# **CONS MGMT OFFICE TI** HILLSBORO SCHOOL DISTRICT

DRAWING INDEX

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PROJECT OVERVIEW

THINK WITHINK IMPROVEMENT to convert some warehouse space to open office space. New space complies for single means of egress based on occupancy load and compart. Two exits provided. Work includes new non load-bearing partitions, non-rotal doors, suspended acoustical tile celling, and extend exterior concrete pad for new condensor unit.

GENERAL REQUIREMENTS

BUILDING PERFOIT.

BRAWINGS ARE INTENDED TO ESTABLISH AND DESCRIBE MINIMUM STANDARDS FOR CODE COMPLIANCE AND TO DESCRIBE THE PROPOSED CONSTRUCTION IN SUFFICIENT DETAIL TO ALLOW PLAN REVIEW AND INSPECTION BY THE AUTHORITY HAVING JURISDICTION. DRAWINGS ARE NOT INTENDED TO BE USED AS A BASIS FOR ADMINISTERING A

CONSTRUCTION CONTRACT.

WHERE PRODUCTS OR MANUFACTURERS ARE REFERRED TO BY MAME IN THE DRAWINGS OR SPECIFICATIONS IT IS FOR DESCRIPTIVE PURPOSES AND TO ILLUSTRATE THE DESIGN INTENT. THESE PRODUCTS AND MANUFACTURERS HAVE NOT BEEN DESIGNED OR EVALUATED TO DISJURE COMPATIBILITY WITH OTHER PRODUCTS OR MATERIALS. THE CONTRACTOR IS RESPONSIBLE FOR EVALUATION AND DETERMINING COMPATIBILITY OF PRODUCTS AND SYSTEMS INSTALLED IN THE PROJECT.

INSTRUCTIONS FOR INSTALLATION AND WARRAWTY REQUIREMENTS.
WHERE WATERPROOFING FORTHIS ARE PROVIDED, THEY ARE GENERAL IN NATURE AND SHOW INDUSTRY STANDARD MEANS OF INSTALLATION FOR TYPES OF PRODUCTS AND CONSTRUCTION BIOLICATED. THESE DETAILS MAY NOT BE APPLICABLE TO OTHER PRODUCT TYPES OR TO SIMILAR PRODUCTS BY OTHER MANUFACTURIESS. CONTRACTOR IS RESPONSIBLE FOR DETERMINING APPROPRIATE METHODS OF INSTALLATION BASED ON MANUFACTURIES WRITTEN INSTRUCTIONS AND COMPATIBILITY OF PARTS, MATERIALS, AND ASSEMBLIES OF RELATED COMPONENTS.

AND ASSEMBLIES OF RELATED COMPONENTS.
WHEN ACCOMPANIED BY STRUCTURAL DRAWINGS PREPARED BY A REGISTERED ENGINEER STRUCTURAL DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE.
WARRANTY AND SPECIFICATIONS TO BE PROVIDED BY CONTRACTOR AS PART OF A PRE-NEGOTIATED AGREEMENT ESTIMEN CONTRACTOR AND OWNER AND SHALL NOT BE LESS THAN THE MINIMUM REQUIREMENTS ESTABLISHED MEREIN.

CONTRACTOR SHALL PROVIDE ELECTRICAL, MECHANICAL, PLUMBING, AND SPRINGLER DRAWINGS AND DETAILS AS REQUIRED FOR PERNITS.

10. PLAN DIMENSIONS ARE TO FACE OF FINISHED WALL UNLESS NOTED OTHERS

PRODUCTS AND STSTEED INSTALLED IN THE PRODUCTS AND STSTEED IN THE COMPATIBILITY OF VARIOUS PRODUCTS AND NATERIALS WITH RESPECT TO MANUFACTURERS WRITTEN INSTRUCTIONS FOR INSTALLATION AND WARRANTY REQUIREMENTS.

Metal stud framing and GWB or OSB typ at interior walls.

Cellings are suspended grid. See celling plan sheet.

- Storage area.

  New carpet in open office area to match adjacent existing carpet.

  New accustical tile ceiling in open office to match adjacent existing ceiling.

  See General Finish Reqs on floor plan sheet for minimum requirements of and finishes.

New interior non-rated hollow metal frames with plam door panels at office areas.
 New interior non-rated hollow metal frame and door panel at storage area.
 See floor plan sheet for schedules and minimum requirements.

## DEFERRED SUBMITTALS

Fire alarm permitting and design is by others and is not included as part of thi

## **BLDG CODE DATA**



VICINITY MAP

Line is 3 inches at full scale (if not 3 inches then scale accordingly)

HILLSBORO SCHOOL DISTRICT 4901 SE Witch Hazel Rd, Hillsboro, OR



PROJECT NAME & ADDRESS:

**CONS MGMT OFFICE TI** 

**HILLSBORO SCHOOL** DISTRICT

4901 SE Witch Hazel Rd Hillsboro, OR 97123



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13981 NW MAIN STREET BANKS, OREGON 97106 (503) 324-5220 / (503) 324-0883 FAX

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10-05-2018

PERMIT SUBMITTAL

**COVER SHEET** 

A-001

ETR EW EX EXST EXT FD FE FEC FIC

FIN FIO FLR FN FNDN FOF FOIC

FRP
FRR
FRTW
FS
FT
FTG
GALV
GB
GLB
GRAN
GWB
HC
HDG
HDG
HDG
HDG
HDR
HDWR
HF
HM
HORIZ

T&G
TEMP
TOPO
TOPO
TPD
TRANS
TYP
UNO
VB
VCT
VERT
VIF
W/
WO
WC
WD
WDW
WF
WH WITHOUT
WATER CLOSET
WOOD
WINDOW
WIDE FLANGE
WATER HEATER

HEM-FIR HOLLOW METAL

**ABBREVIATIONS** 

ANCHOR BOLT ABOVE COUNTER

ADJACENT

ANODIZED ADCUITECT OF BECORD

BLOCKING

BD BLDG BLKG

BM BOF BRG BSMT BTM BTWN BUR BW C

ALL THREAD BOD

BUILT UP ROOF

CONTROL JOIN COMPLETE JOINT PENETRATION

CORRUGATED METAL PIPE

CONCRETE MASONRY UNIT

COMPACT COMPACTED

DEMOLISH, DEMOLITION DEPARTMENT DRINKING FOUNTAIN DOUGLAS FIR-LARCH

CONTINUOUS

CERAMIC TILE CUSTODIAL DEFORMED BAR ANCHOR DOUBLE

DOOR

DETAIL

EACH FACE

ELEVATION

ELECTRIC(AL) PANEL EDGE NAIL

ENGINEER OF R EDGE OF SLAB

**EACH WAY** 

**EXTERIOR** 

FLOOR FIELD NAIL **FOUNDATION** 

FOOTING

GRAB BAR GLU-LAM BEAM

GRANULAR GYPSUM WALL BOARD

HOT-DIP GALVANIZED

FLOOR DRAIN FIRE EXTINGUISHER

FURNISHED & INSTALLED BY CONTRACTOR

FLIANISHED & INSTALLED BY OWNER

FACE OF FURNISHED BY OWNER, INSTALLED BY CONTRACTOR

FIBERGLAS REINFORCED PLASTIC

FIRE RETARDANT TREATED WOOD

FIRE-RESISTANCE RATED

EDGE OF ENGINEER OF RECORD

CLEAR

ASPHALT CONCRETE

HEADED STUD ANCHOR

INCH INCLUDED, INCLUDING

INSULATED, INSULATION

LONG LEG HORIZONTAL

LAMINATED VENEER LUMBER

MEDIUM DENSITY FIBERBOARD

OPTIONAL
OPEN WEB JOIST
PLASTIC LAMINATE
POWER ACTUATED FASTENER

POUNDS PER SQUARE INCH PRESSURE TREATED
PAPER TOWEL DISPEN

REFERENCE REINFORCE, REINFORCEMENT REQUIRED

REVISED, REVISION ROUGH OPENING STAIN & VARNISH SLIP CRITICAL

SEAT COVER DISPEN

SHEET METAL SCREW SLAB ON GRADE/GROU

SPEAKER SPRINKLER SQUARE STAINLESS STEEL

STEEL STORAGE SUSPENDED SHEET VINYL

TOP OF

TOP & BOTTOM TONGUE & GROOVE TEMPERED

TOPOGRAPHY TOILET PAPER DE

VINYL COMPOSITION TILE VERIFY IN FIELD WITH

STOREFRONT

SHEET SHEATHING SIMILAR

STEEL REINFORCEMENT, REINFORCING STEEL BARS

PRE-ENGINEERED METAL BUILDING PERPENDICULAR PARTIAL JOINT PENETRATION

**SYMBOLS** 

121

w10

(C2)

ROOM NUMBER

WALL TYPE

ING/DETAIL NUMBER

B5 DRAWING TITLE

SHEET CALLED OUT FROM (W

TYP DIMENSION TO GRIDLINE OR FACE OF FINISH UNO

LIGHT WEIGHT CONCRETE MANUFACTURER MATERIAL

INSIDE DIAMETER

INTERIOR JANITOR JOIST

JOINT KIP(S) KEYBOARD

LIGHTING

MECH MECHANICAL
MIN MINIMUM
MIR MIRROR
MKR BD MARKER BOARD

MOUNTED METAL NEW

NOT APPLICABLE

NOMINAL NOT TO EXCEED

NOT TO SCALE ON CENTER OUTSIDE DIAMETER

OVERHEAD OPPOSITE HAND OPENING OPPOSITE

PLYWOOD

RISER(S) RADIUS RECESSED

LONG LTG LVL LWC MANUF

MITD
MITL
(N)
NA
NIC
NOM
NITE
NITS
OC
OD
OH
OPH
OPNG
OPP
OPT
OWJ
P LAM

PL PLBG PSF PSI PTD PWD QTY R RAD

REC REF REINF REQD

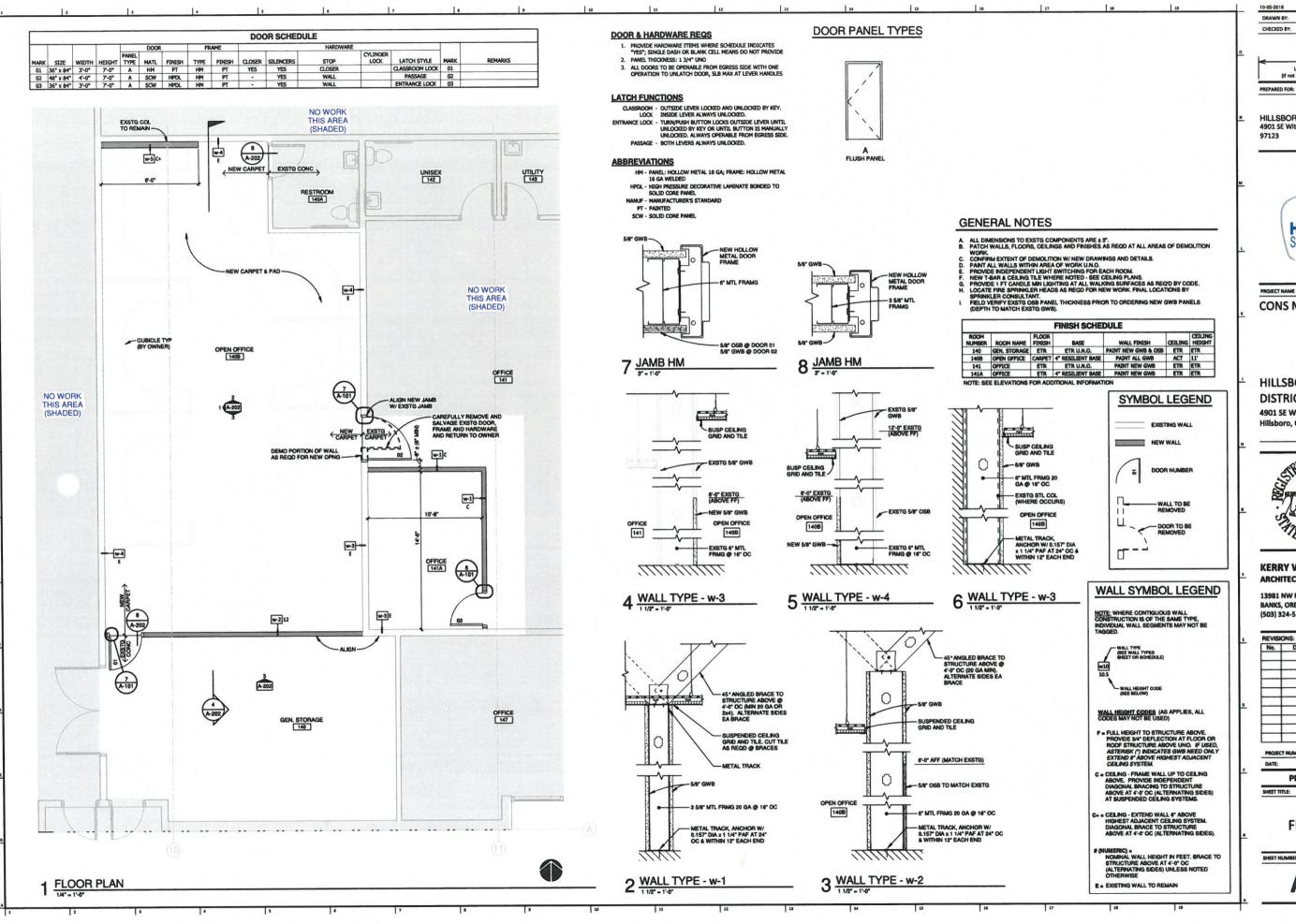
RESTL

REV RO SAV SC SCD SD SF SFNT SHT SHTG SIM SLDG

SMS SOG SPKR SPRK SQ SS STD

KNOCK DOWN KIPS PER SQUARE INCH ANGLE LINEAR FOOT

HOLLOW STRUCTURAL SECTION



RG DC

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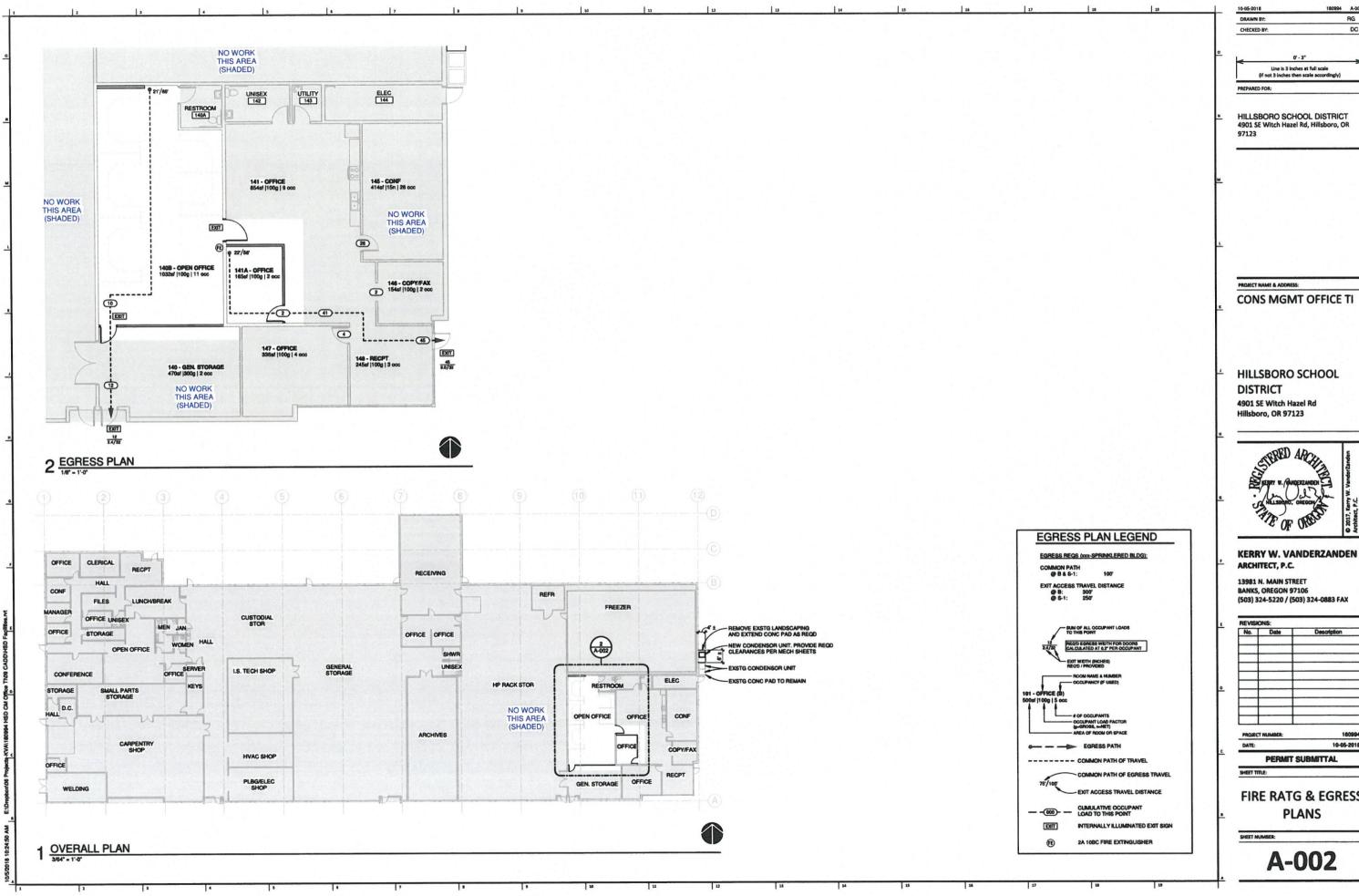
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**FLOOR PLAN** 

A-101



RG DC



No. Date	Description						
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PROJECT	NUMBER:	180994					
DATE:		10-05-2018					

**FIRE RATG & EGRESS** 

for strength rating. Galvanized coatings shall conform to ASTM A153.

D. Anchor bolts for embedment in concrete fabricated with a bent leg: Conform to ASTM

All field wolds shop welds welding inspections and welder qualifications to comply with specifications in IBC Sections 2205, 2206, 2207, 2209 and 2210. Welds shall be special inspected per IBC Section 1704.

G. Structural steel items not intended for embedment in masonry or concrete shall be prime painted or galvanized. Zinc galvanized coatings on iron and steel products shall

Fabricated items indicated for hot dip galvanization shall be galvanized after all fabrication is completed.

Repair galvanized coatings per ASTM A780.

review. Allow 5 business days minimum for each review.

02 00 00 - FXISTING CONDITIONS

03 00 00 - CONCRETE

R. At final cleanup: Wash and polish all hard surface items, clean all dust and debris from

A. Verify locations of all underground utilities. Call Utilities Notification Center 1 (800)

B. Consult a geotechnical engineer to establish conditions, materials and procedures for

A. INSTALLATION: Unless indicated otherwise, mixing, placing, and curing of concrete shall

be in accordance with the American Concrete Institute ACI 318 and IBC Section 1903, ready mix concrete per ASTM C94 Standard Specifications for Ready-Mixed Concrete

with minimum compressive strength of 3000 psi at 28 days (4000 at tilt-up wall panels). Water/Cement ratio of 0.45 maximum, except footing shall be 0.50 maximum. Provide 5% (+/- 1%) air entrainment in exterior concrete slabs. Use non-chlorine based

accelerators only. Provide adequate drainage at retaining structures, (foundation walls,

B STANDARDS: Conform to ACI 301, ACI 315 and ACI 318 (moderate temperature), ACI

C. VAPOR BARRIER: If not otherwise indicated, provide 10 mil fabric reinforced plastic

D. SLAB REINFORCEMENT: If not otherwise indicated, minimum slab reinforcement shall

ends of mesh reinforcement not less than one mesh plus 2 inches.

ACI 315, latest edition. Lap bars as indicated. Secure against displacement

be mesh or reinforcing steel as follows:

Cut alternate bars at control joints.

REINFORCING STEEL

vapor barrier, conforming to ASTM E 1745, (Stego Wrap or equivalent), directly under interior slabs. Seal penetrations and 6" lapped edges with manufacturer's sealing tape

1. Mesh reinforcing: WWF 6x6-W2.9xW2.9 conforming to ASTM A185. Lap sides and

2. Bar reinforcing: #3 Grade 60 rebar at 18" centers each way. Lap bars 18" minimun

Place reinforcing steel in accordance with CRSI "Manual of Standard Practice" and

305R (hot weather). ACI 306R (cold weather) and current state building cod

all accessible surfaces, vacuum carpets, sweep and damp mop hard surface floors, clean

lamp lenses, install new filters in forced air duct work, clear exterior debris, rake level finish graded earthwork, and broom clean exterior decks or slabs.

Light gauge structural metal framing to comply with the latest edition of Steel Stud Manufacturers Association published load and span tables and "Cold Formed Stee Details "

1. All structural light gauge steel members shall be mill certified prime steel meeting ASTM A653 structural quality; Grade 33 for steels thinner than 16 gage (54 mils) and Grade 50 for steels 16 gage (54 mils) and thicker. Grade 33 steel shall have a fy = 33000 psi and fu = 45000 psi. Grade 50 steel shall have a fy = 50000 psi and fu = 60000 psi. 2. All light gauge steel shall be galvanized per ASTM A653 with minimum coating of G60 for exterior and/or load bearing members and G40 for interior non-load bearing

3. Use web stiffners at concentrated loads perpendicular to unit web and where

4. Align roof or floor joists over load bearing studs, unless otherwise indicated. 5. Use #6 (minimum) truss head fasteners for all concealed light gauge metal

6. Do not use self-drilling fasteners in units less than 20 gauge.

All open web steel girders and joists to conform to the requirements of IBC Section 2206 and the Steel Joist Institute specifications CI-1.0, K-1.1, LH/DLH-1.1, and JG-1.1 as

Provide dielectric insulation for dissimilar metals in contact.

M. Submit for review reproducible shop drawings for all vendor designed metal

N. Bolt in epoxy adhesives per ASTM C881.

O. All exposed structural steel to have one finish coat of rust inhibiting paint. Color by

P. WELDING:

Provide bases, mounting pads and openings as required for proper installation. Maintain the integrity of weather protection, structural, or fire protection elements

21 00 00 - FIRE SUPPRESSION

A. Fire protection piping and components to comply with national, state and local codes

B. Provide a complete wet fire sprinkler system (dry system at nonconditioned spaces), as indicated, for occupancy in accordance with NFPA 13 and local fire marshal's requirements. Submit copy of permit drawings with head locations to Architect for

C. Provide freeze protection for piping in areas exterior of building insulation envelope

23 00 00 - HEATING. VENTILATING, AND AIR CONDITIONING

A. Conform to all applicable codes, laws and ordinances. Brace ducts per ANSI/SMACNA Seismic Support Manuals

Comply with current state building code for required outside air ventilation design

Vent all exhaust fans to exterior with appropriate weatherproof hoods

Provide independant ventilation/exhaust fan and ductwork for elevator machine

rooms, as applicable.

Submit intended location of exterior HVAC condensers, wall louvers, and vents to Architect for review.

Mount thermostats and other control devices between 15 and 48 inches above floor line at areas free of obstructions, 48 inch maximum height at obstructions up to 20 Inches deep, 44 Inch maximum height at obstructions up to 25 Inches deep. Do not install over obstructions greater than 25 inches deep.

Provide Oregon Non-residential Energy Code Calculations on applicable form sheets.

A. Electrical lighting and device plans are diagrammatic with intent to show only point of use equipment and control requirements. System design by others. Coordinate nstallation of telephone, signal, computer, control and other similar wiring with Owner

B. Install in accordance with current Oregon Electrical Specialty Code and requirements of

Association ANSI Z60.1 (current edition) standards.

B. Embed plants vertically in hole sized for prepared plant mix of 6" all around root ball.

C. Brace all trees with (3) guy wires from 2x2x6' ground stakes to plant protector at 120

D. Space plants evenly in area indicated and orient for best appearance and sun exposure

E. Prune all existing relocated trees to Tree Care Industry Association ANSI A300

Apply fertilizer per manufacturer's instructions, as applicable to each plant type

G. Apply Fir or Hemlock bark mulch over all non-turfed landscaped areas. H. Comply with local jurisdiction 'Sun Shade' regulations for planting trees adjacent private

Line is 3 inches at full scale (if not 3 inches then scale accordingly) PREPARED FOR

DRAWN RY

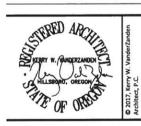
HILLSBORO SCHOOL DISTRICT 4901 SE Witch Hazel Rd. Hillsboro, OR 97123

PROJECT NAME & ADDRESS:

**CONS MGMT OFFICE TI** 

HILLSBORO SCHOOL DISTRICT 4901 SE Witch Hazel Rd

Hillsboro, OR 97123



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10-05-2018

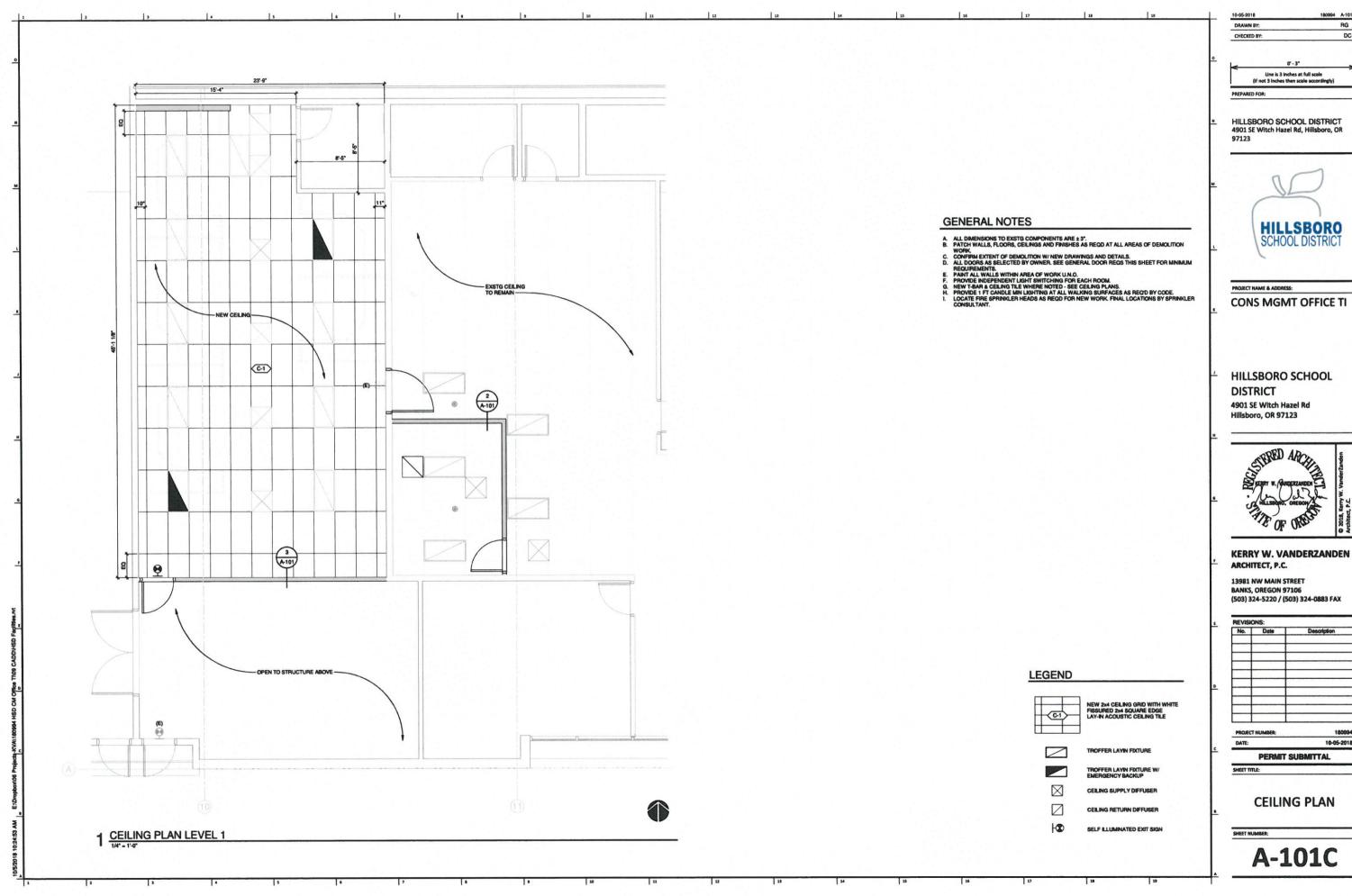
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SHEET TITLE:

**CONSTRUCTION REQS** 

SHEET NUMBER:

A - 003

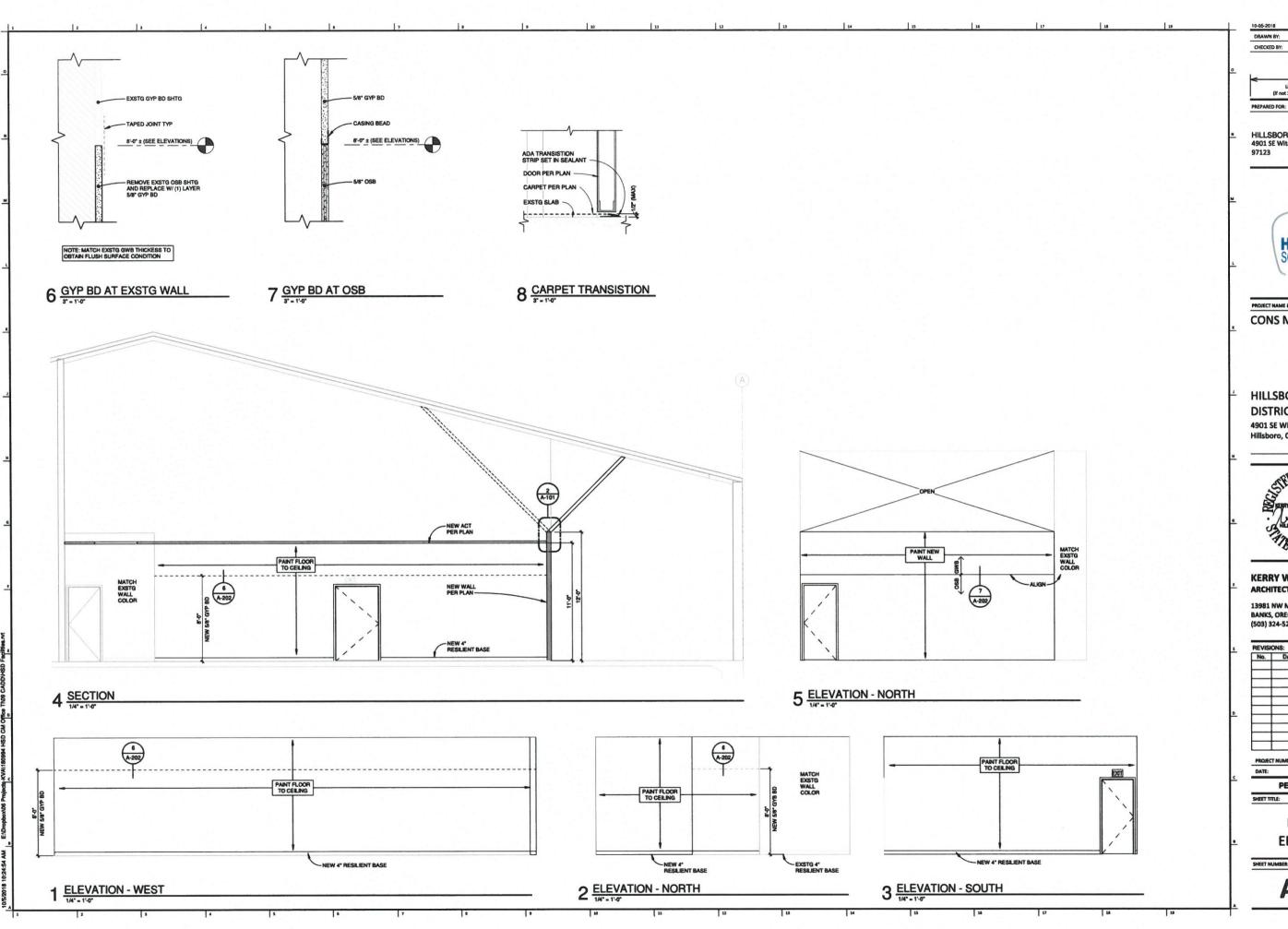


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PERMIT SUBMITTAL

INTERIOR **ELEVATIONS** 

**A-202** 

- 1 LIGHT FIXTURES WEIGHING LESS THAN 10bs SHALL HAVE (1) 12 GA SLACK HANGER WIRE ATTACHED TO STRUCTURE ABOVE.
- ATTACHED TO STOLL THE ABOVE (THAN 1016s AND LESS THAN 5616s SHALL HAVE (2) 12 GA SLACK HANGER WIRES ATTACHED AT OPPOSING CORNERS OF THE LIGHT TO THE STRUCTURE ABOVE.

  3 LIGHT ENTURES WEIGHING 5616s OR NOSE SHALL BE DIRECTLY SUPPORTED FROM THE STRUCTURE ABOVE (INDEPENDENT OF THE CEILING SUPPORT).
- PENDANT LITES SHALL BE DIRECTLY SUPPORTED FROM THE STRUCTURE ABOVE WITH A 9 GA
   WIRE OR OTHER APPROVED SUPPORT WITHOUT USING THE CEILING SYSTEM FOR SUPPORT.

- 1 HANGER WIRES MUST BE PLUMB WITHIN 1:6 UNLESS COUNTERSLOPING WIRES ARE PROVIDED.
  COUNTERSLOPING WIRES TO BE INSTALLED MINIMUM 45 DEG FROM HORIZONTAL.
- 2 HANGER WIRES TO BE MINIMUM 12 GA @ 4'-0" OC OR MINIMUM 10 GA @ 5'-0" OC
- HANGER ATTACHMENTS TO STRUCTURE SHALL SUPPORT 1001bs (2001bs OR 3x THE DESIGN LOAD, WHICHEVER IS GREATER, AT CITY OF PORTLAND)

  INSTALL HANGER WIRES @ TERMINAL ENDS WITHIN 8° OF PERIMETER.
- 5 HANGER WIRES SHALL NOT ATTACH TO OR BEND AROUND INTERFERING MATERIAL, EQUIPMENT OR OTHER OBSTRUCTIONS.
- OR OTHER OBSTRUCTIONS.

  6 PROVIDE TRAPEZE WHERE OBSTRUCTIONS PRECLUDE DIRECT ATTACHMENT. TRAPEZE WITH BACK-TO-BACK 1 1/4" COLD-ROLLED CHANNELS (MIN) FOR SPANS GREATER THAN 48".

  7 HANGER WIRE TIES TO BE (3) TIGHT TURNS AROUND ITSELF WITHIN 3".
- 8 POWDER DRIVEN SHOT-IN-ANCHORS ARE AN APPROVED METHOD OF ATTACHMENT FOR HANGER

- LATERAL FORCE BRACING

  1 THE USE OF VERTICAL STRUTS AND SPLAY WIRES COMBINE TO CREATE LATERAL FORCE BRACING.
- 2 LATERAL FORCE BRACING IS REQ'D FOR ALL CEILINGS OVER 1000 SF IN AREA (144 SF AT CITY OF PORTLAND).
- A CEILINGS WITH PLENUMS LESS THAN 12 INCHES TO STRUCTURE DO NOT REQUIRE LATERAL

  OF THE CONTROL OF T
- VERTICAL STRUTS MUST BE POSITIVELY ATTACHED TO THE SUSPENSION SYSTEM AND THE STRUCTURE ABOVE. CONNECTION AT GRID TO BE ON A MAIN RUNNER WITHIN 2\* OF A CROSS
- SEE CHART FOR RECOMMENDED STRUT MAT'LS AND LENGTHS.
- 6 SEE CHART FOR RECOMMENDED STRUT MAT'LS AND LENGTHS.
  7 SPLAY WIRES ARE TO BE (4) 12 GA WIRES ATTACHED TO THE MAIN BEAM WITHIN 2" OF VERTICAL STRUT, ARRAYED 90 DEG FROM EACH OTHER AND AT AN ANGLE NOT EXCEEDING 45 DEG FROM THE PLANE OF THE CEILING.
  8 SPLAY WIRE ATTACHMENT TO STRUCTURE SHALL SUPPORT TWICE THE DESIGN LOAD OF THE CEILING OR 2001bs, WHICHEVER IS GREATER.
- CELLING OR ZOUBS, WHICHEVER IS GREATEN.

  9 "POWDER DEVIVEN SHOT-NANCHORS" USED FOR LATERAL FORCE BRACING SPLAY WIRE
  CONNECTIONS IN SEISMIC DESIGN CATEGORIES D, E, B F SHALL BE ICC-ES APPROVED AND SHALL
  REQUIRE "SPECIAL INSPECTION." ANCHORS FOR SPLAYED WIRES INSTALLED FOR PURPOSES
  OTHER THAN SEISMIC RESTRAINT ARE EXEMPT FROM THIS REQUIREMENT.

- TERMINALS OR SERVICES WEIGHING MORE THAN 2016s AND LESS THAN 5616s SHALL HAVE (2) SLACK 12 GA HANGER WIRES ATTACHED TO THE STRUCTURE ABOVE.
- TERMINALS OR SERVICES WEIGHING MORE THAN 56lbs MUST BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE ABOVE.

### SEISMIC SEPARATION JOINTS

- SEISMIC SEPARATION JOINTS

  1 CELING AREAS NOT OTHERWISE SEPARATED BY BRACED SOFFITS OR PARTITIONS EXCEEDING
  2500 SF SHALL BE SEPARATED BY A SEISMIC SEPARATION JOINT.

  1 THE SEISMIC SEPARATION JOINT MAY BE PROPRIETARY OR CONSTRUCTED PER THE GENERIC
  DETAL PROVIDED. THE AMOUNT OF FREE MOVEMENT (GAP DESIGN) SHALL BE A MINIMUM 3/4\*.

  3 SEISMIC SEPARATION JOINTS MAY NOT BE USED IN FIRE RATED SYSTEMS.

- SPREADER MAIN OR CROSS RUNNERS ARE NOT POSITIVELY ATTACHED TO WALL MOLDING, SPREADER BARS ARE REÇIO TO PREVENT ENDS FROM SPREADING OPEN IN A SEISMIC EVENT. 2 WIRE TYTING IS AN ACCEPTABLE ALTERNATIVE TO SPREADER BARS. PERIMETER HANGER WIRES SHALL NOT BE USED IN LIEU OF SPREADER BARS.
- 3 SPREADER BARS ARE NOT REQ'D WHERE A 90 DEGREE INTERSECTING MAIN RUNNER OR CROSS
  TEE IS WITHIN 8" OF THE WALL.

  PERIMETER CLIPS MAY SATISFY THE REQ'S FOR SPREADER BARS WHERE SUBSTANTIATING
  DOCUMENTS HAVE BEEN SUBMITTED TO AND APPROVED BY THE LOCAL JURISDICTION.

- SPRINGLER

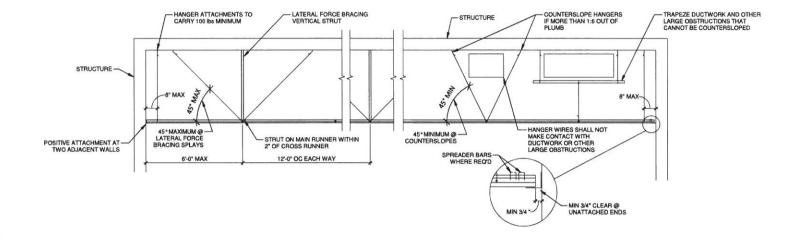
  1 SPRINGLER HEAD PENETRATIONS SHALL ALLOW 1" LATERAL MOVEMENT OF CEILING IN ALL DIRECTIONS WITHOUT CAUSING DAMAGE TO SPRINKLER HEAD.

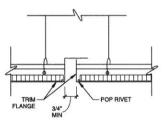
  2 WHERE SPRINKLER HEAD IS PROVIDED WITH A FLEXIBLE CONNECTION THAT ACCOMMODATES 1" OF LATERAL MOVEMENT IN ALL DIRECTIONS, THE OPENING SURROUNDING THE PENETRATION SHALL BE 1/4" MINIMUM.

- SUSPENDED GRID 1 CEILING SYSTEM TO BE CLASSIFIED AS 'HEAVY DUTY' AS DEFINED BY ASTM C 635.
- 2 COMPLETE CEILING ASSEMBLY, INCLUDING (BUT NOT LIMITED TO) LIGHTS, MECH FIXTURES, ELEC AND COMM. CABLES, ETC., SHALL NOT EXCEED 4lbs PER SF.
- 3 MAIN RUNNERS AND CROSS TEES SHALL NOT EXCEED DEFLECTION EQUAL TO 1/360 OF IT SPAN.

- 1 WALL MOLDINGS TO HAVE 2\* WIDE HORIZONTAL FLANGE. CEILING GRID SHALL BE POSITIVELY ATTACHED TO THE WALL MOLDING AT ONE END, AND UNATTACHED WITH 3/4\* CLEARANCE AT THE OPPOSITE END.
- 2 CEILING SHILL HAVE POSITIVE ATTACHMENT AT 2 ADJACENT WALLS AND REMAIN UNATTACHED WITH 3/4" CLERANCE AT EACH OPPOSING WALL.

  3 PERIMETER CLIPS MAY BE USED TO SATISFY RECYS FOR 2" WALL MOLD WHERE SUBSTANTIATING DOCUMENTS HAVE BEEN SUBMITTED TO AND APPROVED BY THE LOCAL JURISDICTION.





SEISMIC JOINT DETAIL

## **CEILING LAYOUT**

NOTE: WHERE CEILING GRID LAYOUT HAS NOT BEEN SPECIFICALLY DIMENSIONED ON CEILING PLAN, CEILING LAYOUT SHALL BE AS FOLLOWS:

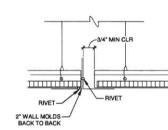
WHERE PRACTICAL, LAYOUT SUSPENDED CEILING GRID TO PROVIDE EQUAL BORDERS IN EACH DIRECTION.

WHERE EQUAL-EQUAL LAYOUT RESULTS IN A BORDER PANEL 4° OR LESS, ELIMINATE (1) BAY FROM THE LAYOUT IN THE AFFECTED DIRECTION THEREBY INCREASING THE PERIMETER PANEL SIZE BY 12° OR 24° (AS APPLIES).

COORDINATE CEILING LAYOUT WITH ELECTRICAL CONTRACTOR AND LIGHTING PLAN AND ADJUST LAYOUT AS REQ'D. LIGHTING REQUIREMENTS TAKE PRECEDENCE OVER EQUAL BORDERS UNLESS NOTED

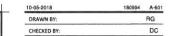
MAINTAIN NOMINAL 2x2 OR 2x4 LAYOUT UNLESS SPECIFICALLY NOTED OTHERWISE.

MAINTAIN 4" MINIMUM EXPOSED PERIMETER TILE WHERE POSSIBLE.



ALTERNATE JOINT DETAIL

RECOMMENDED STRUT LENGTHS								
Material Size	Recommended Length							
EMT CONDUIT								
1/2" EMT CONDUIT	UP TO 5'-10"							
3/4" EMT CONDUIT	UP TO 7"-8"							
1" EMT CONDUIT	UP TO 9'-9"							
METAL STUDS SINGLE 1 5/8" METAL STUD (20 GAUGE)	UP TO 12'-0"							
BACK-TO-BACK 1 5/8" METAL STUDS (20 GAUGE)	UP TO 15'-0"							
SINGLE 2 1/2" METAL STUD (20 GAUGE)	UP TO 13'-6"							
BACK-TO-BACK 2 1/2" METAL STUDS (25 GAUGE)	UP TO 15'-0"							



Line is 3 inches at full scale (if not 3 inches then scale accordingly)

HILLSBORO SCHOOL DISTRICT 4901 SE Witch Hazel Rd, Hillsboro, OR 97123

PROJECT NAME & ADDRESS

**CONS MGMT OFFICE TI** 

**HILLSBORO SCHOOL** DISTRICT

4901 SE Witch Hazel Rd Hillsboro, OR 97123



KERRY W. VANDERZANDEN ARCHITECT, P.C.

13981 N. MAIN STREET BANKS, OREGON 97106 (503) 324-5220 / (503) 324-0883 FAX

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No.	Date	Description
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PROJECT	NUMBER:	180994
DATE:		10-05-2018

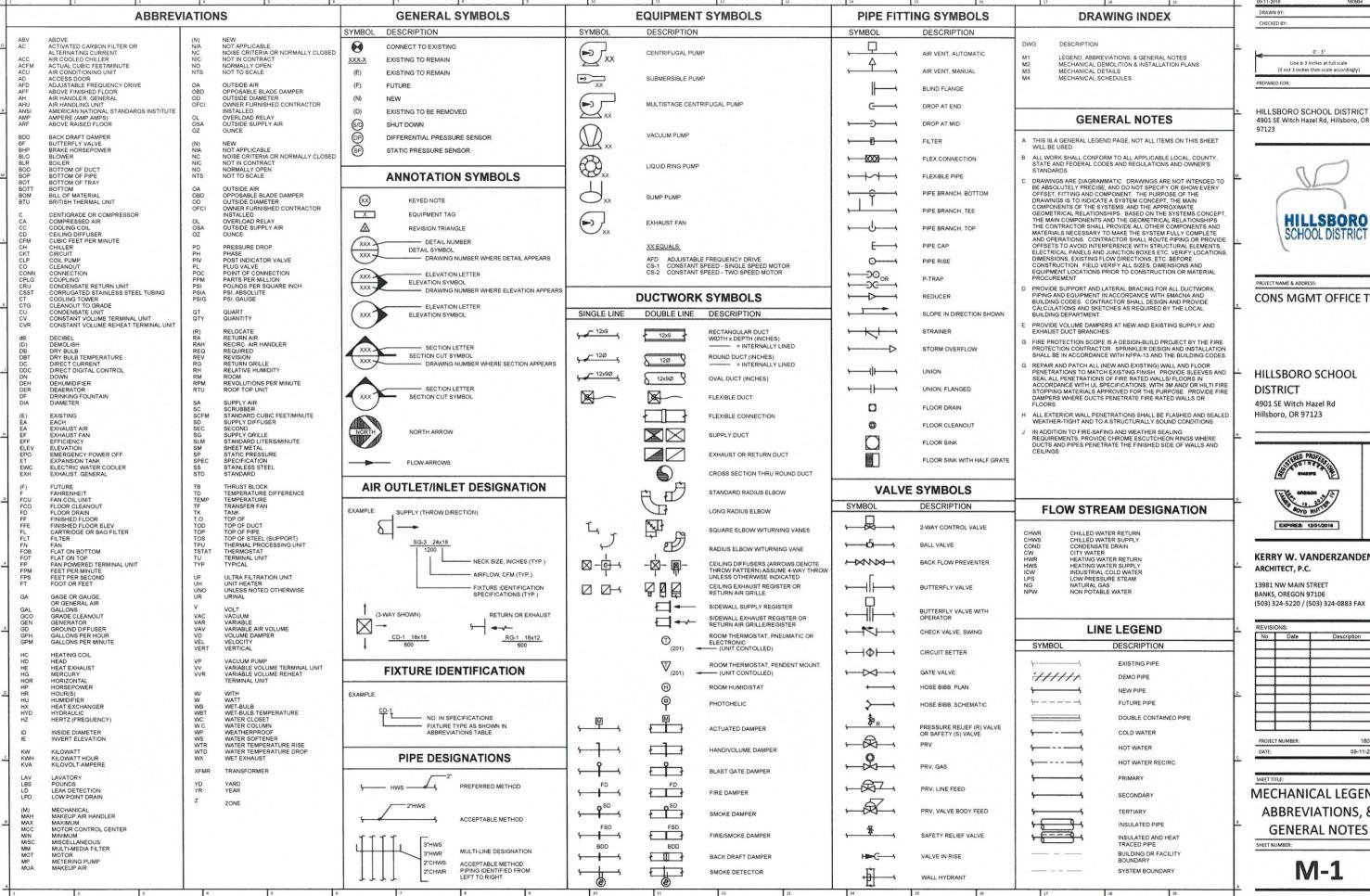
PERMIT SUBMITTAL

SHEET TITLE:

SUSPENDED CEILING **REQS** 

SHEET NUMBER:

A-601



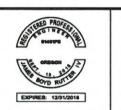
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HILLSBORO SCHOOL DISTRICT



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# HILLSBORO SCHOOL

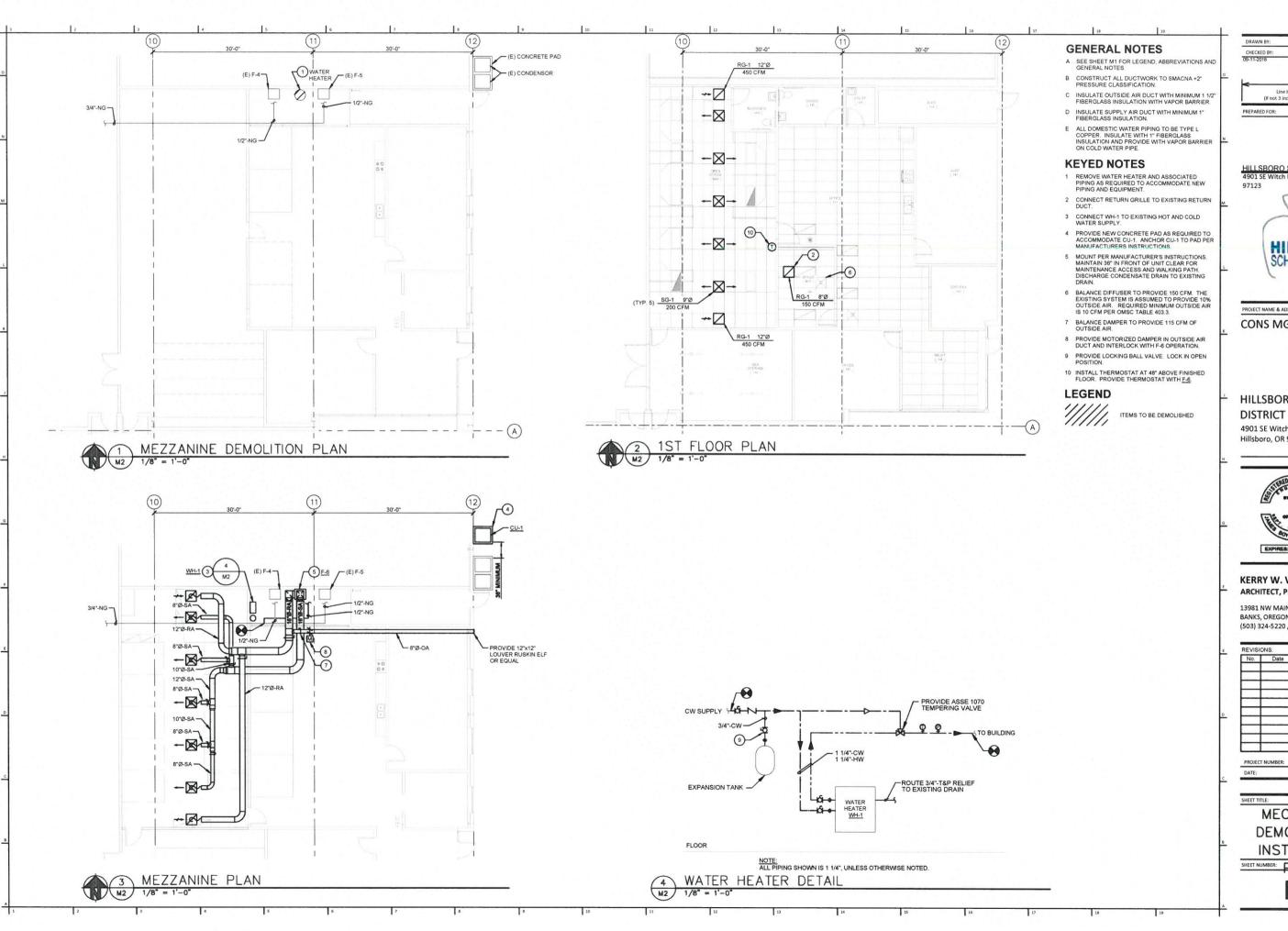


# KERRY W. VANDERZANDEN

(503) 324-5220 / (503) 324-0883 FAX

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MECHANICAL LEGEND ABBREVIATIONS, &



Line is 3 inches at full scale (if not 3 inches then scale accordi

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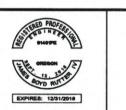


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# HILLSBORO SCHOOL

4901 SE Witch Hazel Rd Hillsboro, OR 97123



## KERRY W. VANDERZANDEN ARCHITECT, P.C.

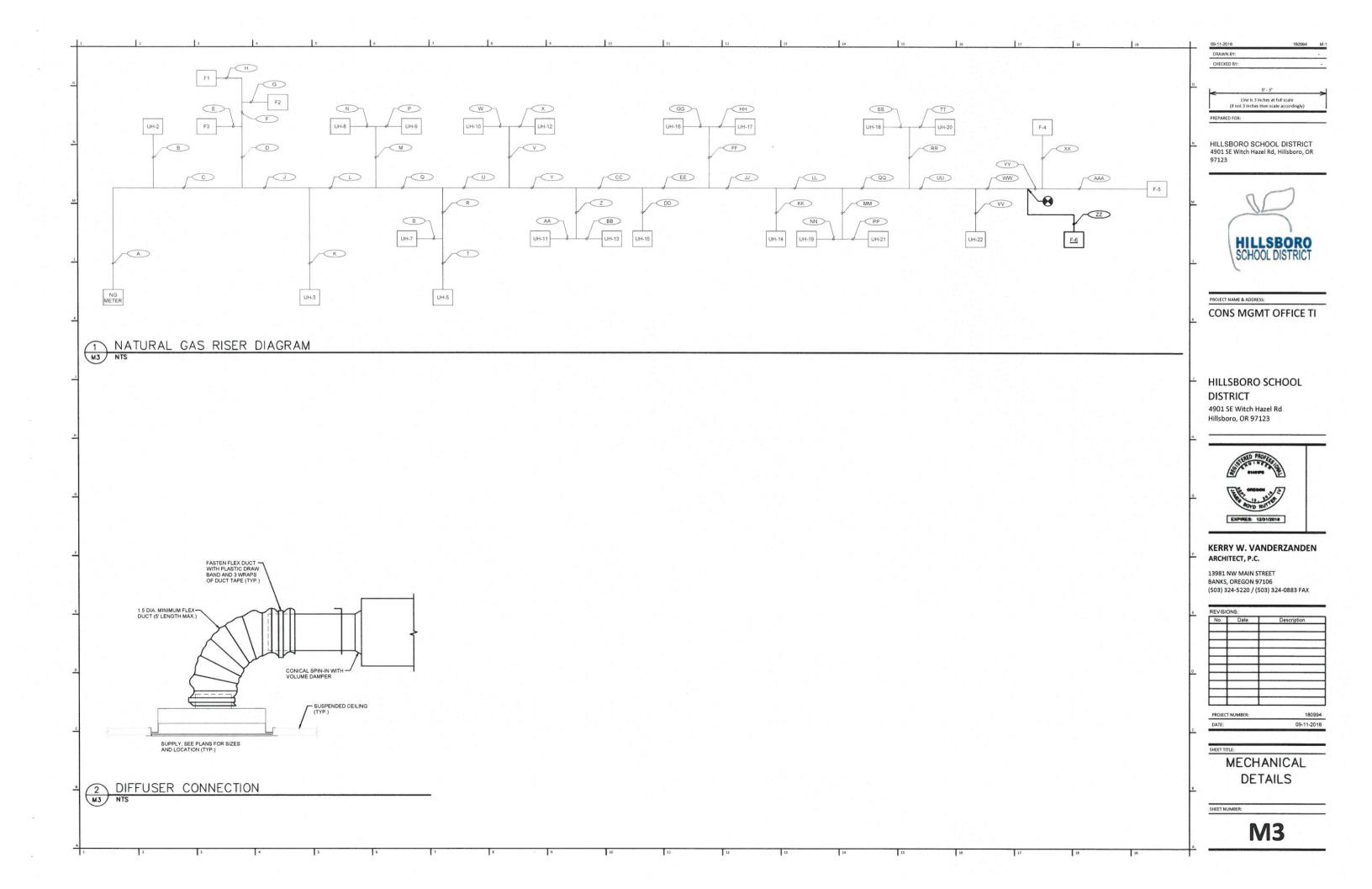
13981 NW MAIN STREET BANKS, OREGON 97106 (503) 324-5220 / (503) 324-0883 FAX

Date	Description					
Date	Description					
NUMBER:	180994					
	09-11-2018					
	Date					

**MECHANICAL DEMOLITION &** INSTALLATION

SHEET NUMBER: PLANS

**M2** 



										GAS	FUR	NA	CE S	CHI	EDU	LE		•						
TAG	SERVICE AIR MIN. SUPPLYFAN		YFAN	C00	LING	HEATING (NATURAL GAS)						ELECTRIC/				ELECTRICAL				BASIS OF DESIGN				REMARKS
		FLOW	OA	ESP	HP	TOTAL	SEER /	INPUT	OUTPUT	INLET	EAT	LAT	STAGE	V	Ø MC/	A MOCF	2 [	DIMENS	IONS	WEIGHT	MFG	MODEL		
		(CFM)	(CFM)	(INWC)		(MBH)	EER	(MBH)	(MBH)	PRESSURE	(°F)	(°F)	#				F	1 W	D	(LBS)				
							RATING			(IN WG)	DB	DB				-	(I)	N) (IN)	(IN)					
F-6	BUILDING 85-125 VENTILATION	1000	115	0.5	1/2	36	17.25/12.	44	33	3.5	75	105	1	120	1 5.2	15	5	3 22	24	167	LENNOX	EL180UH045E36A	SEE NOTES	
;	S: 1. ASSOCIATED WITH CU-1 2. PROVIDE WITH THERMOSTAT CA 3. PROVIDE WITH FILTER BANK ON 4. PROVIDE UPFLOW UNIT.				ND NIGH	T SETBACK	(																	

(F-6) VENTILATION REQUIREMENT SUMMARY												
ROOM NAME	AHU	AZ	TABL	E 403.3 VAL	JES	PZ	VBZ	EZ	VOZ	VPZ	ZP	REMARKS
	SERVICE	SERVICE AREA (FT²)	RP PEOPLE AIR RATE	OD # / 1000 FT <sup>2</sup>	RA AREA AIR RATE	ZONE POP (OCC)	BREATHING ZONE (CFM)	ZONE EFF.	ZONE OSA (CFM)	BALANCED AIRFLOW CFM	PRIMARY OUTDOOR AIR FRACTION	
PEN OFFICE 101	F-6	1063	5	. 5	0.06	5.3	91	0.8	114	1000	0.11	
-							_					
	SYSTEM		EV	D	VC	)U	VOT					
	RESULTS	SY	STEM	DIVERSITY	UNCOR	RECTED	SYSTEM					
			ILATION		OSA IN		OSA					
		EFFI(	CIENCY		(CF	·M)	(CFM)					
	F-6	0.	800	1.0	9	0 .	114					

CONDENSING UNIT											
TAG NUMBER	LOCATION	SERVICE	Е	LECTRICAL					DESIGN BASIS		REMARKS
			MCA	МОР	V	Н	WENSIONS W L (IN) (IN)	WEIGHT (LBS)	MFG.	MODEL	
CU-1	OUTSIDE	F-6	16.2	25	208	3 31	31 35	243	LENNOX	SSB036H4	SEE NOTES
NOTES:	<u> </u>				,		1.5.1.5.				JOLE WOILD

	WATER HEATER SCHEDULE						
SYMBOL	UNIT DESCRIPTION			REMARKS			
		HOT	COLD				
1001.4	ELECTRIC HOT WATER HEATER	1-1/4	1-1/4	20KW INSTANTANEOUS ELECTRIC HOT WATER HEATER. 208V 3 PHASE. 96 AMPS. 17.8 LB. RHEEM RETEX-27 OR EQUAL. PROVIDE WITH EXPANSION TANK,			
WH-1	ELECTRIC HOT WATER HEATER	1-1/4	1-1/4	AMTROL THERM-X-TROL ST-5 OR EQUAL.			

DIFFUSER, REGISTER AND GRILLE SCHEDULE								
SYMBOL	TYPE	BLOW	NECK		DESIGN BAS	REMARKS		
			PATTERN	SIZE	MAX NC	MFG	MODEL	1
SG-1	CEILING	STEEL	S2	10"	35	TITUS	TDC	
RG-1	CEILING	STEEL	N/A	12"	35	TITUS	PAR	

5. PROVIDE NATURAL GAS TRAIN INCLUDING ALL REQUIRED ACCCESSORIES.

09-11-2018	180994	M-1
DRAWN BY:		-
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(if not 3 inches then scale accordingly)

PREPARED FOR:

HILLSBORO SCHOOL DISTRICT 4901 SE Witch Hazel Rd, Hillsboro, OR

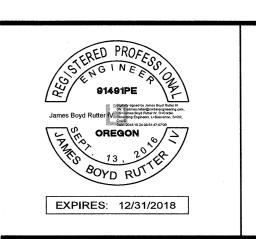


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REVISIO	REVISIONS:								
No.	Date	Description							
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		·							

 PROJECT NUMBER:
 180994

 DATE:
 09-11-2018

SHEET TITLE:

MECHANICAL SCHEDULES

SHEET NUMBER:

**M4** 

	ABBREV	IATION	S		ELECTRICA	L LEGEND		DRAWING INDEX
MP	AMMETER, AMPERE	м	MAG CONTACTOR, COIL OR CONTACT	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	DWG DESCRIPTION
MP.	ABSOLUTE	MAX MBS	MAG CONTACTOR, COIL OR CONTACT MAXIMUM MAINTENANCE BYPASS SWITCH		OUTLETS	0	SURFACE OR PENDANT MOUNTED FIXTURE	E1 LEGEND, ABBREVIATIONS, & GENERAL NOTES
	ALTERNATING CURRENT AIR CIRCUIT BREAKER	MCB	MAIN CIRCUIT BREAKER	Ф	SINGLE RECEPTACLE (120V)		RECESSED DOWNLIGHT FIXTURE	E2 ELECTRICAL POWER & LIGHTING DEMOLITION & INSTALLATION PLANS E3 POWER MEZZANINE DEMOLITION & INSTALLATION PLANS
	AMPERE FRAME ADJUSTABLE FREQUENCY DRIVE	MCC MCCB	MOTOR CONTROL CENTER MOLDED CASE CIRCUIT BREAKER	В	DUPLEX RECEPTACLE (120V)	NL	NIGHT LIGHT	E4 ELECTICAL SCHEDULES
	ABOVE FINISHED FLOOR AMPS INTERRUPTING CURRENT	MCP MDC	MOTOR CIRCUIT PROTECTOR MOTORIZED DAMPER CONTROL	<b>₽</b> <sub>D</sub>	DEDICATED DUPLEX RECEPTACLE (120V)	4	EMERGENCY WALL PACK	
	ANNUNCIATOR	MFR	MANUFACTURER	<b>P</b> Mb	WEATHERPROOF RECEPTACLE	⊗	WALL MOUNTED EXIT SIGN	GENERAL NOTES
	ABOVE RAISED FLOOR AMMETER SWITCH	MH MIN	MANHOLE MINIMUM	<b>B</b> GFCI	GROUND FAULT RECEPTACLE	⊗	CEILING MOUNTED EXIT SIGN	
	AMP TRIP AUTOMATIC TRANSFER SWITCH	MLO MMP	MAIN LUGS ONLY MECHANICAL MECHANICAL MOUNTING PANEL	<b>∂</b> IG	ISOLATED GROUND RECEPTACLE	•	DARKENED SEGMENT INDICATES NUMBER OF AND DIRECTION OF	A THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS MAY APPE ON THIS SHEET AND NOT ON THE PROJECT DRAWINGS.
	AUTO TRANSFORMER AMERICAN WIRE GAUGE	MO MS	MOTOR OPERATOR MOTOR STARTER	Ĭ.	RECEPTACLE ABOVE COUNTER		EXIT FACE(S)	
3		MSP	MOTOR STARTER PANEL	н	The state of the s		DIRECTIONAL ARROWS AS SHOWN ON EXIT FIXTURES	B CONDUIT RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF #12 AWG CONDUCTORS. CROSSHATCH WITH DOT INDICATES GROUND WIRE. SIZE CONDUIT
	BELL BARE COPPER	MT,MTD	MOUNTED	ų.	HALF SWITCHED RECEPTACLE	0	POLE MOUNTED FIXTURE	ACCORDING TO SPECIFICATIONS AND APPLICABLE CODES UNLESS OTHERWISE NOTE
	BELOW FINISHED FLOOR	(N)	NEW	•	DOUBLE DUPLEX RECEPTACLE			C TAG NUMBER DENOTES DEVICES ADDRESS.
	BULK GAS BREAKER	NA NA	NEUTRAL NON-AUTOMATIC	0	FLUSH FLOOR RECEPTACLE, DUPLEX	•	SITE BOLLARD FIXTURE	D CONDUCTORS AND CONDUIT ARE SIZED ON BASIS OF COPPER, THHN-2/THWN-2.
9	BUILDING BUILDING MANAGEMENT SYSTEM	N.C. N.E.	NORMALLY CLOSED NORTH EAST	<b>⊙</b> <sup>60A</sup>	SPECIAL EQUIPMENT RECEPTACLE		CIRCUITRY AND RACEWAYS	CIRCUITS THROUGH 100A SIZED ON BASIS OF 60°C. CIRCUITS GREATER THAN 100A SI. ON BASIS OF 75°C, UNLESS NOTED OTHERWISE. CONDUIT SHALL BE EMT, UNLESS
	BOTTOM OF CONDUIT BOTTOM OF DUCT	NEC NEMA	NATIONAL ELECTRICAL CODE NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION	<b>⊘</b> TL	LOCKING RECEPTACLE	o	CONDUIT UP	NOTED OTHERWISE.
	BOTTOM OF PIPE	NIC	NOT IN CONTRACT	000	CEILING MOUNTED RECEPTACLES	<del></del>	CONDUIT DOWN	E MOUNT ALL EQUIPMENT PER SPECIFICATIONS UNLESS INDICATED OTHERWISE. REFE
	BOTTOM OF TRAY BUS REFERENCE NO. (ENGINEERING STUDY USE)	NL N.O.	NIGHT LIGHT NORMALLY OPEN	■ <sup>T</sup>	TELEPOWER POLE (T=TELEPHONE, P=POWER, C=COMPUTER)		CONDUIT, CAP AND STAKE	TO PLAN DRAWINGS AND SECTIONS FOR MOUNTING HEIGHTS.
	BASIC TRANSPONDER	NP NTS	NAMEPLATE NOT TO SCALE		NV00100-4001-2000	1,3	HOME RUN (WITH CIRCUIT NUMBERS)	F ALL ENCLOSURES ARE NEMA 1 UNLESS INDICATED OTHERWISE:
	CONDUIT, COIL	N.W.	NORTH WEST	0	JUNCTION BOX		END OF CONDUIT RUN	3R = NEMA 3R, X = EXPLOSION PROOF 4X = NEMA 4X, WP = WEATHER PROOF
#	CAPACITOR CATALOG NUMBER	ОСВ	115KV OIL CIRCUIT BREAKER	Ū	PULL (JUNCTION) BOX			G SEE CONTROL DIAGRAMS FOR OPERATIONAL SCHEMATIC.
-015	CIRCUIT BREAKER CONTROL CABLE	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED OVERLOAD RELAY	0	UNDER FLOOR JUNCTION BOX		"RUN CONTINUES" INDICATION	
V	CLOSED CIRCUIT TELEVISION CIRCUIT	OC OC	OVERLOAD		SWITCHES	•	UNDERGROUND CONDUIT	H LUMINAIRE SYMBOLS SHOWN ARE GENERIC GRAPHIC REPRESENTATIONS. REFER TO LUMINAIRE SCHEDULE FOR SPECIFIC SOURCE, TYPE AND MOUNTING.
CKT	CIRCUIT	OOA OOR	ON-OFF-AUTO ON-OFF-REMOTE	\$	SINGLE-POLE SWITCH	+	1#12 GROUND	J CONDUIT AND WIREWAY ROUTING IS SCHEMATIC. FIELD ROUTE.
Т	CONDUIT ONLY CONTINUED	OPD	OPEN POLE DETECTOR	<b>c</b> .	SINGLE-POLE SWITCH WITH SWITCH LEG	1	1#12 GROUND, ISOLATED	K ELECTRICAL CONTRACTOR SHALL PROVIDE (FURNISH AND INSTALL) ALL ELECTRICAL
	CONTROL POWER TRANSFORMER	P	POWER	G.	DOUBLE-POLE SWITCH WITH SWITCH LEG	<u>-</u>	1#12 AWG HOT	K ELECTRICAL CONTRACTOR SHALL PROVIDE (FURNISH AND INSTALL) ALL ELECTRICAL COMPONENTS, SUPPORT AND TERMINATIONS UNLESS NOTED OTHERWISE.
	CORROSION RESISTANT CORROSION RESISTANT	PF PL	POWER FACTOR PILOT LIGHT	<b>D</b> .			1#12 AWG NEUTRAL	L ELECTRICAL CONTRACTOR SHALL MAINTAIN UPDATED PANEL SCHEDULES DURING
VP.	COATED RIGID STEEL CONDUIT CLEANROOM WALL PANEL	PB PC	PUSHBUTTON SWITCH PHOTOCELL	<b>p</b> 2	THREE-WAY SWITCH	#10    P	3#10 AWG CONDUCTORS (1 HOT, 1 NEUTRAL, 1 GROUND)	PROJECT AND PROVIDE FINAL TYPE WRITTEN SCHEDULES AT END OF PROJECT TO ENGINEER AND PLACE COPY IN POWER PANEL.
D	COMBINATION SMOKE, FIRE DAMPER	PCP	PLANT CONTROL PANEL	<b>\$</b> .	FOUR-WAY SWITCH	- ۱۱۱٬		
	CURRENT TRANSFORMER	PIN PIV	PERSONAL ID NUMBER POST INDICATOR VALVE	\$-	SWITCH WITH PILOT LIGHT	H H	SWITCHED CONDUCTOR	M CONTRACTOR SHALL WALK PROJECT AREA PRIOR TO BID. TIME AND MATERIALS REQUIRED DUE TO DIFFICULTY OF ROUTING AND IMPACTS TO BUILDING CONSTRUCT
	DEMOLISH DUCT	PNL PQ	PANEL POWER QUALITY	\$8	COMBINATION SWITCH/DUPLEX RECEPTACLE	27.70	WIREMOLD WITH RECEPTACLES AS NOTED	THAT ARE VISIBLE AT TIME OF WALK SHALL BE INCLUDED IN FINAL BID SUBMISSION.  AREAS THAT CAN NOT BE VIEWED AT TIME OF BID SHALL BE SPECIFICALLY NOTED AN
	DUCT BANK	Ø, PH	PHASE	Siv	LOW-VOLTAGE SWITCH, NUMBER AS NOTED		SERVICE AND EQUIPMENT	AREAS THAT CAN NOT BE VIEWED AT TIME OF BID SHALL BE SPECIFICALLY NOTED AN EXCLUDED IN BID FOR CONSTRUCTION IN AWARD PROCESS.
0	DIRECT CURRENT DIRECT DIGITAL CONTROL	PVC	POLYVINYL CHLORIDE	\$:	LOCKING SWITCH		TRANSFORMER (KVA SHOWN)	N COORDINATE EQUIPMENT/ DEVICE LOCATIONS WITH ARCHITECTURAL DRAWINGS.
	DIAMETER DIVISION	QTY	QUANTITY	g.		30	NONFUSED DISCONNECT SWITCH, AMPERAGE INDICATED,	
3	DRAWING	R	RATE OF RISE, RIGHT	30	SINGLE-POLE DIMMER SWITCH	40	SEE NOTE F.	P DEMOLITION SHALL INCLUDE REMOVAL OF CONDUIT, WIRE, BOXES AND HANGER SUPPORT BACK TO SOURCE.
	DELTA CONNECTED	(R) RCPT	RELOCATE RECEPTACLE	\$10	SINGLE-POLE FLUORESCENT DIMMER SWITCH	F 60	FUSED DISCONNECT SWITCH, AMPERAGE INDICATED,	Q LIQUID LEAK DETECTION SYSTEM IS NOT PART OF THIS PROJECT, SYSTEM
EX	EMPTY EXISTING	RCY (RD)	RACEWAY REDUNDANT	\$×	KEY SWITCH		SEE NOTE F.	INSTALLATION IS A DESIGN/ BUILD PROJECT DIRECTED BY THE OWNER.
5	EMERGENCY COMMAND STATION	RF	RADIO FREQUENCY	\$	WEATHERPROOF SWITCH	30	ENCLOSED CONTACTOR, MAGNETIC, AMPERAGE INDICATED, SEE NOTES F AND G.	R ALL BREAKERS INSTALLED SHALL BE RATED PER A.I.C RATING OF SYSTEM.
- N	ELECTRIC DRINKING FOUNTAIN ENERGIZED ELECTRICAL WORK	RGS RM	RIGID GALVANIZED STEEL ROOM	\$,	TIME SWITCH	2	ENCLOSED STARTER, MAGNETIC, NEMA SIZE INDICATED.	S ALL INTERCONNECTION CABLES WILL BE PROVIDED BY VENDOR, EXCEPT AS NOTED.
	ENGINE GENERATOR ELECTRICAL EMERGENCY	RMS RQD	ROOT MEAN SQUARE REQUIRED	@	OCCUPANCY SENSOR	$\boxtimes$	SEE NOTES F AND G.	CONTRACTOR TO VERIFY INSTALLATION REQUIREMENTS.
С	ELECTRICAL	RTM	RUNNING TIME METER	\$∞	SWITCH WITH OCCUPANCY SENSOR		ENCLOSED STARTER, COMBINATION MAGNETIC, NEMA SIZE	T CONTRACTOR SHALL VERIFY ALL EQUIPMENT SUPPLIED FROM FACILITY POWER
, EMER H	ELECTRICAL MANHOLE	RVNR RVR	REDUCED VOLTAGE NON-REVERSING REVERSING	<b>J</b> oc	OTHER THE SCOOL AND LOCAL CONTROL OF THE SCOOL		INDICATED, SEE NOTES F AND G.	SERVICE IS FED VIA A LOCKABLE BREAKER OR SWITCH, SIZED PER N.E.C. PROVIDE A REQUIRED.
C T	EMERGENCY POWER OFF ELECTRICAL METALLIC TUBING		SPEAKER	<u> </u>	MECHANICAL	VFD	VARIABLE FREQUENCY DRIVE WITH DISCONNECT	
T L	ELECTRICAL NON-METALLIC TUBING	S.C.	SHORT CIRCUIT	(HP)	MOTOR AND CONNECTION, HP AS NOTED		PANELBOARD, FLUSH MOUNTED	U ROUTE GROUNDING CABLE TO NEAREST GROUND PAD.
Г	END-OF-LINE DEVICE EMERGENCY RESPONSE TEAM	SCP S.E.	SECURITY CONTROL PANEL SOUTH EAST	0	CEILING EXHAUST FAN		PANELBOARD, SURFACE MOUNTED	V CONTRACTOR SHALL PROVIDE GROUNDING PER N.E.C. AND MANUFACTURER'S REQUIREMENTS. REFER TO TOOL MANUAL AND VERIFY WITH EQUIPMENT SUPPLIER.
S	ELECTROSTATIC DISCHARGE EMERGENCY SERVICE ENTRANCE SUBSTATION	SEC SES	SECONDS SERVICE ENTRANCE SUBSTATION	₩ HP	WALL TYPE EXHAUST FAN, HP AS NOTED	00	UTILITY METER, AS REQUIRED	W REFERENCE FACILITY DATA MATRIX FOR POWER SOURCE DETAILS.
M	EXPANDED TRANSPONDER ELAPSED TIME METER	SFEP	SMOKE/FUME EXHAUST PANEL	****	PIPE HEAT TRACE		CURRENT TRANSFORMERS (WITH POTENTIAL TRANSFORMERS	
C	ELAPSED TIME METER ELECTRIC WATER COOLER	SOL SOL	SWITCH OPERATOR SLOW SPEED OL RELAY		ELECTRIC UNIT HEATER	СТ	WHERE REQUIRED)	X CIRCUIT RACEWAYS MAY BE COMBINED. ADJUST CONDUCTOR SIZE AS NEEDED FOR DERATING.
	FLUSH	SP SS	SPARE STAINLESS STEEL	EBBH	ELECTRIC BASEBOARD HEATER	II·	GROUND	Y TRANSITION TO LIQUID-TITE FLEXIBLE CONDUIT AT TERMINATION TO EQUIPMENT TO
	FUTURE	ST	SHUNT TRIP	2001		•	CIRCUIT BREAKER, THERMAL MAGNETIC OR SOLID	MINIMIZE VIBRATION TRANSMISSION.
CP	FIRE ALARM FIRE ALARM CONTROL PANEL	STC	SOURCE TRANSFER CONTROL STANDARD		ELECTRIC TOEKICK HEATER	TTB	TELEPHONE TERMINAL BOARD	Z CONTROLS SCOPE IS DESIGN-BUILD BY THE CONTROLS CONTRACTOR. DESIGN AND
3	FURNISHED BY OTHERS FACILITY CONTROL SYSTEM	SUPP	SUPPRESSOR SURFACE	<b>₩</b>	WATER HEATER	IIB		INSTALLATION SHALL BE IN ACCORDANCE WITH DRAWINGS, SPECIFICATIONS AND BUILDING CODES.
2	FEEDER	sw	SWITCH		TELE/DATA	_	CONTROL	BUILDING CODES.
	FLOOR FAST ACTING OL RELAY	S.W. SWBD	SOUTH WEST SWITCHBOARD	▼	TELEPHONE JACK, 4SQ BOX WITH SINGLE GANG MUD RING	O O	THERMOSTAT	SPECIAL NOTE:
3	FUSE FIRE WATER STORAGE	SWGR SYM	SWITCHGEAR SYMMETRICAL		MOUNT @ +18" AFF (1-CAT5e) UNO	Θ	HUMIDISTAT	1 INTEGRATED EQUIPMENT RATING (IER) REFERS TO THE SHORT CIRCUIT RATING OF
R	FULL VOLTAGE NON-REVERSING	SYNC	SYNCHRONIZER	₩	TELE/DATA JACK, 4SQ BOX WITH SINGLE GANG MUD RING MOUNT @ +18" AFF UNO (2-CAT5e) UNO	© TD	PHOTOCELL	ELECTRICAL COMPONENT THAT HAS THE LOWEST SHORT CIRCUIT RATING.
	FULL VOLTAGE REVERSING	2S1W 2S2W	TWO SPEED, ONE WINDING TWO SPEED, TWO WINDING	_		TC	TIME CLOCK	SYMBOL DESCRIPTION
0	GROUND GENERAL	T	TEMPORARY	$\Psi$	DATA JACK, 4SQ BOX WITH SINGLE GANG MUD RING MOUNT @ +18" AFF UNO (2-CAT5e) UNO	•	PUSHBUTTON STATION	
1	GROUND FAULT CIRCUIT INTERRUPTER	TSTAT	THERMOSTAT		FIXTURES	■ EPO	EMERGENCY POWER OFF PUSHBUTTON	SECURITY AND MISCELLANEOUS
4	GROUND FAULT RELAY GAS SAFETY MONITOR	TB TBD	TERMINAL BLOCK TO BE DETERMINED		2'x4' RECESSED FIXTURE			S INTERCOM SPEAKER IN CEILING
	HORN	TC TDR	TIME CLOCK TIME DELAY RELAY		2'x4' RECESSED FIXTURE, EMERGENCY	Ē	FIRE ALARM FIRE ALARM PULL STATION	INTERCOM SPEAKER, WALL MOUNTED
	HANDHOLE	TJB	TERMINAL JUNCTION BOX			(a)		SECURITY CAMERA (PAN, TILT, ZOOM)
4	HIGH INTENSITY DISCHARGE HAND-OFF-AUTOMATIC	TS TSP	TAMPER SWITCH TWISTED SHIELDED PAIR	0	2'x4' FIXTURE		SMOKE DETECTOR	
AC	HEATING, VENTILATING & AIR CONDITIONING HORIZONTAL BEND	TYP	SHIELDED PAIR TYPICAL	•	2'x4' FIXTURE, EMERGENCY	Ø 120	SMOKE DETECTOR, 120V; P = PHOTOELECTRIC, PCM = COMBINATION PHOTOELECTRIC CARBON MONOXIDE	SECURITY DEVICE:  GB GLASS BREAK MONITOR
	HORSEPOWER	U	UNDERGROUND		1'x4' RECESSED FIXTURE	Θ	HEAT DETECTOR, RATE OF RISE	CB CALL BUTTON
В	INSULATED CASE CIRCUIT BREAKER	UPS	UNINTERRUPTIBLE POWER SUPPLY, EXPLOSION PROOF - TYPE, CLASS AND GROUP AS NOTED					CR CARD READER
	IDENTIFICATION INTEGRATED EQUIPMENT RATING	V	VOLTMETER, VOLT		1'x4' RECESSED FIXTURE, EMERGENCY	© °	DUCT DETECTOR	DS DOOR STATUS SWITCH
	INSTRUMENTATION AND CONTROL	VA	VOLT-AMPERE		1'x4' FIXTURE	<b>ĕ</b> ⁵	HORN	ES ELECTRIC DOOR STRIKE
	INTERMEDIATE METALLIC CONDUIT INPUT/OUTPUT	VESDA VFD	VERY EARLY SMOKE DETECTION APPARATUS VARIABLE FREQUENCY DRIVE	<b>100</b> • 100 €	1'x4' FIXTURE, EMERGENCY	₹×	HORN STROBE, STROBE CANDELA AS NOTED	KP KEY PAD
	CURRENT SWITCH	VIB	VERTICAL INSIDE BEND VERTICAL LAMINAR FLOW UNIT		2'x2' RECESSED FIXTURE	××	STROBE ONLY, CANDELA AS NOTED	LA LOCAL DOOR ALARM LILO LOG IN/LOG OUT
3	JUNCTION BOX	VLF VOB	VERTICAL OUTSIDE BEND	님		¥×	WALL MOUNTED STROBE ONLY, CANDELA AS NOTED	
	KEY INTERLOCK	VP VS	VAPOR PROOF VOLTMETER SWITCH		2'x2' RECESSED FIXTURE, EMERGENCY	(1)	CEILING MOUNTED SPEAKER/STROBE, CANDELA AS NOTED	COMPLICATION COLUMN COLUMN
MIL	1000 CIRCULAR MIL KILOVOLT	VT	VOLTAGE TRANSFORMER	0	2'x2' FIXTURE		MAGNETIC DOOR HOLDER	CONDUCTOR COLOR CODES
A AR	KILOVOLT-AMPERE KILOVAR	W	WATT, WIRE	0	2'x2' FIXTURE, EMERGENCY	DH		CONDUCTOR 208/120V, 240/120V 480/277V ABOVE 600V
	KILOWATT	WHD WP	WATTHOUR DEMAND WEATHERPROOF	_		FC	FIREFIGHTER COMMUNICATION JACK	PHASE A BLACK BROWN RED
Н	KILOWATT HOUR	XFMR	TRANSFORMER	⊶	4' FLUORESCENT STRIP FIXTURE	FS	FLOW SWITCH	PHASE B RED ORANGE BLUE
d	LEFT	V		<del></del>	4' FLUORESCENT STRIP FIXTURE, EMERGENCY	TS	TAMPER SWITCH	PHASE C BLUE YELLOW BLACK
N	LOCAL AREA NETWORK LIGHTING CONTACTOR	Y	WYE-CONNECTED	<del></del>	4' WALL MOUNTED FIXTURE	<b>⊙</b> FSD	FIRE SMOKE DAMPER	NEUTRAL WHITE GRAY -
3	LIGHTING LOW VOLTAGE	Z ZSD	IMPEDANCE UNBALANCED IMPEDANCE DETECTOR	φ	WALL MOUNTED FIXTURE	FACP	FIRE ALARM CONTROL PANEL	GROUND GREEN GREEN -
?	LOW VOLTAGE LOW VOLTAGE RELAY	230	CHARACTER IN CONTOC DE LECTOR	Υ	TIOLE MOUNTED FIXTURE	ANN	ANNUNCIATOR PANEL	
		I				Net .	CHINALON LUICE	ISO GROUND GN/YL GN/YL -

Line is 3 inches at full scale (if not 3 inches then scale accordingly)

HILLSBORO SCHOOL DISTRICT 1901 SE Witch Hazel Rd, Hillsboro, OR 17123



ROJECT NAME & ADDRESS:

CONS MGMT OFFICE TI

## HILLSBORO SCHOOL DISTRICT

1901 SE Witch Hazel Rd Hillsboro, OR 97123



# KERRY W. VANDERZANDEN ARCHITECT, P.C.

13981 NW MAIN STREET BANKS, OREGON 97106 503) 324-5220 / (503) 324-0883 FAX

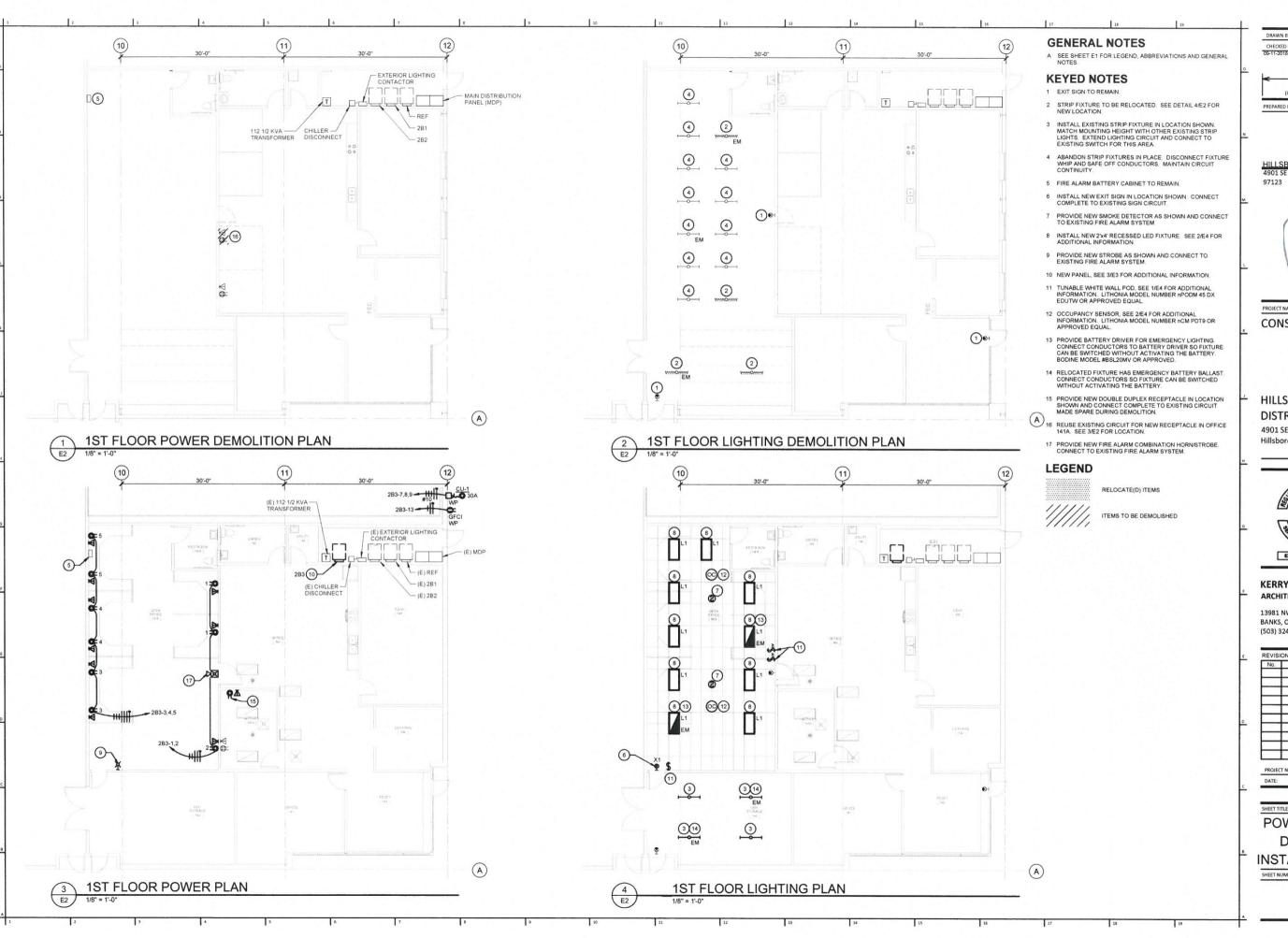
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DATE:		09-11-2018

PRELIMINARY

ELECTRICAL LEGEND, ABBREVIATIONS, & **GENERAL NOTES** 

HEET NUMBER:

**E1** 



Line is 3 inches at full scale (if not 3 inches then scale accordingly

HILLSBORO SCHOOL DISTRICT 4901 SE Witch Hazel Rd, Hillsboro, OR

HILLSBORO SCHOOL DISTRICT

PROJECT NAME & ADDRESS:

CONS MGMT OFFICE TI

HILLSBORO SCHOOL DISTRICT

4901 SE Witch Hazel Rd Hillsboro, OR 97123



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PROJECT	NUMBER:	180994
DATE:		09-11-2018

**POWER & LIGHTING DEMOLITION & INSTALLATION PLANS** 

SHEET NUMBER:

**E2** 

