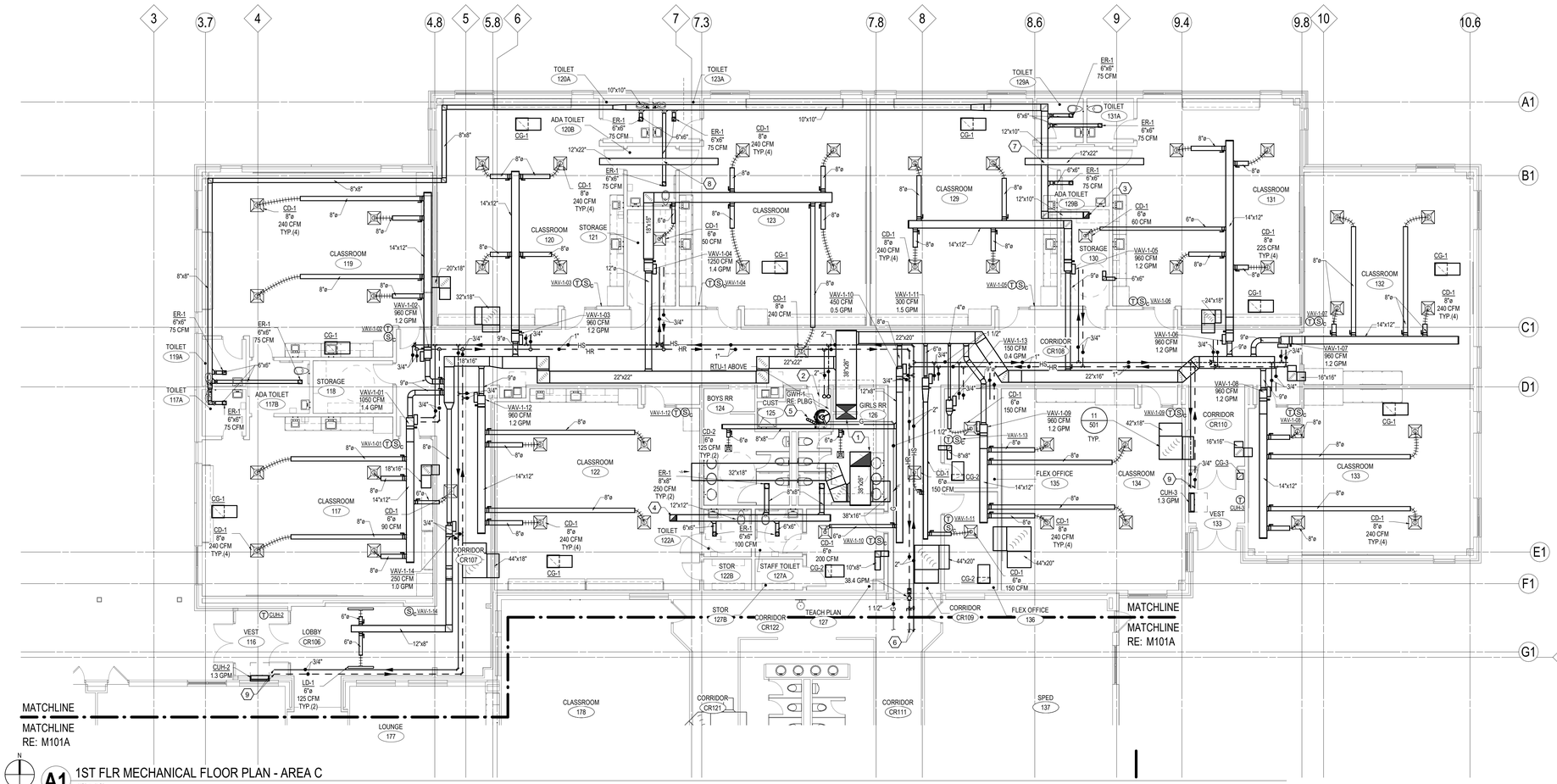
PROJECT MANAGER ANS
PROJECT NUMBER 822808-01

1ST FLR MECHANICAL PLAN - AREA B

M101B

DRAWING NOTES

1. 38x26 SUPPLY AND RETURN DUCT UP TO RTU-1 ABOVE. RE: SHEET M140 FOR CONTINUATION.
2. 2" HS/HR PIPING UP TO RTU-1 ABOVE. RE: SHEET M140 FOR CONTINUATION.
3. 12x10 EXHAUST DUCT UP TO EF-11 ON ROOF ABOVE. RE: SHEET M140 FOR CONTINUATION. TRANSITION TO EXHAUST FAN CONNECTION IN VERTICAL.
4. 12x12 EXHAUST DUCT UP TO EF-12 ON ROOF ABOVE. RE: SHEET M140 FOR CONTINUATION. TRANSITION TO EXHAUST FAN CONNECTION IN VERTICAL.
5. CONCENTRIC VENT FROM GAS WATER HEATER UP TO ROOF ABOVE.
6. SEE SHEET M101A FOR CONTINUATION.
7. 12x22 TRANSFER DUCT TO RUN ABOVE 12x10 EXHAUST DUCT.
8. 12x22 TRANSFER DUCT TO RUN ABOVE 6x6 EXHAUST DUCT.
9. 3/4" HS/HR PIPING DOWN IN WALL TO CABINET UNIT HEATER CONNECTION.



N

A1 1ST FLR MECHANICAL FLOOR PLAN - AREA C

1/8" = 1'-0"

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SHEET INFORMATION

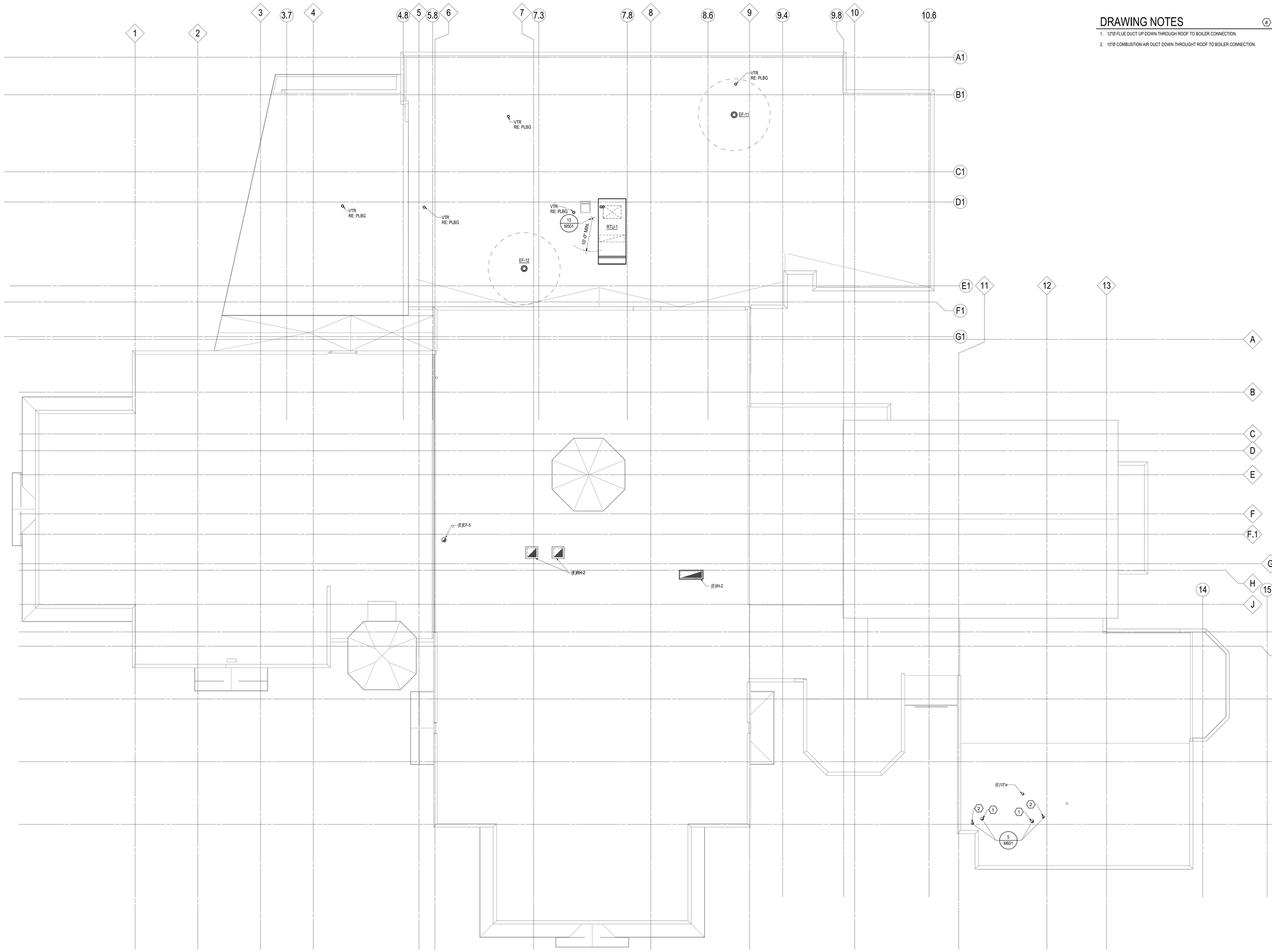
COLORADO REGISTERED HENRY K. RIVERS 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS

PROJECT NUMBER 822808-01

1ST FLR MECHANICAL PLAN - AREA C

M101C



DRAWING NOTES

1. 12"Ø FLUE DUCT UP DOWN THROUGH ROOF TO BOILER CONNECTION.
2. 10"Ø COMBUSTION AIR DUCT DOWN THROUGHT ROOF TO BOILER CONNECTION.

A1 MECHANICAL ROOF PLAN - OVERALL
3/32" = 1'-0"

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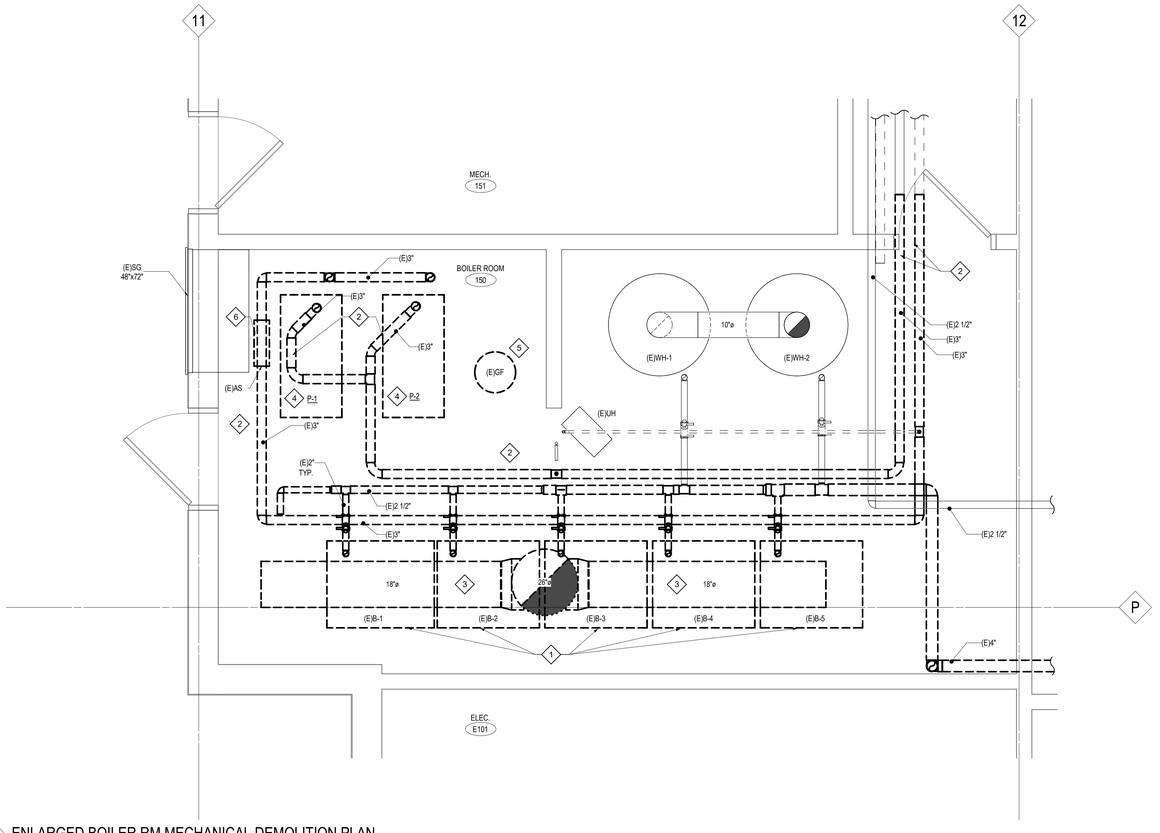
COLORADO REGISTERED JERRY K. RIVETT 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS

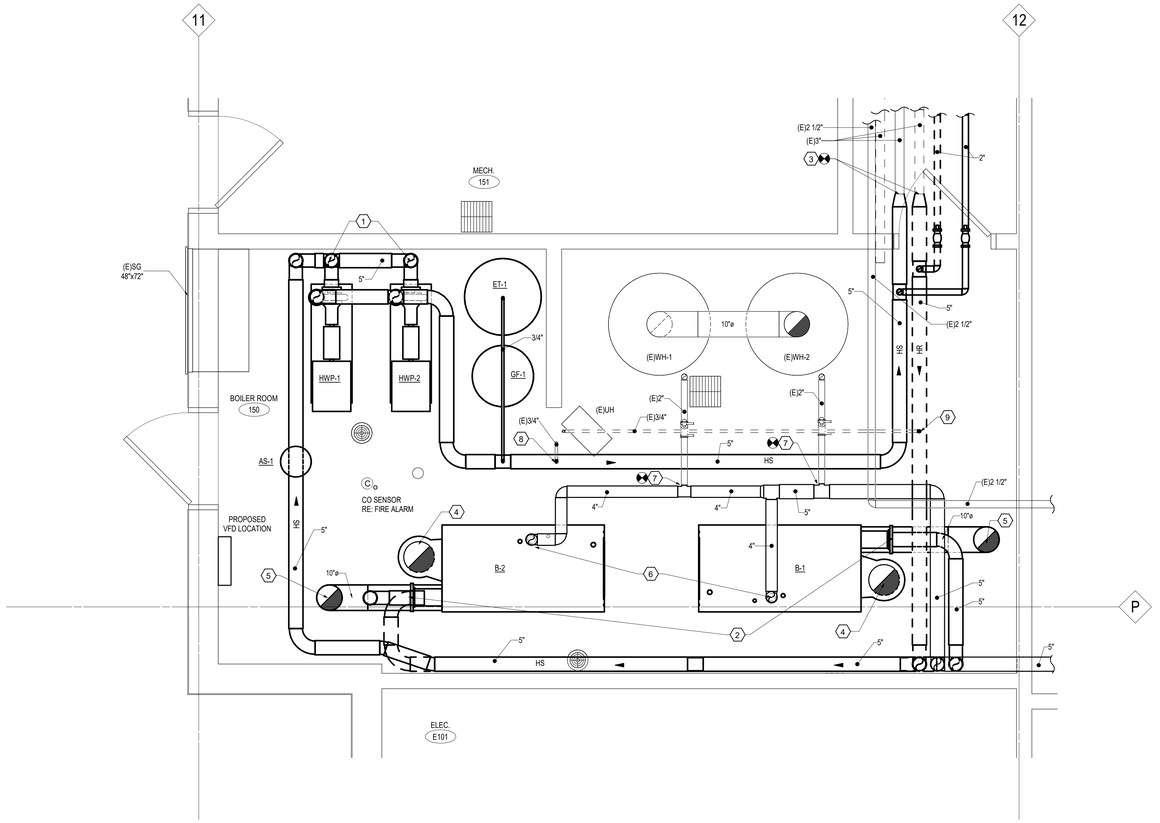
PROJECT NUMBER 822808-01

MECHANICAL ROOF PLAN - OVERALL

M140



N C2 ENLARGED BOILER RM MECHANICAL DEMOLITION PLAN
1/2" = 1'-0"



N A2 ENLARGED BOILER RM MECHANICAL PLAN
1/2" = 1'-0"

DEMOLITION NOTES

1. REMOVE EXISTING BOILER INCLUDING ALL ASSOCIATED CONTROLS, SUPPORTS, PIPING, AND INSULATION.
2. REMOVE EXISTING HS/HR PIPING TO POINT SHOWN. COMPLETELY REMOVE PIPING INCLUDING ALL HANGERS, SUPPORTS, AND INSULATION.
3. REMOVE EXISTING FLUE FROM BOILER CONNECTION THROUGH TERMINATION ON ROOF INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS. CAP EXISTING ROOF PENETRATION FOR INSTALLATION OF NEW FLUE.
4. REMOVE EXISTING HEATING WATER PUMPS INCLUDING ALL SUPPORTS AND ASSOCIATED CONTROLS.
5. REMOVE EXISTING GLYCOL FEEDING INCLUDING ALL ASSOICATED PIPING AND SUPPORTS.
6. REMOVE EXISTING AIR PURGER AND ALL ASSOCAITED HANGERS AND PIPING.

DRAWING NOTES

1. 5" HS PIPING DOWN TO PUMP CONNECTION.
2. 5" HS/HR PIPING DOWN TO BOILER CONNECTION.
3. CONNECT NEW 5" HS/HR PIPING TO EXISTING 3" HS/HR PIPING.
4. 12"Ø FLUE DUCT UP THROUGH ROOF AND DOWN TO BOILER CONNECTION.
5. 10"Ø COMBUSTION AIR DUCT UP THROUGH ROOF AND DOWN TO BOILER CONNECTION.
6. 4" GAS PIPING DOWN TO BOILER CONNECTION
7. CONNECTION NEW 2" GAS PIPING TO EXISTING 4" GAS PIPING.
8. RECONNECT EXISTING 3/4" HS LINE FROM UNIT HEATER TO NEW 5" HS PIPING.
9. RECONNECT EXISTING 3/4" HR LINE FROM UNIT HEATER TO NEW 5" HR PIPING.

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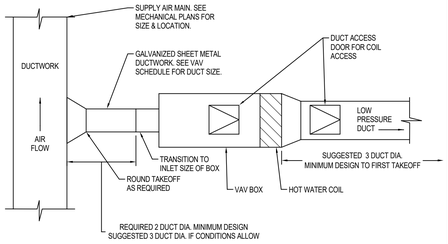
PROJECT MANAGER	ANS
PROJECT NUMBER	822808-01

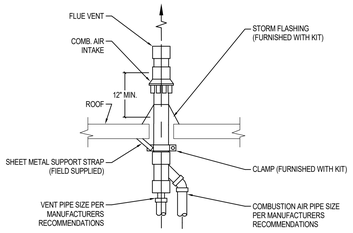
ENLARGED MECHANICAL PLANS

M301

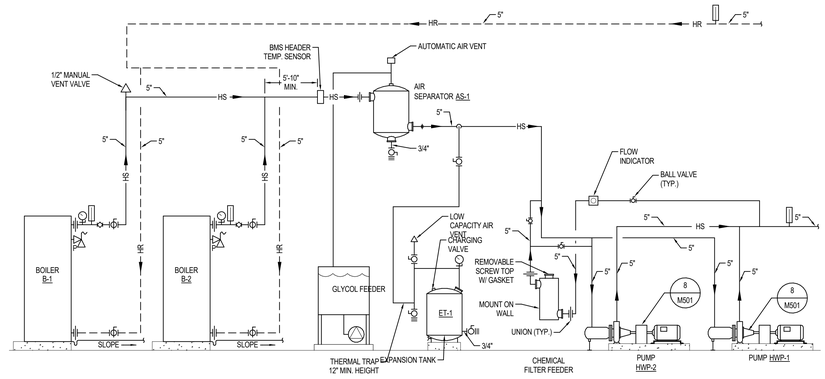
1 2 3 4 5 6 7



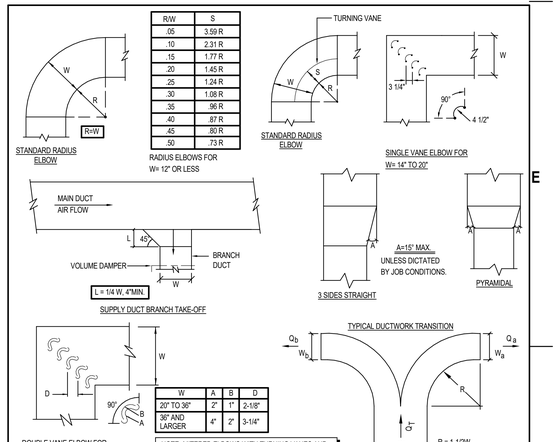
12 VAV BOX INSTALLATION DETAIL
NOT TO SCALE



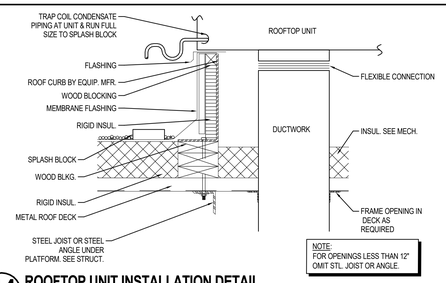
13 CONCENTRIC VENT DETAIL
NOT TO SCALE



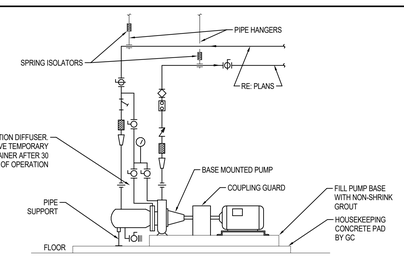
6 CONDENSING BOILER HEATING WATER PIPING DIAGRAM
NOT TO SCALE



1 DUCT CONNECTION DETAILS
NOT TO SCALE



14 ROOFTOP UNIT INSTALLATION DETAIL
NOT TO SCALE

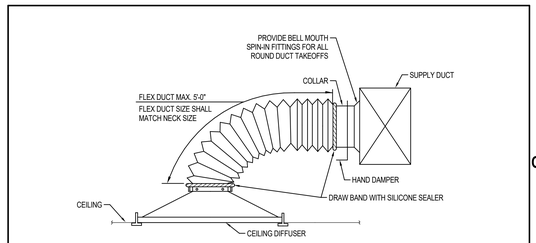


8 END SUCTION PUMP PIPING DETAIL
NOT TO SCALE

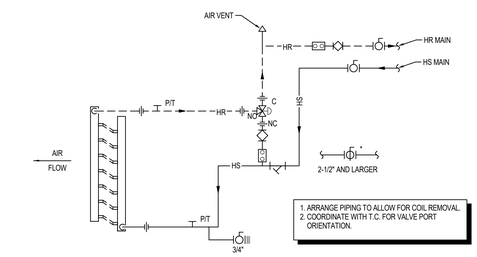
ITEM	FURNISHED BY	INSTALLED BY
CURB	MC	GC
CURB BLOCKING & LEVELING	GC	GC
FLASHING	RC	RC
INSULATION WITHIN CURB	GC	GC/RC
PERIMETER CURB INSULATION	RC	RC
GYPBOARD WITHIN CURB	GC	GC
ROOFING & ACCESSORIES	RC	RC
CURB COVER BOARD (IF REQUIRED)	GC	GC
SPLASH BLOCK	GC/RC	GC/RC
WAFFLE ISOLATION PADS	MC	GC

NOTES:
1. MC = MECHANICAL CONTRACTOR, GC = GENERAL CONTRACTOR, RC = ROOFING CONTRACTOR.
2. REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL ROOFING REQUIREMENTS.
3. TABLE PROVIDED FOR REFERENCE AND COORDINATION OF RESPONSIBILITIES FOR THE INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT MOUNTED UTILIZING ROOF CURBS OR PLATFORMS.

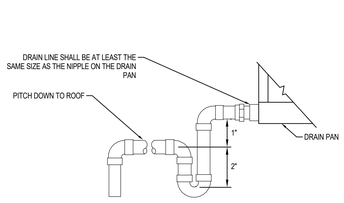
5 MECHANICAL ROOFTOP EQUIPMENT RESPONSIBILITY MATRIX
NOT TO SCALE



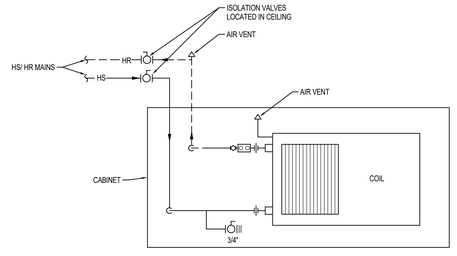
2 TYPICAL DIFFUSER CONNECTION DETAIL
NOT TO SCALE



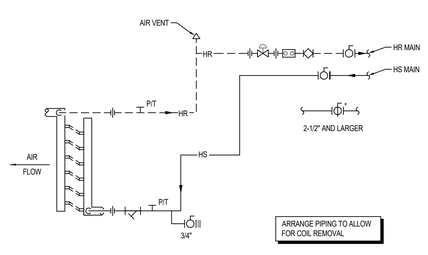
15 HOT WATER COIL PIPING DIAGRAM (3-WAY VALVE)
NOT TO SCALE



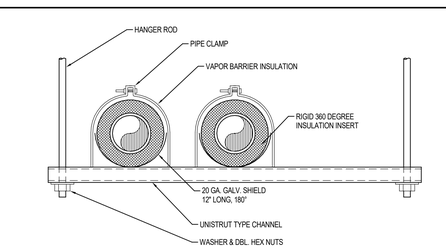
9 ROOFTOP UNIT DRAIN TRAP DETAIL
NOT TO SCALE



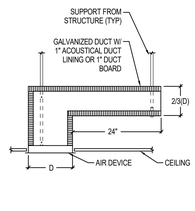
6 HOT WATER CABINET HEATER PIPING DIAGRAM
NOT TO SCALE



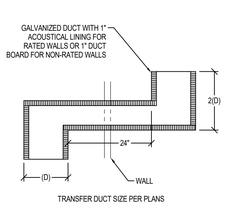
3 HOT WATER COIL PIPING DIAGRAM (2-WAY VALVE)
NOT TO SCALE



16 TRAPEZE HANGER DETAIL
NOT TO SCALE

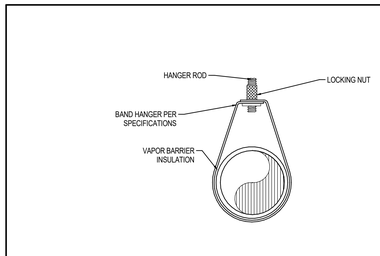


11 SOUND ELBOW DETAIL
NOT TO SCALE

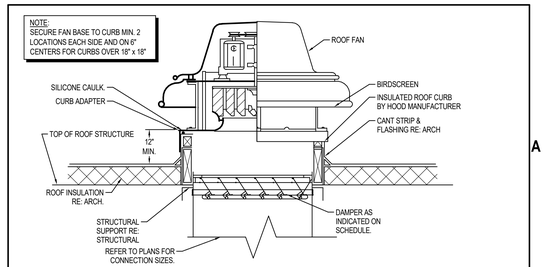


TRANSFER DUCT SIZE PER PLANS

10 'Z' TRANSFER DUCT DETAIL
NOT TO SCALE



7 BAND HANGER DETAIL
NOT TO SCALE (UN-INSULATED PIPE)



4 ROOF EXHAUST FAN DETAIL
NOT TO SCALE

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COLORADO REGISTERED JERRY K. RIVERS 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS

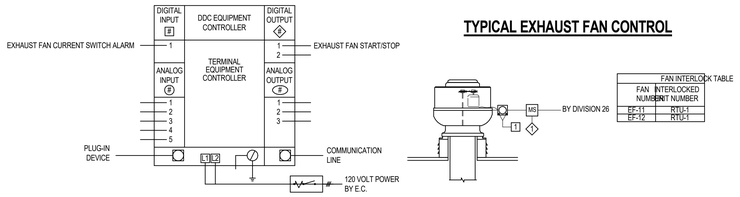
PROJECT NUMBER 822808-01

MECHANICAL DETAILS

M501

1 2 3 4 5 6 7

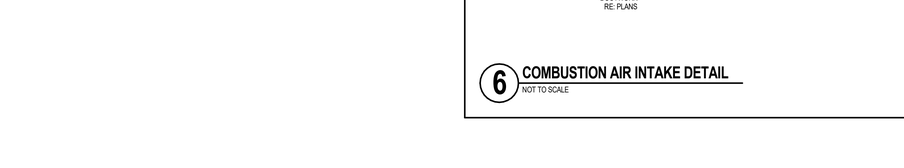
E D C B A



TYPICAL EXHAUST FAN CONTROL

3 MISCELLANEOUS CONTROL DIAGRAMS

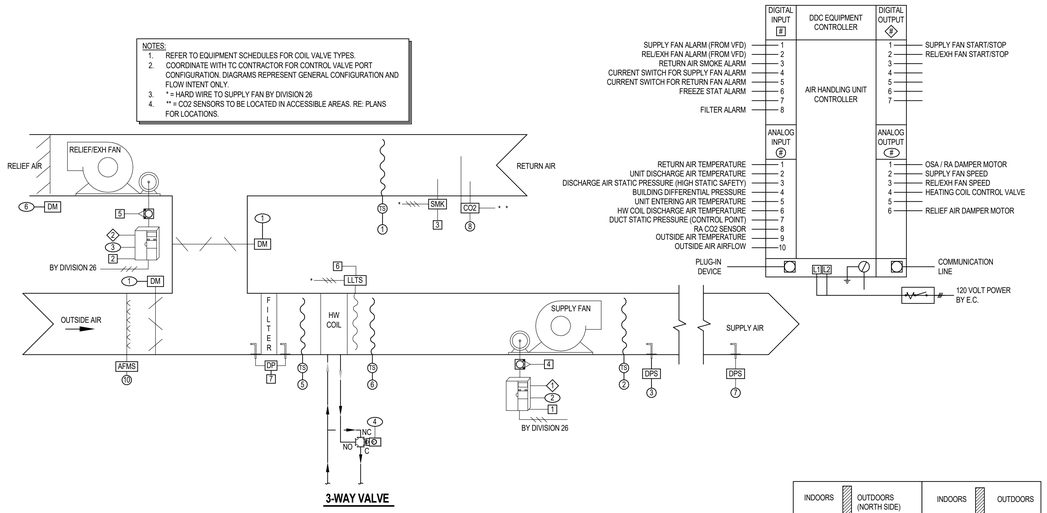
NOT TO SCALE



4 TYPICAL VAV BOX w/ ELEC HEAT CONTROL DIAGRAM

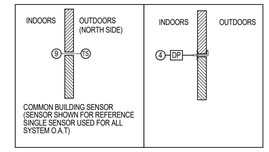
NOT TO SCALE

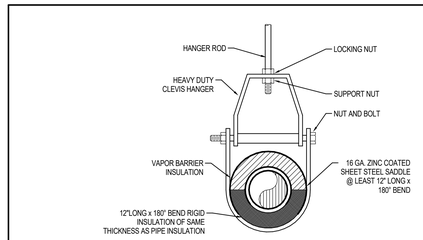
NOTES:
1. REFER TO EQUIPMENT SCHEDULES FOR COIL VALVE TYPES.
2. COORDINATE WITH TC CONTRACTOR FOR CONTROL VALVE PORT CONFIGURATION. DIAGRAMS REPRESENT GENERAL CONFIGURATION AND FLOW INTENT ONLY.
3. * = HARD WIRE TO SUPPLY FAN BY DIVISION 26
4. ** = CO2 SENSORS TO BE LOCATED IN ACCESSIBLE AREAS. RE: PLANS FOR LOCATIONS.



1 VAV AIR HANDLER CONTROL DIAGRAM

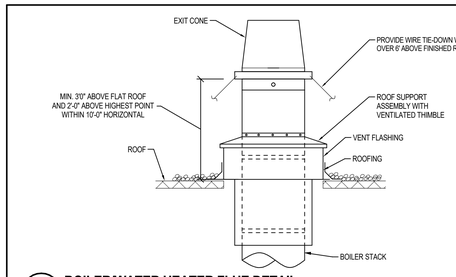
NOT TO SCALE (CW/HW/EXF)





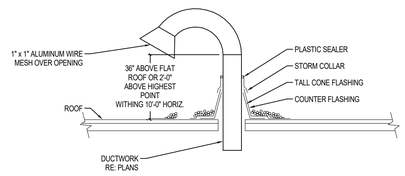
7 CLEVIS HANGER DETAIL

NOT TO SCALE



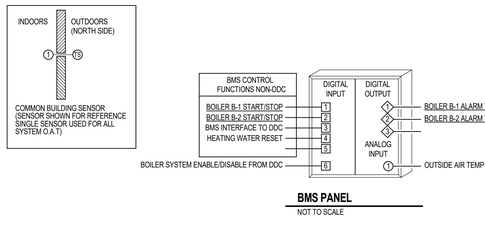
5 BOILER/WATER HEATER FLUE DETAIL

NOT TO SCALE



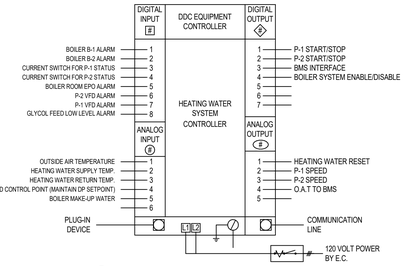
6 COMBUSTION AIR INTAKE DETAIL

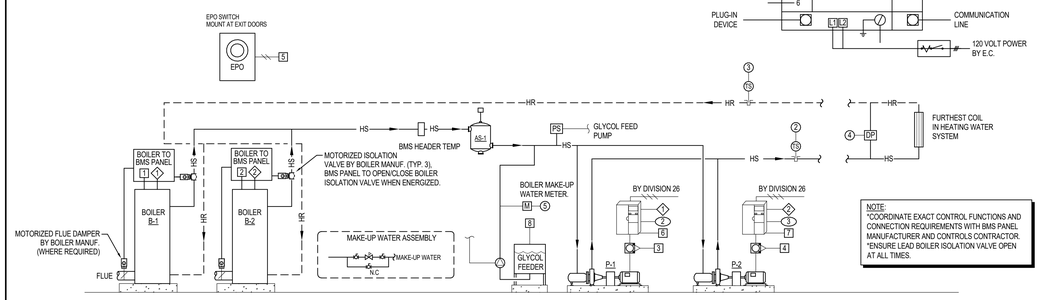
NOT TO SCALE



BMS PANEL

NOT TO SCALE





NOTE:
*COORDINATE EXACT CONTROL FUNCTIONS AND CONNECTION REQUIREMENTS WITH BMS PANEL MANUFACTURER AND CONTROLS CONTRACTOR.
*ENSURE LEAD BOILER ISOLATION VALVE OPEN AT ALL TIMES.

2 HEATING WATER SYSTEM CONTROL DIAGRAM

NOT TO SCALE

milwaukee | madison | green bay | denver | atlanta
899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

ENVISION MECHANICAL ENGINEERS INC.
9777 Pyramid Court, Suite 260
Englewood, CO 80112
TEL: 303-688-0223
envisionmep.com
Project #223-063

PROJECT INFORMATION

Bergen Valley Elementary School Addition & Reno

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12/23/2022	SCHEMATIC DESIGN
02/17/2023	DESIGN DEVELOPMENT
06/16/2023	DESIGN DEVELOPMENT-REVISED
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED JERRY K. RIVERS 37456 07.31.23 PROFESSIONAL ENGINEER

PROJECT MANAGER ANS

PROJECT NUMBER 822808-01

MECHANICAL CONTROL DIAGRAMS

M601

1 2 3 4 5 6 7

E D C B A

FIRE ALARM

FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR/GRAPHIC MAP
FA-RPS	FIRE ALARM REMOTE POWER SUPPLY
C	CONTROL MODULE
M	MONITOR MODULE
	MANUAL PULLDOWN STATION
S	WALL MOUNTED ADA STROBE
	ADA HORN OR SPEAKER WITH STROBE
	MINI HORN / STROBE
MH	ELECTROMAGNETIC DOOR HOLD OPEN
FS	SPRINKLER FLOW SWITCH
TS	SPRINKLER TAMPER SWITCH
°T	THERMAL DETECTOR
°S	PHOTOELECTRIC SMOKE DETECTOR
°H	HEAT DETECTOR
°H135	135˚F FIXED TEMPERATURE HEAT DETECTOR
°H135R	135˚F RATE OF RISE HEAT DETECTOR
	DUCT SMOKE DETECTOR, SUPPLY OR RETURN
TS	REMOTE INDICATING LIGHT (TEST SWITCH)
D	120V. MOTORIZED SMOKE DAMPER
RA	RESCUE ASSISTANCE PHONE
F	FIRE FIGHTERS PHONE JACK

DISTRIBUTION AND RACEWAY

MDC	MAIN DISTRIBUTION CENTER (MDC)
	SURFACE MTD PANELBOARD
	RECESSED PANELBOARD
T	TRANSFORMER
	BRANCH CIRCUIT HOMERUN
	CONDUIT CONCEALED IN FLOOR OR UNDERGROUND
	CONDUIT EXPOSED OR CONCEALED IN WALL OR CEILING
	RACEWAY UP
	RACEWAY DOWN
	CAPPED CONDUIT
3	CURRENT TRANSFORMER
	CIRCUIT BREAKER SWITCH
	FUSED SWITCH
	GROUNDING ELECTRODE CONDUCTOR
M	METER
GFP	GROUND FAULT PROTECTION

SYSTEMS

	TTB, MDF OR IDF SYSTEM BACKBOARD
	TELECOMMUNICATION OUTLET
	FLOOR MOUNTED TELECOMMUNICATION OUTLET
	TELEVISION OUTLET
	CABLE TRAY (LENGTH AS INDICATED ON DRAWINGS)

LIGHTING FIXTURES

$A1_x$	LUMINAIRE TYPE, REFERENCING LUMINAIRE SCHEDULE, TYPICAL ALL FIXTURES. SUBSCRIPT, IF SHOWN, REFERENCES WALL SWITCH OR RELAY/ZONE CONTROL
	WALL MOUNTED LUMINAIRE
	SURFACE OR PENDANT MOUNTED LUMINAIRE
	RECESSED LUMINAIRE
	RECESSED DOWNLIGHT LUMINAIRE
	SURFACE CEILING LUMINAIRE
	PENDANT LUMINAIRE
	ARROW INDICATES DIRECTIONAL LUMINAIRE
	MONOPOINT LUMINAIRE
	SURFACE OR PENDANT TRACK LUMINAIRE REFER TO FIXTURE SCHEDULE FOR HEAD QTY.
	LED TAPE LUMINAIRE
	FESTOON LIGHTING
	RECESSED MULTI-HEAD LUMINAIRE
	FLOOR OR TABLE LAMP
	EXIT LUMINAIRE - SHADED INDICATES FACE / DIRECTIONAL ARROWS AS SHOWN
	BATTERY PACK EMERGENCY LUMINAIRE
	HATCH INDICATES EMERGENCY LUMINAIRE
K	PORCELAIN KEYLESS LAMP HOLDER
	STEP LIGHT TYPE LUMINAIRE
	IN-GRADE UPLIGHT
	BOLLARD LUMINAIRE
	PEDESTRIAN POLE OR POST TOP LUMINAIRE
	EXTERIOR AREA LIGHT

WIRING DEVICES

	DUPLEX RECEPTACLE
	FOUR PLEX RECEPTACLE
	SINGLE RECEPTACLE
	COMBO RECEPTACLE/SWITCH
	SWITCHED DUPLEX RECEPTACLE
	EMERGENCY POWERED DUPLEX RECEPTACLE
	SPECIAL PURPOSE RECEPTACLE
	FLOOR MOUNTED SPECIAL PURPOSE RECEPTACLE
	FLOOR MOUNTED RECEPTACLE DUPLEX/QUAD
CLG CLG	CEILING MOUNTED RECEPTACLE DUPLEX/QUAD
SR	SURFACE RACEWAY
	CLOCK RECEPTACLE
J	JUNCTION BOX
J	WALL MOUNTED J-BOX
J	FLOOR MOUNTED JUNCTION BOX
	MOLDED CASE CIRCUIT BREAKER IN ENCLOSURE
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	MAGNETIC CONTROLLER (STARTER)
	COMBINATION STARTER/DISCONNECT SWITCH
HP	MOTOR
R	RELAY
TC	TIME CLOCK
PC	PHOTOCELL
^{TO}	THERMAL OVERLOAD SWITCH
$	SINGLE POLE SWITCH, LINE VOLTAGE
$^{3}	3-WAY SWITCH, LINE VOLTAGE
$^{4}	4-WAY SWITCH, LINE VOLTAGE
$^{K}	KEY OPERATED SWITCH
$^{D}	DIMMER SWITCH, LINE VOLTAGE
$^{DOOR}	RECESSED DOOR SWITCH
X	LIGHTING CONTROL DEVICE, REFER TO DETAILS FOR CONTROL INTENT

ABBREVIATIONS AND SYMBOLS

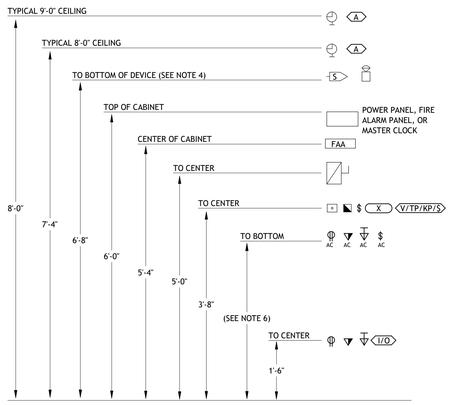
A	AMPERE(S)
AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BFF	BELOW FINISHED FLOOR
BOF	BOTTOM OF FIXTURE
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CLG	CEILING
CT	CURRENT TRANSFORMER
DED	DEDICATED CIRCUIT
DISC	DISCONNECT
DW	DISHWASHER
DWG(S)	DRAWING(S)
(E)	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
(ER)	EXISTING TO BE RELOCATED
EM	EMERGENCY
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
F	FUSE
FLA	FULL LOAD AMPS
FS	SPRINKLER FLOW SWITCH
G	GROUND
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HP	HORSEPOWER
IDF	INTERMEDIATE DISTRIBUTION FACILITY
IG	ISOLATED GROUND
ISC	SHORT CIRCUIT CURRENT
KVA	KILOVOLT AMPERE(S)
KW	KILOWATT(S)
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPERE(S)
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION CENTER
MDF	MAIN DISTRIBUTION FACILITY
MLO	MAIN LUGS ONLY
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NC	NORMALLY CLOSED
NL	NIGHT LIGHT - SEE GENERAL NOTES
NO	NORMALLY OPEN
OAE	OR APPROVED EQUAL
OFH	OVERALL FIXTURE HEIGHT
OH	OVERHEAD
P	POLE
PART	PARTIAL CIRCUIT
PH	PHASE
PNL	PANEL
RCPT	RECEPTACLE
REF	REFRIGERATOR
RFD	RECESSED FIXTURE DEPTH
(R)	EXISTING TO BE REMOVED
(RL)	RELOCATED LOCATION
SPD	SURGE PROTECTION DEVICE
TS	SPRINKLER TAMPER SWITCH
UC	UNDER COUNTER/CABINET
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
W	WATT(S) OR WIRE
WFD	WALL FIXTURE DEPTH
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER
	POOL EQUIPMENT SCHEDULE NOTATION
	KITCHEN EQUIPMENT SCHEDULE NOTATION
	MECHANICAL EQUIPMENT SCHEDULE NOTATION
	DETAIL NOTE
	DELTA REVISION NOTE
	ELECTRICAL WIRE SIZE
T1	LIGHTING CONTROLS SEQUENCE OF OPERATION

APPLICABLE ADOPTED CODES

1. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL NECESSARY FOR A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM.
2. MATERIALS AND INSTALLATION SHALL COMPLY WITH CODES, LAWS AND ORDINANCES OF FEDERAL, STATE AND LOCAL GOVERNING BODIES HAVING JURISDICTION
3. MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY U.L., ETL, CSA OR ANOTHER RECOGNIZED TESTING LAB
4. ALL WORK REQUIRED FOR THE INSTALLATION AS SHOWN ON DRAWINGS INCLUDING LABOR, EQUIPMENT AND MATERIALS SHALL BE IN STRICT COMPLIANCE WITH THE BUILDING STANDARDS, EXCEPT AS NOTED OTHERWISE.
5. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES, TAXES AND LICENSES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE ELECTRICAL WORK
6. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO GOVERNMENTAL AGENCIES AND UTILITY COMPANIES SHOP DRAWINGS, WHICH ARE REQUIRED BY THESE AGENCIES, FOR THEIR APPROVAL
7. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
8. FOR ALL JOBS THAT INCLUDE DEMOLITION WORK BY THE ELECTRICAL CONTRACTOR, DURING AND AFTER DEMOLITION, EC SHALL MAINTAIN CIRCUIT CONTINUITY TO ALL EXISTING DEVICES THAT ARE TO REMAIN. EC SHALL REMOVE, RELOCATE, AND/OR REWORK ANY CONDUIT AND WIRING TO FACILITATE THE NEW CONSTRUCTION SCOPE OF WORK. FOR ALL LUMINAIRES THAT ARE EXISTING TO REMAIN OR EXISTING TO BE RELOCATED, EC SHALL CLEAN LENSES AND REPLACE ALL EXTINGUISHED LAMPS, UON.
9. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.
10. ALL MATERIALS, AND EQUIPMENT SHALL BE ERECTED, INSTALLED, CONNECTED, CLEANED, ADJUSTED, TESTED, CONDITIONED, AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
11. ALL CUTTING, DRILLING AND PATCHING OF MASONRY, STEEL OR IRON WORK BELONGING TO THE BUILDING MUST BE DONE BY THIS CONTRACTOR IN ORDER THAT HIS WORK MAY BE PROPERLY INSTALLED, BUT UNDER NO CONDITIONS MAY STRUCTURAL WORK BE CUT, EXCEPT AT THE DIRECTION OF THE ARCHITECT-DESIGNER OR THEIR REPRESENTATIVE.
12. E.C. IS TO REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ALL FIRE RATED PENETRATION INSTALLATION REQUIREMENTS. E.C. IS TO NOTIFY ENGINEER AND ARCHITECT PRIOR TO INSTALLING ANY FIXTURES WITHIN A FIRE RATED CEILING OR WALL. FIRE RATING MUST BE MAINTAINED FOR THIS TYPE OF INSTALLATION WITH DRYWALL TENTING.
13. SHOP DRAWINGS SHALL INCLUDE MANUFACTURER'S NAMES, CATALOG NUMBERS, CUTS, DIAGRAMS AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND REVIEW THE EQUIPMENT. SUBMITTALS SHALL BE IN LOGICAL GROUPS, FOR EXAMPLE, ALL LIGHTING FIXTURES, PARTIAL SUBMITTALS WILL NOT BE REVIEWED.
14. PROVIDE THE FOLLOWING INFORMATION, PER IECC 2021 C408.3.2.2. TO THE PARTY RESPONSIBLE FOR PROJECT COMMISSIONING PLAN (COMMISSIONING AGENT/ MECHANICAL ENGINEER) AND ELECTRICAL ENGINEER:
A. CUTSHEETS FOR ALL INSTALLED LIGHTING AND LIGHTING CONTROLS.
B. OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF INSTALLED LIGHTING, REQUIRED ROUTINE MAINTENANCE ACTIONS, CLEANING AND RECOMMENDED RELAMPING SHALL BE CLEARLY IDENTIFIED.
C. SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS.
INSPECTION OF ALL LIGHTING CONTROLS SHALL BE PERFORMED PRIOR TO ELECTRICAL ENGINEER'S COMMISSIONING SITE VISIT. RECALIBRATION OF LIGHTING CONTROLS SHALL BE PERFORMED FOLLOWING SITE VISIT AND SHALL BE BASED UPON THE RECOMMENDATIONS OF THE ELECTRICAL ENGINEER.
15. ALL MATERIAL, EQUIPMENT, WIRING DEVICES, ETC. SHALL BE NEW, UNLESS SPECIFICALLY INDICATED AS EXISTING TO BE REUSED.
16. ALL NEW CIRCUIT BREAKERS FOR NEW OR EXISTING PANELBOARDS SHALL MATCH EXISTING BUILDING PANELBOARD MANUFACTURER AND BREAKER TYPE. THE CONTRACTOR SHALL PROVIDE NEW TYPE WRITTEN PANEL DIRECTORIES FOR ALL NEW PANELS AND EXISTING PANELS WHICH HAVE CHANGED. PANELBOARD SHALL BE MARKED WHERE THE SOURCE OF POWER SUPPLY ORIGINATES, AND IF SERIES COMBINATION SYSTEMS ARE UTILIZED AND THEIR LISTED AMPERE RATING.
17. DO NOT SHARE NEUTRAL CONDUCTORS FOR MULTIWIRE BRANCH CIRCUITS. WHERE SHARED NEUTRAL CONDUCTORS ARE REQUIRED (SUCH AS POWERED FURNITURE SYSTEMS), HANDLE TIES SHALL BE PROVIDED ON THE CIRCUIT BREAKERS, WITH SHARED NEUTRALS, SUCH THAT IT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS. ALL HANDLE TIES ARE REQUIRED TO BE INDICATED ON THE PANELBOARD SHOP DRAWINGS.
18. SHOULD ACTUAL FIELD CONDITIONS REQUIRE INDICATED CIRCUIT DESIGNATIONS TO VARY, INDICATE THE CIRCUIT NUMBER USED ON THE "AS-BUILT" DRAWINGS.
19. ALL SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD BY THE ELECTRICAL CONTRACTOR WITH THE MAXIMUM AVAILABLE FAULT CURRENT AS INDICATED WITHIN THESE DOCUMENTS. THE FIELD MARKING(S) SHALL COMPLY WITH ELECTRICAL SPECIFICATIONS FOR READABILITY AND DURABILITY.
20. ALL NEW CIRCUITS SHALL HAVE A GROUND WIRE INSTALLED.
21. ALL WIRING NOT INSTALLED IN CONDUIT AND INSTALLED IN THE CEILING SPACE SHALL BE PLENUM RATED.
22. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SPECIAL OUTLET BOXES THAT MAY BE REQUIRED TO ENCLOSE RECEPTACLES.
23. IN EXPOSED AND SUSPENDED CEILING APPLICATIONS, ROUTE CONDUIT AS CLOSE TO STRUCTURAL SLAB OR DECK AS POSSIBLE, AND SUPPORT CONDUIT AND JUNCTION BOXES DIRECTLY FROM THE STRUCTURAL SLAB, DECK, OR FRAMING PROVIDED FOR THAT PURPOSE. LIGHTING BRANCH CIRCUIT CONDUITS SHALL NOT BE CLIPPED TO THE CEILING SYSTEM HAS BEEN SPECIFICALLY DESIGNED FOR THAT PURPOSE.
24. ALL EXPOSED CONDUIT SHALL BE CONCEALED TO THE GREATEST EXTENT POSSIBLE, AND SHALL BE INSTALLED PARALLEL AND CLOSE TO STRUCTURAL MEMBERS. GENERAL CONTRACTOR SHALL PAINT CONDUIT TO MATCH ADJACENT FINISHES.
25. PROVIDE LUMINAIRES SHOWN AS SHADED WITH EMERGENCY BATTERY BACKUP POWER. EMERGENCY LUMINAIRES SHALL SENSE UNSWITCHED POWER TO THE SPACE AND OPERATE AUTOMATICALLY UPON LOSS OF NORMAL POWER. ALL SHADED LUMINAIRES WITH LED SOURCES SHALL BE PROVIDED WITH 90 MINUTES OF BATTERY BACKUP POWER. AL EMERGENCY LUMINAIRES SHALL HAVE INTEGRAL OR REMOTE TEST SWITCHES AS INDICATED IN THE FIXTURE SCHEDULE AND VISIBLE INDICATING LIGHTS. CONNECT THE EMERGENCY BATTERY BALLAST/DRIVER TO THE UN-SWITCHED LEG OF THE LIGHTING CIRCUIT INDICATED.
26. ALL BATTERY BACKUP EMERGENCY LIGHTING AND EXIT LIGHTS SHALL BE WIRED AHEAD OF ANY LOCAL SWITCHING, UON.
27. ALL DIMMED LIGHTING CIRCUITS ARE TO RECEIVE DEDICATED NEUTRALS. DO NOT SHARE NEUTRALS ON DIMMED LIGHTING CIRCUITS.
28. PROVIDE OWNER WITH A COMPLETE LISTING OF ALL LAMPS UTILIZED ON THE PROJECT INCLUDING MANUFACTURER AND CATALOG INFORMATION. PROVIDE A SUGGESTED SOURCE, INCLUDING CONTACT NAME AND PHONE NUMBER, FOR REORDERING.
29. THE CONTRACTOR SHALL VERIFY THE CEILING TYPE BEFORE ORDERING LIGHTING.
30. ROUGH-IN FOR MECHANICAL EQUIPMENT SHALL ONLY OCCUR AFTER MECHANICAL EQUIPMENT SUBMITTALS ARE THOROUGHLY REVIEWED FOR CHANGES. NOTIFY ENGINEER OF ANY DISCREPANCIES.
31. FINAL LAYOUT AND QUANTITY OF ALL FIRE ALARM DEVICES SUBJECT TO APPROVAL OF LOCAL AUTHORITY HAVING JURISDICTION.
32. THE POWER AND CONTROL REQUIREMENTS FOR ALL EQUIPMENT CONNECTIONS SHALL BE CONFIRMED WITH APPROVED SHOP DRAWINGS PRIOR TO ELECTRICAL ROUGH-IN. FINAL POWER REQUIREMENTS, DIMENSIONED ROUGH-IN LOCATIONS, LOW VOLTAGE SYSTEM CONNECTIONS, ETC. SHALL BE CONFIRMED AND MODIFIED AS REQUIRED.
33. ALL DEVICES IN OR ABOVE COUNTERS SHALL HAVE LOCATIONS AND MOUNTING HEIGHTS CONFIRMED WITH ARCHITECTURAL ELEVATIONS & OWNER PRIOR TO ROUGH-IN. ANY ADJUSTMENTS TO MOUNTING HEIGHTS REQUIRED BY LACK OF COORDINATION WILL BE AT THE CONTRACTOR'S EXPENSE.
34. ALL EXISTING ELECTRICAL SERVICES NOT SPECIFICALLY INDICATED TO BE REMOVED OR ALTERED SHALL REMAIN AS THEY PRESENTLY EXIST.
35. G.C. SHALL INCLUDE IN HIS COST THE REMOVAL OF ALL EXISTING ELECTRICAL DEVICES, CONDUITS, FIXTURES AND EQUIPMENT. TURN EQUIPMENT OVER TO OWNER AS INDICATED OR RECYCLE/DISCARD ALL EQUIPMENT AS REQUIRED. E.C. SHALL BE RESPONSIBLE FOR DISCONNECTING PRIMARY SERVICE AND TEMPORARY POWER.
36. WHERE EXISTING CEILINGS ARE REVISED FROM ACCESSIBLE TO NON-ACCESSIBLE, CONTRACTOR IS TO INCLUDE IN HIS BID THE COSTS ASSOCIATED WITH RELOCATING ALL ELECTRICAL EQUIPMENT REQUIRING ACCESS ABOVE THE EXISTING CEILING TO A NEW ACCESSIBLE CEILING LOCATION APPROVED BY ARCHITECT AND ENGINEER. THE USE OF ACCESS PANELS IN THE NEW CEILING TO AVOID RELOCATION OF THIS EQUIPMENT IS NOT ACCEPTABLE.
37. CONTRACTOR TO CONDUCT FUNCTIONAL TESTING OF LIGHTING CONTROLS EQUIPMENT AS REQUIRED BY IECC 2021, SECTION C408.3. AFTER THIS TESTING IS OBSERVED AND COMPLETED, THE REGISTERED DESIGN PROFESSIONAL OR COMMISSIONING AUTHORITY SHALL PROVIDE DOCUMENTATION TO THE AHJ THAT CERTIFIES THAT THE INSTALLATION MEETS THE DOCUMENTED PERFORMANCE CRITERIA OF SECTION C405.
38. IDENTIFY EACH RECEPTACLE WITH PANELBOARD IDENTIFICATION AND CIRCUIT NUMBER. USE HOT, STAMPED, OR ENGRAVED MACHINE PRINTING WITH BLACK-FILLED LETTERING ON FACE OF PLATE, AND DURABLE WIRE MARKERS OR TAGS INSIDE OUTLET BOXES.
39. UNLESS OTHERWISE NOTED, ALL GFCI RECEPTACLES SHALL HAVE TEST/RESET SWITCHES INTEGRAL TO RECEPTACLE DEVICE.

APPLICABLE BUILDING CODES

A.	2021 INTERNATIONAL BUILDING CODE (IBC) WITH LOCAL AMENDMENTS
B.	2021 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
C.	2021 INTERNATIONAL FIRE CODE (IFC)
D.	2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
E.	2020 NATIONAL ELECTRIC CODE (NEC)



NOTES:

1. WHERE MULTIPLE LINE VOLTAGE DEVICES ARE SHOWN ADJACENT TO EACH OTHER, THEY ARE ALL TO SHARE THE SAME JUNCTION BOX, UP TO FOUR GANGS.
2. WHERE MORE THAN FOUR DEVICES ARE SHOWN ADJACENT TO EACH OTHER, DEVICES ARE TO STACK VERTICALLY ABOVE ONE ANOTHER IN TWO ROWS IN AS SMALL OF GANG BOXES AS POSSIBLE. I.E. SIX DEVICES WILL USE TWO THREE GANG BOXES, FIVE DEVICES WILL USE ONE THREE GANG AND ONE TWO GANG BOX. WHEN DIMMERS ARE GANGED TOGETHER, REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR DE-RATING.
3. SEPARATELY GANGED DEVICES ARE NOT ALLOWED TO BE INSTALLED ADJACENT TO ONE ANOTHER HORIZONTALLY WITHIN THE SAME STUD BAY.
4. AUDIBLE/VISUAL FIRE ALARM DEVICES SHOWN ARE TO BE MOUNTED AT 90" OR 6" BELOW CEILING, WHICHEVER IS LOWER. ADA STROBES TO BE MOUNTED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER.
5. MAXIMUM ELEVATION FOR ALL LOAD CENTER CIRCUIT BREAKERS SHALL NOT EXCEED 48" AFF, WITHIN DWELLING UNITS.
6. THE E.C. SHALL REFER TO ARCHITECTURAL ELEVATIONS TO COORDINATE ALL COUNTER HEIGHTS. ALL "AC" DEVICES SHALL HAVE BOTTOM OF BACK-BOX MOUNTED 4" ABOVE THE BACK/SIDE SPLASH.

1 | DEVICE MOUNTING HEIGHT

E000 | NTS

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com Project #: 8140.00

PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER 35717 7/31/2023

PROJECT MANAGER MRS

PROJECT NUMBER 821346-01

ELECTRICAL COVER SHEET

E000

Jefferson County Public Schools
FIRE ALARM SYSTEM DESIGN CRITERIA

The fire alarm system design is based upon the following codes:

Latest versions as adopted by the State of Colorado, Division of Fire Prevention and Control.

1. International Building Code (IBC)
2. International Fire Code (IFC)
3. International Mechanical Code (IMC)
4. National Electrical Code (NEC)
5. National Fire Alarm Code (NFPA 72)
6. Elevator Safety Code (ANSI A17.1)
7. Americans with Disabilities Accessibility Guidelines (ADAAG)
8. State of Colorado Requirements
9. Jefferson County Public Schools Division 28 Technical Guidelines

In addition to the state and code requirements, the fire alarm system design incorporates the following additional design criteria:

Smoke Detection:

1. Smoke detectors shall be located in all electrical rooms, air handling equipment rooms, and other similar code required areas.
2. Smoke detectors shall be located throughout all common corridors, gyms, cafeterias, and libraries.
3. Smoke detectors shall be located in all MDF, IDF and other communication type rooms.
4. Smoke detectors shall be located at the fire alarm control panel.
5. Smoke detectors shall be located at all fire alarm remote power supply panels.
6. Smoke detectors shall be located at all distributed amplifier panels.
7. Smoke detectors shall be located in all kindergarten classrooms.
8. Smoke detectors shall be located in all special education classrooms, and other areas where special needs students would normally be located.
9. Smoke detectors shall be located in all computer classrooms.
10. Smoke detectors shall be located in all auditoriums.
11. Smoke detectors shall be located in elevator lobbies, elevator machine room, and the top of shaft for elevator control purposes as allowed by code.
12. Only a single smoke detector is required in each modular classroom except where full detection is required for special needs classrooms or kindergarten classrooms.
13. Smoke detectors for fire/smoke damper and firefly release shall be located in accordance with IBC latest edition. Contractor shall pretest fire/smoke damper and firefly function prior to start of construction and report deficiencies to JCSD.

Heat Detection:

1. Heat detectors shall be located in all code required areas not suitable for smoke detection, and shall be intelligent, analog heat detectors.
2. 135°F rate of rise heat detectors shall be located in all chemical storage areas, science prep rooms, and science classrooms.
3. 135°F rate of rise heat detectors shall be located in all student use restrooms. Heat detectors shall be located outside of the airflow path of HVAC registers. Heat detectors that are required in small restrooms in which the detector must be located in the airflow path shall be programmed for fixed temperature. Heat detectors are not required for single toilet rooms with no sink.
4. 135°F fixed temperature heat detectors shall be located in modular classroom restrooms and mechanical closets.
5. 135°F fixed temperature heat detectors shall be located in kitchen areas.
6. Heat detectors set at the highest programmable fixed temperature possible shall be located in yard equipment storage rooms unless storage is detached from the main school building.
7. Heat detectors set at the highest programmable fixed temperature possible shall be located in all boiler rooms, chiller rooms, and other similar rooms unless sprinkled.
8. Heat detectors set at the highest programmable fixed temperature possible shall be located in the kiln room.
9. Heat detectors shall be located in the elevator machine room and top of shaft for elevator shunt trip purposes as required by state code.
10. 135°F rate of rise heat detectors shall be located in all teacher/staff lounges.
11. 135°F rate of rise heat detectors shall be located on all middle school and high school stages.
12. 135°F fixed temperature heat detectors shall be located in all home economics classrooms.

Duct Smoke Detection:

1. Duct smoke detectors shall be intelligent analog/addressable type, which shall report to the fire alarm system as a "supervisory" type device.
2. Duct smoke detectors shall be located in the return air ductwork of all HVAC units greater than 2,000 cfm. Duct smoke detectors shall be located in the return air ductwork of all HVAC systems with a combined capacity greater than 2,000 cfm.
3. Duct smoke detectors shall be located in the return ductwork of all HVAC units greater than 15,000 cfm where return air risers serve two or more stories such smoke detectors shall be installed at each story per the IMC.
4. Duct smoke detectors shall be located within five feet of each smoke damper or fire/smoke damper used for control purposes unless an alternate method from IMC 607.3.3.2 can be applied.

Manual Pull Stations:

1. Manual pull stations shall be dual action type.
2. Manual pull stations shall be located in the Main Office of the school and in a normally attended non-public location near areas for the school used after hours.
3. Manual pull stations shall be located at the exit doors in the kitchen, mechanical rooms and electrical rooms with direct exterior access.
4. Manual stations shall be mounted with the operating mechanism at 48" above finished floor.

Magnetic Door Holders:

1. New door holders shall be 24VDC and located as shown on Fire Alarm drawings and as directed by the Architect.
2. Existing magnetic door holders shall remain in place. If door holders are 120VAC, a separate heavy duty relay shall be provided outside of enclosure.
3. Magnetic door hardware shall be powered by new, dedicated remote power supplies.
4. Contractor shall remove door stops at locations of new and existing magnetic door holders.

Carbon Monoxide (CO) Sensors:

1. Carbon monoxide (CO) sensors shall be intelligent and shall report to the fire alarm system as a "GAS" Contact ID type device.
2. Carbon monoxide (CO) sensors shall have three CO exposure level settings for short, medium, and long duration periods of exposure to CO gas.
3. Carbon monoxide (CO) sensors shall have a sounder base, which shall provide a local alarm signal upon activation of any of the three CO exposure level settings.
4. Carbon monoxide detectors shall be located in kitchen, boiler room, rooms with gas fired equipment including science rooms, laboratories, gas water heaters, gas furnaces, and gas fired AHUs **or** first room served by a gas fired AHU.

Audible, Visual, and Audible/Visual Notification Appliances:

1. Speakers and speaker/strobes shall be generally located to provide a minimum of 15dB above ambient sound levels throughout all building areas.
2. Speaker/strobes shall be located in all mechanical rooms, and other high-noise areas.
3. Speaker/strobes shall be located in all classroom areas.
4. Loudspeakers and strobes shall be located in gymnasiums.
5. All speakers shall be set to the volume setting recommended by manufacturer to meet intelligibility and dB level requirements.
6. Speaker/strobes shall be located in all common "public area" spaces, including corridors, classrooms, multi-person restrooms, open office areas, and other areas where more than one-person occupancy would be expected.
7. Strobes shall be located in all single-person restrooms except single water closets (toilet only) without a sink specifically in kindergarten and pre-school classrooms.
8. Strobes shall be located in copy rooms, work rooms, storage rooms greater than 400 square feet, and storage rooms where high occupant usage levels are anticipated under normal conditions.
9. Strobes shall be located in clinics and conference rooms.
10. Strobes shall not be installed in single occupant offices.
11. Ceiling mounted speaker/strobes are preferred over wall mounted in classrooms, restrooms, and offices. Ceiling mounted speakers, strobes, and speaker/strobes shall be centered in the space as much as possible but shall not exceed 5 feet in any direction from the center, unless approved by the engineer or AHJ.
12. When ceiling mounting is not practical, speakers, strobes, and speaker/strobes shall be wall mounted with the bottom of the visual signal (strobe) lens at 80" above finished floor, or with the top of the visual signal (strobe) lens at 6" below the ceiling (for low ceiling areas), whichever is lower.
13. For specific limited applications, the speakers, strobes, and speaker/strobes may be installed with the top of the visual signal (strobe) lens at up to 96" above finished floor. Each location must be approved in writing by the engineer or AHJ.
14. Exterior weatherproof horn/strobes shall be provided at the fire department response point. The horn shall be silenceable and the notification appliance shall be mounted 10 feet above grade.
15. Exterior weatherproof loudspeakers shall be provided at main entry and any playground areas. The speakers shall be silenceable and the notification appliance shall be mounted 10 feet above grade.
16. Exterior weatherproof strobes with amber lenses shall be provided at entrances with in-bound card readers.

Speakers and speaker/strobes shall be installed in dedicated zones as required by Division 28 46 50.

END FIRE ALARM SYSTEM DESIGN CRITERIA

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(303) 595-4500
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Project #: 8140.00

PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION

KEY PLAN

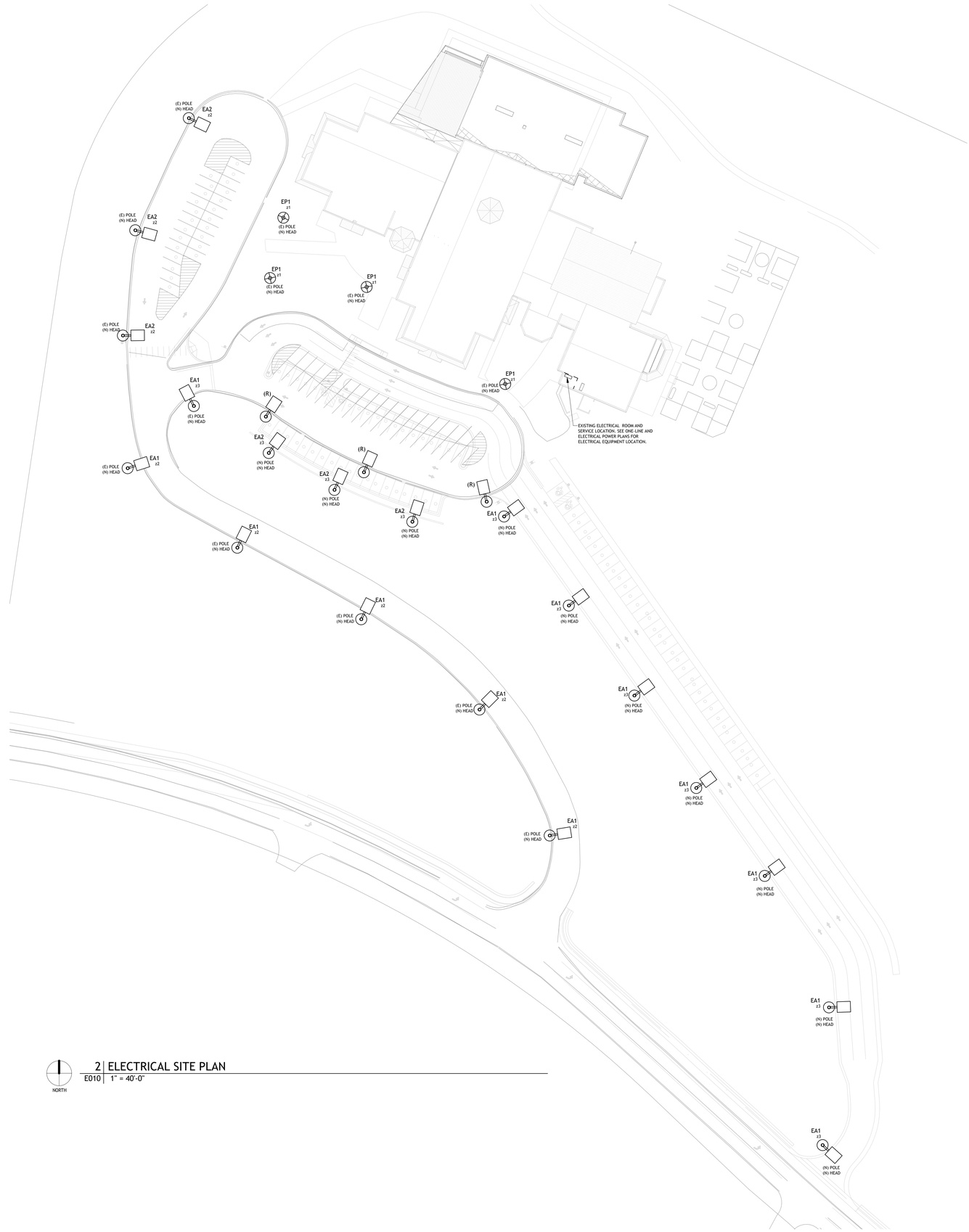
SHEET INFORMATION

COLORADO REGISTERED ARCHITECT MARC SCHEER 35717 7/31/2023 PROFESSIONAL ENGINEER

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL COVER SHEET NOTES

E001



NORTH

2 | ELECTRICAL SITE PLAN
E010 | 1" = 40'-0"

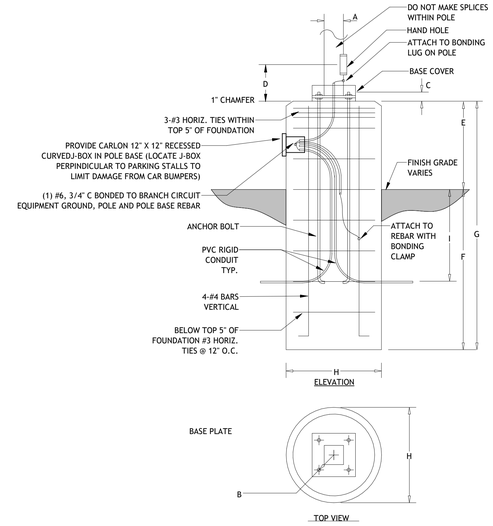
SITE GENERAL NOTES

A.	ALL NEW EXTERIOR LIGHTING CIRCUITS SHALL UTILIZE A MINIMUM WIRE SIZE OF #10AWG COPPER, UON.
A.	FOR ALL NEW AND EXISTING SITE LIGHTING, THE INTENT IS TO RE-USE EXISTING LIGHT BRANCH CIRCUITS TO THE GREATEST EXTENT POSSIBLE, AS NOTED IN WIRELESS ZONE SCHEDULE ON SHEET E801. BY REPLACING EXISTING METAL HALIDE FIXTURE HEADS WITH LED, OVERALL LOAD ON CIRCUIT H1D-10 HAS BEEN REDUCED BY 2192 WATTS AND THE OVERALL WATTAGE ON CIRCUIT H1D-12 HAS BEEN REDUCED BY 1769 WATTS. THEREFORE, THE OVERALL LOAD ON EACH CIRCUIT AND THE PANELBOARD IS JUSTIFIED.

SITE SEQUENCE OF OPERATIONS

THE FOLLOWING CONTROL SEQUENCE OF OPERATIONS ARE UTILIZED IN THIS PLAN. REFER TO PLAN AND/OR ZONE/RELAY SCHEDULE FOR SPECIFIC ASSOCIATED SEQUENCE.

ET2



POLE KEY	OVERALL HEIGHT	A	ANCHOR BOLT DATA B	SIZE	C	D	E	F	G	H	I
EA1	24'0"	4"	PER MANUFACTURER				3'0"	6'0"	9'0"	24"	36"

1 | POLE BASE DETAIL
E010 | N.T.S.

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SHEET INFORMATION

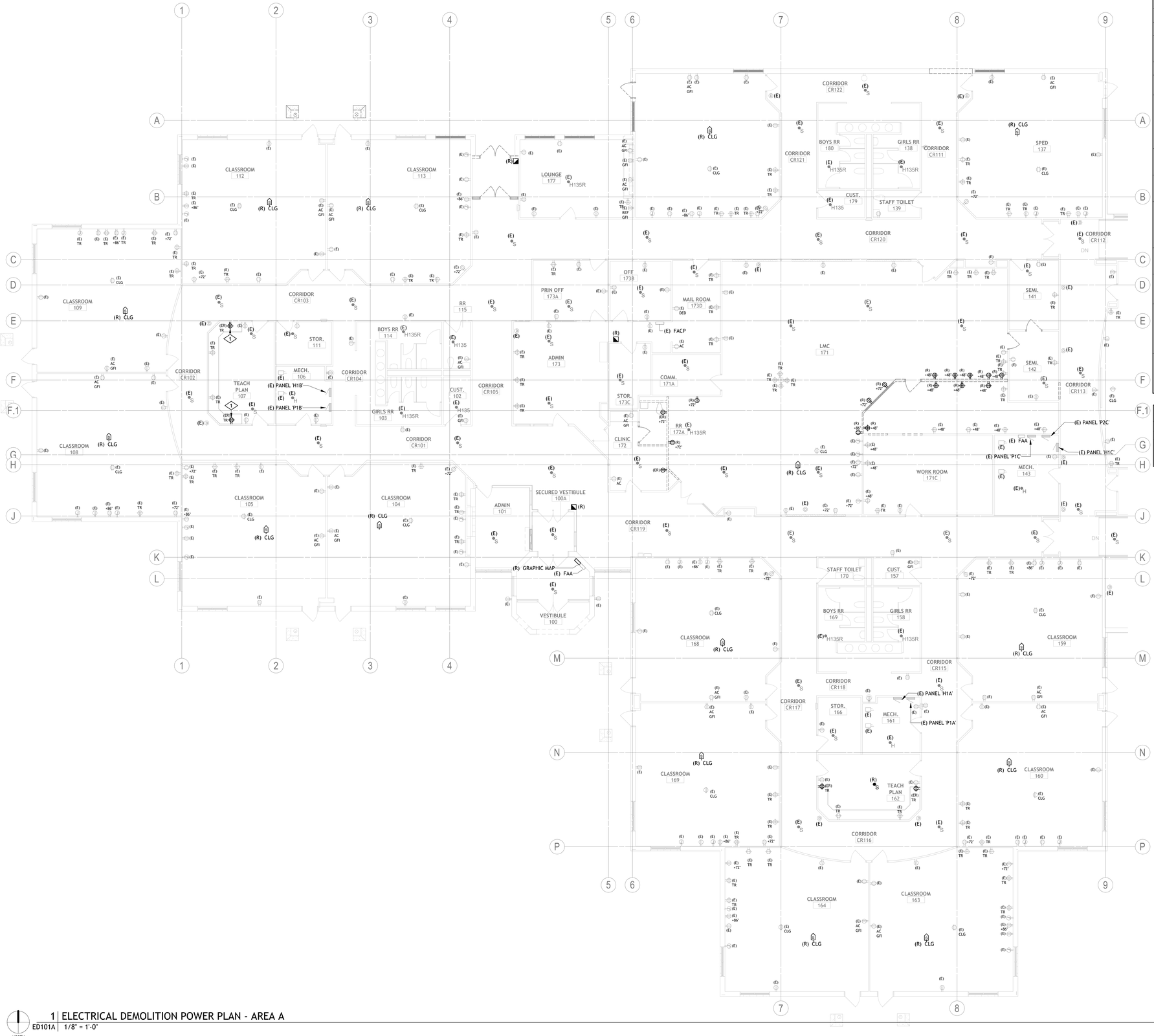
COLORADO REGISTERED 35717 7/31/2023 PROFESSIONAL ENGINEER

PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

ELECTRICAL SITE PLAN

E010

1 2 3 4 5 6 7



1 | ELECTRICAL DEMOLITION POWER PLAN - AREA A
ED101A | 1/8" = 1'-0"

POWER DEMOLITION NOTES

A.	REMOVE EXISTING FLUSH FLOOR OUTLETS, DUPLEX RECEPTACLES, COMMUNICATION OUTLETS AND ALL ASSOCIATED CONDUIT, WIRING AND CABLING INDICATED WITH (R) TAG FOR REMOVAL, AND DARK LINEWEIGHT ON THIS PLAN. EXISTING DEVICES INDICATED WITH (E) ARE EXISTING TO REMAIN.
B.	PROVIDE COVER PLATES AND SEALANT FOR ABANDONED OUTLETS.
C.	COORDINATE EXACT DEMOLITION REQUIREMENTS AND SCOPE PRIOR TO RENOVATION.
D.	WHERE RENOVATION SCOPE IMPACTS EXISTING CEILINGS AND EQUIPMENT, E.C. TO REMOVE ALL ABANDONED CIRCUITS IN CEILING SPACES OR IN J-BOXES IN THEIR ENTIRETY BACK TO SOURCE. UPDATE PANEL DIRECTORIES ACCORDINGLY.
E.	REFER TO E000 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
F.	REFER TO E710 FOR POWER DETAILS, E600 FOR ONE-LINE DIAGRAM AND E710 FOR PANEL SCHEDULES.
G.	THE BASIS OF THESE DRAWINGS WERE SITE OBSERVATIONS, ORIGINAL BUILDING DRAWINGS AND VARIOUS OTHER SOURCES. EVERY ATTEMPT HAD BEEN MADE TO DOCUMENT THE ACTUAL CONDITIONS. HOWEVER, THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS, THE BUILDING'S EXISTING CONDITION AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.
H.	THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE,UNSUITABLE,VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
I.	THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS COST THE REMOVAL OF ALL EXISTING ELECTRICAL DEVICES, CONDUITS FIXTURES AND EQUIPMENT. DISCARD ALL EQUIPMENT AS REQUIRED, UNLESS NOTED OTHERWISE.
J.	EXISTING DEVICES NOT NOTED AS EXISTING (E) OR INDICATED ON PLANS SHALL REMAIN, AS THEY PRESENTLY EXIST. FOR DEMOLISHED DEVICES IN WALLS WHICH ARE TO REMAIN, THE ELECTRICAL CONTRACTOR SHALL INSTALL A BLANK FACE PLATE ON THE BACKBOX. FOR DEMOLISHED DEVICES INSTALLED IN THE FLOOR, THE ELECTRICAL CONTRACTOR SHALL CUT THE FLOOR BOX FLUSH WITH THE FLOOR AND WILL WITH CONCRETE; COORDINATE WITH THE GENERAL CONTRACTOR.
K.	THE DEMOLITION OF SOME DEVICES MAY INTERRUPT POWER TO DEVIES DOWN STREAM. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REWORKING THESE CIRCUITS TO MAINTAIN POWER TO THE DOWN STREAM DEVICES WHCIH WILL REMAIN.
L.	ALL UNENERGIZED/DEMOLISHED CIRCUITRY SHALL HAVE THE CONDUCTORS REMOVED FROM THE CONDUIT AND THE CONDUIT SHALL BE MARKED "EMPTY" WITH INDELIBLE MARKER.
M.	EXISTING FIRE ALARM SYSTEM SHALL BE UPGRADED TO VOICE EVACUATION THROUGHOUT THE ENTIRE BUILDING. BASED ON COORDINATION WITH THE MANUFACTURER, IT IS UNDERSTOOD THAT THE EXISTING FACP AND FAA SHALL REMAIN. THE FACP SHALL BE UPGRADED, AS NOTED ON ELECTRICAL POWER PLAN. EXISTING DETECTION DEVICES SHALL REMAIN. EXISTING MANUAL PULL STATIONS LOCATIONS SHALL BE UPDATED TO MATCH JEFFCO PUBLIC SCHOOL STANDARDS. EXISTING HORN STROBES SHALL BE REMOVED AND REPLACED WITH SPEAKER STROBES IN NEW LOCATIONS, AS INDICATED.
O.	A FIRE SPRINKLER SYSTEM IS BEING ADDED BUILDING WIDE. EXISTING CEILINGS ARE BEING REPLACED THROUGHOUT THE EXISTING BUILDING. COORDINATE THE PROTECTION OF ALL EXISTING CEILING ELEMENTS (CEILING-MOUNTED RECEPTACLES, WAPS, CAMERAS, SPEAKERS, LIGHTS, LIGHTING CONTROL DEVICES, ETC.) WITH THE CEILING CHANGES THROUGH THE GENERAL CONTRACTOR.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	EXISTING CIRCUIT FOR DEMOLISHED DEVICE SHALL BE REUSED FOR CONNECTION TO NEW DEVICES AT ADJACENT LOCATION. REFER TO NEW POWER PLAN FOR ADDITIONAL INFORMATION. QUANTITY OF 'YOKES FOR NEW DEVICES SHALL MATCH OR BE LESS THAN DEMOLISHED DEVICE QUANTITY.

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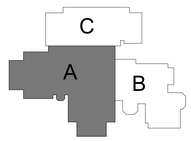

SHEET INFORMATION

COLORADO REGISTERED
MATTHEW R. SCHROEDER
35717
7/31/2023
PROFESSIONAL ENGINEER

PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

ELECTRICAL DEMOLITION POWER PLAN - AREA A

ED101A

1 | ELECTRICAL DEMOLITION POWER PLAN - AREA B
ED101B | 1/8" = 1'-0"

NORTH

POWER DEMOLITION NOTES

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B.	PROVIDE COVER PLATES AND SEALANT FOR ABANDONED OUTLETS.
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KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	REMOVE EXISTING BOILER INCLUDING ALL ASSOCIATED CONDUIT AND WIRE BACK TO SOURCE.

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PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
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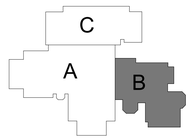
KEY PLAN



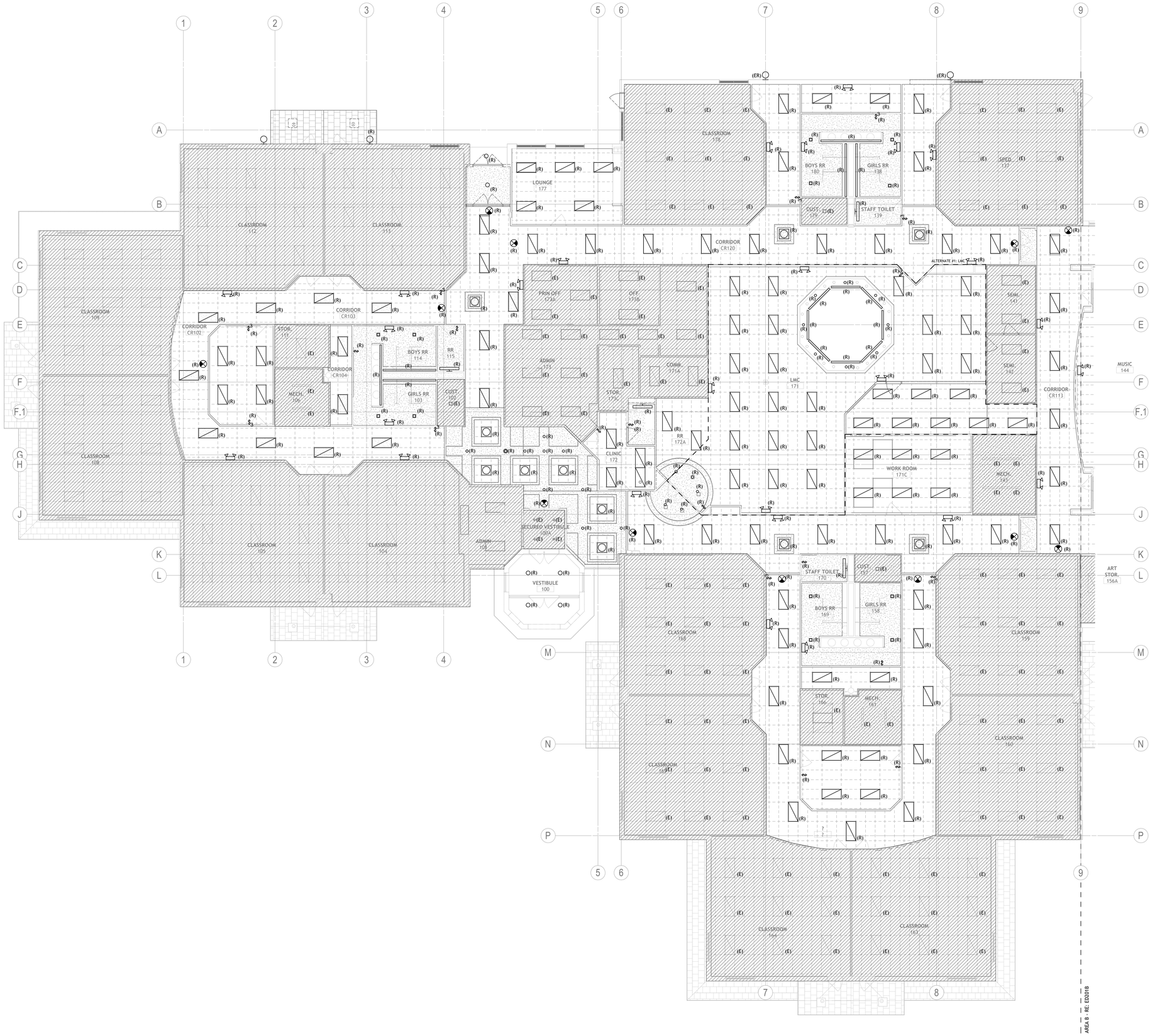
SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER
35717
7/31/2023

PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

ELECTRICAL DEMOLITION POWER PLAN - AREA B

ED101B



1 | 1ST FLOOR-ELECTRICAL DEMOLITION LIGHTING PLAN AREA A
ED201A | 1/8" = 1'-0"

NORTH

LIGHTING DEMOLITION NOTES

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L.	ALL UNENERGIZED/DEMOLISHED CIRCUITRY SHALL HAVE THE CONDUCTORS REMOVED FROM THE CONDUIT AND THE CONDUIT SHALL BE MARKED "EMPTY" WITH INDELIBLE MARKER.

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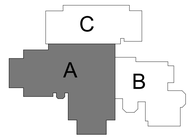


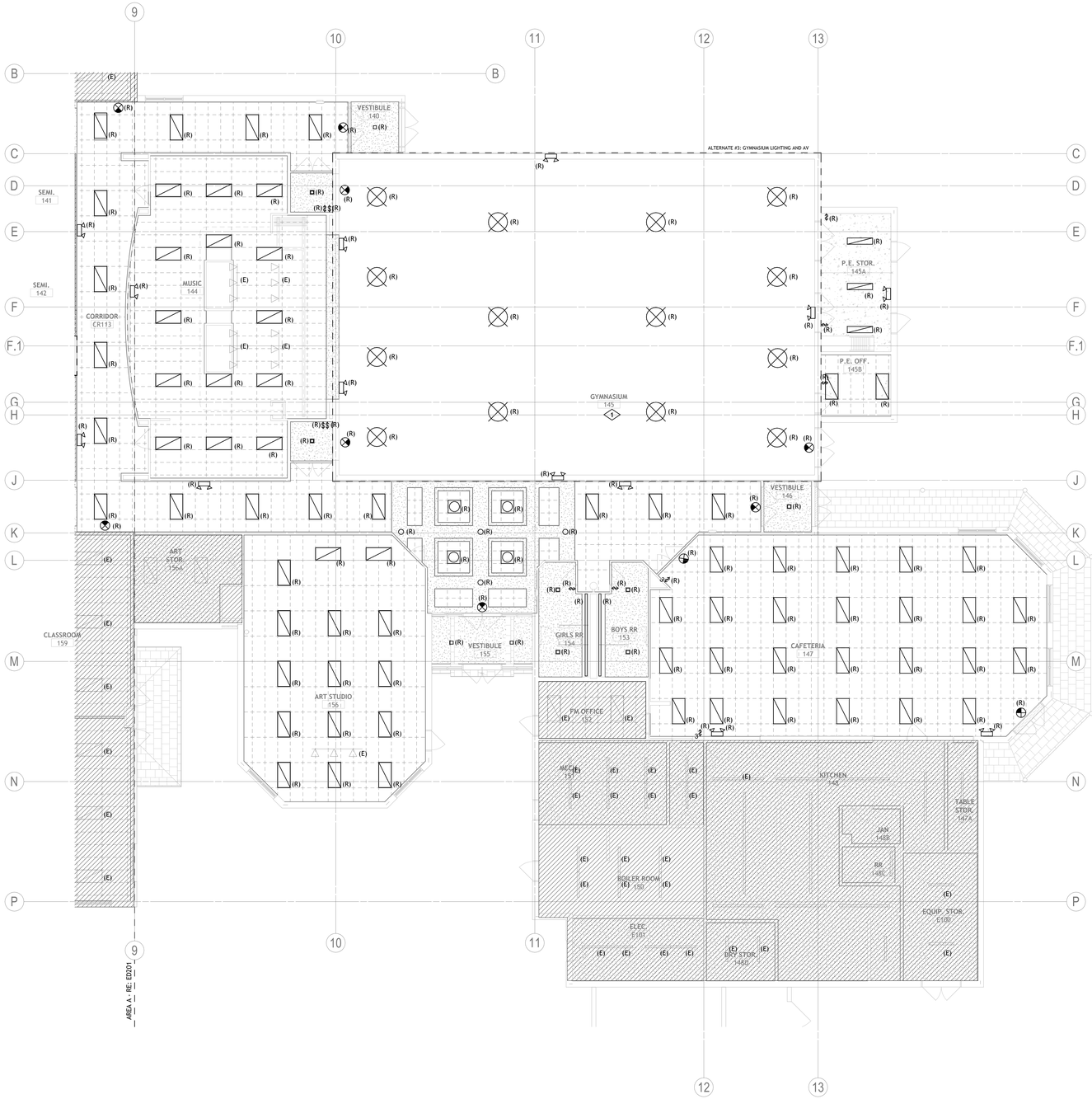
SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER
35717
7/31/2023

PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

ELECTRICAL DEMOLITION LIGHTING PLAN - AREA A

ED201A



2 | 1ST FLOOR-ELECTRICAL DEMOLITION LIGHTING PLAN AREA B
ED201B | 1/8" = 1'-0"

NORTH

LIGHTING DEMOLITION NOTES

A.	REMOVE EXISTING FLUSH FLOOR OUTLETS, DUPLEX RECEPTACLES, COMMUNICATION OUTLETS AND ALL ASSOCIATED CONDUIT, WIRING AND CABLING INDICATED WITH (R) TAG FOR REMOVAL, AND DARK LINEWEIGHT ON THIS PLAN. EXISTING DEVICES INDICATED WITH (E) ARE EXISTING TO REMAIN.
B.	PROVIDE COVER PLATES AND SEALANT FOR ABANDONED OUTLETS.
C.	COORDINATE EXACT DEMOLITION REQUIREMENTS AND SCOPE PRIOR TO RENOVATION.
D.	WHERE RENOVATION SCOPE IMPACTS EXISTING CEILINGS AND EQUIPMENT, E.C. TO REMOVE ALL ABANDONED CIRCUITS IN CEILING SPACES OR IN J-BOXES IN THEIR ENTIRETY BACK TO SOURCE. UPDATE PANEL DIRECTORIES ACCORDINGLY.
E.	REFER TO E000 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
F.	REFER TO E710 FOR POWER DETAILS, E600 FOR ONE-LINE DIAGRAM AND E710 FOR PANEL SCHEDULES.
G.	THE BASIS OF THESE DRAWINGS WERE SITE OBSERVATIONS, ORIGINAL BUILDING DRAWINGS AND VARIOUS OTHER SOURCES. EVERY ATTEMPT HAD BEEN MADE TO DOCUMENT THE ACTUAL CONDITIONS. HOWEVER, THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS, THE BUILDING'S EXISTING CONDITION AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.
H.	THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE,UNSUITABLE,VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
I.	THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS COST THE REMOVAL OF ALL EXISTING ELECTRICAL DEVICES, CONDUITS FIXTURES AND EQUIPMENT. DISCARD ALL EQUIPMENT AS REQUIRED, UNLESS NOTED OTHERWISE.
J.	EXISTING DEVICES NOT NOTED AS EXISTING (E) OR INDICATED ON PLANS SHALL REMAIN, AS THEY PRESENTLY EXIST. FOR DEMOLISHED DEVICES IN WALLS WHICH ARE TO REMAIN, THE ELECTRICAL CONTRACTOR SHALL INSTALL A BLANK FACE PLATE ON THE BACKBOX. FOR DEMOLISHED DEVICES INSTALLED IN THE FLOOR, THE ELECTRICAL CONTRACTOR SHALL CUT THE FLOOR BOX FLUSH WITH THE FLOOR AND WILL WITH CONCRETE; COORDINATE WITH THE GENERAL CONTRACTOR.
K.	THE DEMOLITION OF SOME DEVICES MAY INTERRUPT POWER TO DEVIES DOWN STREAM. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REWORKING THESE CIRCUITS TO MAINTAIN POWER TO THE DOWN STREAM DEVICES WHCIH WILL REMAIN.
L.	ALL UNENERGIZED/DEMOLISHED CIRCUITRY SHALL HAVE THE CONDUCTORS REMOVED FROM THE CONDUIT AND THE CONDUIT SHALL BE MARKED "EMPTY" WITH INDELIBLE MARKER.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	ALL NEW LIGHTING AND CONTROLS SHOWN IN GYMNASIUM 175 SHALL BE PRICED AS ALTERNATE #3. UNDER BASE BID, EXISTING FIXTURES SHALL BE TEMPORARILY SUSPENDED IN PLACE AND PROTECTED DURING CEILING REPLACEMENT WORK. EC IS RESPONSIBLE FOR ALL DAMAGED FIXTURES AND EXISTINGUISHED LAMPS TO BE REPLACED AT THE CONCLUSION OF THE PROJECT. CARRY 10% ALLOWANCE BASED ON TOTAL QUANTITY OF FIXTURES.

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1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #: 6140.00

PROJECT INFORMATION

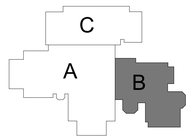
Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN



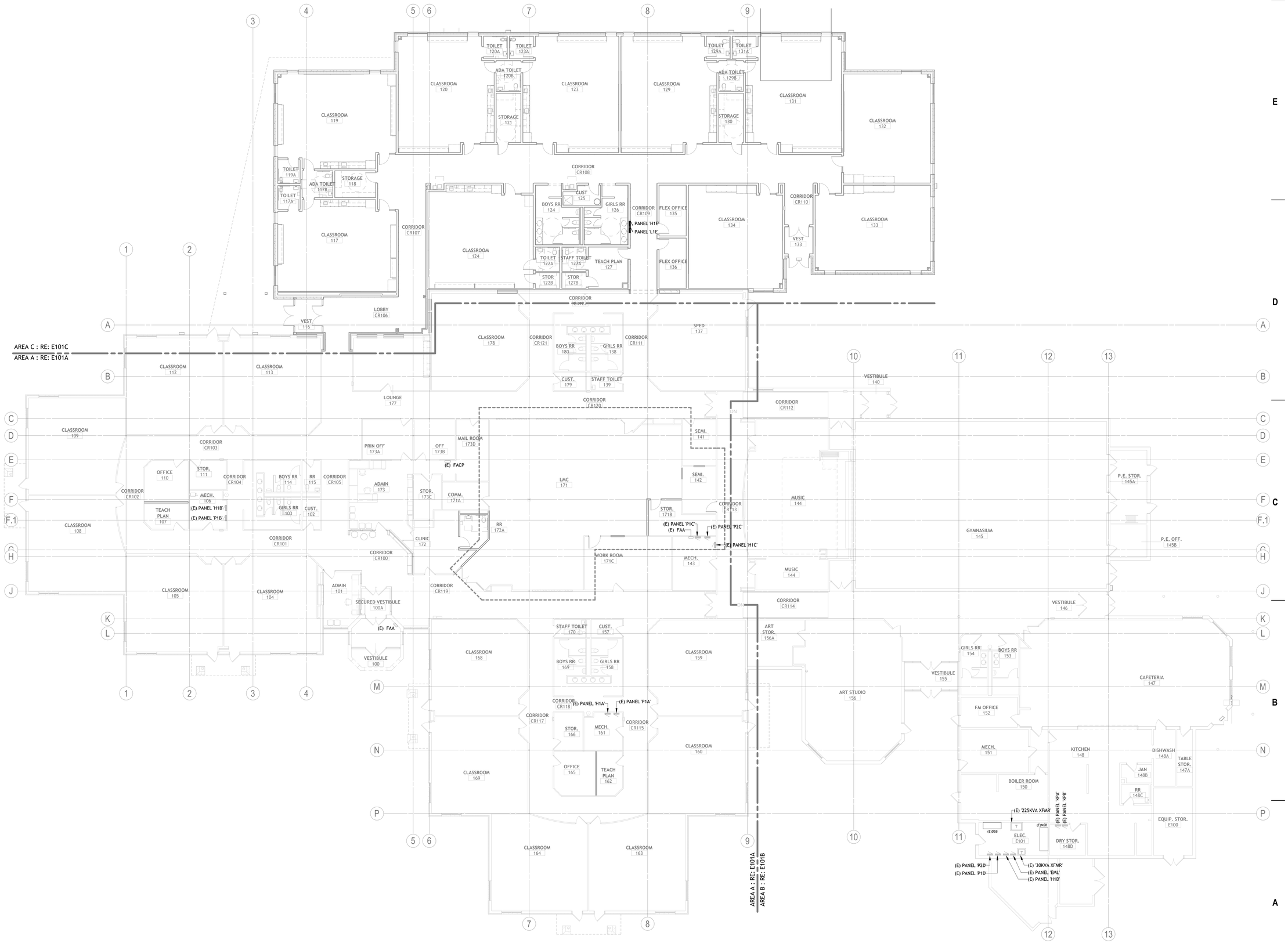
SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER
35717
7/31/2023

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL DEMOLITION LIGHTING PLAN - AREA B

ED201B



1 | ELECTRICAL 1ST FLOOR POWER PLAN - OVERALL
E101 | 3/32" = 1'-0"

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Denver, CO 80202
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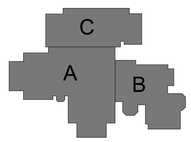


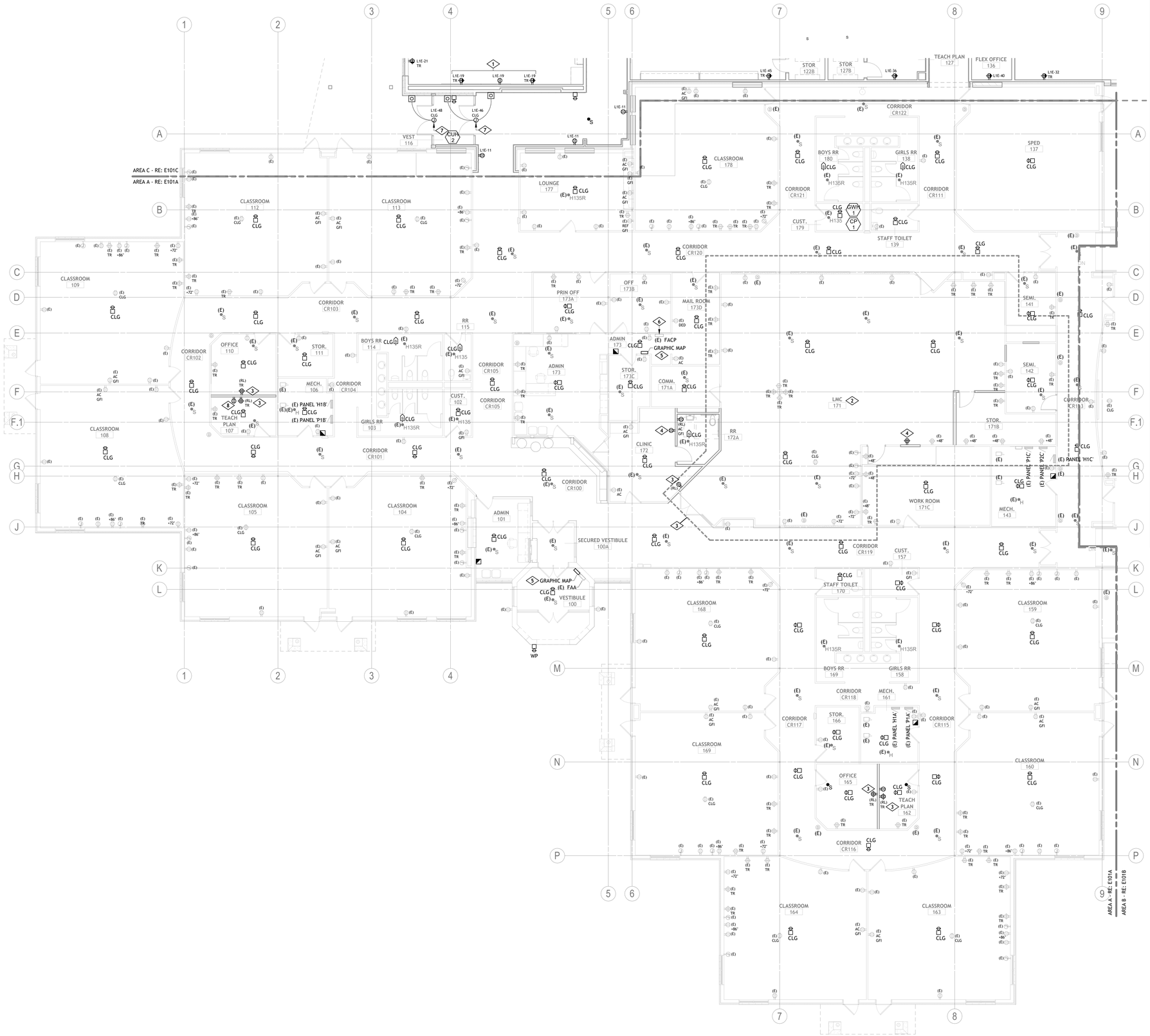
SHEET INFORMATION

COLORADO REGISTERED LANDSCAPE ARCHITECT 35717 7/31/2023 PROFESSIONAL ENGINEER

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL POWER PLAN - OVERALL

E101



POWER GENERAL NOTES

A.	REFER TO E000 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
B.	REFER TO E710 FOR POWER DETAILS, E600 FOR ONE-LINE DIANGRAM AND E710 FOR PANEL SCHEDULES.
C.	ALL POWER AND DATA DEVICES SHOWN AT TEACHING WALLS SHALL BE COORDINATED WITH TEACHING WALL ELEMENTS PER DETAIL #7 ON SHEET T600.
D.	50% OF ALL NEW RECEPTACLES IN OFFICES AND CLASSROOMS SHALL BE CONTROLLED TO MEET THE REQUIREMENTS OF IECC 2021, WHERE APPLICABLE. CONTROL SHALL BE PROVIDED BY NEW RELAY PANEL SET FOR AUTOMATIC ON AT START OF SCHOOL DAY AND AUTOMATIC OFF AT END OF SCHOOL DAY. REFER TO KEYNOTES BELOW FOR ADDITIONAL INFORMATION.
E.	FIRE ALARM SYSTEM SHALL BE UPGRADED TO VOICE-EVAC BUILDING-WIDE. REFER TO FIRE ALARM NOTES FOR ADDITIONAL INFORMATION.
F.	E.C. SHALL COORDINATE MOUNTING HEIGHTS LOCATIONS OF ALL ELECTRICAL DEVICES WITH ARCHITECTURAL DRAWINGS AND MILLWORK CONTRACTOR. MAINTAIN CONSISTENT MOUNTING PRACTICES FOR A UNIFORM APPEARANCE (VERTICAL MOUNT). VERIFY ALL OUTLET REQUIREMENTS PRIOR TO ROUGH-IN.
G.	RECEPTACLES LOCATED IN CLASSROOMS SHALL BE TAMPER RESISTANT.
H.	CIRCUIT CONDUCTORS IN RUNS GREATER THAN 100 FT. TO PANEL SHALL BE #10 AWG UNLESS NOTED OTHERWISE.
I.	REFER TO MECHANICAL PLANS AND SCHEDULES FOR MECHANICAL EQUIPMENT LOCATIONS AND POWER REQUIREMENTS.
J.	OTHER DISCIPLINES SCOPE MAY OCCUR IN AREAS OUTSIDE OF ELECTRICAL BASE SCOPE. IN THOSE AREAS (SUCH AS WHERE FINISH WORK IS BEING COMPLETED), EXISTING FIXTURES SHALL BE MAINTAINED AND PROTECTED DUING CONSTRUCTION, CLEANED AND FREE OF DIRT/DEBRIS/PAINT ATHE THE CONCLUSION OF THE PROJECT. COORDINATE WITH GC FOR IMPACTED AREAS.
K.	EC TO ENSURE ALL RECEPTACLES MEET NEC 210.8 NEAR SINKS FOR RENOVATED AND NEW SPACES FOR EXISTING/NEW RECEPTACLES.
L.	PER JEFFCO 26 STANDARDS, ALL NEW DEVICES SHALL BE LABELED WITH THE PANEL-CIRCUIT # OF ORIGIN. PROVIDE PRINTED LABEL ON FRONT OF FACEPLATE. FOR RECEPTACLES, LABEL BOTH THE FACEPLATE AND DEVICE/JUNCTION BOX USING INDELIBLE INK. FOR JUNCTION BOXES, LABEL BOTH OUTSIDE OF JUNCTION BOX AND PULLBOX COVER USING INDELIBLE INK. REFER TO SPECIFICATION SECTION 260553 FOR ADDITIONAL DETAILS.
M.	ALL NEW FIRE ALARM DEVICES SHALL BE VOICE EVACUATION THROUGHOUT, INCLUDING EXISTING AREAS TO REMAIN. BASED ON COORDINATION WITH MANUFACTURER, IT IS ANTICIPATED THAT THE EXISTING HEAD END EQUIPMENT (NOTIFIER NFS2-3030), IS CAPABLE OF VOICE-EVACUATION. EXISTING FACP SHALL REMAIN WITH THE ADDITION OF DIGITAL VOICE COMMAND (DVC). EXISTING DETECTION DEVICES ARE ANTICIPATED TO REMAIN AS INDICATED, AND NEW VOICE-CAPABLE NOTIFICATION DEVICES SHALL BE PROVIDED. FINAL SHOP DRAWINGS PREPARED BY NICET ENGINEER SHALL MEET JEFFCO REQUIREMENTS FOR ALL NEW DEVICES. a. EXISTING DEVICES AND FACP SHALL REMAIN OPERABLE THROUGHOUT THE DURATION OF CONSTRUCTION AS REQUIRED FOR CONSTRUCTION PHASING IN OCCUPIED AREAS. GC SHALL COORDINATE PHASING SCHEDULE WITH FIRE ALARM CONTRACTOR PRIOR TO WORK COMMENCE. EXISTING SYSTEM COMPONENTS SHALL NOT BE DEMOLISHED UNTIL COMPLETION AND FINAL APPROVAL AND INSPECTIONS HAVE BEEN RECEIVED FOR THE NEW SYSTEM. DEVICES NOT INDICATED FOR REUSE IN THE FINAL FIRE ALARM SHOP DRAWINGS SHALL BE DEMOLISHED. b. NEW DEVICES AND EQUIPMENT SHALL BE MOUNTED IN NEAR TO EXISTING LOCATION TO EXTENT POSSIBLE TO LIMIT PATCHING REQUIREMENTS. MOUNT DEVICES IN CEILINGS IN LIEU OF WALL LOCATIONS WHERE ALLOWED BY CODE, LOCAL AMENDMENTS AND AHJ, PER JEFFCO STANDARDS. c. CONDUIT SHALL BE CONCEALED TO THE EXTENT POSSIBLE WITHIN EXISTING AREAS. WHERE EXPOSED CONDUIT IS REQUIRED, ROUTING SHALL BE APPROVED BY ARCHITECT IN WRITING VIA SITE WALK, AND PAINTED TO MATCH ADJACENT FINISHES. NEW LOCATIONS ARE INDICATED IN NEW AREAS. FINAL QUANTITIES WILL BE BASED UPON THE FINAL APPROVED FIRE ALARM SHOP DRAWINGS. d. REFER TO SPECIFICATION SECTION 283100 FOR SPECIFIC REQUIREMENTS. e. WHERE EXISTING DETECTION DEVICES ARE COMPATIBLE WITH NEW SYSTEM, THEY SHALL BE REUSED. ANTICIPATE FULL REPLACEMENT UNTIL IT CAN BE CONFIRMED WITH FA SHOP DRAWINGS. f. GC SHALL PATCH AND REPAIR ALL SURFACES AFFECTED BY WORK ASSOCIATED WITH THE FIRE ALARM DEMO REPLACEMENT; MATCH EXISTING SURFACES.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	EC SHALL REFERENCE DETAIL 7/T600 FOR TEACHING WALL ELEVATIONS. COORDINATE HEIGHT AND LOCATIONS PRIOR TO ROUGH-IN.
2	INDICATED SCOPE IN LMC, WITH THE EXCEPTION OF FIRE ALARM WHICH IS BASE BID, SHALL BE CARRIED AS ALTERNATE #1.
3	RELOCATED EXISTING RECEPTACLE AS SHOWN. RECONFIGURE CIRCUITRY IN SPACE AS NECESSARY, MAINTAIN EXISTING CIRCUITRY.
4	NEW RECEPTACLE SHALL BE PROVIDED, RECONNECTED TO EXISTING CIRCUIT FROM ADJACENT DEMOLISHED DEVICE. REFER TO DEMOLITION PLANS FOR ADDITIONAL INFORMATION. LOAD ON THE CIRCUIT IS ANTICIPATED TO BE MAINTAINED OR REDUCED BASED ON INDICATED DEVICES.
5	PROVIDE NEW GRAPHIC MAP WITH AREA C ADDITION.
6	EXISTING FIRE ALARM CONTROL PANEL TO REMAIN. SEE SHEET E600 FOR ADDITIONAL SCOPE.
7	PROVIDE 120 POWER CONNECTION TO ADA DOOR OPERATOR. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
8	PROVIDE NEW RECEPTACLE AND CONNECT TO THE NEAREST EXISTING CIRCUIT IN SPACE.

1 | ELECTRICAL 1ST FLOOR POWER PLAN - AREA A
E101A | 1/8" = 1'-0"

NORTH

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PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

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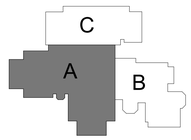
KEY PLAN



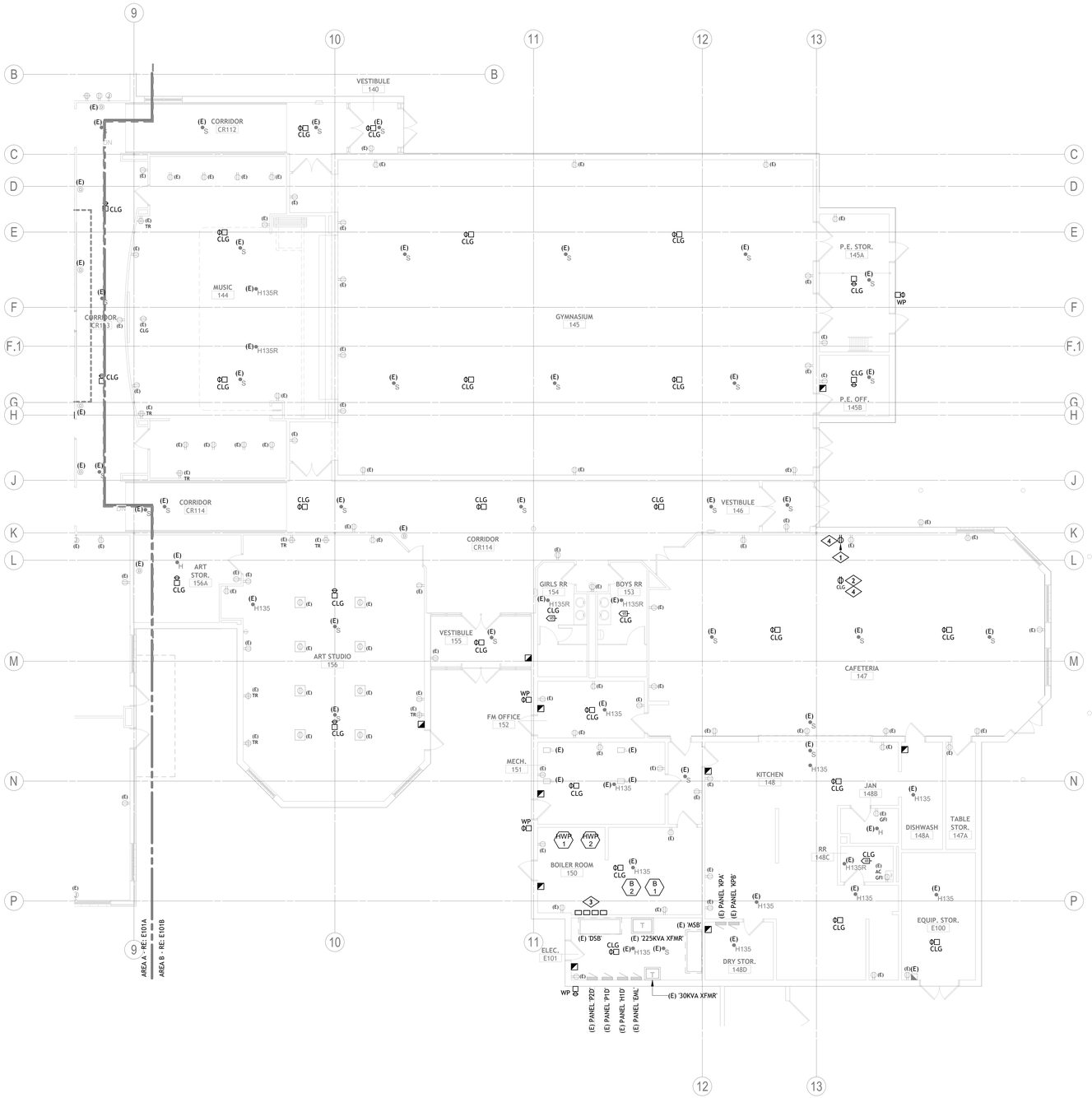
SHEET INFORMATION

COLORADO REGISTERED CLEAN ENERGY ENGINEER
35717
7/31/2023
PROFESSIONAL ENGINEER

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL 1ST FLOOR POWER PLAN - AREA A

E101A



1 | ELECTRICAL 1ST FLOOR POWER PLAN - AREA B
E101B | 1/8" = 1'-0"

NORTH

POWER GENERAL NOTES

A.	REFER TO E000 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
B.	REFER TO E710 FOR POWER DETAILS, E600 FOR ONE-LINE DIAGRAM AND E710 FOR PANEL SCHEDULES.
C.	ALL POWER AND DATA DEVICES SHOWN AT TEACHING WALLS SHALL BE COORDINATED WITH TEACHING WALL ELEMENTS PER DETAIL #7 ON SHEET T600.
D.	50% OF ALL NEW RECEPTACLES IN OFFICES AND CLASSROOMS SHALL BE CONTROLLED TO MEET THE REQUIREMENTS OF IECC 2021, WHERE APPLICABLE. CONTROL SHALL BE PROVIDED BY NEW RELAY PANEL SET FOR AUTOMATIC ON AT START OF SCHOOL DAY AND AUTOMATIC OFF AT END OF SCHOOL DAY. REFER TO KEYNOTES BELOW FOR ADDITIONAL INFORMATION.
E.	FIRE ALARM SYSTEM SHALL BE UPGRADED TO VOICE-EVAC BUILDING-WIDE. REFER TO FIRE ALARM NOTES FOR ADDITIONAL INFORMATION.
F.	E.C. SHALL COORDINATE MOUNTING HEIGHTS LOCATIONS OF ALL ELECTRICAL DEVICES WITH ARCHITECTURAL DRAWINGS AND MILLWORK CONTRACTOR. MAINTAIN CONSISTENT MOUNTING PRACTICES FOR A UNIFORM APPEARANCE (VERTICAL MOUNT). VERIFY ALL OUTLET REQUIREMENTS PRIOR TO ROUGH-IN.
G.	RECEPTACLES LOCATED IN CLASSROOMS SHALL BE TAMPER RESISTANT.
H.	CIRCUIT CONDUCTORS IN RUNS GREATER THAN 100 FT. TO PANEL SHALL BE #10 AWG UNLESS NOTED OTHERWISE.
I.	REFER TO MECHANICAL PLANS AND SCHEDULES FOR MECHANICAL EQUIPMENT LOCATIONS AND POWER REQUIREMENTS.
J.	OTHER DISCIPLINES SCOPE MAY OCCUR IN AREAS OUTSIDE OF ELECTRICAL BASE SCOPE. IN THOSE AREAS (SUCH AS WHERE FINISH WORK IS BEING COMPLETED), EXISTING FIXTURES SHALL BE MAINTAINED AND PROTECTED DUING CONSTRUCTION, CLEANED AND FREE OF DIRT/DEBRIS/PAINT ATHE THE CONCLUSION OF THE PROJECT. COORDINATE WITH GC FOR IMPACTED AREAS.
K.	EC TO ENSURE ALL RECEPTACLES MEET NEC 210.8 NEAR SINKS FOR RENOVATED AND NEW SPACES FOR EXISTING/NEW RECEPTACLES.
L.	PER JEFFCO 26 STANDARDS, ALL NEW DEVICES SHALL BE LABELED WITH THE PANEL-CIRCUIT # OF ORIGIN. PROVIDE PRINTED LABEL ON FRONT OF FACEPLATE. FOR RECEPTACLES, LABEL BOTH THE BACK OF THE FACEPLATE AND DEVICE/JUNCTION BOX USING INDELIBLE INK. FOR JUNCTION BOXES, LABEL BOTH OUTSIDE OF JUNCTION BOX AND PULLBOX COVER USING INDELIBLE INK. REFER TO SPECIFICATION SECTION 260553 FOR ADDITIONAL DETAILS.
M.	ALL NEW FIRE ALARM DEVICES SHALL BE VOICE EVACUATION THROUGHOUT, INCLUDING EXISTING AREAS TO REMAIN. BASED ON COORDINATION WITH MANUFACTURER, IT IS ANTICIPATED THAT THE EXISTING HEAD END EQUIPMENT (NOTIFIER NFS2-3030), IS CAPABLE OF VOICE-EVACUATION. EXISTING FACP SHALL REMAIN WITH THE ADDITION OF DIGITAL VOICE COMMAND (DVC). EXISTING DETECTION DEVICES ARE ANTICIPATED TO REMAIN AS INDICATED, AND NEW VOICE-CAPABLE NOTIFICATION DEVICES SHALL BE PROVIDED. FINAL SHOP DRAWINGS PREPARED BY NICET ENGINEER SHALL MEET JEFFCO REQUIREMENTS FOR ALL NEW DEVICES. a. EXISTING DEVICES AND FACP SHALL REMAIN OPERABLE THROUGHOUT THE DURATION OF CONSTRUCTION AS REQUIRED FOR CONSTRUCTION PHASING IN OCCUPIED AREAS. GC SHALL COORDINATE PHASING SCHEDULE WITH FIRE ALARM CONTRACTOR PRIOR TO WORK COMMENCE. EXISTING SYSTEM COMPONENTS SHALL NOT BE DEMOLISHED UNTIL COMPLETION AND FINAL APPROVAL AND INSPECTIONS HAVE BEEN RECEIVED FOR THE NEW SYSTEM. DEVICES NOT INDICATED FOR REUSE IN THE FINAL FIRE ALARM SHOP DRAWINGS SHALL BE DEMOLISHED. b. NEW DEVICES AND EQUIPMENT SHALL BE MOUNTED IN NEAR TO EXISTING LOCATION TO EXTENT POSSIBLE TO LIMIT PATCHING REQUIREMENTS. MOUNT DEVICES IN CEILINGS IN LIEU OF WALL LOCATIONS WHERE ALLOWED BY CODE, LOCAL AMENDMENTS AND AHJ, PER JEFFCO STANDARDS. c. CONDUIT SHALL BE CONCEALED TO THE EXTENT POSSIBLE WITHIN EXISTING AREAS. WHERE EXPOSED CONDUIT IS REQUIRED, ROUTING SHALL BE APPROVED BY ARCHITECT IN WRITING VIA SITE WALK, AND PAINTED TO MATCH ADJACENT FINISHES. NEW LOCATIONS ARE INDICATED IN NEW AREAS. FINAL QUANTITIES WILL BE BASED UPON THE FINAL APPROVED FIRE ALARM SHOP DRAWINGS. d. REFER TO SPECIFICATION SECTION 283100 FOR SPECIFIC REQUIREMENTS. e. WHERE EXISTING DETECTION DEVICES ARE COMPATIBLE WITH NEW SYSTEM, THEY SHALL BE REUSED. ANTICIPATE FULL REPLACEMENT UNTIL IT CAN BE CONFIRMED WITH FA SHOP DRAWINGS. f. GC SHALL PATCH AND REPAIR ALL SURFACES AFFECTED BY WORK ASSOCIATED WITH THE FIRE ALARM DEMO REPLACEMENT; MATCH EXISTING SURFACES.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	EC SHALL COORDINATE EXACT LOCATION OF PROJECTOR SCREEN WITH AV INTEGRATOR PRIOR TO ROUGH-IN.
2	PROVIDE CEILING MOUNTED RECEPTACLE FOR PROJECTOR. VERIFY LOCATION AND INSTALLATION REQUIREMENTS PRIOR TO ROUGH-IN.
3	PROVIDE FLOW AND TAMPER SWITCHES, VERIFY QUANTITY AND LOCATION PRIOR TO ROUGH-IN OF MONITOR MODULES.
4	PROVIDE NEW RECEPTACLE AND CONNECT TO THE NEAREST EXISTING CIRCUIT IN SPACE.

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PROJECT INFORMATION

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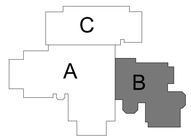


SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER
35717
7/31/2023

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL 1ST FLOOR POWER PLAN - AREA B

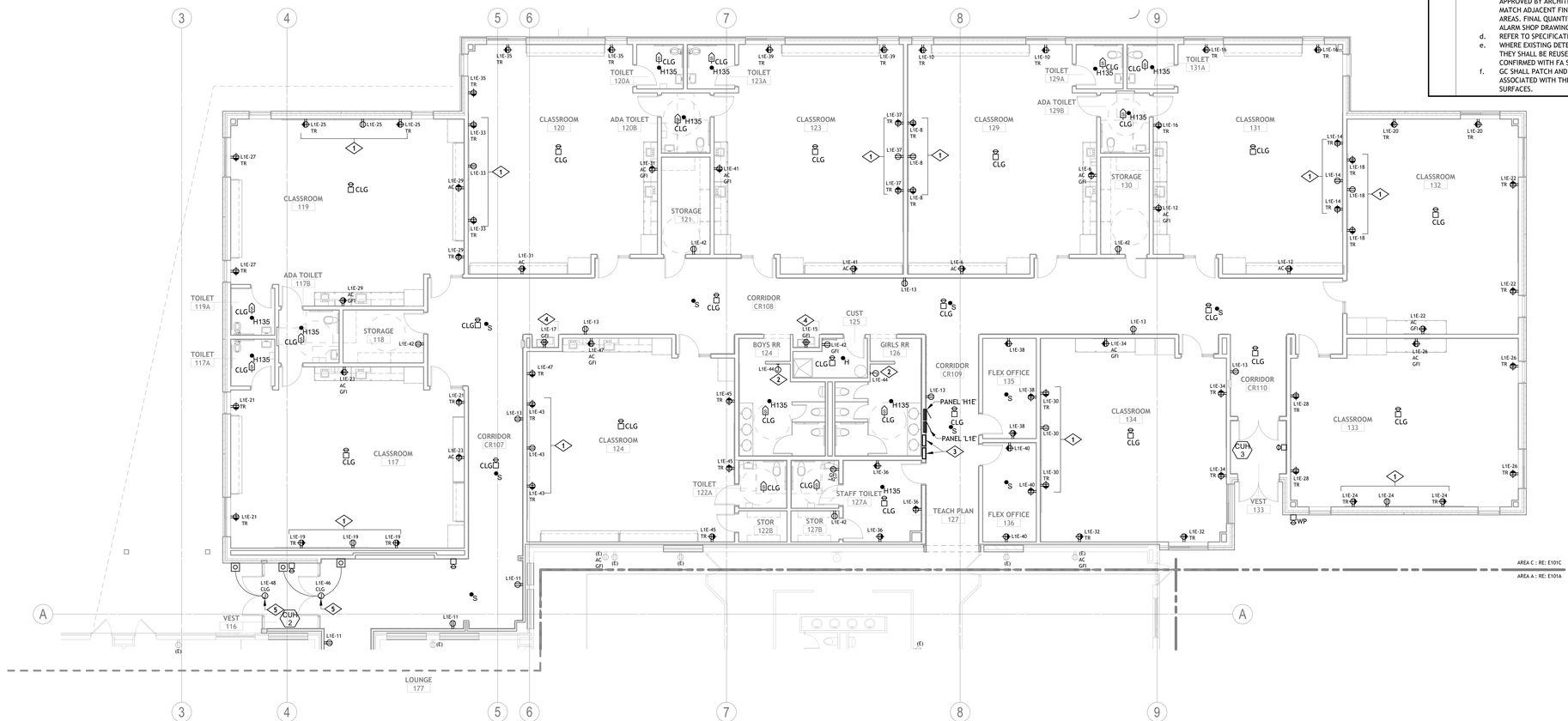
E101B

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	EC SHALL REFERENCE DETAIL 7/T600 FOR TEACHING WALL ELEVATIONS. COORDINATE HEIGHT AND LOCATIONS PRIOR TO ROUGH-IN.
2	EC SHALL PROVIDE WALL MOUNTED JUNCTION BOX FOR 120V, 20A POWER TO HAND DRYER. FINAL COORDINATION REQUIREMENTS WITH APPROVED SHOP DRAWINGS. COORDINATE MOUNTING HEIGHT AND LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
3	EC SHALL PROVIDE NEW RECESSED RELAY PANEL CIRCUITS FEEDING RECEPTACLES IN AREA C IN ORDER TO MEET THE CONTROLLED RECEPTACLES REQUIREMENTS UNDER IECC 2021.
4	REFER TO DETAIL 1 ON SHEET E711 FOR DRINKING FOUNTAIN ELECTRICAL DETAILS.
5	PROVIDE 120 POWER CONNECTION TO ADA DOOR OPERATOR. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.

POWER GENERAL NOTES

A.	REFER TO E000 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
B.	REFER TO E710 FOR POWER DETAILS, E600 FOR ONE-LINE DIAGRAM AND E710 FOR PANEL SCHEDULES.
C.	ALL POWER AND DATA DEVICES SHOWN AT TEACHING WALLS SHALL BE COORDINATED WITH TEACHING WALL ELEMENTS PER DETAIL #7 ON SHEET T600.
D.	50% OF ALL NEW RECEPTACLES IN OFFICES AND CLASSROOMS SHALL BE CONTROLLED TO MEET THE REQUIREMENTS OF IECC 2021, WHERE APPLICABLE. CONTROL SHALL BE PROVIDED BY NEW RELAY PANEL SET FOR AUTOMATIC ON AT START OF SCHOOL DAY AND AUTOMATIC OFF AT END OF SCHOOL DAY. REFER TO KEYNOTES BELOW FOR ADDITIONAL INFORMATION.
E.	FIRE ALARM SYSTEM SHALL BE UPGRADED TO VOICE-EVAC BUILDING-WIDE. REFER TO FIRE ALARM NOTES FOR ADDITIONAL INFORMATION.
F.	E.C. SHALL COORDINATE MOUNTING HEIGHTS LOCATIONS OF ALL ELECTRICAL DEVICES WITH ARCHITECTURAL DRAWINGS AND MILLWORK CONTRACTOR. MAINTAIN CONSISTENT MOUNTING PRACTICES FOR A UNIFORM APPEARANCE (VERTICAL MOUNT). VERIFY ALL OUTLET REQUIREMENTS PRIOR TO ROUGH-IN.
G.	RECEPTACLES LOCATED IN CLASSROOMS SHALL BE TAMPER RESISTANT.
H.	CIRCUIT CONDUCTORS IN RUNS GREATER THAN 100 FT. TO PANEL SHALL BE #10 AWG UNLESS NOTED OTHERWISE.
I.	REFER TO MECHANICAL PLANS AND SCHEDULES FOR MECHANICAL EQUIPMENT LOCATIONS AND POWER REQUIREMENTS.
J.	OTHER DISCIPLINES SCOPE MAY OCCUR IN AREAS OUTSIDE OF ELECTRICAL BASE SCOPE. IN THOSE AREAS (SUCH AS WHERE FINISH WORK IS BEING COMPLETED), EXISTING FIXTURES SHALL BE MAINTAINED AND PROTECTED DUING CONSTRUCTION, CLEANED AND FREE OF DIRT/DEBRIS/PAINT ATHE THE CONCLUSION OF THE PROJECT. COORDINATE WITH GC FOR IMPACTED AREAS.
K.	EC TO ENSURE ALL RECEPTACLES MEET NEC 210.8 NEAR SINKS FOR RENOVATED AND NEW SPACES FOR EXISTING/NEW RECEPTACLES.
L.	PER JEFFCO 26 STANDARDS, ALL NEW DEVICES SHALL BE LABELED WITH THE PANEL-CIRCUIT # OF ORIGIN. PROVIDE PRINTED LABEL ON FRONT OF FACEPLATE. FOR RECEPTACLES, LABEL BOTH THE BACK OF THE FACEPLATE AND DEVICE/JUNCTION BOX USING INDELIBLE INK. FOR JUNCTION BOXES, LABEL BOTH OUTSIDE OF JUNCTION BOX AND PULLBOX COVER USING INDELIBLE INK. REFER TO SPECIFICATION SECTION 260553 FOR ADDITIONAL DETAILS.
M.	ALL NEW FIRE ALARM DEVICES SHALL BE VOICE EVACUATION THROUGHOUT, INCLUDING EXISTING AREAS TO REMAIN. BASED ON COORDINATION WITH MANUFACTURER, IT IS ANTICIPATED THAT THE EXISTING HEAD END EQUIPMENT (NOTIFIER NFS2-3030), IS CAPABLE OF VOICE-EVACUATION. EXISTING FACP SHALL REMAIN WITH THE ADDITION OF DIGITAL VOICE COMMAND (DVC). EXISTING DETECTION DEVICES ARE ANTICIPATED TO REMAIN AS INDICATED, AND NEW VOICE-CAPABLE NOTIFICATION DEVICES SHALL BE PROVIDED. FINAL SHOP DRAWINGS PREPARED BY NICET ENGINEER SHALL MEET JEFFCO REQUIREMENTS FOR ALL NEW DEVICES. a. EXISTING DEVICES AND FACP SHALL REMAIN OPERABLE THROUGHOUT THE DURATION OF CONSTRUCTION AS REQUIRED FOR CONSTRUCTION PHASING IN OCCUPIED AREAS. GC SHALL COORDINATE PHASING SCHEDULE WITH FIRE ALARM CONTRACTOR PRIOR TO WORK COMMENCE. EXISTING SYSTEM COMPONENTS SHALL NOT BE DEMOLISHED UNTIL COMPLETION AND FINAL APPROVAL AND INSPECTIONS HAVE BEEN RECEIVED FOR THE NEW SYSTEM. DEVICES NOT INDICATED FOR REUSE IN THE FINAL FIRE ALARM SHOP DRAWINGS SHALL BE DEMOLISHED. b. NEW DEVICES AND EQUIPMENT SHALL BE MOUNTED IN NEAR TO EXISTING LOCATION TO EXTENT POSSIBLE TO LIMIT PATCHING REQUIREMENTS. MOUNT DEVICES IN CEILINGS IN LIEU OF WALL LOCATIONS WHERE ALLOWED BY CODE, LOCAL AMENDMENTS AND AHJ, PER JEFFCO STANDARDS. c. CONDUIT SHALL BE CONCEALED TO THE EXTENT POSSIBLE WITHIN EXISTING AREAS. WHERE EXPOSED CONDUIT IS REQUIRED, ROUTING SHALL BE APPROVED BY ARCHITECT IN WRITING VIA SITE WALK, AND PAINTED TO MATCH ADJACENT FINISHES. NEW LOCATIONS ARE INDICATED IN NEW AREAS. FINAL QUANTITIES WILL BE BASED UPON THE FINAL APPROVED FIRE ALARM SHOP DRAWINGS. d. REFER TO SPECIFICATION SECTION 283100 FOR SPECIFIC REQUIREMENTS. e. WHERE EXISTING DETECTION DEVICES ARE COMPATIBLE WITH NEW SYSTEM, THEY SHALL BE REUSED. ANTICIPATE FULL REPLACEMENT UNTIL IT CAN BE CONFIRMED WITH FA SHOP DRAWINGS. f. GC SHALL PATCH AND REPAIR ALL SURFACES AFFECTED BY WORK ASSOCIATED WITH THE FIRE ALARM DEMO REPLACEMENT; MATCH EXISTING SURFACES.



1 | ELECTRICAL 1ST FLOOR POWER PLAN - AREA C
E101C | 1/8" = 1'-0"

NORTH

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PROJECT INFORMATION

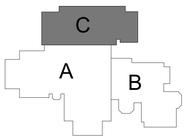
Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN



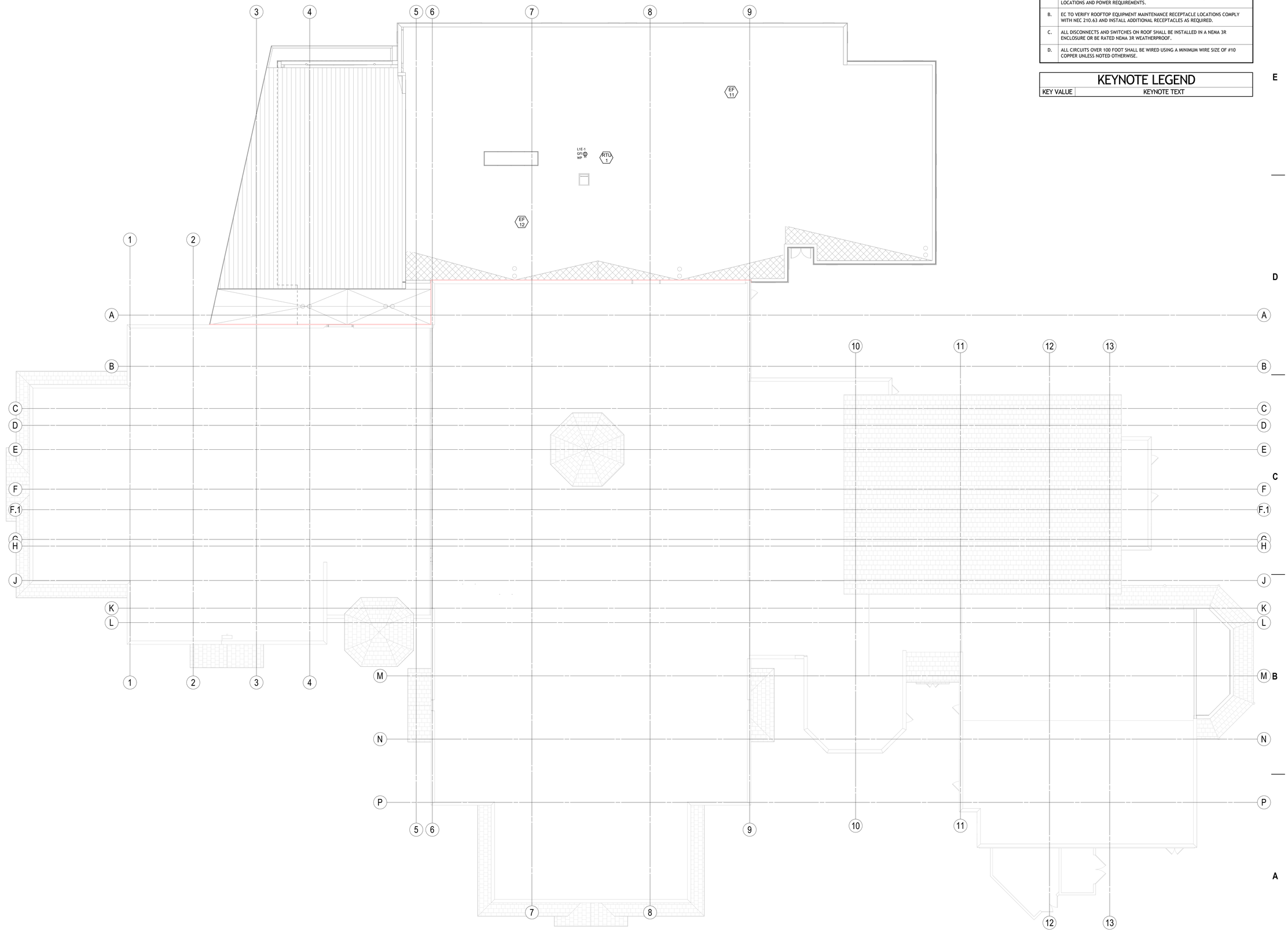
SHEET INFORMATION

COLORADO REGISTERED ARCHITECT 35717 7/31/2023 PROFESSIONAL ENGINEER

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL 1ST FLOOR POWER PLAN - AREA C

E101C



POWER GENERAL NOTES

A.	REFER TO MECHANICAL PLANS AND SCHEDULES FOR MECHANICAL EQUIPMENT LOCATIONS AND POWER REQUIREMENTS.
B.	EC TO VERIFY ROOFTOP EQUIPMENT MAINTENANCE RECEPTACLE LOCATIONS COMPLY WITH NEC 210.63 AND INSTALL ADDITIONAL RECEPTACLES AS REQUIRED.
C.	ALL DISCONNECTS AND SWITCHES ON ROOF SHALL BE INSTALLED IN A NEMA 3R ENCLOSURE OR BE RATED NEMA 3R WEATHERPROOF.
D.	ALL CIRCUITS OVER 100 FOOT SHALL BE WIRED USING A MINIMUM WIRE SIZE OF #10 COPPER UNLESS NOTED OTHERWISE.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT

1 | ELECTRICAL ROOF PLAN - OVERALL
E103 | 3/32" = 1'-0"

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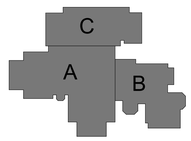


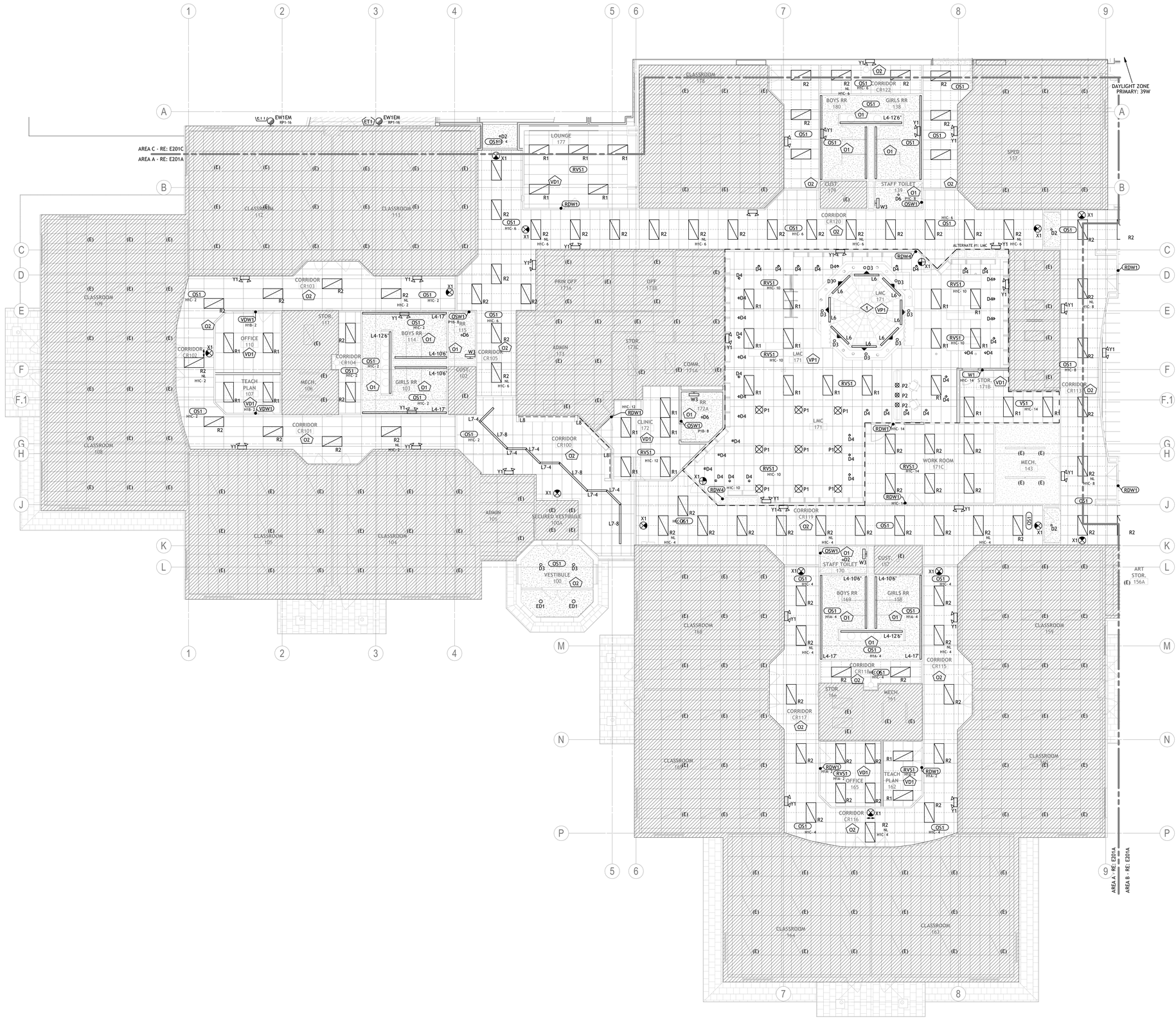
SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER
35717
7/31/2023

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL ROOF PLAN - OVERALL

E103



1 | ELECTRICAL 1ST FLOOR LIGHTING PLAN - AREA A
E201A | 1/8" = 1'-0"

NORTH

LIGHTING GENERAL NOTES

A.	CIRCUIT ALL EMERGENCY LIGHTING UNITS AND EXIT SIGNS TO NEAREST LINE VOLTAGE CIRCUIT, AHEAD OF ALL SWITCH LEGS.
B.	IN ALL EXISTING AREAS OF THE BUILDING, EXISTING CEILINGS ARE BEING REPLACED TO ALLOW FOR THE ADDITION OF A FIRE SPRINKLER SYSTEM. IN ALL AREAS SHOWN ON THIS SHEET WITH LIGHT GREY DIAGONAL HATCHING, EC SHALL TEMPORARILY SUSPENDED AND PROTECT ALL FIXTURES IN PLACE. EC IS RESPOSIBLE FOR ALL DAMAGED FIXTURES AND EXTINGUISHED LAMPS TO BE REPLACED/REPAIRED AT THE CONCLUSION OF THE PROJECT. CARRY 10% ALLOWANCE BASED ON TOTAL QUANTITY OF FIXTURES.
C.	IN ALL RENOVATION AREAS, INTENT IS TO RE-USE EXISTING LIGHTING BRANCH CIRCUITS. CIRCUITS SHOWN ON PLAN ARE TAKEN FROM EXISTING DRAWINGS. CONTRACTOR SHALL VERIFIY IN FIELD. BY REPLACING EXISTING FLUORESCENT FIXTURES WITH LED, OVERALL WATTAGE HAS BEEN REDUCED, THEREFORE THE LOAD IS JUSTIFIED. FOR EACH 277V, 20A CIRCUIT, DO NOT EXCEED 4432 VA.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	ALL NEW LIGHTING AND CONTROLS SHOWN IN LMC 138 SHALL BE PRICED AS ALTERNATE #1. UNDER BASE BID, EXISTING FIXTURES SHALL BE TEMPORARILY SUSPENDED IN PLACE AND PROTECTED DURING CEILING REPLACEMENT WORK. EC IS RESPONSIBLE FOR ALL DAMAGED FIXTURES AND EXISTINGUISHED LAMPS TO BE REPLACED AT THE CONCLUSION OF THE PROJECT. CARRY 10% ALLOWANCE BASED ON TOTAL QUANTITY OF FIXTURES.

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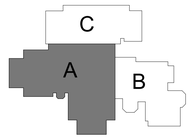
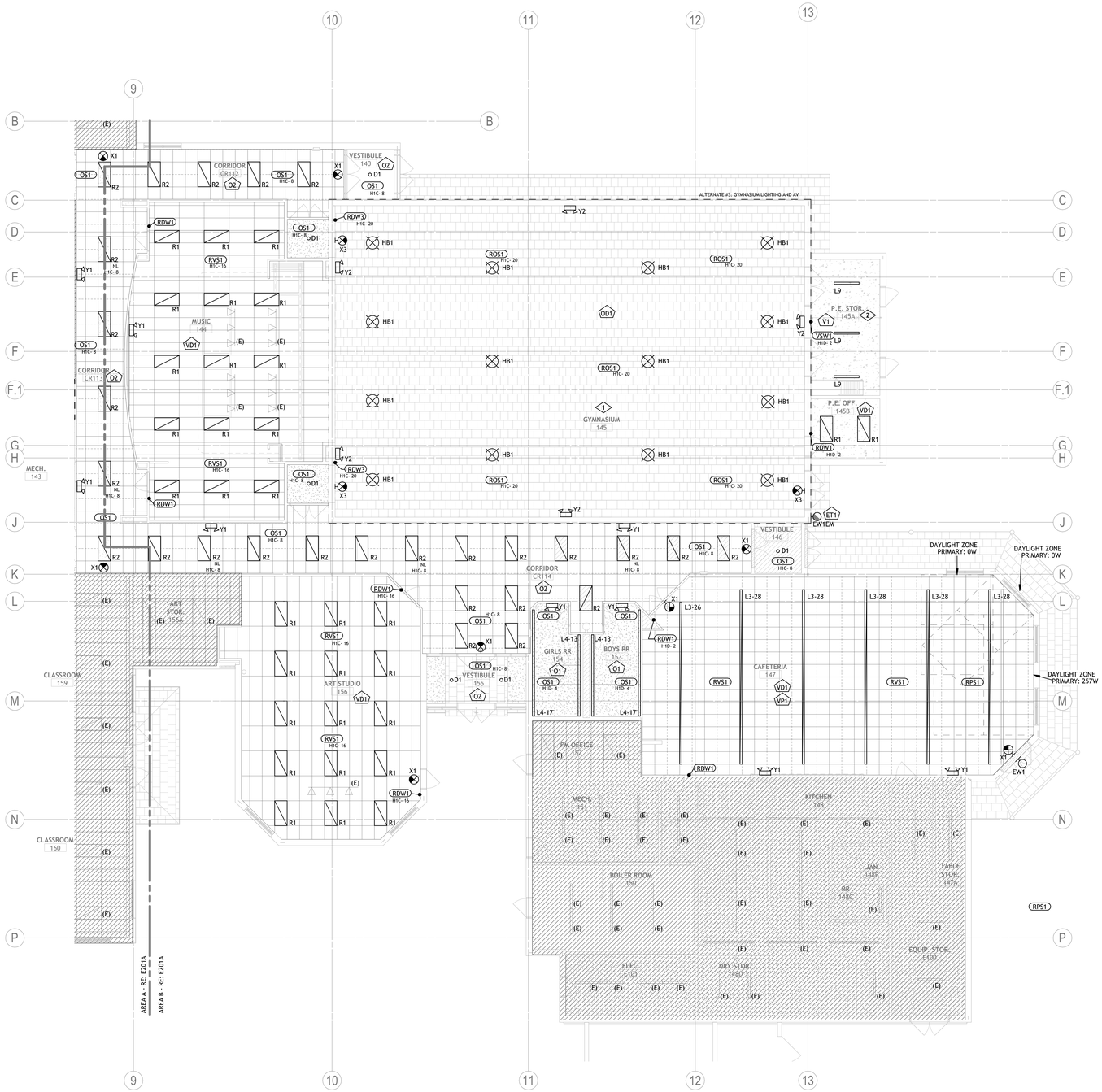


SHEET INFORMATION

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL 1ST FLOOR LIGHTING PLAN - AREA A

E201A



1 | ELECTRICAL 1ST FLOOR LIGHTING PLAN - AREA B

E201B | 1/8" = 1'-0"

NORTH

LIGHTING GENERAL NOTES

A.	CIRCUIT ALL EMERGENCY LIGHTING UNITS AND EXIT SIGNS TO NEAREST LINE VOLTAGE CIRCUIT, AHEAD OF ALL SWITCH LEGS.
B.	IN ALL EXISTING AREAS OF THE BUILDING, EXISTING CEILINGS ARE BEING REPLACED TO ALLOW FOR THE ADDITION OF A FIRE SPRINKLER SYSTEM. IN ALL AREAS SHOWN ON THIS SHEET WITH LIGHT GREY DIAGONAL HATCHING, EC SHALL TEMPORARILY SUSPENDED AND PROTECT ALL FIXTURES IN PLACE. EC IS RESPOSIBLE FOR ALL DAMAGED FIXTURES AND EXTINGUISHED LAMPS TO BE REPLACED/REPAIRED AT THE CONCLUSION OF THE PROJECT. CARRY 10% ALLOWANCE BASED ON TOTAL QUANTITY OF FIXTURES.
C.	IN ALL RENOVATION AREAS, INTENT IS TO RE-USE EXISTING LIGHTING BRANCH CIRCUITS. CIRCUITS SHOWN ON PLAN ARE TAKEN FROM EXISTING DRAWINGS. CONTRACTOR SHALL VERIFY IN FIELD. BY REPLACING EXISTING FLUORESCENT FIXTURES WITH LED, OVERALL WATTAGE HAS BEEN REDUCED, THEREFORE THE LOAD IS JUSTIFIED. FOR EACH 277V, 20A CIRCUIT, DO NOT EXCEED 4432 VA.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	ALL NEW LIGHTING AND CONTROLS SHOWN IN GYMNASIUM 175 SHALL BE PRICED AS ALTERNATE #3. UNDER BASE BID, EXISTING FIXTURES SHALL BE TEMPORARILY SUSPENDED IN PLACE AND PROTECTED DURING CEILING REPLACEMENT WORK. EC IS RESPONSIBLE FOR ALL DAMAGED FIXTURES AND EXISTINGUISHED LAMPS TO BE REPLACED AT THE CONCLUSION OF THE PROJECT. CARRY 10% ALLOWANCE BASED ON TOTAL QUANTITY OF FIXTURES.
2	(3) ADDITIONAL LIGHTING FIXTURE TYPE L9 TO BE LOCATED ON THE SECOND LEVEL OF P.E. STORAGE 145A. NOT SHOWN ON PLAN.

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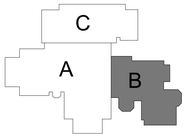


SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER 35717 7/31/2023

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL 1ST FLOOR LIGHTING PLAN - AREA B

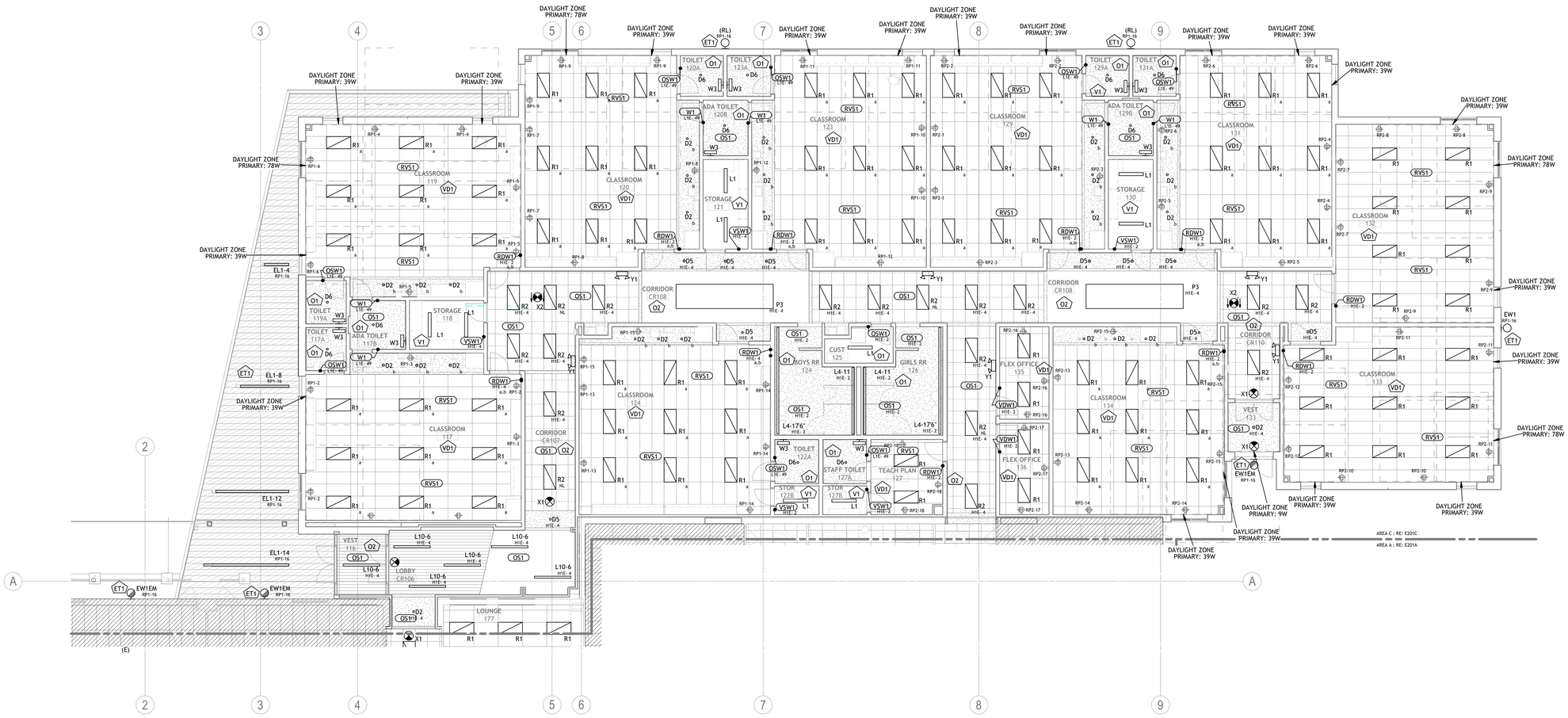
E201B

LIGHTING GENERAL NOTES

A.	CIRCUIT ALL EMERGENCY LIGHTING UNITS AND EXIT SIGNS TO NEAREST LINE VOLTAGE CIRCUIT, AHEAD OF ALL SWITCH LEGS.
B.	IN ALL EXISTING AREAS OF THE BUILDING, EXISTING CEILINGS ARE BEING REPLACED TO ALLOW FOR THE ADDITION OF A FIRE SPRINKLER SYSTEM. IN ALL AREAS SHOWN ON THIS SHEET WITH LIGHT GREY DIAGONAL HATCHING, EC SHALL TEMPORARILY SUSPENDED AND PROTECT ALL FIXTURES IN PLACE. EC IS RESPOSIBLE FOR ALL DAMAGED FIXTURES AND EXTINGUISHED LAMPS TO BE REPLACED/REPAIRED AT THE CONCLUSION OF THE PROJECT. CARRY 10% ALLOWANCE BASED ON TOTAL QUANTITY OF FIXTURES.
C.	IN ALL RENOVATION AREAS, INTENT IS TO RE-USE EXISTING LIGHTING BRANCH CIRCUITS. CIRCUITS SHOWN ON PLAN ARE TAKEN FROM EXISTING DRAWINGS. CONTRACTOR SHALL VERIFY IN FIELD. BY REPLACING EXISTING FLUORESCENT FIXTURES WITH LED, OVERALL WATTAGE HAS BEEN REDUCED, THEREFORE THE LOAD IS JUSTIFIED. FOR EACH 277V, 20A CIRCUIT, DO NOT EXCEED 4432 VA.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT



1 | ELECTRICAL 1ST FLOOR LIGHTING PLAN - AREA C
E201C | 1/8" = 1'-0"

NORTH

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PROJECT INFORMATION

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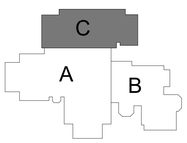
KEY PLAN



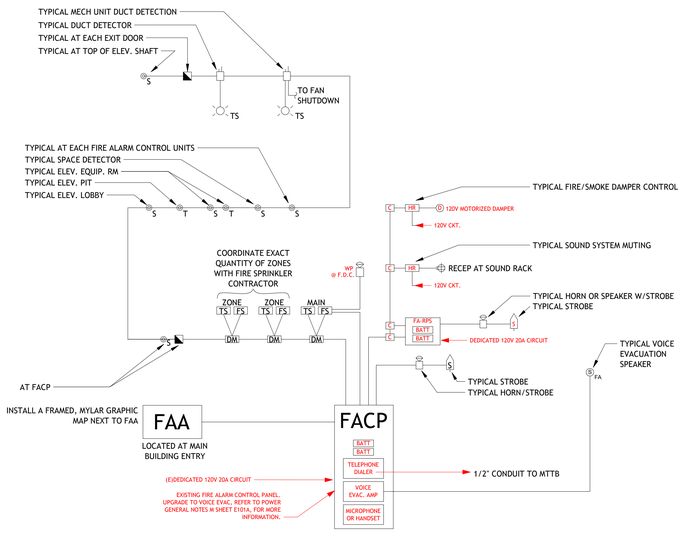
SHEET INFORMATION

COLORADO REGISTERED MICHAEL R. ROOT 35717 7/31/2023 PROFESSIONAL ENGINEER

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL 1ST FLOOR LIGHTING PLAN - AREA C

E201C



FIRE ALARM GENERAL NOTES:

1. THIS IS A FULLY ADDRESSABLE SYSTEM WITH EACH DEVICE HAVING A DISTINCT 'ADDRESS'.
2. PROVIDE NON-POWER LIMITING, PLENUM RATED WIRING. INSTALL IN EMT WHERE WIRING IS ROUTED THROUGH HAZARDOUS LOCATIONS, EXPOSED STRUCTURAL CEILINGS, INACCESSIBLE CEILINGS, AND BETWEEN AREAS SEPARATED BY MULTI-STORY ATRIUMS. ALL RACEWAY COMPONENTS SHALL BE PAINTED RED.
3. PROVIDE DUCT DETECTION FOR ALL AIR-HANDLING EQUIPMENT OPERATING WITH A RETURN CAPACITY EXCEEDING 2000CFM, SUPPLY CAPACITY EXCEEDING 15,000CFM WITH COMMON DUCT SERVING MULTIPLE FLOORS, AND ADDITION- ALLY AS REQUIRED BY LOCAL CODES.
4. SPRINKLER SYSTEM IS A DESIGN-BUILD CONTRACT. COORDINATE WITH SPRINKLER CONTRACTOR FOR QUANTITIES AND LOCATIONS OF ALL FLOW AND TAMPER SWITCHES, AND FOR LOCATION OF FIRE HORN/LIGHT AT EXTERIOR OF BUILDINGS. INSTALL WITH A MINIMUM OF 20% SPARE CAPACITY ON ALL INITIATING AND INDICATING APPLIANCE CIRCUITS.
5. PROVIDE 120V CIRCUIT AND LOW-VOLTAGE FIRE ALARM CONTROL CIRCUIT TO ALL SMOKE DAMPERS. COORDINATE LOCATIONS WITH MECHANICAL CONTRACTOR PRIOR TO BID.
6. COORDINATE ALL SEQUENCING OF OPERATIONS WITH LOCAL FIRE DEPARTMENT.
7. ALL DEVICES INSTALLED IN DAMP, WET OR EXTERIOR LOCATIONS SHALL BE FURNISHED WITH WP HOUSINGS. ALL DEVICES INSTALLED IN GYMNASIUMS SHALL BE FURNISHED WITH WIRE GUARD.
8. SYSTEM SHALL TRANSMIT REQUIRED FIRE ALARM SIGNALS TO CENTRAL MONITORING AGENCY (SELECTED BY OWNER) VIA DIALER PROVIDED IN FIRE ALARM CONTROL PANEL.
10. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID AN ADDITIONAL 10% SPARE STROBES AND HORN/STROBES, INCLUDING INSTALLATION, AS MAY BE REQUIRED BY AHJ.
11. SEQUENCE OF OPERATION FOR SMOKE DAMPERS;
    - 11.1. DAMPERS WILL OPERATE WHEN THE FOLLOWING CONDITIONS OCCURS.
      - 11.1.1. THE SUPPLY OR RETURN DUCT DETECTOR OF THE RESPECTIVE AIR HANDLING UNIT GOES INTO ALARM.
      - 11.1.2. FIRE/SMOKE DAMPERS SHALL BE CLOSED BY ACTUATION OF A SMOKE DETECTOR INSTALLED IN DUCT WORK WITHIN 5' OR SPOT-TYPE DETECTOR INSTALLED WITHIN 5', REFER TO PLANS TYPE AND LOCATION.

2 FIRE ALARM RISER DIAGRAM

E600 | 1/8" = 1'-0"

MECHANICAL EQUIPMENT SCHEDULE

KEY		EQUIPMENT DESCRIPTION	LOAD	ELECTRICAL	MOCP/MFS	FEEDER	DISCONNECT	PANEL	CIRCUIT	NOTES
B	1	BOILER	28 MCA	120 V/1-3360 VA	40A 1P	2#8, 1#10, 1"C	60A/1P	P2D	26	
B	2	BOILER	28 MCA	120 V/1-3360 VA	40A 1P	2#8, 1#10, 1"C	60A/1P	P2D	28	
CP	1	CIRCULATION PUMP	1.02 AMPS	120 V/1-122 VA	15A 1P	2#12, 1#12, 3/4"C	30A/1P	L1E	2	
CUH	2	CABINET UNIT HEATER	3.7 MCA	120 V/1-696 VA	20A 1P	2#12, 1#12, 3/4"C	30A/1P	L1E	7	
CUH	3	CABINET UNIT HEATER	3.7 MCA	120 V/1-696 VA	20A 1P	2#12, 1#12, 3/4"C	30A/1P	L1E	9	
EF	11	EXHAUST FAN	1/4 HP	120 V/1-667 VA	15A 1P	2#12, 1#12, 3/4"C	30A/1P	L1E	3	
EF	12	EXHAUST FAN	1/4 HP	120 V/1-667 VA	15A 1P	2#12, 1#12, 3/4"C	30A/1P	L1E	5	
GWH	1	GAS WATER HEATER	5 AMPS	120 V/1-600 VA	20A 1P	2#12, 1#12, 3/4"C	30A/1P	L1E	4	
HWP	1	HOT WATER PUMP	15 HP	208 V/3-17451 VA	40A 3P	3#8, 1#10, 1"C	60A/3P	DSB	2	
HWP	2	HOT WATER PUMP	15 HP	208 V/3-17451 VA	40A 3P	3#8, 1#10, 1"C	60A/3P	DSB	1	
RTU	1	ROOFTOP UNIT	30 MCA	480 V/3-24939 VA	50A 3P	3#6, 1#10, 1"C	60A/3P	H1E	1,3,5	

MECHANICAL EQUIPMENT GENERAL NOTES

A. REFER TO MECHANICAL PLANS FOR SPECIFIC EQUIPMENT LOCATIONS AND REQUIREMENTS.

B. PRIOR TO ROUGH-IN, COORDINATE ALL MECHANICAL EQUIPMENT POWER AND CONNECTION REQUIREMENTS WITH MECHANICAL CONTRACTOR'S FINAL SHOP DRAWINGS.

C. PROVIDE ALL 120V CONTROL WIRING, REFER TO SPECIFICATIONS FOR FURTHER CONTROL WIRING CLARIFICATION.

D. FOR ANY VAV SYSTEM COORDINATE POWER REQUIREMENTS WITH MECHANICAL CONTRACTOR AND PROVIDE 120V CONNECTIONS AT EACH VAV BOX, OR AT CENTRAL CONTROL PANEL LOCATION(S) AS REQUIRED. IF EXACT QUANTITIES AND LOCATIONS FOR CONTROL PANELS ARE NOT KNOWN AT BID TIME, E.C. IS TO INCLUDE ONE 120V CONNECTION AT EACH VAV DEVICE IN THE BASE BID PRICE AND PROVIDE A CREDIT DURING CONSTRUCTION IF LESS CONNECTIONS ARE REQUIRED.

E. EXTERIOR DISCONNECT SWITCHES ARE TO BE PROVIDED AS NEMA 3R EQUIPMENT UNLESS OTHERWISE NOTED.

F. PROVIDE WEATHERPROOF 120 VOLT GFCI RECEPTACLES WITHIN 25' OF ALL ROOFTOP HEATING, VENTILATING, AND AIR CONDITIONING EQUIPMENT. CIRCUIT TO SPARE CIRCUIT ON NEAREST 120V PANELBOARD OR AS INDICATED ON PLANS.

G. PROVIDE DUCT DETECTION ON ALL RETURN AIR SYSTEMS OF 2,000 CFM OR GREATER, AND FOR ALL SUPPLY AIR SYSTEMS 15,000 CFM OR GREATER, INCLUDING THOSE SYSTEMS SERVING MULTIPLE FLOORS. PROVIDE ADDITIONAL DUCT DETECTORS AND INSTALL REMOTE INDICATOR LIGHTS AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.

H. FOR ANY BOILER MECHANICAL SYSTEM, E.C. IS TO PROVIDE AN EMERGENCY PUSHBUTTON OFF AND ANY CONTROL WIRING REQUIRED. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR AND EQUIPMENT PRIOR TO INSTALLATION.

I. EC TO PROVIDE HAND/OFF/AUTO STARTERS FOR ALL MOTORS WHEN NOT INDICATED AS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR ON THE MECHANICAL PLANS. SIZE OF STARTER TO BE BASED UPON SIZE OF MOTOR HORSEPOWER INDICATED.

FEEDER SCHEDULE

KEY/ AMPS	FEEDER CONDUIT AND CONDUCTORS	KEY/ AMPS	FEEDER CONDUIT AND CONDUCTORS
SERVICE ENTRANCE FEEDERS		SDS XFMR FEEDERS (NOTE 1)	
400N	2{4#3/0, 2"C}	30S	4#10, 1#8G, 3/4"C
600N	2{4#350, 3"C}	50S	4#6, 1#8G, 1-1/4"C
800N	2{4#500, 3-1/2"C}	100S	4#1, 1#6G, 1-1/2"C
1000N	3{4#400, 3-1/2"C}	150S	4#1/0, 1#6G, 2"C
1200N	4{4#350, 3"C}	250S	4#250, 1#2G, 3"C
1600N	5{4#400, 3-1/2"C}	400S	2{4#3/0, 1#2G, 2"C}
2000N	6{4#400, 3-1/2"C}	500S	2{4#250, 1#1/0G, 3"C}
2500N	7{4#500, 3-1/2"C}	800S	2{4#500, 1#2/0G, 3-1/2"C}
3000N	8{4#500, 3-1/2"C}	1000S	3{4#400, 1#4/0G, 3-1/2"C}
3500N	10{4#500, 3-1/2"C}	1600S	5{4#400, 1#350G, 3-1/2"C}
4000N	11{4#500, 3-1/2"C}	2500S	7{4#500, 1#500G, 3-1/2"C}
EQUIPMENT FEEDERS			
20NG	4#12, #12G, 3/4"C	20G	3#12, #12G, 3/4"C
30NG	4#10, 1#10G, 3/4"C	30G	3#10, 1#10G, 3/4"C
40NG	4#8, 1#10G, 1"C	40G	3#8, 1#10G, 1"C
50NG	4#6, 1#10G, 1-1/4"C	50G	3#6, 1#10G, 1"C
60NG	4#4, 1#10G, 1-1/4"C	60G	3#4, 1#10G, 1"C
70NG	4#4, 1#8G, 1-1/4"C	70G	3#4, 1#8G, 1-1/4"C
80NG	4#3, 1#8G, 1-1/4"C	80G	3#3, 1#8G, 1-1/4"C
90NG	4#2, 1#8G, 1-1/2"C	90G	3#2, 1#8G, 1-1/4"C
100NG	4#1, 1#8G, 1-1/2"C	100G	3#1, 1#8G, 1-1/2"C
110NG	4#1, 1#6G, 2"C	110G	3#1, 1#6G, 1-1/2"C
125NG	4#1/0, 1#6G, 2"C	125G	3#1/0, 1#6G, 1-1/2"C
150NG	4#1/0, 1#6G, 2"C	150G	3#1/0, 1#6G, 1-1/2"C
175NG	4#2/0, 1#6G, 2"C	175G	3#2/0, 1#6G, 2"C
200NG	4#3/0, 1#6G, 2-1/2"C	200G	3#3/0, 1#6G, 2"C
225NG	4#4/0, 1#4G, 2-1/2"C	225G	3#4/0, 1#4G, 2"C
250NG	4#250, 1#4G, 3"C	250G	3#250, 1#4G, 2-1/2"C
300NG	4#350, 1#4G, 3"C	300G	3#350, 1#4G, 2-1/2"C
350NG	4#500, 1#3G, 3-1/2"C	350G	3#500, 1#3G, 3"C
400NG	2{4#3/0, 1#3G, 2-1/2"C}	400G	2{3#3/0, 1#3G, 2"C}
450NG	2{4#4/0, 1#2G, 2-1/2"C}	450G	2{3#4/0, 1#2G, 2"C}
500NG	2{4#250, 1#2G, 3"C}	500G	2{3#250, 1#2G, 2-1/2"C}
600NG	2{4#350, 1#1G, 3"C}	600G	2{3#350, 1#1G, 2-1/2"C}
700NG	2{4#500, 1#1/0G, 3-1/2"C}	700G	2{3#500, 1#1/0G, 3"C}
800NG	2{4#500, 1#1/0G, 3-1/2"C}	800G	2{3#500, 1#1/0G, 3"C}
1000NG	3{4#400, 1#2/0G, 3-1/2"C}	1000G	3{3#400, 1#2/0G, 3"C}
1200NG	4{4#350, 1#3/0G, 3"C}	1200G	4{3#350, 1#3/0G, 3"C}
1600NG	5{4#400, 1#4/0G, 3-1/2"C}	1600G	5{3#400, 1#4/0G, 3"C}
2000NG	6{4#400, 1#250G, 3-1/2"C}	2000G	6{3#400, 1#250G, 3"C}
GROUNDING CONDUCTORS		ABBREVIATIONS	
G8	1#8, 3/4"C	MECH	SEE MECH SCHEDULE
G6	1#6, 3/4"C	XFMR	SEE XFMR SCHEDULE
G4	1#4, 3/4"C		
G2	1#2, 3/4"C		
G10	1-1/0, 3/4"C		
G20	1-2/0, 3/4"C		
G30	1-3/0, 3/4"C		

NOTES:
1. FEEDER FOR SECONDARY OF SEPARATELY DERIVED SYSTEM (SDS). GROUND SIZE PER NEC 250.66.
2. ALL CONDUCTORS ARE SINGLE CONDUCTOR COPPER THWN UNLESS NOTED OTHERWISE. AMPACITY BASED ON NEC TABLE 310.16.
3. ALL CONDUITS ARE EMT UNLESS NOTED OTHERWISE, FILL RATIOS BASED ON NEC ANNEX C TABLE C1.

FAULT CURRENT CALCULATION SCHEDULE

POINT	LOCATION DESCRIPTION	LENGTH (L) (ft)	VOLTAGE (EL-L)	VOLTAGE (EL-N)	PHASE	WIRE SIZE	CONDUCTOR MATERIAL	CONDUCTOR TYPE	CONDUIT MATERIAL	VOLTAGE CLASS	C VALUE	# OF PARALLEL RUNS	Isc AVAILABLE UPSTREAM	Isc AT EQUIP (Isph) OR (IL-L)	POINT
F0	UTILITY XFMR												--	52,000	F0
F1	CT CABINET/MSB	88	480	277	3	3X	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	13923	1	52,000	23,788	F1
F2	PANEL 'H1D'	35	480	277	3	3X	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	13923	1	23,788	19,566	F2
F3	PANEL 'H1E'	320	480	277	3	1	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	7493	1	19,566	4,873	F3
F4	RTU-1	70	480	277	3	6	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	2430	1	4,873	3,235	F4
F5	XFMR 'T1' PRI	15	480	277	3	3X	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	13923	2	3,235	3,214	F5
F6	XFMR 'T1' SEC			----							----			4,895	F6
F7	HWP-1	25	208	120	3	3X	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	13923	1	4,895	4,561	F7
F8	HWP-2	25	208	120	3	3X	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	13923	1	4,561	4,270	F8
F9	PANEL 'L1E'	310	208	120	3	3X	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	13923	1	4,895	2,566	F9
F10	PANEL 'P1D'	25	208	120	3	3X	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	13923	1	4,895	4,561	F10
F11	PANEL 'P2D'	15	208	120	3	3X	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	13923	1	4,895	4,689	F11

NOTES:
1. ALL CALCULATIONS WERE DONE USING BUSSMAN "POINT-TO-POINT" METHOD.
2. REFER TO PLANS FOR ASSUMED UTILITY TRANSFORMER SIZE UTILIZED FOR CALCULATIONS.
3. TRANSFORMER IMPEDANCES USED IN THE CALCULATIONS WERE TAKEN FROM EATON'S PUBLISHED IMPEDANCES FOR DOE 2016 DRY-TYPE TRANSFORMERS.
4. CONDUCTOR LENGTHS INDICATED IN THIS SCHEDULE ARE FOR THE PURPOSES OF FAULT CURRENT CALCULATIONS ONLY. THESE LENGTHS ASSUME WORST CASE SHORTEST DISTANCE CONDITIONS AND SHOULD NOT BE UTILIZED BY THE ELECTRICAL CONTRACTOR FOR BIDDING PURPOSES. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ESTIMATING AND MEASURING ACTUAL FIELD CONDITION LENGTHS AS PART OF THE BID PROCESS.

ELECTRICAL DEMAND LOAD SUMMARY - DISTRIBUTION SWITCHBOARD 'DSB'

FEEDER SERVICE SIZE: 800A, 120/208V, 3-PHASE, 4-WIRE (FROM 225 KVA XFMR)

ALLOWED TOTAL LOAD ON 225KVA TRANSFORMER @ 208V, 3-PHASE =	225 KVA
HWP-1	41 KVA
HWP-2	41 KVA
NEW DEMAND LOAD ADDED TO NEW PANEL 'L1E'	39 KVA
NEW DEMAND LOAD ADDED TO EXISTING PANEL 'P2D'	32.3 KVA
ALLOWED PEAK DEMAND ON FEEDER TO DIST PANEL 'L1'	72 KVA
1.25 DEMAND FACTOR REQUIRED BY NEC 220.87	-14 KVA
ALLOWED METERED TOTAL * =	58 KVA
ALLOWED METERED AMPS AT 208V, 3-PHASE * =	160 AMPS

* EC SHALL PROVIDE 30-DAY DEMAND METERING ON FEEDER AS INDICATED ON THE ELECTRICAL DEMO ONELINE DIAGRAM, E3.0.
EC SHALL NOTIFY ENGINEER IMMEDIATELY SHOULD THE PEAK DEMAND EXCEED THE VALUE INDICATED IN THIS SUMMARY.

ELECTRICAL DEMAND LOAD SUMMARY - AT PANEL 'MSB'

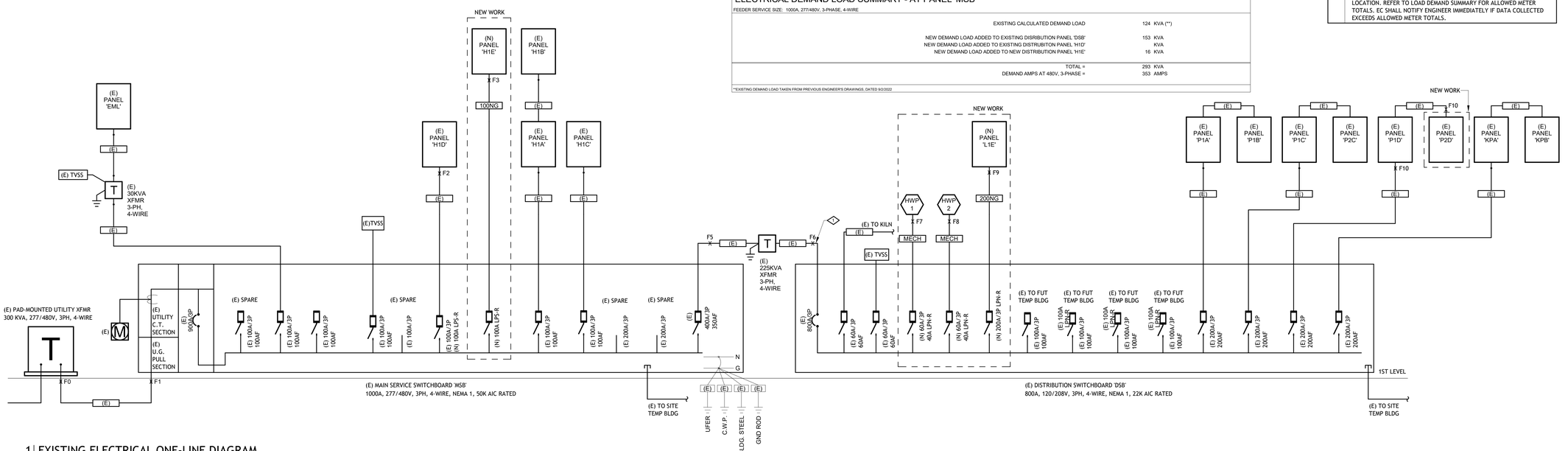
FEEDER SERVICE SIZE: 1000A, 277/480V, 3-PHASE, 4-WIRE

EXISTING CALCULATED DEMAND LOAD	124 KVA (**)
NEW DEMAND LOAD ADDED TO EXISTING DISRIBUTION PANEL 'DSB'	153 KVA
NEW DEMAND LOAD ADDED TO EXISTING DISTRUBITON PANEL 'H1D'	KVA
NEW DEMAND LOAD ADDED TO NEW DISTRIBUTION PANEL 'H1E'	16 KVA
TOTAL =	293 KVA
DEMAND AMPS AT 480V, 3-PHASE =	353 AMPS

**EXISTING DEMAND LOAD TAKEN FROM PREVIOUS ENGINEER'S DRAWINGS, DATED 9/2/2022

KEYNOTES

1. EC TO PROVIDE 30-DAY METERING AT THIS LOCATION PRIOR TO WORK COMMENCE, IN ORDER TO DETERMINE THE DEMAND LOAD AT THIS LOCATION. REFER TO LOAD DEMAND SUMMARY FOR ALLOWED METER TOTALS. EC SHALL NOTIFY ENGINEER IMMEDIATELY IF DATA COLLECTED EXCEEDS ALLOWED METER TOTALS.



1 EXISTING ELECTRICAL ONE-LINE DIAGRAM

E600 | NO SCALE

milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #: 6140.00

PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED 35717 PROFESSIONAL ENGINEER 7/31/2023

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL ONE LINE DIAGRAM

E600

PANEL: H1E

LOCATION: CORRIDOR CR109
SUPPLY FROM: 'MSB' VIA 200A FUSED DISCONNECT
MOUNTING: Recessed
ENCLOSURE: Type 1

VOLTS: 480/277 Wye
PHASES: 3
WIRES: 4

A.I.C. RATING: 10K
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

Notes:

CKT	CCT TYPE	LOAD DESCRIPTION	TRIP	POLES	CB TYPE	A	B	C	CB TYPE	POLES	TRIP	LOAD DESCRIPTION	CCT TYPE	CKT
1	M	RTU-1	50	3		8313	2948			1	30	LTG-119,120,123,129,131-134,124,...	L	2
3	--	--	--	--				8313	1948	1	30	LTG-124,117, CR106-110,VEST133,	L	4
5	--	--	--	--						8313	561	1	20	LTG - AREA C BUILDING MOUNTED...	L	6
7	--	BUSSED SPACE	--	1		--	--					1	--	BUSSED SPACE	--	8
9	--	BUSSED SPACE	--	1				--	--			1	--	BUSSED SPACE	--	10
11	--	BUSSED SPACE	--	1						--	--	1	--	BUSSED SPACE	--	12
13	--	BUSSED SPACE	--	1		--	--					1	--	BUSSED SPACE	--	14
15	--	BUSSED SPACE	--	1				--	--			1	--	BUSSED SPACE	--	16
17	--	BUSSED SPACE	--	1						--	--	1	--	BUSSED SPACE	--	18
19	--	BUSSED SPACE	--	1		--	--					1	--	BUSSED SPACE	--	20
21	--	BUSSED SPACE	--	1				--	--			1	--	BUSSED SPACE	--	22
23	--	BUSSED SPACE	--	1						--	--	1	--	BUSSED SPACE	--	24
25	--	BUSSED SPACE	--	1		--	--					1	--	BUSSED SPACE	--	26
27	--	BUSSED SPACE	--	1				--	--			1	--	BUSSED SPACE	--	28
29	--	BUSSED SPACE	--	1						--	--	1	--	BUSSED SPACE	--	30
31	--	BUSSED SPACE	--	1		--	--					1	--	BUSSED SPACE	--	32
33	--	BUSSED SPACE	--	1				--	--			1	--	BUSSED SPACE	--	34
35	--	BUSSED SPACE	--	1						--	--	1	--	BUSSED SPACE	--	36
37	--	BUSSED SPACE	--	1		--	--					1	--	BUSSED SPACE	--	38
39	--	BUSSED SPACE	--	1				--	--			1	--	BUSSED SPACE	--	40
41	--	BUSSED SPACE	--	1						--	--	1	--	BUSSED SPACE	--	42
		Total Load:				11261 VA		10261 VA		8874 VA						
		Total Amps:				41 A		38 A		32 A						

CB TYPE LEGEND

GFCI: 5mA GROUND FAULT CIRCUIT INTERRUPTER
GFEP: 30mA GROUND FAULT PROTECTION FOR EQUIPMENT
AFCI: ARC FAULT CIRCUIT INTERRUPTER
CAFCI: COMBINATION ARC FAULT & 5mA GROUND FAULT CIRCUIT INTERRUPTER
HC(-ON/OFF): HANDLE CLAMP FOR LOCKING IN ON/OFF POSITION
HT#: HANDLE TIE WITH GROUPING #
ST: SHUNT TRIP
LOCK: PERMANENTLY LOCKABLE BREAKER

CIRCUIT PHASE CODE LEGEND

N1. EXISTING LOAD ON EXISTING CIRCUIT BREAKER.
N2. NEW LOAD ON EXISTING CIRCUIT BREAKER.
N3. NEW LOAD ON NEW CIRCUIT BREAKER. CIRCUIT BREAKER AND AIC RATING TO MATCH EXISTING.

CCT TYPE:	LOAD	DEMAND LOAD	PANEL TOTALS	
LIGHTING:	5457 VA	6821 VA		
RECEPTACLE:			**TOTAL CONN. LOAD:**	30396 VA
MOTOR:	24939 VA	31174 VA	**TOTAL EST. LOAD:**	37995 VA
EQUIPMENT:			**TOTAL CONN.:**	37 A
KITCH EQUIP:			**TOTAL EST. DEMAND:**	46 A
CONTINUOUS:				

NOTES:

PANEL: L1E

LOCATION: CORRIDOR CR109
SUPPLY FROM: 'DSB' VIA 200A FUSED DISCONNECT
MOUNTING: Recessed
ENCLOSURE: Type 1

VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4

A.I.C. RATING: 10K
MAINS TYPE: MCB
MAINS RATING: 200 A
MCB RATING: 200 A

Notes:

CKT	CCT TYPE	LOAD DESCRIPTION	TRIP	POLES	CB TYPE	A	B	C	CB TYPE	POLES	TRIP	LOAD DESCRIPTION	CCT TYPE	CKT
1	R	ROOFTOP RECEPTS	20	1		180	122			1	20	CP-1	Other	2
3	M	EF-11	20	1				667	600	1	20	GWH-1	Other	4
5	M	EF-12	20	1						667	720	1	20	CLASS RM 129 RECEPTS	R	6
7	M	CUH-2	20	1		696	900					1	20	CLASS RM 129 TEACH WALL RECEPTS	R	8
9	M	CUH-3	20	1				696	720			1	20	CLASS RM 129 RECEPTS	R	10
11	R	CORR. CR105 GEN. RECEPTS	20	1						540	720	1	20	CLASSRM 131 RECEPTS	R	12
13	R	CORRIDOR AREA C GEN. RECEPTS	20	1		1080	900					1	20	CLASS RM 131 T. WALL RECEPTS	R	14
15	R	CORR. WATER FOUNTAIN RECEPT	20	1				360	1080			1	20	CLASS RM 131 RECEPTS	R	16
17	R	CORR. WATER FOUNTAIN RECEPT	20	1						360	900	1	20	CLASS RM 132 T. WALL RECEPTS	R	18
19	R	CLASSRM 117 T. WALL RECEPTS	20	1		900	720					1	20	CLASS RM 132 RECEPTS	R	20
21	R	CLASS RM 117 RECEPTS	20	1				1080	1080			1	20	CLASSRM 132 RECEPTS	R	22
23	R	CLASS RM 117 RECEPTS	20	1						720	900	1	20	CLASS RM 133 T. WALL RECEPTS	R	24
25	R	CLASS RM 119 T. WALL RECEPTS	20	1		900	1080					1	20	CLASSRM 133 RECEPTS	R	26
27	R	CLASS RM 119 RECEPTS	20	1				720	720			1	20	CLASS RM 133 RECEPTS	R	28
29	R	CLASS RM 119 RECEPTS	20	1						1080	900	1	20	CLASS RM 134 T. WALL RECEPTS	R	30
31	R	CLASS RM 120 RECEPTS	20	1		720	720					1	20	CLASS RM 134 GEN. RECEPTS	R	32
33	R	CLASS RM 120 T. WALL RECEPTS	20	1				900	1080			1	20	CLASSRM 134 RECEPTS	R	34
35	R	CLASS RM 120 RECEPTS	20	1						1080	1080	1	20	TEACH PLAN 134B RECEPTS	R	36
37	R	CLASS RM 123 T. WALL RECEPTS	20	1		900	1080					1	20	FLEX OFFICE 135 RECEPTS	R	38
39	R	CLASS RM 123 RECEPTS	20	1				720	1080			1	20	FLEX OFFICE 136 RECEPTS	R	40
41	R	CLASSRM 123 RECEPTS	20	1						720	900	1	20	AREA C STORAGE & CUST. RECEPTS	R	42
43	R	CLASS RM 124 T. WALL RECEPTS	20	1		900	740					1	20	HAND DRYERS	E	44
45	R	CLASS RM 124 RECEPTS	20	1				1080	1000			1	20	VEST. 116 MOTORIZED DOORS	E	46
47	R	CLASSRM 124 RECEPTS	20	1						720	200	1	20	VEST. 116 MOTORIZED DOORS	E	48
49	L	LTG- AREA C RESTROOMS	20	1		330	0					1	20	SPARE	--	50
51	--	SPARE	20	1				0	0			1	20	SPARE	--	52
53	--	SPARE	20	1						0	0	1	20	SPARE	--	54
55	--	SPARE	20	1		0	0					1	20	SPARE	--	56
57	--	SPARE	20	1				0	0			1	20	SPARE	--	58
59	--	SPARE	20	1						0	0	1	20	SPARE	--	60
61	--	SPARE	20	1		0	0					1	20	SPARE	--	62
63	--	SPARE	20	1				0	0			1	20	SPARE	--	64
65	--	SPARE	20	1						0	0	1	20	SPARE	--	66
67	--	SPARE	20	1		0	0					1	20	SPARE	--	68
69	--	SPARE	20	1				0	0			1	20	SPARE	--	70
71	--	SPARE	20	1						0	0	1	20	SPARE	--	72
73	--	BUSSED SPACE	--	1		--	--					1	--	BUSSED SPACE	--	74
75	--	BUSSED SPACE	--	1				--	--			1	--	BUSSED SPACE	--	76
77	--	BUSSED SPACE	--	1						--	--	1	--	BUSSED SPACE	--	78
79	--	BUSSED SPACE	--	1		--	--					1	--	BUSSED SPACE	--	80
81	--	BUSSED SPACE	--	1				--	--			1	--	BUSSED SPACE	--	82
83	--	BUSSED SPACE	--	1						--	--	1	--	BUSSED SPACE	--	84
		Total Load:				12868 VA		13583 VA		12207 VA						
		Total Amps:				108 A		114 A		102 A						

CB TYPE LEGEND

GFCI: 5mA GROUND FAULT CIRCUIT INTERRUPTER
GFEP: 30mA GROUND FAULT PROTECTION FOR EQUIPMENT
AFCI: ARC FAULT CIRCUIT INTERRUPTER
CAFCI: COMBINATION ARC FAULT & 5mA GROUND FAULT CIRCUIT INTERRUPTER
HC(-ON/OFF): HANDLE CLAMP FOR LOCKING IN ON/OFF POSITION
HT#: HANDLE TIE WITH GROUPING #
ST: SHUNT TRIP
LOCK: PERMANENTLY LOCKABLE BREAKER

CIRCUIT PHASE CODE LEGEND

N1. EXISTING LOAD ON EXISTING CIRCUIT BREAKER.
N2. NEW LOAD ON EXISTING CIRCUIT BREAKER.
N3. NEW LOAD ON NEW CIRCUIT BREAKER. CIRCUIT BREAKER AND AIC RATING TO MATCH EXISTING.

CCT TYPE:	LOAD	DEMAND LOAD	PANEL TOTALS	
LIGHTING:	330 VA	413 VA		
RECEPTACLE:	32940 VA	21470 VA	**TOTAL CONN. LOAD:**	38658 VA
MOTOR:	2726 VA	2900 VA	**TOTAL EST. LOAD:**	27445 VA
EQUIPMENT:	1940 VA	1940 VA	**TOTAL CONN.:**	107 A
KITCH EQUIP:			**TOTAL EST. DEMAND:**	76 A
CONTINUOUS:				

NOTES:

PANEL 'P1D'

VOLTAGE L-L: 208
VOLTAGE L-N: 120
TYPE: 3PH/4W
MOUNTING: SURFACE
NOTES: EXISTING PANEL

LOCATION: MAIN ELECTRICAL RM
BUS RATING: 225 AMPS
MAIN CB: MLO
FED FROM: DSB
AIC RATING: FULLY RATED AT LEAST EQUAL TO: 10K AIC

CIR. NO	LOAD TYPE	LOAD VA	LOAD DESCRIPTION (NOTE N#)	CIRCUIT BREAKER POLE	TRIP	TYPE	BUS	CIRCUIT BREAKER TYPE	TRIP	POLE	LOAD DESCRIPTION (NOTE N#)	LOAD VA	LOAD TYPE	CIR NO
1	R	600	R. ELEC. RM BOILER RM (N1)	1	20		A		20	1	REC. ART RM CLNG (N1)	1800	R	2
3	R	600	R. BOILER RM (N1)	1	20		B		20	1	REC. ART RM CLNG (N1)	1800	R	4
5	R	800	R. CAFÉ KIT STORAGE (N1)	1	20		C		20	1	REC. ART RM CLNG (N1)	1800	R	6
7	R	800	RECEPTACLE RM 183 (N1)	1	20		A		20	1	REC. ART RM CLNG (N1)	1800	R	8
9	R	800	REC. CAFETERIA (N1)	1	20		B		20	1	REC. ART RM CLNG (N1)	1800	R	10
11	R	600	REC. CAFETERIA (N1)	1	20		C		20	1	REC. ART RM CLNG (N1)	1800	R	12
13	R	400	REC. CAFETERIA (N1)	1	20		A		20	1	REC. ART RM CLNG (N1)	1800	R	14
15	R	1000	REC. ELEC. W. COOLER (N1)	1	20		B		20	1	REC. ART RM CLNG (N1)	1800	R	16
17	R	400	REC. EAST ENTRY (N1)	1	20		C		20	1	REC. ART RM (N1)	1800	R	18
19	R	1000	REC. MUSIC RM (N1)	1	20		A		20	1	REC. ART RM (N1)	1800	R	20
21	R	1000	REC. MUSIC RM (N1)	1	20		B		20	1	REC. ART RM (N1)	800	R	22
23	R	1000	REC. MUSIC RM (N1)	1	20		C		20	1	REC. ART RM (N1)	400	R	24
25	R	1000	REC. MUSIC RM (N1)	1	20		A		20	1	REC. ART RM (N1)	1000	R	26
27	R	1000	REC. MUSIC RM (N1)	1	20		B		20	1	REC. ART RM (N1)	1000	R	28
29	R	1000	REC. MUSIC RM (N1)	1	20		C		20	1	REC. ART RM (N1)	400	R	30
31	M	800	UNIT HEATER (N1)	1	20		A		20	1	REC. KILN (N1)	500	R	32
33	R	400	REC. MUSIC RM (N1)	1	20		B		20	1	REC. MUSIC RM (N1)	1000	R	34
35			SPARE (N1)	1	20		C				SPACE (N1)			36
37	L	500	EXTERIOR LTG CONTROL (N1)	1	20		A				SPACE (N1)			38
39	E	250	PROJ. SCREEN MUSIC RM (N1)	1	20		B				SPACE (N1)			40
41	R	1500	STERO EQUIP MUSIC RM (N1)	1	20		C				SPACE (N1)			42

LOAD TYPE: L=LIGHTING, R=RECEPTACLE, M=MOTOR, LM=LARGEST MOTOR, E=EQUIPMENT, KE=KITCHEN EQUIPMENT, C=CONTINUOUS, S=SUBFEED PANEL
CB TYPE: GFCI=5mA GROUND FAULT CIRCUIT INTERRUPTER, GFEP=30mA GROUND FAULT PROTECTION FOR EQUIPMENT, AFCI=ARC FAULT CIRCUIT INTERRUPTER
CAFCI=COMBINATION ARC FAULT & 5mA GROUND FAULT CIRCUIT INTERRUPTER, ST=SHUNT TRIP, HT#=HANDLE TIE WITH GROUPING #
HC=HANDLE CLAMP FOR LOCKING IN ON/OFF POSITION, LOCK=PERMANENTLY LOCKABLE BREAKER

LOAD TYPE:	LOAD	MULT	DEMAND LOAD	
LIGHTING:	500	1.25	625	VA
RECEPTACLE:	10000	1.0	13500	VA
OVER 10K:	27000	0.5	13500	VA
MOTOR:	800	1.0	16820	VA
LGST MOTOR:	0	1.25	0	VA
EQUIPMENT:	250	1.0	2650	VA
KITCH EQUIP:	0	0	0	VA
CONTINUOUS	0	1.25	0	VA
SUBFEED PNL:	0	1.0	0	VA

TOTAL CONNECTED LOADS

	A	B	C
VA	13800	13250	11500

TOTAL DEMANDED LOADS

	A	B	C
VA	9364	8507	7304
AMPS	78	71	61

TOTAL ON PANEL: 25 KVA, 70 AMPS

NOTES: TOTAL LOADS INCLUDE PANEL 'P2D'

N1. EXISTING LOAD ON EXISTING CIRCUIT BREAKER.
N2. NEW LOAD ON EXISTING CIRCUIT BREAKER.
N3. NEW LOAD ON NEW CIRCUIT BREAKER. CIRCUIT BREAKER TYPE AND AIC RATING TO MATCH EXISTING.

PANEL 'P2D'

VOLTAGE L-L: 208
VOLTAGE L-N: 120
TYPE: 3PH/4W
MOUNTING: SURFACE
NOTES: EXISTING PANEL

LOCATION: MAIN ELECTRICAL RM
BUS RATING: 250 AMPS
MAIN CB: 200 A/3P
FED FROM: P1D
AIC RATING: FULLY RATED AT LEAST EQUAL TO: 10K AIC

CIR. NO	LOAD TYPE	LOAD VA	LOAD DESCRIPTION (NOTE N#)	CIRCUIT BREAKER POLE	TRIP	TYPE	BUS	CIRCUIT BREAKER TYPE	TRIP	POLE	LOAD DESCRIPTION (NOTE N#)	LOAD VA	LOAD TYPE	CIR NO
1	R	400	RECEPTACLE GYM (N1)	3	20		A		20	1	BACKBOARD POWER (N1)	500	M	2
3	R	400	RECEPTACLE GYM (N1)	-	20		B		20	1	BACKBOARD POWER (N1)	500	M	4
5	R	600	RECEPTACLE GYM (N1)	-	20		C		20	1	RECEPTACLE GYM (N1)	1500	M	6
7	R	600	RECEPTACLE GYM (N1)	1	20		A		15	1	GYM GUTTER DEICING (N1)	1000	M	8
9	E	400	SCOREBOARD (N1)	1	20		B		20	2	GYM ROOF DEICING (N1)	1000	E	10
11	R	600	RECEPTACLE GYM (N1)	1	20		C		-	-	--	1000	M	12
13	R	400	RECEPTACLE GYM (N1)	1	20		A							14
15	E	500	AHU #4 (N1)	1	20		B				SPACE			16
17			SPARE (N1)	1	20		C				SPACE			18
19			SPARE (N1)	1	20		A				SPACE			20
21			SPARE (N1)	1	20		B				SPACE			22
23			SPARE (N1)	1	20		C				SPACE			24
25			SPARE (N1)	1	20		A		40	1	B-1 (N3)	3360	M	26
27			SPARE (N1)	1	20		B		40	1	B-2 (N3)	3360	M	28
29			SPARE (N1)	1	20		C		20	1	SPRINKLER CLOCK (N1)	500	R	30
31	E	500	AIR FILTER (N1)	1	20		A		20	1	PUMPS DP1 & DP2 (N1)	400	M	32
33	M	500	AHU #6 PUMP (N1)	1	20		B		20	1	GYCOL PUMP (N1)	600	M	34
35	M	500	AHU #5 PUMP (N1)	1	20		C		20	1	SPARE (N1)			36
37	M	1680	EF #8 (N1)	1	20		A		20	1	HOT WATER HEATERS (N1)	100	M	38
39	M	720	EF #7 (N1)	1	20		B		20	1	BOILER RM C.R. PUMPS (N1)	200	M	40
41	M	100	EF #6 (N1)	1	20		C		20	1	SPARE (N2)			42

LOAD TYPE: L=LIGHTING, R=RECEPTACLE, M=MOTOR, LM=LARGEST MOTOR, E=EQUIPMENT, KE=KITCHEN EQUIPMENT, C=CONTINUOUS, S=SUBFEED PANEL
CB TYPE: GFCI=5mA GROUND FAULT CIRCUIT INTERRUPTER, GFEP=30mA GROUND FAULT PROTECTION FOR EQUIPMENT, AFCI=ARC FAULT CIRCUIT INTERRUPTER
CAFCI=COMBINATION ARC FAULT & 5mA GROUND FAULT CIRCUIT INTERRUPTER, ST=SHUNT TRIP, HT#=HANDLE TIE WITH GROUPING #
HC=HANDLE CLAMP FOR LOCKING IN ON/OFF POSITION, LOCK=PERMANENTLY LOCKABLE BREAKER

LOAD TYPE:	LOAD	MULT	DEMAND LOAD	
LIGHTING:	0	1.25	0	VA
RECEPTACLE:	3500	1.0	3500	VA
OVER 10K:	0	0.5	0	VA
MOTOR:	16020	1.0	16020	VA
LGST MOTOR:	0	1.25	0	VA
EQUIPMENT:	2400	1.0	2400	VA
KITCH EQUIP:	0	0	0	VA
CONTINUOUS	0	1.25	0	VA
SUBFEED PNL:	0	1.0	0	VA

TOTAL CONNECTED LOADS

	A	B	C
VA	8940	8180	4800

TOTAL DEMANDED LOADS

	A	B	C
VA	8940	8180	4800
AMPS	75	68	40

TOTAL ON PANEL: 22 KVA, 61 AMPS

NOTES:

N1. EXISTING LOAD ON EXISTING CIRCUIT BREAKER.
N2. NEW LOAD ON EXISTING CIRCUIT BREAKER.
N3. NEW LOAD ON NEW CIRCUIT BREAKER. CIRCUIT BREAKER TYPE AND AIC RATING TO MATCH EXISTING.

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #: 8140.00

PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

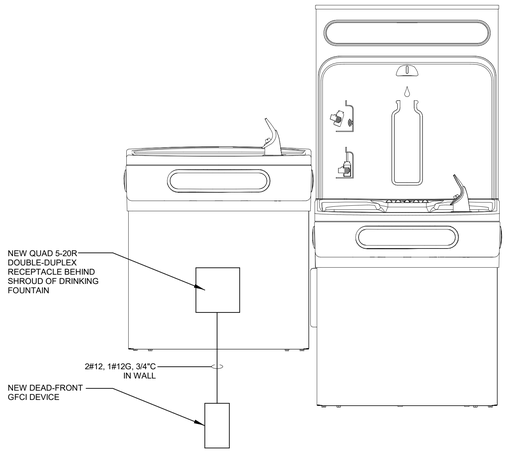
COLORADO REGISTERED CHAD A. ROOT 35717 7/31/2023 PROFESSIONAL ENGINEER

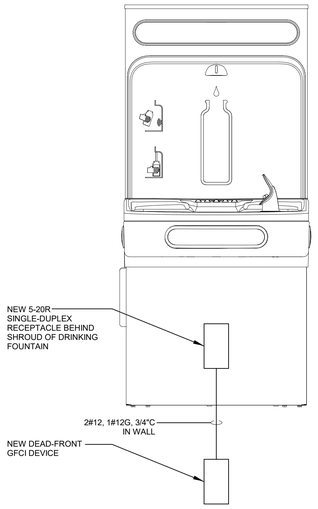
PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

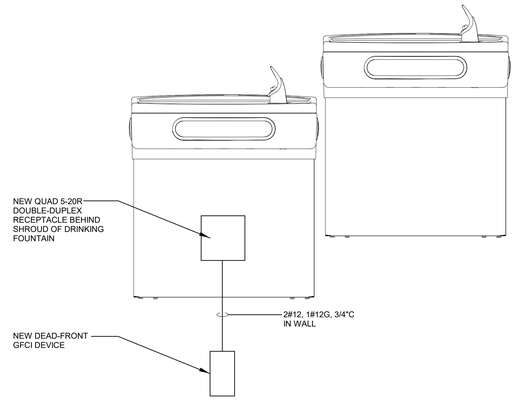
ELECTRICAL PANEL SCHEDULES

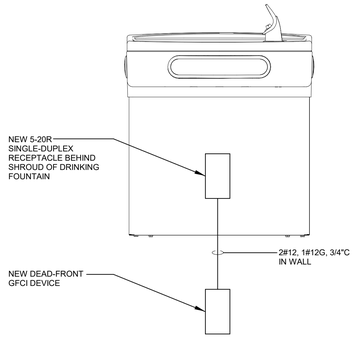
E710

1 2 3 4 5 6 7
E D C B A









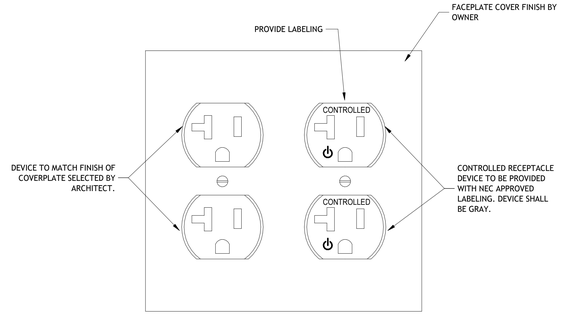
1 | DRINKING FOUNTAIN 'EWC' DETAILS
E711 | NOT TO SCALE

CONTROLLED RECEPTACLES RELAY SCHEDULE - RP1

RELAY ID	RELAY DESCRIPTION	DIMMING / SWITCHING	VOLTAGE	PANEL-CIRCUIT	CONTROL SEQUENCE
RP1-1	CONTROLLED RECEPT: CLASSRM 117	SWITCHING	120 V	L1E-19	T1
RP1-2	CONTROLLED RECEPT: CLASSRM 117	SWITCHING	120 V	L1E-21	T1
RP1-3	CONTROLLED RECEPT: CLASSRM 117	SWITCHING	120 V	L1E-23	T1
RP1-4	CONTROLLED RECEPT: CLASSRM 119	SWITCHING	120 V	L1E-25	T1
RP1-5	CONTROLLED RECEPT: CLASSRM 119	SWITCHING	120 V	L1E-29	T1
RP1-6	CONTROLLED RECEPT: CLASSRM 119	SWITCHING	120 V	L1E-27	T1
RP1-7	CONTROLLED RECEPT: CLASSRM 120	SWITCHING	120 V	L1E-33	T1
RP1-8	CONTROLLED RECEPT: CLASSRM 120	SWITCHING	120 V	L1E-31	T1
RP1-9	CONTROLLED RECEPT: CLASSRM 120	SWITCHING	120 V	L1E-35	T1
RP1-10	CONTROLLED RECEPT: CLASSRM 123	SWITCHING	120 V	L1E-37	T1
RP1-11	CONTROLLED RECEPT: CLASSRM 123	SWITCHING	120 V	L1E-39	T1
RP1-12	CONTROLLED RECEPT: CLASSRM 123	SWITCHING	120 V	L1E-41	T1
RP1-13	CONTROLLED RECEPT: CLASSRM 124	SWITCHING	120 V	L1E-43	T1
RP1-14	CONTROLLED RECEPT: CLASSRM 124	SWITCHING	120 V	L1E-45	T1
RP1-15	CONTROLLED RECEPT: CLASSRM 124	SWITCHING	120 V	L1E-47	T1
RP1-16	AREA C BUILDING-MOUNTED LIGHTS	SWITCHING	277 V	H1E-6	ET1

CONTROLLED RECEPTACLES RELAY SCHEDULE - RP2

RELAY ID	RELAY DESCRIPTION	DIMMING / SWITCHING	VOLTAGE	PANEL-CIRCUIT	CONTROL SEQUENCE
RP2-1	CONTROLLED RECEPT: CLASSRM 129	SWITCHING	120 V	L1E-8	T1
RP2-2	CONTROLLED RECEPT: CLASSRM 129	SWITCHING	120 V	L1E-10	T1
RP2-3	CONTROLLED RECEPT: CLASSRM 129	SWITCHING	120 V	L1E-6	T1
RP2-4	CONTROLLED RECEPT: CLASSRM 131	SWITCHING	120 V	L1E-14	T1
RP2-5	CONTROLLED RECEPT: CLASSRM 131	SWITCHING	120 V	L1E-12	T1
RP2-6	CONTROLLED RECEPT: CLASSRM 131	SWITCHING	120 V	L1E-16	T1
RP2-7	CONTROLLED RECEPT: CLASSRM 132	SWITCHING	120 V	L1E-18	T1
RP2-8	CONTROLLED RECEPT: CLASSRM 132	SWITCHING	120 V	L1E-20	T1
RP2-9	CONTROLLED RECEPT: CLASSRM 132	SWITCHING	120 V	L1E-22	T1
RP2-10	CONTROLLED RECEPT: CLASSRM 133	SWITCHING	120 V	L1E-24	T1
RP2-11	CONTROLLED RECEPT: CLASSRM 133	SWITCHING	120 V	L1E-26	T1
RP2-12	CONTROLLED RECEPT: CLASSRM 133	SWITCHING	120 V	L1E-28	T1
RP2-13	CONTROLLED RECEPT: CLASSRM 134	SWITCHING	120 V	L1E-30	T1
RP2-14	CONTROLLED RECEPT: CLASSRM 134	SWITCHING	120 V	L1E-32	T1
RP2-15	CONTROLLED RECEPT: CLASSRM 134	SWITCHING	120 V	L1E-34	T1
RP2-16	CONTROLLED RECEPT: FLEXRM 135	SWITCHING	120 V	L1E-38	T1
RP2-17	CONTROLLED RECEPT: FLEXRM 136	SWITCHING	120 V	L1E-40	T1
RP2-18	CONTROLLED RECEPT: T. PLAN 127	SWITCHING	120 V	L1E-36	T1



NOTES:

1. CONTROLLED RECEPTACLE DEVICE SHALL BE ROUTED THROUGH AN ELECTRICALLY OR MECHANICALLY HELD 20-AMP MULTIPLE CONTRACTOR DEDICATED FOR EACH ZONE OF RECEPTACLE AS INDICATED ON PLAN.
2. CONTROLLED RECEPTACLE DEVICE SHALL BE CONTROLLED BY TIME OF DAY FUNCTION PROVIDED BY TIMECLOCK. REFER TO PANEL SCHEDULES FOR CIRCUITING.

2 | RECEPTACLE - CONTROLLED SPLIT WIRE STRAIGHT BLADE QUAD
E711 | NTS

RELAY CONTROL NOTES

N1	APPROVED NETWORKED RELAY BASED CONTROLS TO BE PROVIDED BY ONE OF THE FOLLOWING PRE-APPROVED MANUFACTURERS: a. CRESTON b. nLIGHT c. LUTRON d. WATTSTOPPER e. DOUGLAS
N2	RELAY BASED CONTROL PANELS SHALL BE PROVIDED BASED ON THE QUANTITY OF RELAYS INDICATED IN THE SYSTEM RISER DIAGRAM. COMPONENTS PROVIDED SHALL BE CAPABLE OF PROVIDING FUNCTIONALITY IN ACCORDANCE WITH SEQUENCE OF OPERATIONS SCHEDULE.
N3	RELAY PANELS SHALL BE PRE-WIRED, PRE-ASSEMBLED, PRE-PROGRAMMED AND LISTED UL916 OR UL924 WHEN USED WITH CENTRAL INVERTER OR LIFE SAFETY GENERATOR (DEPENDING ON NORMAL OR EMERGENCY OPERATION). PANELS SHLL BE PROVIDED WITH DUAL VOLTAGE POWER SUPPLY AND 16 GAGE BARRIERS TO SEPARATE HIGHTER AND LOWER VOLTAGES, NORMAL AND EMERGENCY POWER.
N4	ELECTRICAL CONTRACTOR SHALL COORDINATE PRE-PROGRAMMING SCHEDULE OF OPERATIONS WITH OWNER PRIOR TO PREPARING SUBMITTALS.
N5	STANDARD RELAYS SHALL HAVE A NORMALLY CLOSED (NC) CONTACT RATED FOR 120/277, 20A. STANDARD RELAYS SHALL BE ZERO-CROSS TYPE, NO EXCEPTIONS.
N6	RELAY PANEL ELECTRONICS SHALL PROVIDE CURRENT VISUAL STATUS AND CONTROL OF EACH RELAY OR ZONE. ALL SYSTEM CONTROL ELECTRONICS SHALL STORE PROGRAMMING IN A NON-VOLATILE MEMORY AND PROVIDE 10 YEAR BATTERY BACKUP FOR TIME OF DAY.
N7	CONTROL PANELS SHALL BE CONTROLLED BY A 32-CHANNEL DIGITAL TIMECLOCK (DTC) THAT CONTROLS AND PROGRAMS THE ENTIRE LIGHTING CONTROL SYSTEM. THE DTC SHALL SUPPLY ALL TIME FUNCTIONS AND ACCEPT OTHER INPUTS. THE DTC SHALL ACCEPT CONTROL LOCALLY USING BUILT IN BUTTON PROMPTS AND USE OF AN 8 LINE 21 LETTER DISPLAY FROM A COMPUTER/MODEM/ETHERNET/INTERNET. ALL COMMANDS SHALL BE IN ENGLISH.
N8	STANDARD LIGHTING CONTROL SYSTEM SOFTWARE, PRE-INSTALLED INTO THE DTC, SHALL CONSIST OF AND USE STANDARD GRAPHICAL MANAGEMENT SOFTWARE PAGES.
N9	LIGHTING CONTROL SYSTEM INTERFACES TO INCLUDE A DRY CONTACT INPUT INTERFACE, BMS INTERFACE AND THERNET/INTERNET INTERFACE. EC SHALL COORDINATE THE OPERATION AND INSTALLATION OF LOW VOLTAGE CONNECTIONS BETWEEN LIGHTING CONTROL SYSTEM AND ANY ADDITIONAL ETHERNET BASED INTERFACES WITH LOW VOLTAGE CONTRACTOR/OWNER.

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #: 8140.00

PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER
35717
7/31/2023

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL DETAILS

E711

LIGHTING FIXTURE GENERAL NOTES

A.	BOF = BOTTOM OF FIXTURE HEIGHT, RFD = RECESSED FIXTURE DEPTH, OFH = OVERALL FIXTURE HEIGHT
B.	ALL FRONT OF HOUSE LED LAMPS TO BE 3500K COLOR TEMPERATURE AND A MINIMUM OF 80CRI, UON.
C.	ALL REFLECTOR LAMPS TO BE PROVIDED AS WIDE FLOOD DISTRIBUTION, UON.
D.	LUMENS LISTED ARE DELIVERED LUMENS, NOT INITIAL.
E.	FOR ALL SPECIFIED LUMINAIRES, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MOUNTING HARDWARE, ACCESSORIES, COMPONENTS, LEADER/JUMPER CABLES, WIRE FEED, CONNECTORS, END CAPS, REMOTE POWER SUPPLIES, AND ANY OTHER NECESSARY COMPONENT AS REQUIRED FOR INSTALLING A SECURE AND FULLY FUNCTIONAL SYSTEM.
F.	THE CONTRACTOR SHALL VERIFY THE CEILING TYPE BEFORE ORDERING LIGHT FIXTURES TO ENSURE COMPATIBILITY WITH SPECIFIED FIXTURES. NOTIFY SPECIFIER OF ANY DISCREPANCIES.
G.	ALL FINISH SELECTIONS SHALL BE VERIFIED BE ARCHITECT/INTERIOR DESIGNER/OWNER AS PART OF THE SUBMITTAL PROCESS. UNLESS OTHERWISE NOTED, EC SHALL ASSUME STANDARD LUMINAIRE FINISH OPTION FOR PRICING.
H.	ALL MOUNTING HEIGHTS SHALL BE VERIFIED WITH ARCHITECTURAL ELEVATIONS PRIOR TO ANY ROUGH-IN.

LIGHTING FIXTURE SPECIFIC NOTES

1.	FIXTURE SHALL REPLACE EXISTING DOWNLIGHT IN EXISTING LOCATION AND IS INTENDED TO BE INSTALLED FROM BELOW. CONTRACTOR SHALL MEASURE EXISTING CEILING OPENING AND CONFIRM THAT SPECIFIED FIXTURE IS COMPATIBLE PRIOR TO PURCHASE.
2.	LED GRAZE LIGHT FIXTURES SHALL REPLACE FLUORESCENT STRIP LIGHTS IN LIBRARY COVE. MOUNT NEW FIXTURES AT SAME LOCATION AS DEMOLISHED FIXTURES AND CENTER IN EACH SECTION OF THE COVE. MAINTAIN EXISTING BRANCH CIRCUITING FOR POWER.
3.	NEW EXIT SIGNS SHALL MATCH EXISTING BUILDING STANDARD.
4.	HB1 MOUNTING HEIGHT SHALL MATCH MOUNTING HEIGHT OF EXISTING TO BE DEMOLISHED HIGH BAY FIXTURES.
5.	CONTRACTOR SHALL PROVIDE STAINLESS STEEL SAFETY CABLE FOR ALL SUSPENDED HIGH BAY FIXTURES. CONTRACTOR SHALL MATCH SAFETY CABLE LENGTH WITH SUSPENSION LENGTH OF HIGHBAY FIXTURES.
6.	EC SHALL PROVIDE ALL CONNECTION PIECES FOR ONE LONG, CONTINUOUS FIXTURE.

SUBSTITUTE LIGHTING FIXTURES AND LIGHTING CONTROLS:

A CONTRACTOR RESPONSIBILITIES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPATIBILITY OF SUBSTITUTE LIGHTING AND LIGHTING CONTROLS, INCLUDING DIMMING COMPATIBILITY.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPATIBILITY OF SUBSTITUTE EMERGENCY LIGHTING SYSTEM WITH THE SPECIFIED OR SUBSTITUTED LIGHTING CONTROLS AND FIXTURES, INCLUDING INVERTERS AND UL924 TRANSFER DEVICES REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.
3. FOR ALL PROPOSED SUBSTITUTIONS, THE CONTRACTOR SHALL BE FURNISHED WITH A DIGITAL COPY OF THE ENGINEER'S LATEST DISTRICT-APPROVED PHOTOMETRIC CALCULATION FILE THAT REFLECTS COMPLIANCE WITH DISTRICT TECH GUIDELINES FOR ILLUMINATION REQUIREMENTS OF ALL SPACES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING THE APPROPRIATE *.IES TYPE "FIXTURE" FILE(S) WITHIN THE CALCULATION FILE WITH THE PROPOSED SUBSTITUTE "FIXTURE" FILES(s) AND THEN TRANSMITTING THE CALCULATION FILE BACK TO THE ENGINEER, ALONG WITH OTHER NECESSARY SUBMITTAL ITEMS LISTED IN THE FOLLOWING PARAGRAPH, FOR EVALUATION. THE ENGINEER WILL NOT PERFORM ANY RE-CALCULATION WORK ON THE CONTRACTORS (OR THEIR SUPPLIER'S) BEHALF; IT SHALL BE THE BURDEN OF THE CONTRACTOR AND THEIR SUPPLIER(S) TO PROVE, BY UPDATING THE CALCULATION FILE, THAT THE PROPOSED SUBSTITUTES MEET OR EXCEED THE ORIGINAL DISTRICT-APPROVED PHOTOMETRIC CALCULATIONS AND ALL ASSOCIATED STATISTICAL RESULTS WITHIN SAID CALCULATION FILE, TO THE ENGINEER'S AND THE DISTRICTS SATISFACTION.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A LIST OF THE FOLLOWING ITEMS FOR THE SPECIFIED FIXTURE AND PROPOSED SUBTITUTE LIGHTING FIXTURES PRIOR TO REVIEW. FAILURE TO PROVIDE THE REQUESTED ITEMS WILL RESULT IN REJECTED SUBMITTAL MARKED "REVISE AND RESUBMIT":
   - PRODUCTION DATA (CUT SHEETS)
   - SUMMARIZED TABLE FIXTURE WATTAGE
   - DELIVERED LUMEN OUTPUT, DIST/BEAM ANGLE, COLOR TEMPERATURE (CCT), COLOR RENDERING INDEX (CRI)
   - UPDATED VERSION (COPY) OF THE ENGINEER'S ORIGINAL DIGITAL PHOTOMETRIC CALCULATION FILE (IN "VISUAL" SOFTWARE-GENERATED *.VSL FILE FORMAT); RE: PREVIOUS PARAGRAPH.

B PRIOR APPROVAL REQUEST TO BID:

1. THE CONTRACTOR IS REQUIRED TO CALL THE ENGINEER OF RECORD / LIGHTING DESIGNER AND JEFFCO'S PROJECT MANAGER TO REQUEST APPROVAL TO SUBMIT SUBTITUTE LIGHTING FIXTURES AND LIGHTING CONTROL SYSTEMS. AE DESIGN'S OFFICE PHONE NUMBER IS (303) 296-3034.
2. THE CONTRACTOR IS REQUIRED TO SUBMIT PRELIMINARY SUBMITTAL DRAWINGS OF ALL SUBSTITUTE LIGHTING FIXTURES AND LIGHTING CONTROLS FOR PRIOR APPROVAL FROM THE ENGINEER OF RECORD / LIGHTING DESIGNER 10-DAYS PRIOR TO BID DATE. SUBMITTALS RECEIVED LESS THAN 10-DAYS PRIOR TO BID DATE WILL NOT BE CONSIDERED.
3. SUBSTITUTE LIGHTING FIXTURES OF ANY EXTERIOR LIGHTING FIXTURES ARE REQUIRED TO INCLUDE AN EXTERIOR PHOTOMETRIC PLAN SHOWING COMPLIANCE WITH THE LOCALLY ADOPTED EXTERIOR LIGHTING ORDINANCE/CODE.
4. SUBSTITUTE LIGHTING FIXTURES FOR EMERGENCY APPLICATIONS ARE REQUIRED TO MATCH OR EXCEED THE SPECIFIED LUMEN OUTPUT AND MATCH SPECIFIED DISTRIBUTION OR COMPLY WITH LIGHT LEVELS REQUIRED FOR EGRESS ILLUMINATION AS REQUIRED PER NFPA 101. SPECIFIC CONCERNS ON THE PART OF THE ENGINEER MAY RESULT IN REQUEST FOR PHOTOMETRIC CALCULATIONS TO BE PROVIDED FOR SUBTITUTE LIGHTING FIXTURES.

C BID PRICING BREAKOUT REQUIREMENTS:

1. THE CONTRACTOR IS REQUIRED TO PROVIDE SEPARATE LINE ITEMS IN THE BASE BID FOR LIGHTING FIXTURES AND LIGHTING CONTROLS.
2. THE CONTRACTOR IS REQUIRED TO CARRY THE "AS SPECIFIED" LIGHTING FIXTURES AND LIGHTING CONTROLS IN THEIR BASE BID. ALL SUBSTITUTE LIGHTING FIXTURES AND LIGHTING CONTROLS ARE TO BE INDICATED AS A NET CHANGE IN COST TO THE BASE BID.
3. THE CONTRACTOR IS REQUIRED TO PROVIDE UNIT PRICING FOR EACH "AS SPECIFIED" AND EACH SUBSTITUTE LIGHTING FIXTURE AND LIGHTING CONTROLS. LUMP SUM COST SAVINGS WILL NOT BE ACCEPTED.

D COMPENSATION FOR ENGINEER'S RE-DESIGN WORK INCURRED:

WHEN RE-DESIGN REQUESTS ARE MADE OF THE ENGINEER, BUT SUCH REQUESTS DO NOT ARISE OR RESULT FROM THE ENGINEER'S FAILURE TO DELIVER A DESIGN THAT SATISFIED APPLICABLE CODES OR DISTRICT GUIDELINES, THE FOLLOWING SHALL BE EFFECTUATED:

1. THE CONTRACTOR IS REQUIRED TO PAY FOR ANY INCURRED HOURS REQUIRED TO UPDATE THE PERMIT/CONSTRUCTION DOCUMENTS DUE TO SUBSTITUTE LIGHTING FIXTURES AND CONTROLS BY THE ENGINEER OF RECORD / LIGHTING DESIGNER. HOURLY RATES SHALL BE BILLED AT $135.00/HR.
2. THE CONTRACTOR IS REQUIRED TO PAY FOR ANY INCURRED HOURS TO UPDATE THE ENERGY COMPLIANCE DOCUMENTATION BY THE ENGINEER OR RECORD / LIGHTING DESIGNER. HOURLY RATE SHALL BE BILLED AT $135.00/HR.
3. THE CONTRACTOR IS REQUIRED TO PAY FOR ANY INCURRED HOURS TO UPDATE THE PHOTOMETRIC PERFORMANCE CALCULATION FILE(S) AND ASSOCIATES DOCUMENTATION BY THE ENGINEER OR RECORD. HOURLY RATE SHALL BE BILLED AT $135.00/HR.

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTAGE	LAMP QUAN.	LAMP WATTAGE	LAMP / CCT / CRI	MAX WATTAGE	LUMEN OUTPUT	DIMMING / MIN LEVEL	FIXTURE FINISH	LOCATION	BOF/RFD/OFH	NOTES
D1	6" RECESSED DOWNLIGHT, GYP CEILING, WITH REMODEL KIT	HE WILLIAMS	6DR-TL-L10-80-35-DIM-UNV-R-W-OF-WH-MWT-R	277 V	1	14 W	LED/3500K/80	14 VA	1497 LM	SWITCHING	WHITE	RECESSED CEILING	6.46" RFD	1
D2	4" RECESSED DOWNLIGHT WITH LOW OUTPUT, GYP CEILING, NEW CONSTRUCTION	HE WILLIAMS	4DR-TL-L10-80-35-DIM-UNV-R-M-OF-WH-WH-N	277 V	1	9 W	LED/3500K/80	9 VA	1027 LM	SWITCHING	WHITE	RECESSED CEILING	6.46" RFD	
D3	6" RECESSED DOWNLIGHT, FLAT CEILING, WITH REMODEL KIT	HE WILLIAMS	6DR-TL-L10-80-35-DIM-UNV-R-W-OF-WH-MWT-R	277 V	1	9 W	LED/3500K/80	9 VA	1014 LM	SWITCHING	WHITE	RECESSED CEILING	6.46" RFD	1
D4	4" RECESSED DOWNLIGHT, GYP CEILING, WALL WASHER OPTICS	HE WILLIAMS	4AR-L10-80-35-DIM-UNV-A-M-OF-WH-MWT-N	277 V	1	12 W	LED/3500K/80	12 VA	946 LM	SWITCHING	WHITE	RECESSED CEILING	6.46" RFD	
D5	4" RECESSED DOWNLIGHT WITH MEDIUM OUTPUT, GYP CEILING, NEW CONSTRUCTION	HE WILLIAMS	4DR-TL-L15-80-35-DIM-UNV-R-M-OF-WH-WH-N	277 V	1	14 W	LED/3500K/80	14 VA	1471 LM	SWITCHING	WHITE	RECESSED CEILING	6.46" RFD	
D6	4" RECESSED DOWNLIGHT WITH LOW OUTPUT, GYP CEILING, NEW CONSTRUCTION	HE WILLIAMS	4DR-TL-L10-80-35-DIM-UNV-R-M-OF-WH-WH-N	120 V	1	9 W	LED/3500K/80	9 VA	1027 LM	SWITCHING	WHITE	RECESSED CEILING	6.46" RFD	
HB1	LED HIGH BAY PENDANT WITH WIRE GUARD	COLUMBIA LIGHTING	SAV-WL-35-8-WA22-N-U-WW-WG23A	277 V	1	153 W	LED/3500K/80	111 VA	17,040	SWITCHING	WHITE	SUSPENDED CEILING	MATCH EXISTING	4,5
L1	4' BOH SUSPENDED DIRECT LINEAR, ROUND LENS, DOES NOT INCLUDE 8'-6" HANGER CHAIN	HE WILLIAMS	75R-4-L30-80-35-VBY-DIM-UNV	277 V	1	20 W	LED/3500K/80	20 VA	3071 LM	SWITCHING	WHITE	SUSPENDED CEILING	9'0" BOF	
L3-26	26' RECESSED LINEAR, COMPATIBLE WITH GRID CEILING, REGRESSED LENS	AXIS	B6RLED-600-80-35-RG-S26-W-UNV-DP-1-TB9	277 V	1	257 W	LED/3500K/80	257 VA	31,200 LM	0-10V	WHITE	RECESSED CEILING	10'-0" BOF	
L3-28	28' RECESSED LINEAR, COMPATIBLE WITH GRID CEILING, REGRESSED LENS	AXIS	B6RLED-600-80-35-RG-S28-W-UNV-DP-1-TB9	277 V	1	277 W	LED/3500K/80	277 VA	33,600 LM	0-10V	WHITE	RECESSED CEILING	10'-0" BOF	
L4-106'	106' LONG SURFACE MOUNTED CEILING LINE LINEAR, CURVED LENS, WITH FIELD-CUTTABLE EXTENSIONS ON BOTH SIDES	AXIS	ELSC-AR-500-80-35-CLS-S(106')-W-UNV-DP-1-MT-FL-EX TB(6')	277 V	1	80 W	LED/3500K/80	80 VA	7,875 LM	0-10V	WHITE	SURFACE MOUNT	9'8" BOF	
L4-11	11'0" LONG SURFACE MOUNTED CEILING LINE LINEAR, CURVED LENS, WITH FIELD-CUTTABLE EXTENSIONS ON LEFT SIDE	AXIS	ELSC-AR-500-80-35-CLS-S(110')-W-UNV-DP-1-MT-FL-EX TL(6')	277 V	1	84 W	LED/3500K/80	84 VA	5,500 LM	0-10V	WHITE	SURFACE MOUNT	9'8" BOF	
L4-12'6'	12'6' LONG SURFACE MOUNTED CEILING LINE LINEAR, CURVED LENS, WITH FIELD-CUTTABLE EXTENSIONS ON LEFT SIDE	AXIS	ELSC-AR-500-80-35-CLS-S(12'6')-W-UNV-DP-1-MT-FL-EX TL(6')	277 V	1	95 W	LED/3500K/80	95 VA	6,250 LM	0-10V	WHITE	SURFACE MOUNT	9'8" BOF	
L4-13	13'0" LONG SURFACE MOUNTED CEILING LINE LINEAR, CURVED LENS, WITH FIELD-CUTTABLE EXTENSIONS ON LEFT SIDE	AXIS	ELSC-AR-500-80-35-CLS-S(130')-W-UNV-DP-1-MT-FL-EX TL(6')	277 V	1	99 W	LED/3500K/80	99 VA	6,500 LM	0-10V	WHITE	SURFACE MOUNT	9'8" BOF	
L4-17	17'0" LONG SURFACE MOUNTED CEILING LINE LINEAR, CURVED LENS	AXIS	ELSC-AR-500-80-35-CLS-S(170')-W-UNV-DP-1-MT-FL	277 V	1	129 W	LED/3500K/80	129 VA	8,500 LM	0-10V	WHITE	SURFACE MOUNT	9'8" BOF	
L4-17'6'	17'6' LONG SURFACE MOUNTED CEILING LINE LINEAR, CURVED LENS, WITH FIELD-CUTTABLE EXTENSIONS ON BOTH SIDES	AXIS	ELSC-AR-500-80-35-CLS-S(176')-W-UNV-DP-1-MT-FL-EX TB(6')	277 V	1	133 W	LED/3500K/80	133 VA	8,750 LM	0-10V	WHITE	SURFACE MOUNT	9'8" BOF	
L6	5'-0" WALL SURFACE MOUNTED LINEAR INDIRECT WALL WASHER	AXIS	PS-AR-R-AS-SF-500-80-35-5-C-UNV-DP-1-MT-RWHU	277 V	1	24 W	LED/3500K/80	24 VA	2,500 LM	0-10V	TBD	WALL MOUNT	RE: ARCHITECT ELEVATIONS	
L7-4	4' LONG SUSPENDED DIRECT/INDIRECT LINEAR	AXIS	SCDIPAT-FF(4'-8'-4'-4'-4'-8'-4'-4'-8')-OPR(7@135)-300-400-80-35-SO-FL-NL-AP-UNV-DP-1-CT9(#)	277 V	1	48 W	LED/3500K/80	48 VA	2,000 LM	0-10V	ALUMINIUM PAINT	SUSPENDED CEILING	9'0" BOF	6
L7-8	8' LONG SUSPENDED DIRECT/INDIRECT LINEAR	AXIS	SCDIPAT-FF(4'-8'-4'-4'-4'-8'-4'-4'-8')-OPR(7@135)-300-400-80-35-SO-FL-NL-AP-UNV-DP-1-CT9(#)	277 V	1	95 W	LED/3500K/80	95 VA	4,000 LM	0-10V	ALUMINIUM PAINT	SUSPENDED CEILING	9'0" BOF	6
L8	RECESSED TAPELIGHT INTEGRATED INTO FURNITURE, GRAZE OPTICS	LUMINII	KRM-[LENGTH - SEE PLANS]-F-HS-[FINISH]-B	277 V	1	58 W	LED/3500K/80	58 VA	4,332 LM	SWITCHING	TBD	RECESSED IN CUSTOM FURNITURE	0'-0.63" OFH	
L9	4' BOH SURFACE MOUNTED DIRECT LINEAR, ROUND LENS	HE WILLIAMS	75R-4-L30-80-35-DIM-UNV	277 V	1	20 W	LED/3500K/80	20 VA	3071 LM	0-10V	BLACK	SUSPENDED WOOD CEILING	10'-0" BOF	
L10-6	6' LONG 5.25" WIDE SUSPENDED LINEAR, MOUNTED BETWEEN WOOD SLAT, LOW OUTPUT	AXIS	SLS-550-80-35-SO-WDC(6')-BLK-UNV-DP-1-UWB	277 V	1	24 W	LED/3500K/80	24 VA	3,300 LM	0-10V	TBD		10'-0" BOF	
P1	16" DECORATIVE PENDANT WITH CORD MOUNTING AND DOMED LENS	BARN	BLE-C-WHA16-700-[CORD FINISH]-980-LED16-3500K-DL	277 V	1	16 W	LED/3500K/80	16 VA	1,250 LM	0-10V	ROYAL BLUE SHADE, CORD TBD	SUSPENDED CEILING	7'-0" BOF	
P2	10" DECORATIVE PENDANT, ABOVE LIBRARIAN DESK	BARN	BLE-C-WHA10-700-[CORD FINISH]-980-LED11-3500K-DL	277 V	1	11 W	LED/3500K/80	11 VA	850 LM	0-10V	ROYAL BLUE SHADE, CORD TBD	SUSPENDED CEILING	7'-0" BOF	
P3	4'X16' RECTANGULAR SUSPENDED LINEAR, DIRECT/INDIRECT SOURCE	AXIS	SCDI-750-300-80-35-SO-FL-4'x16'-AP-UNV-DP-1-CASL(#)	277 V	1	286 W	LED/3500K/80	286 VA	32,000 LM	0-10V	ALUMINIUM	SUSPENDED CEILING	12'-0" BOF	
R1	2X4 LED RECESSED TROFFER, GRID CEILING, 0-10V	DAY-BRITE	2-FPZ-43L-835-4-DS-UNV-DIM	277 V	1	30 W	LED/3500K/80	30 VA	4300 LM	0-10V	WHITE	RECESSED CEILING	3" RFD	
R2	2X4 LED RECESSED TROFFER, GRID CEILING,LOWER OUTPUT, 0-10V	DAY-BRITE	2-FPZ-38L-835-4-DS-UNV-DIM	277 V	1	29 W	LED/3500K/80	29 VA	3800 LM	0-10V	WHITE	RECESSED CEILING	3" RFD	
W3	27" WALL MOUNTED VANITY SCONCE	ARTIKA PRO	VAN-VI-MB	120 V	1	21 W	LED/3500K/80	21 VA	2200 LM	0-10V	BLACK	WALL MOUNT	RE: ARCHITECT ELEVATIONS	
X1	LED CEILING MOUNTED EXIT SIGN	EXITRONIX	GS02E-LB-WH	277 V	1	1 W	LED/GREEN	5 VA	NA	NA	WHITE	CEILING/WALL	0'-8.5" OFH	
X2	LED WALL MOUNTED EXIT SIGN	EXITRONIX	GS02E-LB-WH	277 V	1	1 W	LED / GREEN	5 VA	NA	NA	WHITE	CEILING/WALL	0'-8.5" OFH	
X3	LED EXIT SIGN, SINGLE FACE, WITH WIREGUARD	EXITRONIX	GS02E-LB-WH-WG-S	277 V	1	1 W	LED/GREEN	5 VA	NA	NA	WHITE	CEILING/WALL	0'-8.5" OFH	
Y1	LED WALL MOUNTED DUAL HEAD, BATTERY PACK EMERGENCY LUMINAIRE	HE WILLIAMS	EMER/LED-WHT-D	277 V	1	2 W	LED	2 VA	NA	NA	WHITE	CEILING/WALL	8' AFF	
Y2	LED WALL MOUNTED DUAL HEAD, BATTERY PACK EMERGENCY LUMINAIRE, WITH WIREGUARD	HE WILLIAMS	EMER/LED-WHT-WG-D	277 V	1	2 W	LED	2 VA	NA	NA	WHITE	CEILING/WALL	8' AFF	
EA1	EXTERIOR LED AREA POLE LIGHT, SINGLE HEAD TYPE III DISTRIBUTION, INTEGRAL WIRELESS MODULE	SIGNIFY GARDCO	P26-48L-700-WW-G2-AR-3-UN-LLC-[FINISH]	277 V	1	101 W	LED/3000K/70	101 VA	13,834 LM	SWITCHING	TBD	POLE GROUND	25'0" OFH	
EA2	EXTERIOR LED AREA POLE LIGHT, SINGLE HEAD TYPE IV DISTRIBUTION, INTEGRAL WIRELESS MODULE	SIGNIFY GARDCO	P26-48L-700-WW-G2-AR-4-UNV-LLC-[FINISH]	277 V	1	101 W	LED/3000K/70	101 VA	14,351 LM	SWITCHING	TBD	POLE GROUND	25'0" OFH	
ED1	8" EXTERIOR RECESSED DOWNLIGHT, GYP CEILING, WET LOCATION LISTED, WITH REMODEL	HE WILLIAMS	8DR-L20-80-30-DIM-277-O-M-WH-WET-R	277 V	1	24 W	LED/3000K/80	24 VA	1991LM	SWITCHING	WHITE	RECESSED CEILING	6.46" RFD	1
EL1-4	4' LONG 4.125" WIDE RECESSED EXTERIOR LINEAR	AXIS	WBRLED-750-80-30-S-4-BLK-UNV-DP-1	277 V	1	46 W	LED/3000K/80	46 VA	1,600 LM	SWITCHING	BLACK	EXTERIOR SOFFIT RECESSED	10'0" BOF	
EL1-8	8' LONG 4.125" WIDE RECESSED EXTERIOR LINEAR	AXIS	WBRLED-750-80-30-S-8-BLK-UNV-DP-1	277 V	1	92 W	LED/3000K/80	92 VA	2,400 LM	SWITCHING	TBD	EXTERIOR SOFFIT RECESSED	10'0" BOF	
EL1-12	10' LONG 4.125" WIDE RECESSED EXTERIOR LINEAR	AXIS	WBRLED-750-80-30-S-S12-BLK-UNV-DP-1	277 V	1	138 W	LED/3000K/80	138 VA	4,000 LM	SWITCHING	TBD	EXTERIOR SOFFIT RECESSED	10'0" BOF	
EL1-14	14' LONG 4.125" WIDE RECESSED EXTERIOR LINEAR	AXIS	WBRLED-750-80-30-S-S14-BLK-UNV-DP-1	277 V	1	161 W	LED/3000K/80	161 VA	4,000 LM	SWITCHING	TBD	EXTERIOR SOFFIT RECESSED	10'0" BOF	
EP1	EXTERIOR POST-TOP, TYPE V DISTRIBUTION, INTEGRAL WIRELESS MODULE	SIGNIFY GARDCO	PPT-196L-650-WW-G2-[MOUNTING]-5-UNV-LLC-[FINISH]	277 V	1	30 W	LED/3000K/80	30 VA	3,065 LM	SWITCHING	TBD	POLE GROUND	12'0" OFH	
EW1	EXTERIOR WALL MOUNTED RECTANGULAR SCONCE	SIGNIFY GARDCO	GBM-A06-830-T3M-UNV-DG	277 V	1	16 W	LED/3000K/80	16 VA	2,506 LM	SWITCHING	DARK GRAY	EXTERIOR WALL MOUNT	9'0" BOF	
EW1EM	EXTERIOR WALL MOUNTED RECTANGULAR SCONCE WITH INTEGRAL EMERGENCY BATTERY BACKUP	SIGNIFY GARDCO	GBM-A06-830-T3M-UNV-EC-DG	277 V	1	16 W	LED/3000K/80	16 VA	2,506 LM	SWITCHING	DARK GRAY	EXTERIOR WALL MOUNT	9'8" BOF	

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1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #: 6140.00

PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED CHAD BROOKS 35717 7/31/2023 PROFESSIONAL ENGINEER

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL LIGHTING SCHEDULES

E800

LIGHTING CONTROL DEVICES

TYPE	DESCRIPTION	NOTES	DETAILS
ROOM CONTROLLED COMPONENTS			
RDW1	ROOM CONTROLLER, SINGLE GANG, SINGLE BUTTON WALLSTATION. MOMENTARY PUSH BUTTON WITH MANUAL RAISE/LOWER WITH LIGHTED DISPLAY OF LIGHT LEVEL	ADJUST TOP-TRIM LIMIT FIXTURES TO MAX ILLUMINATION OF 30FC AVG LIGHT LEVEL. WALL STATION TO HAVE THE CAPABILITY OF RETAINING PREVIOUS SET DIMMING VALUE WHEN ACTIVIATED TO TURN ON LIGHT FIXTURES. PROGRAM ZONES AS INDICATED ON PLANS. ON/OFF CONTROL FOR EACH ZONE WITH DIMMING.	#2/E801
RDW3	ROOM CONTROLLER, WIRELESS, SINGLE GANG, 2-BUTTON WALLSTATION. MOMENTARY PUSH BUTTON WITH MANUAL RAISE/LOWE	WALL STATION TO HAVE CAPABILITY OF RETAINING PREVIOUS SET DIMMING VALUE WHEN ACTIVIATED TO TURN ON LIGHT FIXTURES. PROGRAM ZONES AS INDICATED ON PLANS. ON/OFF CONTROL FOR EACH ZONE WITH DIMMING.	
RDW4	ROOM CONTROLLER, WIRELESS, SINGLE GANG, 4-BUTTON WALLSTATION. MOMENTARY PUSH BUTTON WITH MANUAL RAISE/LOWER	ADJUST TOP-LIMIT TRIM TO LIMIT FIXTURES TO MAX ILLUMINATION OF 30FC AVG LIGHT LEVEL. WALL STATION TO HAVE CAPABILITY OF RETAINING PREVIOUS SET DIMMING VALUE WHEN ACTIVIATED TO TURN ON LIGHT FIXTURES. PROGRAM ZONES AS INDICATED ON PLANS. ON/OFF CONTROL FOR EACH ZONE WITH DIMMING.	#2/E801
RPS1	ROOM CONTROLLER CLOSED LOOP PHOTOCELL/DAYLIGHT SENSOR		
RVS1	ROOM CONTROLLER, WIRELESS, CEILING MOUNT VACANCY SENSOR		
STANDALONE CONTROL SYSTEMS			
OS1	WIRELESS, CEILING MOUNTED, DUAL TECH, OCCUPANCY SENSOR		
OSW1	WALLSWITCH MOUNT, OCCUPANCY SENSOR SWITCH		
VDW1	WALLSWITCH MOUNT, VACANCY SENSOR WITH MANUAL DIMMER		
VS1	WIRELESS, CEILING MOUNTED, DUAL TECH, OCCUPANCY SENSOR SET TO VACANCY MODE		
VSW1	WALLSWITCH MOUNT, DUAL TECH, OCCUPANCY SENSOR SET TO VACANCY MODE, SINGLE RELAY		
W1	WIRELESS, WALL MOUNTED SINGLE GANG WALLSTATION WITH ON/OFF SWITCH		

LIGHTING SEQUENCE OF OPERATION

CONTROL SEQUENCE	ON	OFF	SENSOR TYPE	TIME OUT	DIMMING	DAYLIGHT HARVESTING	TARGET ILLUMINANCE (FC)	NOTES
ET1	TIMECLOCK AUTOMATIC ON 30 MINUTES PRIOR TO SUNSET	TIMECLOCK AUTOMATIC OFF 30 MINUTES AFTER SUNRISE	NONE	N/A	SWITCHING	NO	--	
ET2	TIMECLOCK AUTOMATIC ON 30 MINUTES PRIOR TO SUNSET, MANUAL ON AFTER HOURS FOR MAINTANCE/SECURITY VIA WIRELESS APP	TIMECLOCK AUTOMATIC OFF AT 8PM	NONE	N/A	SWITCHING	NO	--	
O1	AUTOMATIC ON	AUTOMATIC OFF	OCCUPANCY	15 MINUTES	SWITCHING	NO	--	
O2	AUTOMATIC ON WITH MANUAL DIMMING OVERRIDE	AUTOMATIC OFF WITH MANUAL DIMMING OVERRIDE	OCCUPANCY	20 MINUTES	0-10V DIMMING	NO	--	DIM TO 50% OF FULL POWER 20 MINUTES AFTER ALL OCCUPANTS HAVE LEFT THE SPACE
OD1	AUTOMATIC ON TO 50% OUTPUT WITH MANUAL DIMMING OVERRIDE	AUTOMATIC OFF WITH MANUAL DIMMING OVERRIDE	OCCUPANCY	20 MINUTES	SWITCHING	NO	--	
V1	MANUAL ON	AUTOMATIC OFF	VACANCY	15 MINUTES	SWITCHING	NO	--	
VD1	MANUAL ON WITH MANUAL DIMMING OVERRIDE	AUTOMATIC OFF	VACANCY	15 MINUTES	0-10V DIMMING	NO	--	
VP1	MANUAL ON, OVERRIDE WITH PHOTOCELL BELOW TARGET ILLUMINANCE	AUTOMATIC OFF, OVERRIDE WITH PHOTOCELL ABOVE TARGET ILLUMINANCE	VACANCY / PHOTOCELL	15 MINUTES	0-10V DIMMING	YES		PHOTOCELL OVERRIDE FUNCTIONALITY DURING DETECTION OF OCCUPANCY ONLY

WIRELESS LIGHTING ZONE SCHEDULE

ZONE ID	ZONE DESCRIPTION	DIMMING / SWITCHING	VOLTAGE	PANEL-CIRCUIT	ZONE LOAD	CONTROL SEQUENCE
z1	EXTERIOR PEDESTRIAN POLES	SWITCHING	277 V	H1D-12	120 VA	ET2
z2	EXTERIOR SITE AREA LIGHTS	SWITCHING	277 V	H1D-10	808 VA	ET2
z3	EXTERIOR SITE AREA LIGHTS	SWITCHING	277 V	H1D-12	1111 VA	ET2

LIGHTING CONTROLS NAMING CONVENTION

SYSTEM TYPE
- **N** = NETWORKED
- **R** = ROOM CONTROLLER (THE ABSENCE OF LETTERS ABOVE UNDER 'SYSTEM TYPE' INDICATE A STANDALONE SYSTEM)

AUTOMATIC MEANS OF SHUTOFF
- **L** = LIGHT LEVEL (VIA PHOTOCELL)
- **M** = MANUAL
- **O** = OCCUPANCY
- **T** = TIMECLOCK
- **V** = VACANCY

DEVICES
- **C** = CONTROLLED RECEPTACLE
- **D** = DIMMER
- **E** = EXTERIOR
- **P** = PHOTOCELL
- **S** = SENSOR
- **U** = UNIQUE DEVICE TYPE
- **W** = SWITCH MOUNTED DEVICE

NUMBERING
- **1,2,3...** = QUANTITY AS REQUIRED FOR DIFFERENT PROGRAMMING SCENARIOS, DEVICE CHARACTERISTICS OR MOUNTING CONDITIONS

LIGHTING CONTROL NOTES

GENERAL CONTROL NOTES

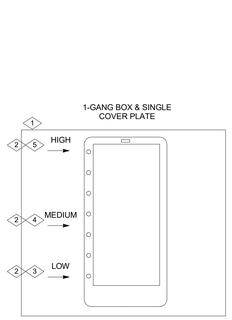
G1	THE LIGHTING CONTROL SYSTEM CONSISTS OF THE FOLLOWING: a. STAND-ALONE CONTROLS b. ROOM CONTROLLER CONTROLS
G2	ALTERNATE MANUFACTURERS WILL BE REVIEWED ACCORDING TO THE NOTES PROVIDED IN THE LIGHTING FIXTURE SCHEDULE.
G3	ALL WIRING DIAGRAMS WITHIN THESE DRAWINGS ARE PROVIDED TO COMMUNICATE THE DESIGN INTENT. SYSTEM SHALL BE WIRED ACCORDING TO THE APPROVED SHOP DRAWINGS.
G4	ALL STRUCTURED CABLE WIRING SHOWN ON RISER DIAGRAMS IS INTENDED TO BE BY CONTROL MANUFACTURER APPROVED STANDARD STRUCTURED CABLING, UNLESS OTHERWISE NOTED. EC SHALL PROVIDE ALL CABLING WITHIN THE LIGHTING CONTROL SYSTEM, CABLING BETWEEN THE NETWORKED HEAD-END AND THE BUILDINGS COMMUNICATION NETWORK SHALL BE PROVIDED BY THE LOW VOLTAGE CONTRACTOR/OWNER.
G5	ALL MANUALLY DIMMED LIGHT LOADS SHALL BE CAPABLE OF DIMMING LIGHTS TO OFF SETTING. DIMMING COMPATIBILITY BETWEEN THE CONTROLS AND LIGHT FIXTURES SHALL BE COORDINATED BY THE EC TO ENSURE THAT LIGHTING IS ABLE TO DIM TO LEVEL NOTED ON LIGHTING FIXTURE SCHEDULE.
G6	LIGHTING CONTROL SYSTEM SHALL INCLUDE A MINIMUM OF (4) HOURS OF MANUFACTURER'S REPRESENTATIVE TIME ON SITE FOR SYSTEM CHECK-OUT AND OWNER TRAINING. ELECTRICAL CONTRACTOR SHALL VIDEO RECORD TRAINING SESSION AND PROVIDE COPY OF VIDED TO OWNER AS PART OF PROJECT COMPLETION SUBMITTALS.
G7	ALL DIGITAL SWITCHES FOR OVERRIDE CONTROL OF LIGHTING CONTROL SYSTEM(S) SHALL HAVE A MAXIMUM SETTING OF 2 HOURS PER IECC REQUIREMENTS.
G8	FINAL OCCUPANCY AND DAYLIGHT SENSOR LOCATION SHALL BE PROVIDED BY MANUFACTURER AND LOCATED PER APPROVED SHOP DRAWINGS AND DEVICE REQUIREMENTS. LOCATIONS INDICATED IN THESE DRAWINGS SHALL BE REVIEWED AND ALTERED AS NECESSARY FOR CORRECT OPERATION BY MANUFACTURER. IF OPERATIONS OF SENSORS DOES NOT MEET THE INTENT OUTLINED IN THESE DOCUMENTS THE MANUFACTURER REPRESENTATIVE SHALL PROVIDE FIELD RECTIFICATION SERVICES AS NECESSARY IN ORDER TO RECONFIGURE SYSTEM TO MEET OUTINED INTENT.

STANDALONE LIGHTING CONTROL GENERAL NOTES

S1	APPROVED STANDALONE LIGHTING CONTROLS TO BE PROVIDED BY ONE OF THE FOLLOWING PRE-APPROVED MANUFACTURERS: a. nLIGHT b. COOPER WAVELINX

ROOM CONTROLLER GENERAL NOTES

R1	APPROVED ROOM CONTROLLER LIGHTING CONTROLS TO BE PROVIDED BY ONE OF THE FOLLOWING PRE-APPROVED MANUFACTURERS: a. nLIGHT b. COOPER WAVELINX
R2	REFER TO ELECTRICAL LIGHTING LAYOUTS FOR LAYOUT OF DEVICES CONNECTED TO ROOM CONTROLLERS. ROOM CONTROLLER COMPONENTS ARE INDICATED IN THE "LIGHTING CONTROL DEVICE" SCHEDULE, THESE COMPONENTS START WITH THE DESIGNATION 'R'.
R3	ROOM CONTROLLER HEAD END EQUIPMENT LOCATIONS ARE INDICATED IN SPACES, HOWEVER DRAWINGS ARE DIAGRAMMATIC AND EXACT QUANTITY OF ROOM CONTROLLER HEAD END EQUIPMENT PIECES VARIES FROM MANUFACTURER TO MANUFACTURER BASED ON DIMMING UTILIZATION, QUANTITY OF RELAYS, NUMBER OF INPUT DEVICES, QUANTITY OUTPUT ZONES AND RECEPTACLE CONTROL.



KEYNOTE LEGEND

KEY VALUE	
1.	PROVIDE EXTRA LARGE FACEPLATE. FIELD-VERIFY SIZE OF EXISTING SWITCH BOX AND PROVIDE PROPER SIZE/NUMBER OF GANGS FOR NEW FACEPLATE AS REQUIRED. IF NEW FACEPLATE IS MULTI-GANG, PROVIDE BLANK DECORATIVE INSERTS FOR UNUSED GANGS. ARRANGE SWITCH TO BE CLOSEST TO THE DOOR JAMB, AND ANY UNUSED GANGS TO BE FARTHER AWAY FROM DOOR JAMB.
2.	EC TO PROVIDE LABELS FOR LIGHT LEVEL INDICATION. LOCATION OF LABEL TO BE FIELD-COORDINATED TO POINT TO LED THAT MOST CLOSELY RESULTS IN TARGETED ILLUMINATION LEVEL (18.6 FC AVG).
3.	ADJUST LOW-LIMIT TRIM TO LIMIT TO MIN ILLUMINATION LEVEL (4 FC AVG).
4.	ADJUST MEDIUM-LIMIT TRIM TO ILLUMINATION LEVEL OF 18.6 FC AVERAGE. LOCATE THE "MEDIUM" LABEL AND ARROW TO POINT TO THE LED INDICATOR THAT IS ILLUMINATED AT THAT LEVEL.
5.	ADJUST HIGH-LIMIT TRIM TO LIMIT TO MAX ILLUMINATION LEVEL (30 FC AVG)

2 | CLASSROOM WALL STATION DETAIL
E801 | 1/8" = 1'-0"

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com

Project #: 6140.00

PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER
35717
7/31/2023

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

ELECTRICAL LIGHTING CONTROLS SCHEDULES

E801

1 2 3 4 5 6 7

A B C D E

COMcheck Software Version COMcheckWeb
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: 6140.00 - Jeffco BVES - Area C
Project Type: Addition

Construction Site:
1422 Sugarbush Dr
Evergreen, CO, Colorado 80439

Owner/Agent:

Designer/Contractor:
AE Design
1900 Wazee Street, Suite 205
Denver, Colorado 80202

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-School/University	15538	0.72	11187
		Total Allowed Watts =	11187

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
1-School/University				
LED: D2: Other:	1	26	9	234
LED: D5: Other:	1	9	14	126
LED: L1: Other:	1	9	20	180
LED: L4-11: Other:	1	2	84	168
LED: L4-17'6": Other:	1	2	133	266
LED: L10-6: Other:	1	6	24	144
LED: P3: Other:	1	2	286	572
LED: R1: Other:	1	95	30	2850
LED: R2: Other:	1	18	29	522
LED: W3: Other:	1	11	21	231
LED: D6: Other:	1	11	9	99
			Total Proposed Watts =	5392

Interior Lighting PASSES: Design 52% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Josephine Fentriss - Lighting Designer — Name - Title
Signature
07/27/2023 — Date

COMcheck Software Version COMcheckWeb
Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: 6140.00 - Jeffco BVES - Area C
Project Type: Addition
Exterior Lighting Zone: 2 (Residential mixed use area (LZ2))

Construction Site:
1422 Sugarbush Dr
Evergreen, CO, Colorado 80439

Owner/Agent:

Designer/Contractor:
AE Design
1900 Wazee Street, Suite 205
Denver, Colorado 80202

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Entry canopy	1107 ft2	0.25	Yes	277
			Total Tradable Watts (a) =	277
			Total Allowed Watts =	277
			Total Allowed Supplemental Watts (b) =	400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Entry canopy (1107 ft2): Tradable Wattage				
LED: EW1/EW1EM: Other:	1	1	16	16
LED: EL1-4: Other:	1	1	46	46
LED: EL1-8: Other:	1	1	92	92
LED: EL1-12: Other:	1	1	138	138
LED: EL1-14: Other:	1	1	161	161
			Total Tradable Proposed Watts =	453

Exterior Lighting PASSES: Design 33% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Josephine Fentriss - Lighting Designer — Name - Title
Signature
07/27/2023 — Date

AREA C - COMCheck

COMcheck Software Version COMcheckWeb
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: 6140.00 - Jeffco BVES - Areas A and B
Project Type: Alteration

Construction Site:
1422 Sugarbush Dr
Evergreen, CO, Colorado 80439

Owner/Agent:

Designer/Contractor:
AE Design
1900 Wazee Street, Suite 205
Denver, Colorado 80202

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-School/University	41696	0.72	30021
		Total Allowed Watts =	30021

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
School/University (41696 sq.ft.)				
LED: D1: Other:	1	14	14	196
LED: D2: Other:	1	6	9	54
LED: D3: Other:	1	10	9	90
LED: D4: Other:	1	38	12	456
LED: D5: Other:	1	1	14	14
LED: HB1: Other:	1	14	153	2142
LED: L3-26: Other:	1	1	257	257
LED: L3-28: Other:	1	5	277	1385
LED: L4-10'6": Other:	1	6	80	480
LED: L4-12'6": Other:	1	3	95	285
LED: L4-13: Other:	1	2	99	198
LED: L4-17: Other:	1	8	129	1032
LED: L6: Other:	1	8	26	208
LED: L7-4: Other:	1	6	48	286
LED: L7-8: Other:	1	3	95	286
LED: L8: Other:	1	3	58	174
LED: L9: Other:	1	3	20	60
LED: P1: Other:	1	9	16	144
LED: P2: Other:	1	3	11	33
LED: R1: Other:	1	67	30	2010
LED: R2: Other:	1	106	29	3074
LED: W3: Other:	1	4	21	84
			Total Proposed Watts =	12947

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Josephine Fentriss - Lighting Designer — Name - Title
Signature
07/27/2023 — Date

COMcheck Software Version COMcheckWeb
Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: 6140.00 - Jeffco BVES - Areas A and B
Project Type: Alteration
Exterior Lighting Zone: 2 (Residential mixed use area (LZ2))

Construction Site:
1422 Sugarbush Dr
Evergreen, CO, Colorado 80439

Owner/Agent:

Designer/Contractor:
AE Design
1900 Wazee Street, Suite 205
Denver, Colorado 80202

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Parking area	95417 ft2	0.04	Yes	3817
			Total Tradable Watts (a) =	3817
			Total Allowed Watts =	3817
			Total Allowed Supplemental Watts (b) =	400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Parking area (95417 ft2): Tradable Wattage				
LED: EA1: Other:	1	13	101	1313
LED: EA2: Other:	1	6	101	606
LED: EW1/EW1EM: Other:	1	5	16	80
LED: ED1: Other:	1	2	24	48
LED: EP1: Other:	1	4	30	120
			Total Tradable Proposed Watts =	2167

Exterior Lighting PASSES

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Josephine Fentriss - Lighting Designer — Name - Title
Signature
07/27/2023 — Date

AREA A + AREA B - COMCheck

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #: 6140.00

PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER 35717 7/31/2023

PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

ELECTRICAL LIGHTING COMPLIANCE

E900

RESPONSIBILITY MATRIX

THE RESPONSIBILITIES LISTED HEREIN ARE PROVIDED AS A RECOMMENDATION AND DO NOT SUPERSEDE OR REPLACE ANY CONTRACTS, OR OTHERWISE DEFINED RESPONSIBILITIES, BETWEEN THE DESIGNATED PARTIES. IN ADDITION, THE INFORMATION IS MEANT TO INDICATE GENERAL RESPONSIBILITY FOR A SCOPE OF WORK AND IN NO WAY DISALLOWS THE RESPONSIBLE PARTY TO SUBCONTRACT THE SCOPE.

RESPONSIBLE PARTY	GENERAL CONTRACTOR		ELECTRICAL CONTRACTOR		TELECOM CONTRACTOR		AUDIO-VISUAL CONTRACTOR		SECURITY CONTRACTOR		OWNER		NOTES
SCOPE OF WORK	PROVIDE	INSTALL	PROVIDE	INSTALL	PROVIDE	INSTALL	PROVIDE	INSTALL	PROVIDE	INSTALL	PROVIDE	INSTALL	
BUDGET OF WORK	GC		GC		GC		GC		GC		FFE		
INTERIOR INFRASTRUCTURE													
GROUNDING & BONDING			X	X	X	X							3, 4
INTERIOR CONDUIT PATHWAY			X	X									
BACKBOX / JUNCTION BOX			X	X									
J-HOOK / SLING					X	X							
SLEEVE / CONDUIT PENETRATIONS			X	X	X	X							6, 7
TELECOMMUNICATIONS													
COPPER PATCH PANEL					X	X					X	X	9
HORIZONTAL CABLING SYSTEM (NETWORK, VOICE, CATV)					X	X							
FACEPLATE / JACK / SURFACE MOUNT BOX					X	X							
PATCH CABLE (INTERIOR TO TELECOMMUNICATIONS ROOM)					X							X	
PATCH CABLE (END DEVICE / OUTLET)					X	X		X		X		X	2
LABELING					X	X							
WIRELESS ACCESS POINT (WAP)											X	X	
NETWORK EQUIPMENT (SWITCH, HEADEND, FIREWALL, ETC.)											X	X	
PERIPHERAL EQUIPMENT (PHONE, PRINTER, PC, ETC.)											X	X	
LOW VOLTAGE													
PAGING / PUBLIC ADDRESS							X	X					10
CLOCK							X	X					10
AUDIO VISUAL													
AMPLIFIER / CONTROLLER / PROCESSOR / MATRIX							X	X					
MICROPHONE							X	X					
FACEPLATE / JACK							X	X					
CABLING (NON-NETWORK)							X	X					
SPEAKER							X	X					
INTERACTIVE VIDEO DISPLAY											X	X	
DISPLAY BACKING	X	X											
PROJECTOR							X	X					
PROJECTOR SCREEN							X	X					
SECURITY - ACCESS CONTROL (ACS)													
ACS HEADEND / CONTROLLER / PANEL											X	X	
ACS SOFTWARE, PROGRAMMING, & INTEGRATION											X	X	
CARD READER / KEYPAD (AUTHENTICATION DEVICE)									X	X			8
REQUEST TO EXIT (WHEN NOT INTEGRAL TO DOOR HARDWARE)									X	X			8
INTERCOM & INTERCOM MASTER STATION									X	X			8
DOOR POSITION SWITCH									X	X			8
DOOR RELEASE BUTTON									X	X			8
DOOR HARDWARE / COMPONENTS	X	X											
SECURITY - VIDEO SURVIELLANCE SYSTEM (VSS)													
VSS NETWORK VIDEO RECORDER (NVR)											X	X	
VSS SOFTWARE, PROGRAMMING, & INTEGRATION											X	X	
VSS DEDICATED SWITCH											X	X	
CAMERA									X	X	X		8
SECURITY - INTRUSION DETECTION (ID)													
ID HEADEND / CONTROLLER / PANEL											X	X	
ID SOFTWARE, PROGRAMMING, & INTEGRATION											X	X	
MOTION SENSOR									X	X			8
LOCK-DOWN BUTTON									X	X			8
PANIC / DURESS BUTTON									X	X			8
AUTO-DIALER & DIAL DESTINATION COORDINATION											X	X	

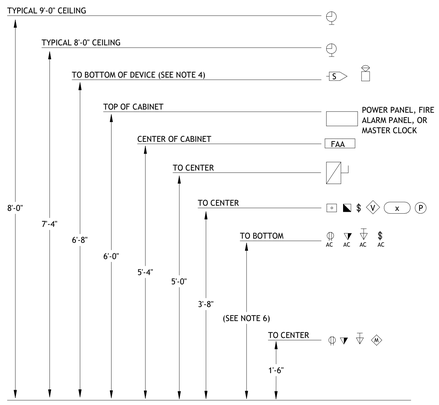
NOTES:
1. CONTRACTOR SHALL COORDINATE WITH OWNER REGARDING TIMELINE OF INSTALLATION AND REQUIREMENTS FOR INSTALLATION TO ENSURE A TIMLEY INSTALLATION.
2. THE PARTY RESPONSIBLE FOR INSTALLING THE END DEVICE (PC, CAMERA, WAP, ETC.) SHALL BE RESPONSIBLE FOR INSTALLING THE END-OF-RUN PATCH CABLE. AFTER INSTALLATION, VERIFICATION OF OPERABILITY IS REQUIRED.
3. THE ELECTRICAL CONTRACTOR SHALL i) EXTEND THE BUILDING GROUND TO EACH TELECOMMUNICATION SPACE ii) PROVIDE AND INSTALL THE BUSBAR(S), GROUNDING CABLES, AND ASSOCIATED EQUIPMENT, iii) AND ENSURE EACH TELECOMMUNICATION SPACE HAS PROPER ACCESS TO BUILDING GROUND THROUGH THE LOCAL BUSBAR AS SHOWN IN THE DRAWINGS.
4. FOR ALL DEVICES, EQUIPMENT, PATHWAY, AND OTHER SUCH MATERIAL REQUIRED TO BE GROUNDED, THE CONTRACTOR/PARTY, WITH WHICH THE DEVICE, EQUIPMENT, PATHWAY OR OTHER SUCH MATERIAL WAS INSTALLED BY, SHALL BE RESPONSIBLE FOR ITS PROPER BONDING AND GROUNDING.
5. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION AND INSTALLATION OF ALL FLOOR BOXES AND POKE THROUGHS, AS WELL AS ALL CONDUIT/PATHWAY REQUIREMENTS PERTAINING TO IT, REGARDLESS IF THERE IS POWER CABLING INCLUDED AT DEVICE. THE TELECOM CONTRACTOR SHALL COORDINATE WITH DRAWINGS AND ELECTRICAL CONTRACTOR TO ENSURE LOW VOLTAGE INFRASTRUCTURE AND CABLING REQUIREMENTS ARE MET AND SHALL PROVIDE AND INSTALL ALL CABLING AND FACEPLATE/TERMINATION EQUIPMENT PERTAINING TO DEVICE.
6. FOR ALL PENETRATIONS SHOWN IN DRAWINGS, THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL. THE ELECTRICAL CONTRACTOR SHALL ENSURE THE EXTERIOR OF EACH PENETRATION IS FIRE-RATED TO MATCH OR EXCEED THE PENETRATED SURFACE.
7. ALL PENETRATIONS NOT SHOWN ON DRAWINGS, BUT REQUIRED FOR CABLING INSTALLATION, SHALL BE PROVIDED AND INSTALLED BY THE CABLING INSTALLATION CONTRACTOR/TEAM. FOR FIRE-RATED PENETRATIONS, THE CABLE INSTALLATION CONTRACTOR/TEAM SHALL ENSURE THE EXTERIOR OF EACH PENETRATION IS FIRE-RATED TO MATCH OR EXCEED THE PENETRATED SURFACE. AFTER ALL CABLING IS INSTALLED, TESTED, AND ACCEPTED, THE INTERIOR OF EACH PENETRATION SHALL BE FIRE-RATED TO MATCH OR EXCEED THE PENETRATED MATERIAL.
8. IT IS ACCEPTABLE FOR THE CONTRACTOR TO RESUSE AN EXISTING DEVICE WITH OWNER APPROVAL. COORDINATE WITH OWNER DURING DEMOLITION PHASE TO RECORD ALL DEVICES THAT MAY BE REUSED. FOR ALL DEVICES SCHEDULED FOR REUSE THAT REPLACE AN ITEM THAT SCHEDULED FOR NEW, A CREDIT SHALL BE GIVEN TO OWNER FOR ITEM REPLACEMENT.
9. CONTRACTOR SHALL COORDINATE WITH OWNER'S EXISTING EQUIPMENT TO USE EXISTING PATCH PANEL CAPACITY PRIOR TO INSTALLING AND USING NEW PATCH PANELS.
10. SYSTEM IS EXISTING. NEW COMPONENTS SHALL INTEGRATE INTO EXISTING SYSTEM.

DISTRIBUTION, RACEWAY, WIRING

- CONDUIT CONCEALED IN FLOOR OR UNDERGROUND
- CONDUIT EXPOSED OR CONCEALED IN WALL OR CEILING
- RACEWAY UP
- RACEWAY DOWN
- CAPPED CONDUIT
- GROUNDING ELECTRODE CONDUCTOR
- SURFACE RACEWAY (SR)

SYSTEMS

- TTB, MDF OR IDF SYSTEM BACKBOARD
- TELECOMMUNICATION OUTLET, # INDICATES '# OF PORTS'
- WAP — WIRELESS ACCESS POINT
- FLOOR MOUNTED TELECOMMUNICATION OUTLET
- TELEVISION OUTLET
- S# — CEILING SPEAKER - PAGING AND OR SOUND SYSTEM - # INDICATES SPEAKER ZONE
- S# — WALL SPEAKER - PAGING AND OR SOUND SYSTEM - # INDICATES SPEAKER ZONE
- A — WIRELESS MICROPHONE ANTENNA
- M — MICROPHONE
- V — VIDEO INPUT PLATE
- KP — PROJECTOR CONTROL KEYPAD
- CR — CARD READER
- CK — CARD READER / KEYPAD COMBO
- DR — DOOR RELEASE BUTTON
- WALL MOUNTED CLOCK
- CLOSED CIRCUIT TELEVISION CAMERA
- CABLE TRAY (LENGTH AS INDICATED ON DRAWINGS)
- R — AREA OF RESCUE ASSISTANCE CALL BOX
- MD — MOTION DETECTOR (ARROW INDICATES DIRECTION)
- KP — ENTRY KEYPAD
- LD — LOCKDOWN ACTIVATION BUTTON
- LO — LOCKOUT ACTIVATION BUTTON
- ICd — DOOR INTERCOM
- ICm — MASTER INTERCOM
- P — PANIC/LOCKDOWN/LOCKOUT BUTTON
- SP — SECURITY PANEL
- SS — SECURITY SWITCH
- J — ABOVE CEILING JUNCTION BOX



NOTES:
1. WHERE MULTIPLE LINE VOLTAGE DEVICES ARE SHOWN ADJACENT TO EACH OTHER, THEY ARE ALL TO SHARE THE SAME JUNCTION BOX, UP TO FOUR GANGS.
2. WHERE MORE THAN FOUR DEVICES ARE SHOWN ADJACENT TO EACH OTHER, DEVICES ARE TO STACK VERTICALLY ABOVE ONE ANOTHER IN TWO ROWS IN AS SMALL OF GANG BOXES AS POSSIBLE. I.E. SIX DEVICES WILL USE TWO THREE GANG BOXES. FIVE DEVICES WILL USE ONE THREE GANG AND ONE TWO GANG BOX. WHEN DIMMERS ARE GANGED TOGETHER, REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR DE-RATING.
3. SEPARATELY GANGED DEVICES ARE NOT ALLOWED TO BE INSTALLED ADJACENT TO ONE ANOTHER HORIZONTALLY WITHIN THE SAME STUD BAY.
4. AUDIBLE/VISUAL FIRE ALARM DEVICES SHOWN ARE TO BE MOUNTED AT 90" OR 6" BELOW CEILING, WHICHEVER IS LOWER. ADA STROBES TO BE MOUNTED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER.
5. MAXIMUM ELEVATION FOR ALL LOAD CENTER CIRCUIT BREAKERS SHALL NOT EXCEED 48" AFF, WITHIN DWELLING UNITS.
6. THE E.C. SHALL REFER TO ARCHITECTURAL ELEVATIONS TO COORDINATE ALL COUNTER HEIGHTS. ALL "AC" DEVICES SHALL HAVE BOTTOM OF BACK-BOX MOUNTED 4" ABOVE THE BACK/SIDE SPLASH.

2 | DEVICE MOUNTING HEIGHT LEGEND

T000 | NTS

ABBREVIATIONS AND SYMBOLS

A	AMPERE(S)
AC	ABOVE COUNTER
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ALS	ASSISTIVE LISTENING SYSTEM
AV	AUDIO-VIDEO OR AUDIO-VISUAL
BGM	BACKGROUND MUSIC
C	CONDUIT
CATV	COMMUNITY ACCESS TELEVISION
CPU	CENTRAL PROCESSING UNIT
DSP	DIGITAL SIGNAL PROCESSOR
DVD	DIGITAL VIDEO DISC/DIGITAL VERSATILE DISC
(E)	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
(ER)	EXISTING TO BE RELOCATED
FM	FREQUENCY MODULATION
FPD	FLAT PANEL DISPLAY
GC	GENERAL CONTRACTOR
GPC	GENERAL PURPOSE COMPUTER
IG	ISOLATED GROUND
IP	INTERNET PROTOCOL
IR	INFRARED
IT	INFORMATION TECHNOLOGY
LAN	LOCAL AREA NETWORK
LCD	LIQUID CRYSTAL DISPLAY
LTG	LIGHTING
MATV	MASTER ANTENNA TELEVISION
(N)	NEW
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OAE	OR APPROVED EQUAL
OFCI	OWNER FURNISHED/CONTRACTOR INSTALLED
OFE	OWNER FURNISHED EQUIPMENT
OH	OVERHEAD
PA	PUBLIC ADDRESS
PC	PERSONAL COMPUTER
PDP	PLASMA DISPLAY PANEL
PH	PHASE
RCPT	RECEPTACLE
(R)	EXISTING TO BE REMOVED
RF	RADIO FREQUENCY
(RL)	RELOCATED LOCATION
RU	RACK UNIT (TIA/EIA RACK)
TO	TELECOMMUNICATIONS OUTLET
TV	TELEVISION
UC	UNDER COUNTER/CABINET
UG	UNDERGROUND
UHF	ULTRA HIGH FREQUENCY
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
USB	UNIVERSAL SERIAL BUS
V	VOLT(S)
VHF	VERY HIGH FREQUENCY
VP	VIDEO PROJECTOR
W	WATT(S)
WAN	WIDE AREA NETWORK
WG	WIREGUARD
WP	WEATHERPROOF OR WATERPROOF
2	DETAIL NOTE
x	REVISION (DELTA) TAG

TELECOM SYSTEMS GENERAL NOTES

1. THE COMMUNICATIONS CONTRACTOR RESPONSIBLE FOR ALL OF THE WORK DESCRIBED IN THESE CONTRACT DRAWINGS AND SPECIFICATIONS SHALL BE REFERRED TO THROUGHOUT THESE DOCUMENTS AS THE "CONTRACTOR.
2. THE CONTRACTOR SHALL ADHERE TO ALL BUILDING AND DISTRICT RULES AND REGULATIONS.
3. ALL CABLES SHALL HOMERUN FROM THE NETWORK OUTLETS TO THE SPECIFIC TELECOM ROOM IN SPACE ABOVE FINISHED CEILING UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING ANY DISCREPANCIES BETWEEN THESE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITIONS. ANY DISCREPANCIES ARE TO BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER.
5. ALL CONDUITS AND SLEEVES DESIGNATED FOR COMMUNICATIONS USE, WHETHER THEY ARE UTILIZED BY THE CONTRACTOR OR NOT, SHALL BE FIRE STOPPED TO MATCH OR EXCEED THE FIRE-RATING OF THE PENETRATED MATERIAL.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES AND DRAWINGS. FURTHERMORE, THE CONTRACTOR SHALL COORDINATE THE SEQUENCE OF WORK WITH THE CONSTRUCTION MANAGER.
7. BACKBOXES, CONDUITS, STUB-UPS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.
8. THE ENTIRE CABLE PLANT SHALL BE TESTED AS OUTLINED IN THE SPECIFICATIONS.
9. THE CONTRACTOR SHALL PROVIDE ALL CABLE, HARDWARE AND EQUIPMENT SHOWN ON THESE DRAWINGS EXCEPT WHERE OTHERWISE NOTED.
10. THE CONTRACTOR MUST MAINTAIN A RUNNING UPDATE OF ALL FIELD OR CONTRACT DOCUMENT CHANGES AND UPDATE THE "AS BUILT" DRAWINGS AS AN ON GOING PROCESS.
11. THE CONTRACTOR SHALL REFER TO THE MOUNTING HEIGHT LEGEND AND COORDINATE WITH THE ARCHITECT AND OWNER FOR ALL MOUNTING HEIGHTS OF ALL COMMUNICATIONS OUTLETS AND DEVICES.
12. ALL EQUIPMENT, CABLING, RACEWAY, ETC. SHALL BE GROUNDED IN ACCORDANCE WITH THE SPECIFICATIONS AND ANSI J-STD-607-A. PROVIDE GROUND CONDUCTORS, GROUND CLAMPS, COMPRESSION TAPS, LUGS, ETC. AS REQUIRED FOR CONNECTION TO THE TELECOMMUNICATIONS GROUNDING AND BONDING SYSTEM (AS REQUIRED). TELECOMMUNICATIONS GROUND AND BONDING SYSTEM SHALL BE PROVIDED BY DIVISION 26, THIS SHALL INCLUDE TELECOMMUNICATIONS BONDING, BACKBONE, TELECOMMUNICATIONS GROUNDING BUSBAR(S), GROUNDING EQUALIZER AND BONDING CONDUCTORS TO BUILDING STEEL (WHERE APPLICABLE), POWER PANELS (WHERE APPLICABLE) AND CONDUITS.
13. PROPERLY FIRE STOP AND SEAL ALL PENETRATIONS THROUGH WALLS, FLOORS, CEILINGS, AND ROOF AS PER CODE, AND AHJ.
14. NOT ALL PARTS AND PIECES ARE SHOWN FOR A COMPLETE SYSTEM. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE END-TO-END WARRANTED SOLUTION FOR ALL SYSTEMS SHOWN UNLESS OTHERWISE NOTED.
15. ALL CABLING TO BE PLENUM RATED THROUGHOUT THE BUILDING.
16. DEVICES SPECIFIED AT +18" A.F.F. SHALL MATCH THE STANDARD MOUNTING HEIGHT FOR POWER RECEPTACLES AND TELECOMMUNICATIONS OUTLETS. DEVICES SPECIFIED AT +48" A.F.F. SHALL MATCH THE STANDARD MOUNTING HEIGHT FOR LIGHT SWITCHES ETC.
17. ALL CONDUITS FOR TELECOMMUNICATIONS OUTLETS SHALL BE STEEL, THIN-WALL ELECTRICAL METALLIC TUBING (TYPE EMT) UNLESS OTHERWISE NOTED. UNDER NO CIRCUMSTANCES SHALL FLEXIBLE CONDUIT BE USED FOR PATHWAYS INDICATED ON THIS SHEET. ALL CONDUITS ARE TO BE, AT A MINIMUM, 1" TRADE SIZE, UNLESS OTHERWISE NOTED. ALL CONDUITS FOR TELECOMMUNICATIONS OUTLETS ARE TO BE STUBBED TO NEAREST ACCESSIBLE CEILING SPACE. CONTRACTOR IS TO ENSURE THAT NO CONDUIT EXCEEDS 40% FILL.
18. VOICE AND DATA CABLING SHALL BE ROUTED SEPARATE FROM ALL OTHER CABLING, INCLUDING BUT NOT LIMITED TO, FIRE ALARM, SECURITY, HVAC, ETC. VOICE AND DATA CABLING SHALL BE ROUTED VIA DEDICATED J-HOOK, CONDUIT, SLEEVE, AND/OR CABLE TRAY PATHWAY, AS INDICATED ON DRAWINGS.
19. FOR ALL EXTERIOR WALL-MOUNTED DEVICES, PROVIDE BACKBOX AND EXTENSION RING, TOTAL DEPTH AS REQUIRED TO MATCH THICKNESS OF COMPLETE WALL & INSULATION ASSEMBLY.
20. ALL CONDUIT TURNS FOR A/V AND IT CONDUITS SHALL BE 'SWEEP' TYPE, NO BEND FITTINGS ARE PERMITTED.
21. ALL CONDUIT PATHWAYS SHALL BE PROVIDED WITH NYLON BUSHINGS TO PROTECT CABLES, REGARDLESS OF WHETHER THEY TERMINATE IN A DEVICE OR JUNCTION BOX.
22. CONTRACTOR TO VERIFY ALL CABLE COUNTS AND NUMBER OF PATCH PANELS REQUIRED.
23. GROUP DATA OUTLETS TOGETHER WITH POWER OUTLETS (WHERE APPLICABLE).
24. FOR ALL OUTLETS INSTALLED IN ARTS/MUSIC/DRAMA AREAS, CLASSROOMS, LABS, MISC. LEARNING AREAS, OFFICES AND OTHER ACOUSTICALLY-RATED PARTITIONS (AS INDICATED ON ARCHITECTURAL DRAWINGS): MAINTAIN A MINIMUM OF 12 INCHES SEPARATION BETWEEN OUTLETS ON OPPOSITE SIDES OF PARTITION. PROVIDE ACOUSTICAL OUTLET BACKER PUTTY (AS MANUFACTURED BY KINETICS NOISE CONTROL, OR EQUAL). PUTTY PADS SHALL MAINTAIN ACOUSTICAL RATINGS PER ASTM C 919 AND ASTM E 497, AND BE TESTED TO UL 263 (ASTM E119) AND UL 1479 (ASTM E814) STANDARDS.

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aedesign-inc.com
Project #: 6140.00

PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER 35717 7/31/2023

PROJECT MANAGER MRS

PROJECT NUMBER 821346-01

TECHNOLOGY COVER SHEET

T000

TECHNOLOGY DEMOLITION NOTES

A.	ALL EXISTING CABLING, DEVICES, AND PATHWAY THAT IS NOT INDICATED FOR DEMOLITION AND/OR RELOCATION, SHALL BE PROTECTED IN PLACE.
B.	CABLING SCHEDULED FOR DEMOLITION SHALL BE DEMOLISHED BACK TO ORIGIN. PATHWAY SCHEDULED FOR DEMOLITION SHALL BE DEMOLISHED BACK TO ORIGIN UNLESS IT IS SHARED PATHWAY THAT MUST REMAIN IN PLACE TO SUPPORT OTHER LOCATIONS.
C.	ALL CABLING FOR AREA IN SCOPE SHOULD ORIGINATE FROM COMM IT ROOM IN ROOM 141. COORDINATE WITH OWNER FOR ACCESS TO ROOM, PROTECT IN PLACE ALL EXISTING EQUIPMENT IN COMM ROOM. IF CABLING ORIGINATES FROM OTHER IT ROOM(S), CONTRACTOR SHALL DEMOLISH CABLING BACK TO ORIGIN AND PROTECT IN PLACE ALL EQUIPMENT IN OTHER IT ROOM(S) ALSO.
D.	ALL DEVICES SCHEDULED FOR DEMOLITION THAT ARE NOT STRUCTURED CABLING OR PATHWAY INFRASTRUCTURE (CARD READERS, KEYPADS, CAMERAS, FACEPLATE, BISCUIT JACK BOX, ETC.), SHALL BE RETURNED TO OWNER UPON REMOVAL.
E.	THE BUILDING WIDE FIRE SPRINKLER SYSTEM IS BEING UPDATED. MISCELLANEOUS CEILING LOCATIONS ARE TO BE UPDATED/MODIFIED DURING DESIGN. COORDINATE THE PROTECTION OF ALL EXISTING CEILING ELEMENTS (WAPS, CAMERAS, SPEAKERS, ETC.) WITH THE CEILING CHANGES THROUGH THE GENERAL CONTRACTOR.

1 | TECHNOLOGY DEMOLITION PLAN - OVERALL
TD101 | 3/32" = 1'-0"

NORTH

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PROJECT INFORMATION

Bergen Valley Elementary School Renovation

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ISSUANCE AND REVISIONS

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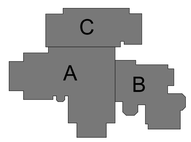
KEY PLAN



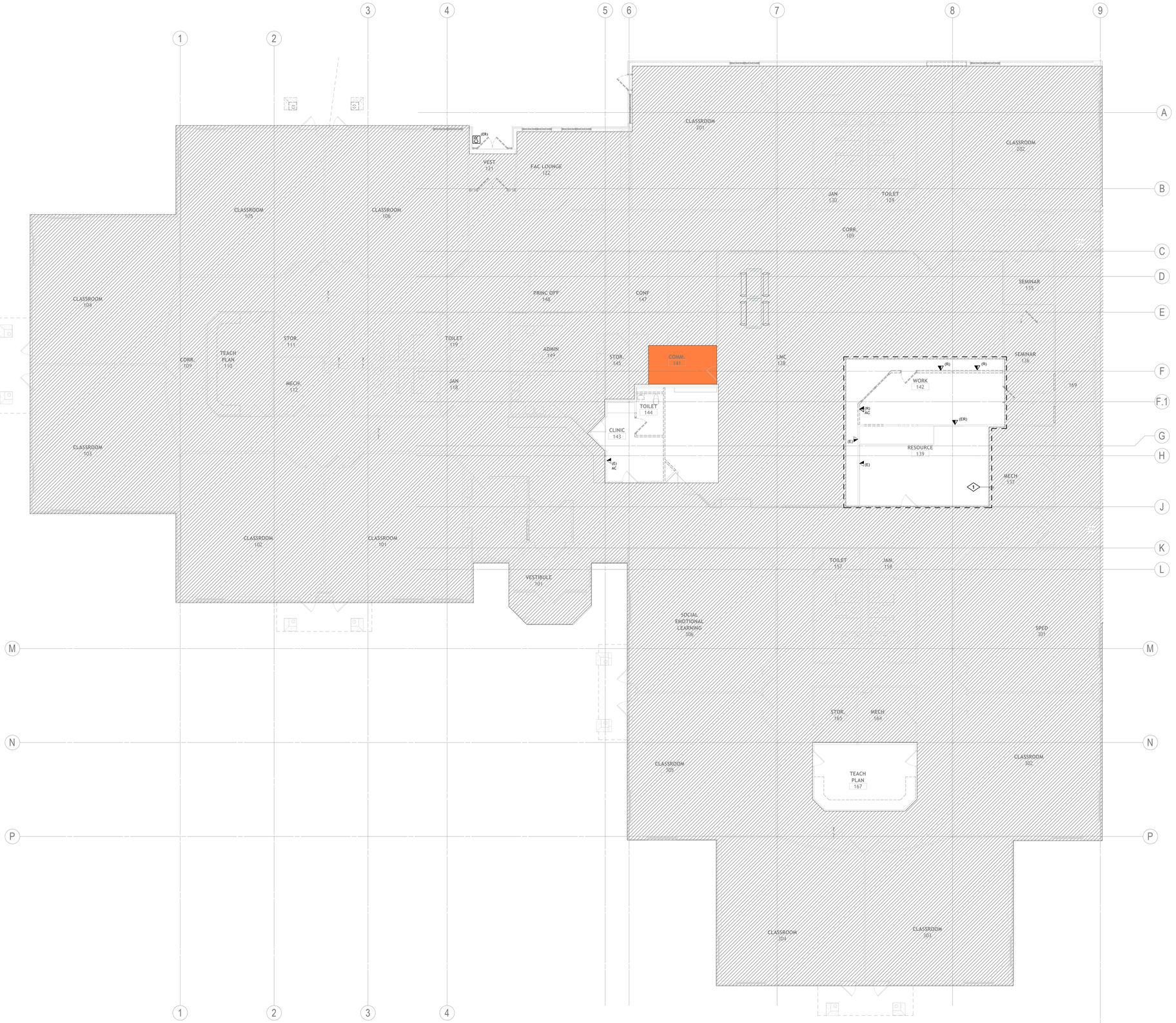
SHEET INFORMATION

COLORADO REGISTERED LANDSCAPE ARCHITECT 35717 7/31/2023 PROFESSIONAL ENGINEER

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

TECHNOLOGY DEMOLITION PLAN - OVERALL

TD101



1 | TECHNOLOGY DEMOLITION 1ST FLOOR PLAN - AREA A
TD101A | 1/8" = 1'-0"

NORTH

TECHNOLOGY DEMOLITION NOTES

A.	ALL EXISTING CABLING, DEVICES, AND PATHWAY THAT IS NOT INDICATED FOR DEMOLITION AND/OR RELOCATION, SHALL BE PROTECTED IN PLACE.
B.	CABLING SCHEDULED FOR DEMOLITION SHALL BE DEMOLISHED BACK TO ORIGIN. PATHWAY SCHEDULED FOR DEMOLITION SHALL BE DEMOLISHED BACK TO ORIGIN UNLESS IT IS SHARED PATHWAY THAT MUST REMAIN IN PLACE TO SUPPORT OTHER LOCATIONS.
C.	ALL CABLING FOR AREA IN SCOPE SHOULD ORIGINATE FROM COMM IT ROOM IN ROOM 141. COORDINATE WITH OWNER FOR ACCESS TO ROOM, PROTECT IN PLACE ALL EXISTING EQUIPMENT IN COMM ROOM. IF CABLING ORIGINATES FROM OTHER IT ROOM(S), CONTRACTOR SHALL DEMOLISH CABLING BACK TO ORIGIN AND PROTECT IN PLACE ALL EQUIPMENT IN OTHER IT ROOM(S) ALSO.
D.	ALL DEVICES SCHEDULED FOR DEMOLITION THAT ARE NOT STRUCTURED CABLING OR PATHWAY INFRASTRUCTURE (CARD READERS, KEYPADS, CAMERAS, FACEPLATE, BISCUIT JACK BOX, ETC.), SHALL BE RETURNED TO OWNER UPON REMOVAL.
E.	THE BUILDING WIDE FIRE SPRINKLER SYSTEM IS BEING UPDATED. MISCELLANEOUS CEILING LOCATIONS ARE TO BE UPDATED/MODIFIED DURING DESIGN. COORDINATE THE PROTECTION OF ALL EXISTING CEILING ELEMENTS (WAPS, CAMERAS, SPEAKERS, ETC.) WITH THE CEILING CHANGES THROUGH THE GENERAL CONTRACTOR.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	INDICATED SCOPE IN LMC, WITH THE EXCEPTION OF FIRE ALARM WHICH IS BASE BID, SHALL BE CARRIED AS ALTERNATE #1.

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PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
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ISSUANCE AND REVISIONS

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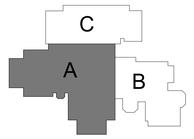
KEY PLAN



SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER
35717
7/31/2023

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

TECHNOLOGY DEMOLITION PLAN - AREA A

TD101A

TECHNOLOGY DEMOLITION NOTES

A.	ALL EXISTING CABLING, DEVICES, AND PATHWAY THAT IS NOT INDICATED FOR DEMOLITION AND/OR RELOCATION, SHALL BE PROTECTED IN PLACE.
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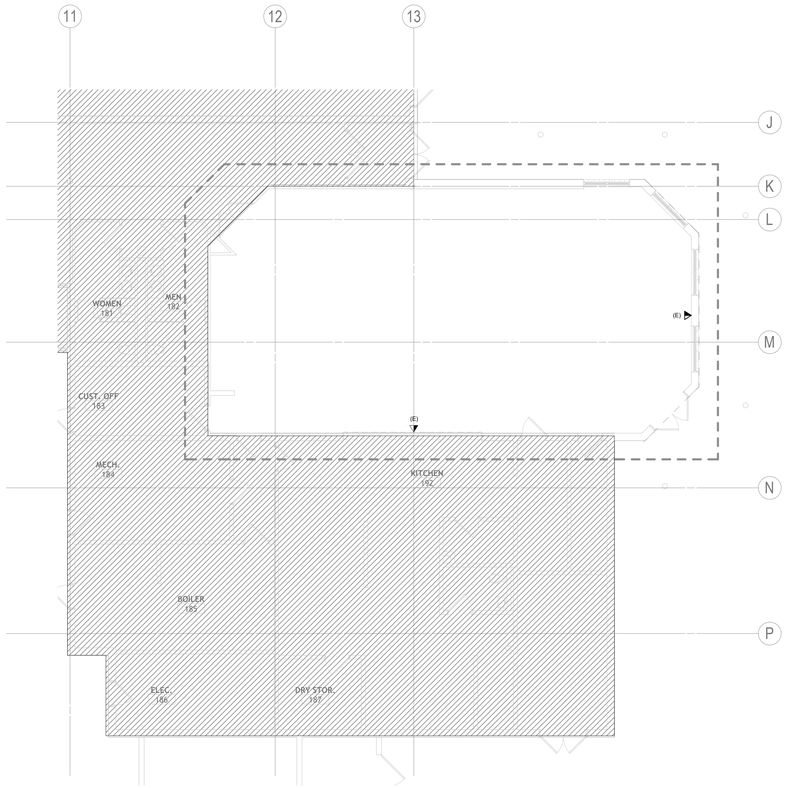
E.	THE BUILDING WIDE FIRE SPRINKLER SYSTEM IS BEING UPDATED. MISCELLANEOUS CEILING LOCATIONS ARE TO BE UPDATED/MODIFIED DURING DESIGN. COORDINATE THE PROTECTION OF ALL EXISTING CEILING ELEMENTS (WAPS, CAMERAS, SPEAKERS, ETC.) WITH THE CEILING CHANGES THROUGH THE GENERAL CONTRACTOR.



1 | TECHNOLOGY DEMOLITION 1ST FLOOR PLAN - AREA B
TD101B | 1/8" = 1'-0"

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PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

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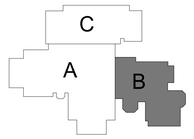
KEY PLAN



SHEET INFORMATION

COLORADO REGISTERED
CHAD A. ROOT
35717
7/31/2023
PROFESSIONAL ENGINEER

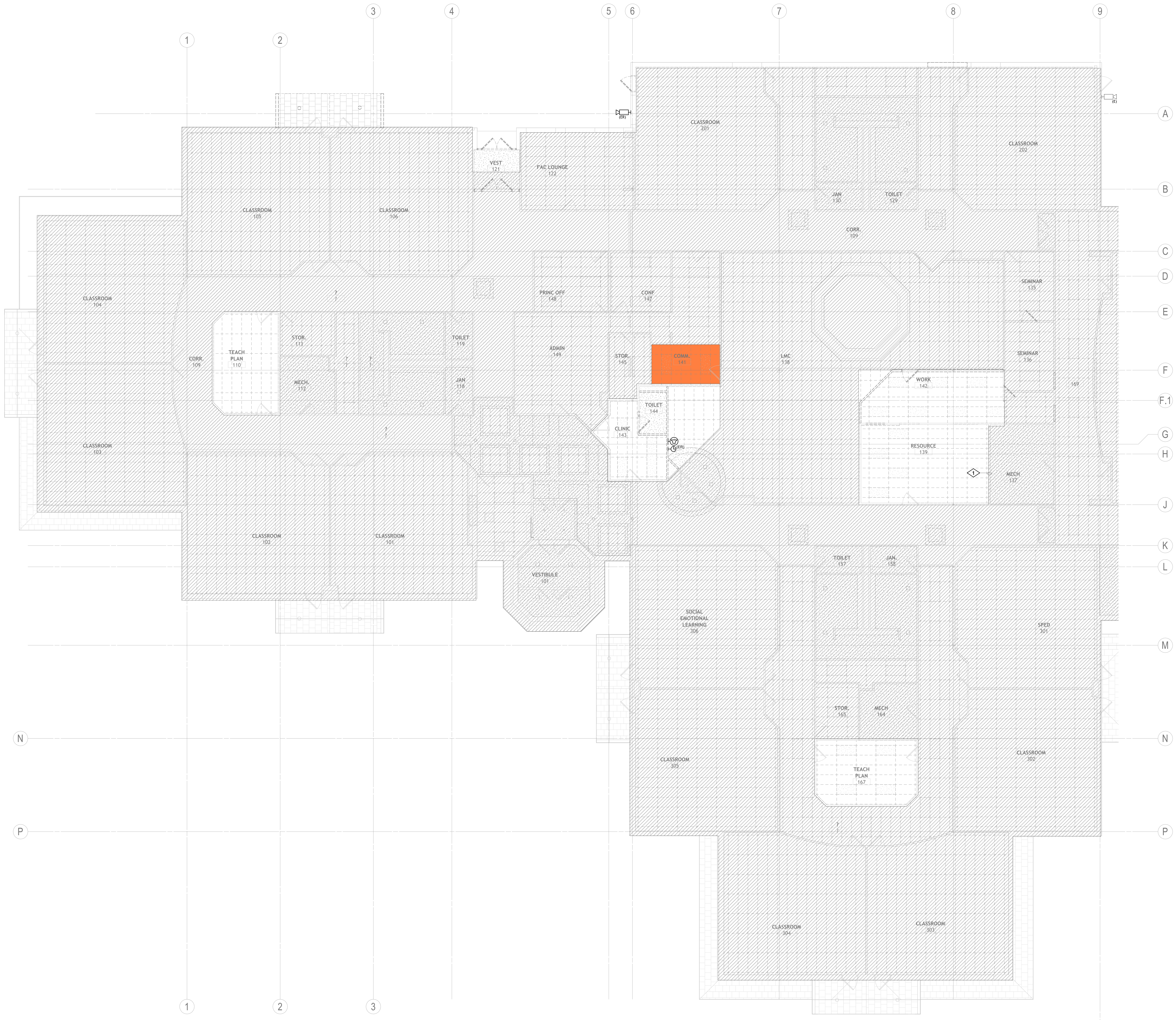
PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

TECHNOLOGY DEMOLITION PLAN - AREA B

TD101B

1 2 3 4 5 6 7

A B C D E



NORTH

1 | TECHNOLOGY DEMOLITION 1ST FLOOR CEILING PLAN - AREA A
TD201A | 1/8" = 1'-0"

TECHNOLOGY DEMOLITION NOTES

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KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	INDICATED SCOPE IN LMC, WITH THE EXCEPTION OF FIRE ALARM WHICH IS BASE BID, SHALL BE CARRIED AS ALTERNATE #1.

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E

PROJECT INFORMATION

Bergen Valley
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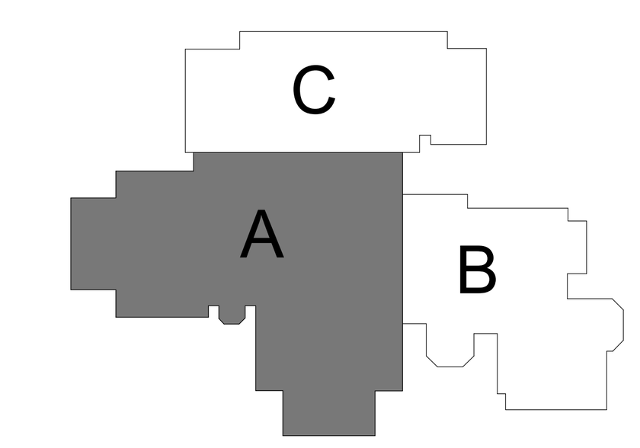
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

C

KEY PLAN



B

SHEET INFORMATION

PROJECT MANAGER MRS

A

PROJECT NUMBER 821346-01

TECHNOLOGY DEMOLITION CEILING PLAN - AREA A

TD201A

1 2 3 4 5 6 7

TECHNOLOGY DEMOLITION NOTES

A.	ALL EXISTING CABLING, DEVICES, AND PATHWAY THAT IS NOT INDICATED FOR DEMOLITION AND/OR RELOCATION, SHALL BE PROTECTED IN PLACE.
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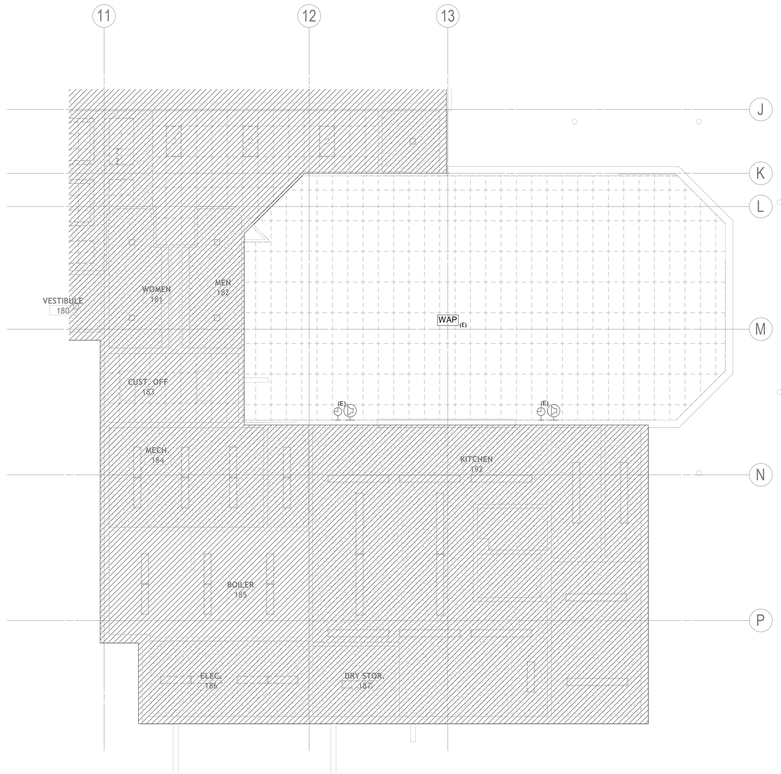

1 | TECHNOLOGY DEMOLITION 1ST FLOOR CEILING PLAN - AREA B
TD201B | 1/8" = 1'-0"

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PROJECT INFORMATION

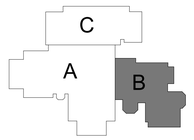
Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN



SHEET INFORMATION

COLORADO REGISTERED
MATTHEW R. SCHROEDER
35717
7/31/2023
PROFESSIONAL ENGINEER

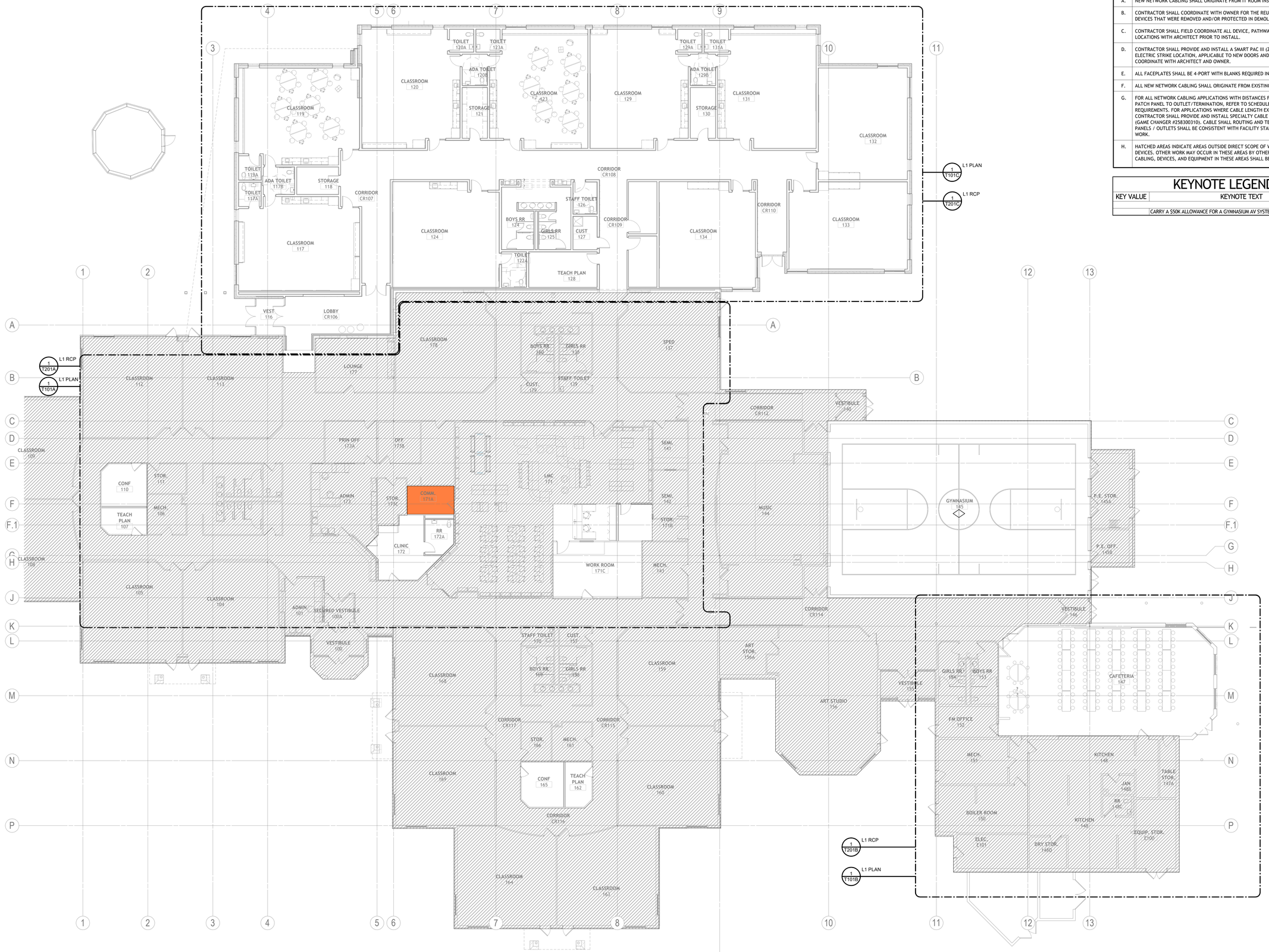
PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

~~TECHNOLOGY~~
DEMOLITION CEILING PLAN - AREA B

TD201B

1 2 3 4 5 6 7

A B C D E



1 | TECHNOLOGY PLAN - OVERALL
T101 | 3/32" = 1'-0"

NORTH

TECHNOLOGY NOTES

A.	NEW NETWORK CABLING SHALL ORIGINATE FROM IT ROOM INSIDE ROOM 141 .
B.	CONTRACTOR SHALL COORDINATE WITH OWNER FOR THE REUSE AND DEPLOYMENT OF DEVICES THAT WERE REMOVED AND/OR PROTECTED IN DEMOLITION PHASE.
C.	CONTRACTOR SHALL FIELD COORDINATE ALL DEVICE, PATHWAY, AND CABLING LOCATIONS WITH ARCHITECT PRIOR TO INSTALL.
D.	CONTRACTOR SHALL PROVIDE AND INSTALL A SMART PAC III (2005M3) AT EACH NEW ELECTRIC STRIKE LOCATION, APPLICABLE TO NEW DOORS AND RENOVATED DOORS. COORDINATE WITH ARCHITECT AND OWNER.
E.	ALL FACEPLATES SHALL BE 4-PORT WITH BLANKS REQUIRED IN UNTERMINATED PORTS.
F.	ALL NEW NETWORK CABLING SHALL ORIGINATE FROM EXISTING MDF ROOM (COMM 141).
G.	FOR ALL NETWORK CABLING APPLICATIONS WITH DISTANCES FROM 0' TO 295' FROM PATCH PANEL TO OUTLET/TERMINATION, REFER TO SCHEDULES FOR CABLING REQUIREMENTS. FOR APPLICATIONS WHERE CABLE LENGTH EXCEEDS 295', CONTRACTOR SHALL PROVIDE AND INSTALL SPECIALTY CABLE FROM PAIGE DATACOM (GAME CHANGER #258300310). CABLE SHALL ROUTING AND TERMINATION INTO PATCH PANELS / OUTLETS SHALL BE CONSISTENT WITH FACILITY STANDARDS AND SCOPE OF WORK.
H.	HATCHED AREAS INDICATE AREAS OUTSIDE DIRECT SCOPE OF WORK FOR TECHNOLOGY DEVICES. OTHER WORK MAY OCCUR IN THESE AREAS BY OTHER TRADES. EXISTING CABLING, DEVICES, AND EQUIPMENT IN THESE AREAS SHALL BE PROTECTED IN PLACE.

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
	CARRY A $50K ALLOWANCE FOR A GYMNASIUM AV SYSTEM DESIGN AS ALTERNATE #3.

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PROJECT INFORMATION

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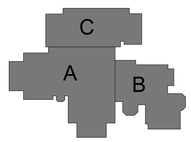


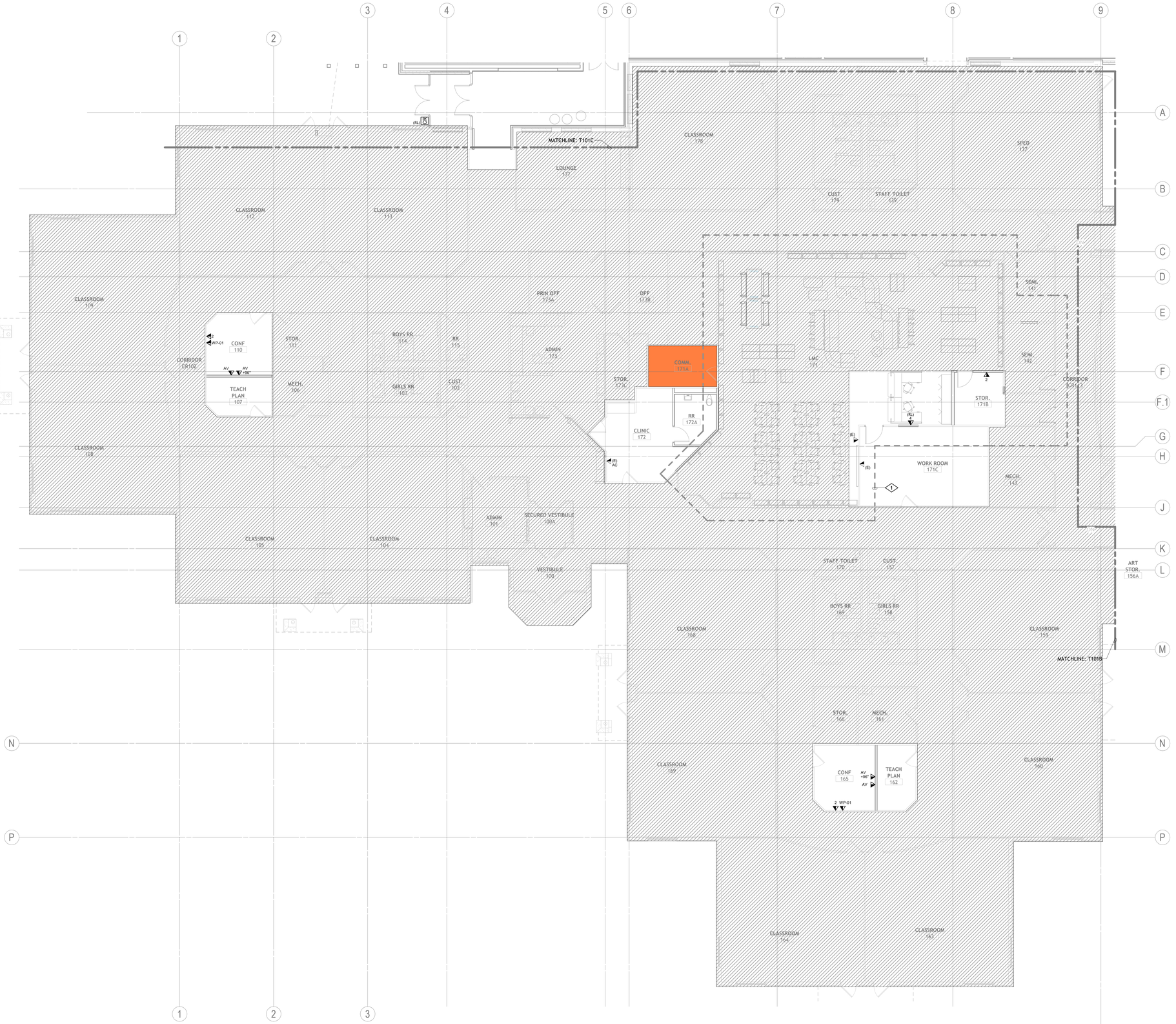
SHEET INFORMATION

COLORADO REGISTERED PROFESSIONAL ENGINEER
35717
7/31/2023

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

TECHNOLOGY 1ST FLOOR PLAN - OVERALL

T101



1 | TECHNOLOGY 1ST FLOOR PLAN - AREA A
T101A | 1/8" = 1'-0"

NORTH

TECHNOLOGY NOTES

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E.	ALL FACEPLATES SHALL BE 4-PORT WITH BLANKS REQUIRED IN UNTERMINATED PORTS.
F.	ALL NEW NETWORK CABLING SHALL ORIGINATE FROM EXISTING MDF ROOM (COMM 141).
G.	FOR ALL NETWORK CABLING APPLICATIONS WITH DISTANCES FROM 0' TO 295' FROM PATCH PANEL TO OUTLET/TERMINATION, REFER TO SCHEDULES FOR CABLING REQUIREMENTS. FOR APPLICATIONS WHERE CABLE LENGTH EXCEEDS 295', CONTRACTOR SHALL PROVIDE AND INSTALL SPECIALTY CABLE FROM PAIGE DATACOM (GAME CHANGER #258300310). CABLE SHALL ROUTING AND TERMINATION INTO PATCH PANELS / OUTLETS SHALL BE CONSISTENT WITH FACILITY STANDARDS AND SCOPE OF WORK.
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KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
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PROJECT INFORMATION

Bergen Valley Elementary School Renovation

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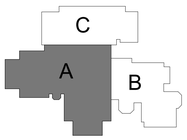

SHEET INFORMATION

COLORADO REGISTERED
MARK GROOT
35717
7/31/2023
PROFESSIONAL ENGINEER

PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

TECHNOLOGY 1ST FLOOR PLAN - AREA A

T101A

TECHNOLOGY NOTES

A.	NEW NETWORK CABLING SHALL ORIGINATE FROM IT ROOM INSIDE ROOM 141 .
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E.	ALL FACEPLATES SHALL BE 4-PORT WITH BLANKS REQUIRED IN UNTERMINATED PORTS.
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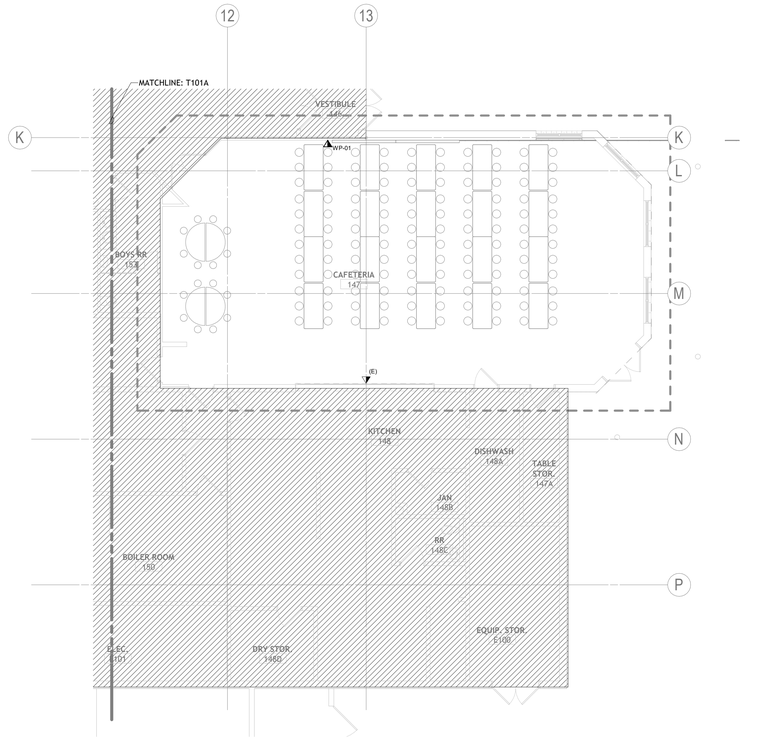
G.	FOR ALL NETWORK CABLING APPLICATIONS WITH DISTANCES FROM 0' TO 295' FROM PATCH PANEL TO OUTLET/TERMINATION, REFER TO SCHEDULES FOR CABLING REQUIREMENTS. FOR APPLICATIONS WHERE CABLE LENGTH EXCEEDS 295', CONTRACTOR SHALL PROVIDE AND INSTALL SPECIALTY CABLE FROM PAIGE DATACOM (GAME CHANGER #258300310). CABLE SHALL ROUTING AND TERMINATION INTO PATCH PANELS / OUTLETS SHALL BE CONSISTENT WITH FACILITY STANDARDS AND SCOPE OF WORK.
H.	HATCHED AREAS INDICATE AREAS OUTSIDE DIRECT SCOPE OF WORK FOR TECHNOLOGY DEVICES. OTHER WORK MAY OCCUR IN THESE AREAS BY OTHER TRADES. EXISTING CABLING, DEVICES, AND EQUIPMENT IN THESE AREAS SHALL BE PROTECTED IN PLACE.



NORTH

1 | TECHNOLOGY 1ST FLOOR PLAN - AREA B
T101B | 1/8" = 1'-0"

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Project #: 6140.00

PROJECT INFORMATION

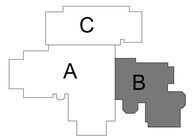
Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN



SHEET INFORMATION

COLORADO REGISTERED 35717 7/31/2023 PROFESSIONAL ENGINEER

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

TECHNOLOGY 1ST FLOOR PLAN - AREA B

T101B

1 2 3 4 5 6 7

A B C D E

TECHNOLOGY NOTES

A.	NEW NETWORK CABLING SHALL ORIGINATE FROM IT ROOM INSIDE ROOM 141 .
B.	CONTRACTOR SHALL COORDINATE WITH OWNER FOR THE REUSE AND DEPLOYMENT OF DEVICES THAT WERE REMOVED AND/OR PROTECTED IN DEMOLITION PHASE.
C.	CONTRACTOR SHALL FIELD COORDINATE ALL DEVICE, PATHWAY, AND CABLING LOCATIONS WITH ARCHITECT PRIOR TO INSTALL.
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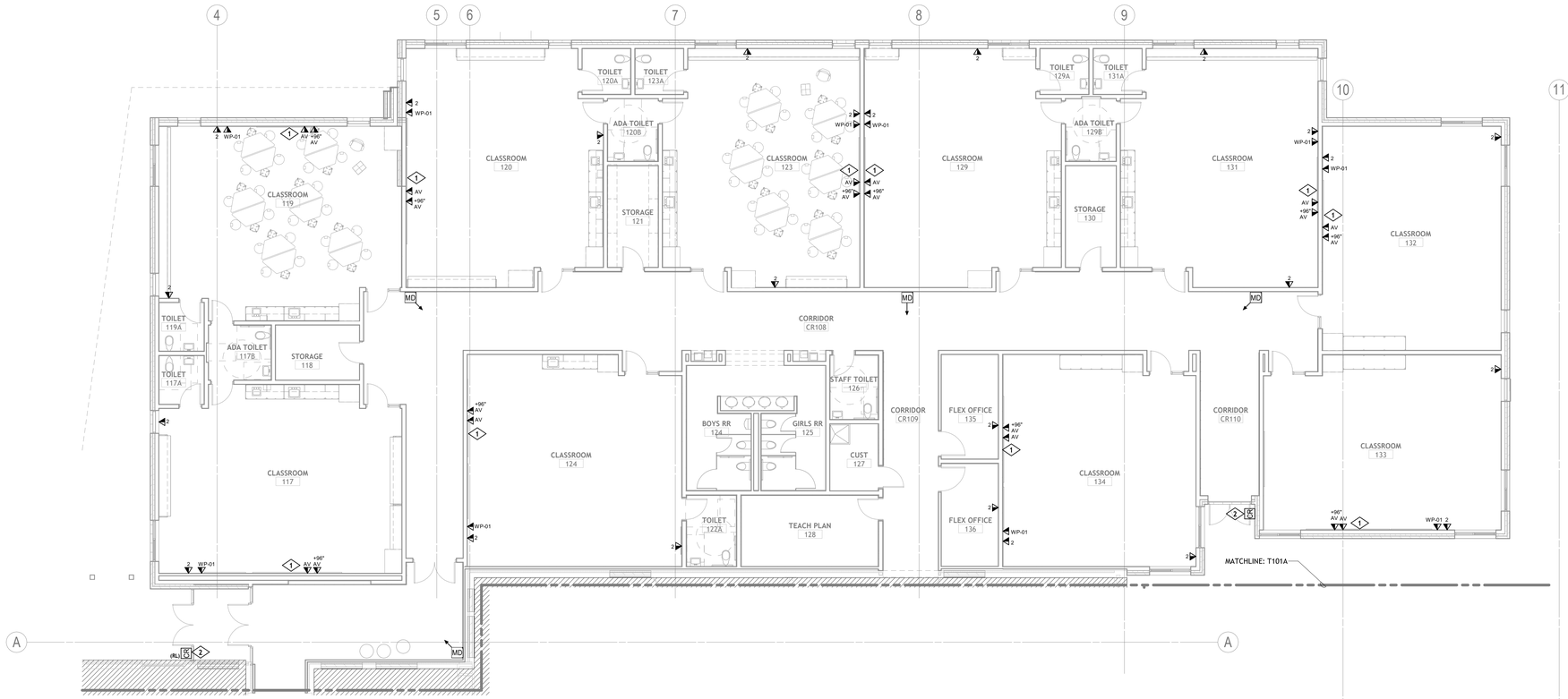
KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	DEVICE LOCATIONS SPECIFIC TO TEACHING WALLS SHALL BE INCORPORATED PER TEACHING WALL ELEVATION 7/T600.
2	ACCESS CONTROL COMPONENTS SHALL TIE INTO EXISTING DOOR CONTROLLER.



1 | TECHNOLOGY 1ST FLOOR PLAN - AREA C
T101C | 1/8" = 1'-0"

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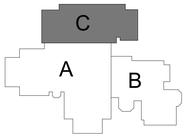

SHEET INFORMATION

COLORADO REGISTERED
35717
7/31/2023
PROFESSIONAL ENGINEER

PROJECT MANAGER	MRS
PROJECT NUMBER	821346-01

TECHNOLOGY 1ST FLOOR PLAN - AREA C

T101C

1 2 3 4 5 6 7

1 | TECHNOLOGY 1ST FLOOR CEILING PLAN - AREA A
T201A | 1/8" = 1'-0"

NORTH

TECHNOLOGY NOTES

A.	NEW NETWORK CABLING SHALL ORIGINATE FROM IT ROOM INSIDE ROOM 141 .
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KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
1	INDICATED SCOPE IN LMC, WITH THE EXCEPTION OF FIRE ALARM WHICH IS BASE BID, SHALL BE CARRIED AS ALTERNATE #1.

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PROJECT INFORMATION

Bergen Valley Elementary School Renovation

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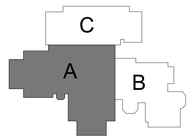

SHEET INFORMATION

COLORADO REGISTERED LAND SURVEYOR
35717
7/31/2023
PROFESSIONAL ENGINEER

PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

TECHNOLOGY 1ST CEILING PLAN - AREA A

T201A

TECHNOLOGY NOTES

A.	NEW NETWORK CABLING SHALL ORIGINATE FROM IT ROOM INSIDE ROOM 141 .
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KEYNOTE LEGEND

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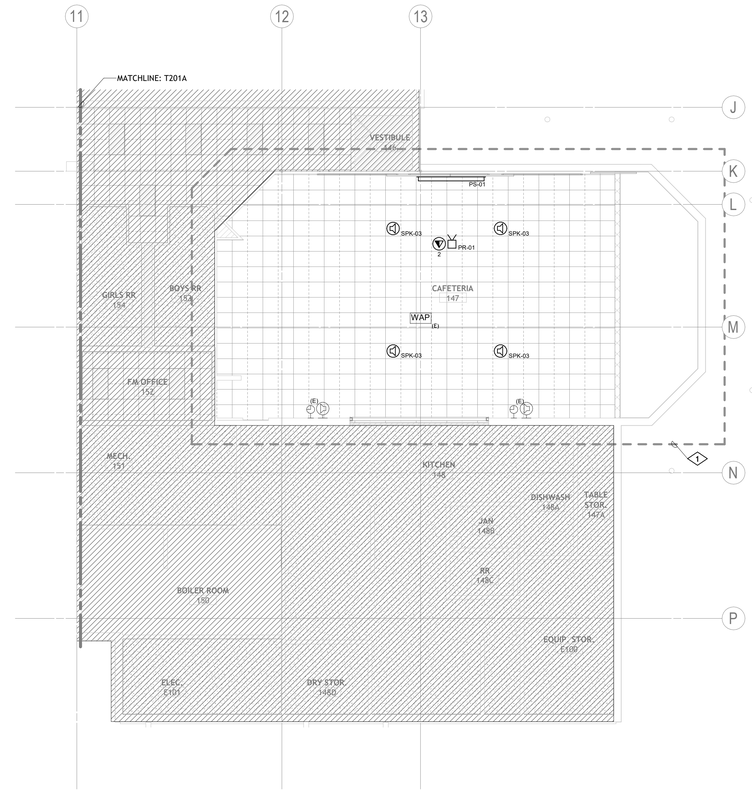

NORTH

1 | TECHNOLOGY 1ST FLOOR CEILING PLAN - AREA B
T201B | 1/8" = 1'-0"

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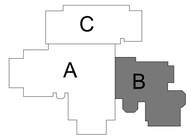

SHEET INFORMATION

COLORADO REGISTERED LANDSCAPE ARCHITECT 35717 7/31/2023 PROFESSIONAL ENGINEER

PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

TECHNOLOGY 1ST CEILING PLAN - AREA B

T201B

TECHNOLOGY NOTES

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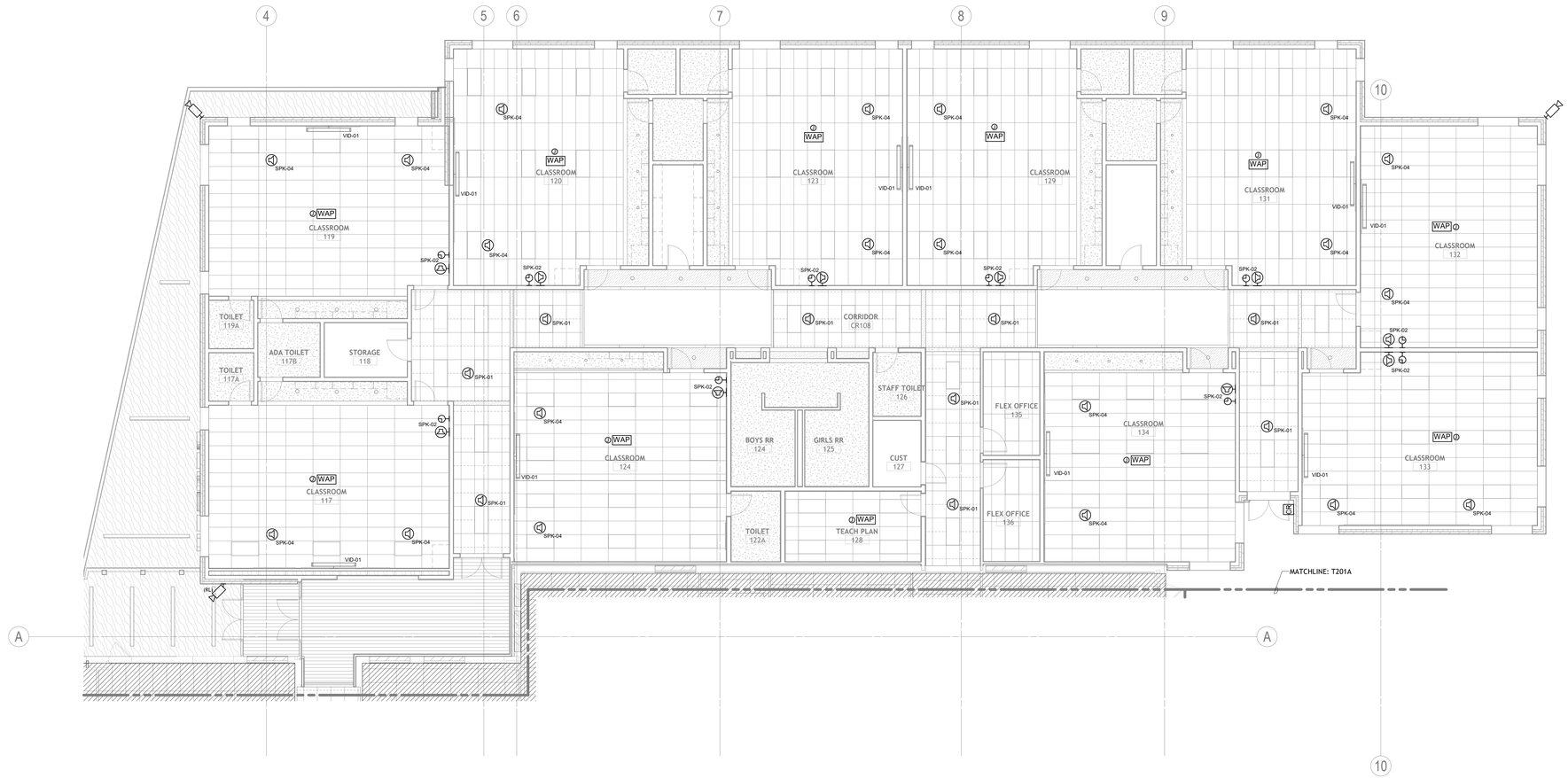
KEY VALUE	KEYNOTE TEXT



1 | TECHNOLOGY 1ST FLOOR CEILING PLAN - AREA C
T201C | 1/8" = 1'-0"

NORTH

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PROJECT INFORMATION

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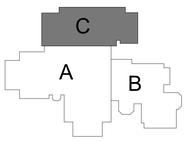


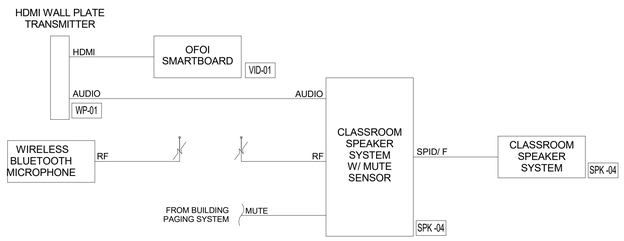
SHEET INFORMATION

COLORADO REGISTERED
ERIC BROOKS
35717
7/31/2023
PROFESSIONAL ENGINEER

PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

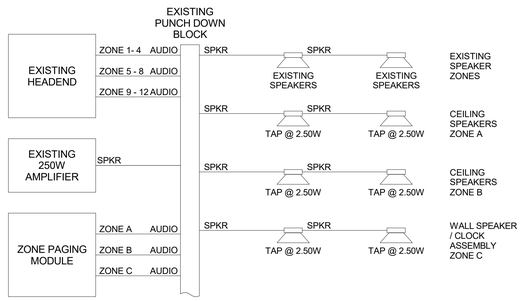
TECHNOLOGY 1ST CEILING PLAN - AREA C

T201C



1 | AV ONE LINE - CLASSROOM
T500 | NTS

AV EQUIPMENT - CLASSROOM					
KEY	DESCRIPTION	COMPONENT ID	MANUFACTURER	PART NUMBER	COMMENTS/ACCESSSORIES
VID	INTERACTIVE VIDEO DISPLAY	VID-01	--	--	OWNER FURNISHED OWNER INSTALLED
SPK	CLASSROOM SPEAKER SYSTEM	SPK-04	LIGHTSPEED	TOPCAT-955	
WP	HDMI WALL PLATE TRANSMITTER	WP-01	HORIZON	SP-1NC3FD-L-1-0	



2 | AV ONE LINE - PAGING
T500 | NTS

AV EQUIPMENT - PAGING					
KEY	DESCRIPTION	COMPONENT ID	MANUFACTURER	PART NUMBER	COMMENTS/ACCESSSORIES
SPK	CEILING MOUNTED LOUD SPEAKER	SPK-01	TBD	TBD	
SPK	WALL MOUNTED SPEAKER CLOCK COMBO	SPK-02	TBD	TBD	
ZPM	ZONE PAGING MODULE	ZPM-01	BOGEN	PCM-ZPM	

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KEY PLAN

SHEET INFORMATION

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PROJECT MANAGER MRS

PROJECT NUMBER 821346-01

TECHNOLOGY AV ONE LINE DIAGRAMS

T500

1 2 3 4 5 6 7

COPPER CONNECTIVITY

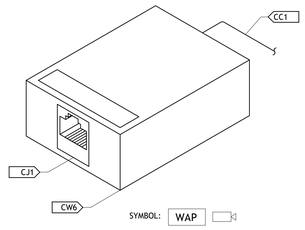
KEY	DESCRIPTION	MANUFACTURER	PART NUMBER	COMMENTS
CC1	CAT 6 CABLE, WHITE	COMMSCOPE	CS37P	
CJ1	CAT 6 JACK, BLUE	COMMSCOPE	760237628	
CW4	4-PORT FACEPLATE	COMMSCOPE	1-2111011-1	FACEPLATE FINISH SHALL MATCH POWER RECEPTACLE FACEPLATE FINISH
CW6	SURFACE MOUNT BOX, (BISCUIT), 1 PORT	COMMSCOPE	1-1116697-3	

SECURITY DEVICES

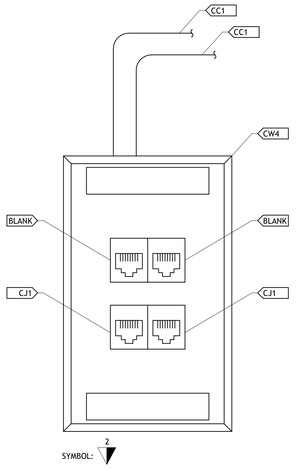
KEY	DESCRIPTION	MANUFACTURER	PART NUMBER	COMMENTS
MD2	MOTION DETECTOR - WALL MOUNT, SHORT RANGE	HONEYWELL	DT8050	
CR2	CARD READER	AWID	MM-6820-GR-MP	
DP1	DOOR POSITION SWITCH	SENTROL	1078-W	
RX1	REQUEST TO EXIT SENSOR	BOSCH	DS-160	

PATCH CABLE MATRIX

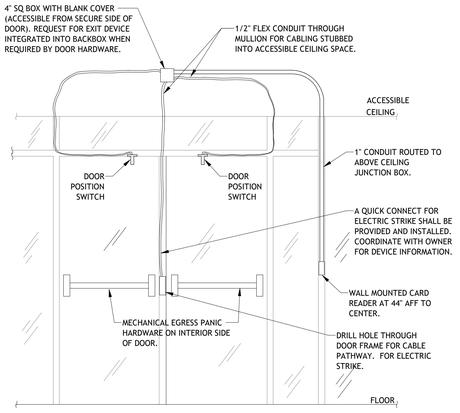
AREA	SYSTEM	TYPE	COUNT	SIZE (FT)	COLOR	MANUFACTURER	PART NUMBER	COMMENTS
PREMISE	OUTLET - GENERAL	CAT 6	1 / JACK	7	BLUE	COMMSCOPE	UC1BBB2	
	OUTLET - IP PHONE	CAT 6	1 / JACK	7	PURPLE	COMMSCOPE	UC1BBB2	
	IP SECURITY DEVICE	CAT 6	1 / JACK	5	BROWN	COMMSCOPE	UC1BBx2	PLENUM RATED AS REQUIRED
IT ROOM	OUTLET - GENERAL	CAT 6	1 / JACK	10	BLUE	COMMSCOPE	UC1BBB2	
	OUTLET - IP PHONE	CAT 6	1 / JACK	10	PURPLE	COMMSCOPE	UC1BBB2	
	IP SECURITY DEVICE	CAT 6	1 / JACK	10	BROWN	COMMSCOPE	UC1BBB2	



1 | 1 PORT SURFACE MOUNT BOX
T600 | N.T.S.



2 | 4 PORT FACEPLATE
T600 | N.T.S.



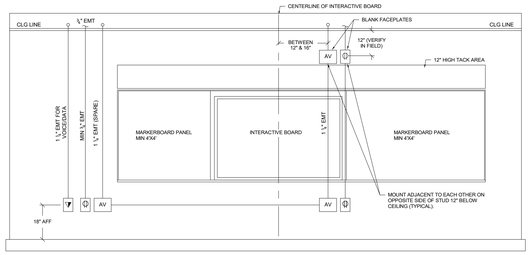
NOTES:
1. DOOR AND DOOR HARDWARE ARE FOR GENERAL REFERENCE ONLY AND MAY DIFFER FROM SPECIFIED EQUIPMENT. COORDINATE WITH ARCHITECTURAL DRAWINGS AND DOOR HARDWARE SCHEDULE FOR MORE INFORMATION.

2. SECURITY CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE ALL PATHWAY REQUIRED IS INSTALLED PRIOR TO CABLING INSTALLATION.

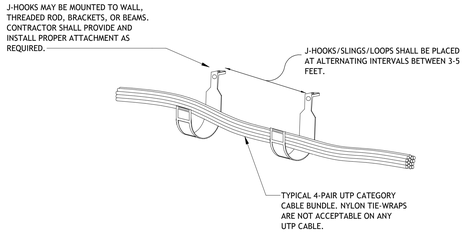
3. 4" SQ BOX SHALL BE LOCATED ABOVE NEAREST ACCESIBLE CEILING.

4. LOCATION OF DEVICES SHOWN IS DIAGRAMMATIC, CARD READER HEIGHT AND DOOR POSITION SWITCH LOCATION SHALL BE COORDINATED WITH OWNER AND ARCHITECT FOR FINAL LOCATION.

3 | DOOR ROUGH-IN: ACCESS CONTROLLED DOUBLE DOORS W/ CR
T600 | NO SCALE



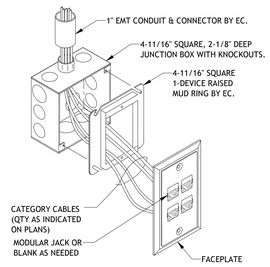
7 | TEACHING WALL ELEVATION
T600 | NOT TO SCALE



NOTES:
1. CONTRACTOR SHALL UTILIZE J-HOOKS WHENEVER CABLE TRAY AND CONDUIT ARE NOT AVAILABLE.

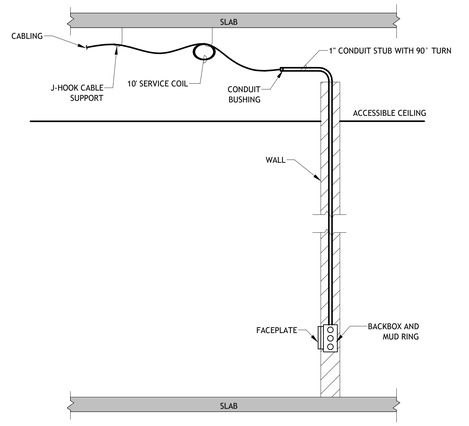
2. J-HOOK PATHWAY MAY ONLY BE UTILIZED OVER ACCESSIBLE CEILING SPACES.

5 | TYPICAL VOICE/DATA NCCS DETAIL
T600 | NO SCALE



NOTES:
1. NUMBER OF CABLES AND NUMBER OF PORTS SHOWN ARE FOR REFERENCE ONLY. EACH OUTLET SHALL RECEIVE REQUIRED FACEPLATE AND CABLING AS INDICATED IN DRAWINGS.

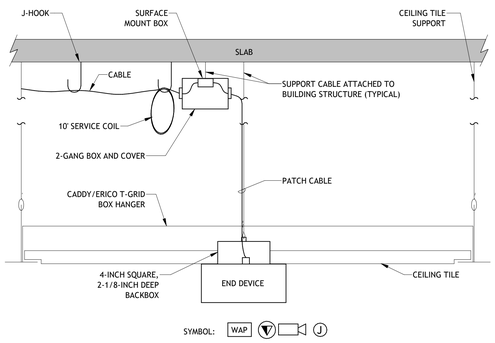
TELECOMMUNICATIONS
6 | OUTLET BOX DETAILS (TYPICAL)
T600 | NO SCALE



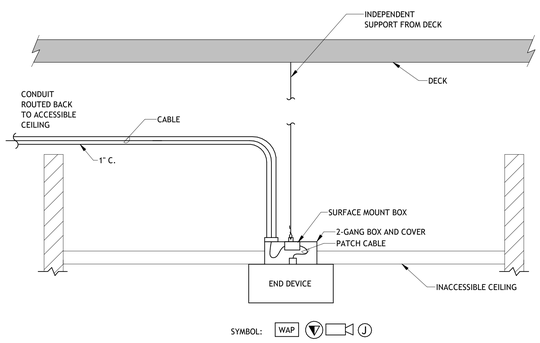
NOTES:
1. TELECOM OUTLETS SHALL BE MOUNTED 18" AFF UNLESS OTHERWISE NOTED ON DRAWING.

2. CABLE SHALL BRANCH FROM NEAREST CONDUIT/CABLE TRAY AND ROUTE VIA J-HOOK TO OUTLET UNLESS OTHERWISE NOTED.

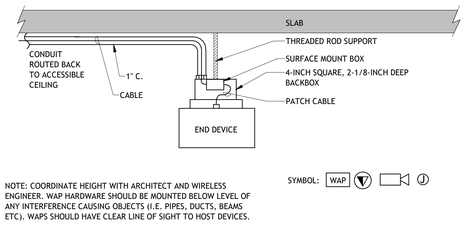
4 | TELECOMMUNICATIONS OUTLET INSTALLATION
T600 | N.T.S.



8 | CEILING MOUNTED DEVICE DETAIL - ACCESSIBLE CEILING
T600 | NOT TO SCALE

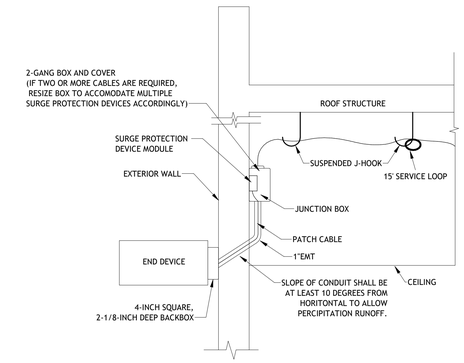


9 | CEILING MOUNTED DEVICE DETAIL - INACCESSIBLE CEILING
T600 | NOT TO SCALE



NOTE: COORDINATE HEIGHT WITH ARCHITECT AND WIRELESS ENGINEER. WAP HARDWARE SHOULD BE MOUNTED BELOW LEVEL OF ANY INTERFERENCE CAUSING OBJECTS (I.E. PIPES, DUCTS, BEAMS ETC). WAPS SHOULD HAVE CLEAR LINE OF SIGHT TO HOST DEVICES.

10 | CEILING MOUNTED DEVICE DETAIL - OPEN CEILING IN CONDUIT
T600 | NOT TO SCALE



11 | EXTERIOR WALL MOUNTED DEVICE DETAIL
T600 | NOT TO SCALE

eua
milwaukee | madison | green bay | denver | atlanta
1899 Wynkoop Street, Suite 700
Denver, CO 80202
(303) 595-4500
www.eua.com

DIRECT PHONE:
EMAIL ADDRESS:

AE DESIGN
Integrated Lighting, Technology, and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #: 6140.00

PROJECT INFORMATION

Bergen Valley Elementary School Renovation

1422 Sugarbush Dr
Evergreen, CO 80439

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07/31/2023	CONSTRUCTION DOCUMENTS

KEY PLAN

SHEET INFORMATION

COLORADO REGISTERED 35717 7/31/2023 PROFESSIONAL ENGINEER

PROJECT MANAGER MRS
PROJECT NUMBER 821346-01

TECHNOLOGY DETAILS

T600

E D C B A

1 2 3 4 5 6 7